



uOttawa

L'Université canadienne
Canada's university

**FACULTÉ DES ÉTUDES SUPÉRIEURES
ET POSTDOCTORALES**



**FACULTY OF GRADUATE AND
POSTDOCTORAL STUDIES**

Gail Webber

AUTEUR DE LA THÈSE / AUTHOR OF THESIS

Ph.D. (Population Health)

GRADE / DEGRÉ

Program of Population Health

FACULTÉ, ÉCOLE, DÉPARTEMENT / FACULTY, SCHOOL, DEPARTMENT

**Life in the Big City
Understanding the Context of HIV Prevention for Rural-to-Urban
Migrant Cambodian Garment Factory Workers**

TITRE DE LA THÈSE / TITLE OF THESIS

Nancy Edwards

DIRECTEUR (DIRECTRICE) DE LA THÈSE / THESIS SUPERVISOR

CO-DIRECTEUR (CO-DIRECTRICE) DE LA THÈSE / THESIS CO-SUPERVISOR

EXAMINATEURS (EXAMINATRICES) DE LA THÈSE / THESIS EXAMINERS

Catherine G. Chalin

Rebecca Tiessen

June Ann Larkin

Bilkis Vissandjee

Gary W. Slater

Le Doyen de la Faculté des études supérieures et postdoctorales / Dean of the Faculty of Graduate and Postdoctoral Studies

LIFE IN THE BIG CITY

**Understanding the Context of HIV Prevention for Rural-to-Urban Migrant
Cambodian Garment Factory Workers**

Gail Webber

**Thesis submitted to the Faculty of Graduate and Postdoctoral Studies
In partial fulfillment of the requirements
For the Ph.D. Population Health**

**Population Health
Thesis Supervisor: Dr. Nancy Edwards
University of Ottawa**

**Copyright Gail Webber, August 26, 2008
Ottawa, Canada**



Library and
Archives Canada

Bibliothèque et
Archives Canada

Published Heritage
Branch

Direction du
Patrimoine de l'édition

395 Wellington Street
Ottawa ON K1A 0N4
Canada

395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file *Votre référence*
ISBN: 978-0-494-48427-2
Our file *Notre référence*
ISBN: 978-0-494-48427-2

NOTICE:

The author has granted a non-exclusive license allowing Library and Archives Canada to reproduce, publish, archive, preserve, conserve, communicate to the public by telecommunication or on the Internet, loan, distribute and sell theses worldwide, for commercial or non-commercial purposes, in microform, paper, electronic and/or any other formats.

The author retains copyright ownership and moral rights in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

AVIS:

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque et Archives Canada de reproduire, publier, archiver, sauvegarder, conserver, transmettre au public par télécommunication ou par l'Internet, prêter, distribuer et vendre des thèses partout dans le monde, à des fins commerciales ou autres, sur support microforme, papier, électronique et/ou autres formats.

L'auteur conserve la propriété du droit d'auteur et des droits moraux qui protègent cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

In compliance with the Canadian Privacy Act some supporting forms may have been removed from this thesis.

Conformément à la loi canadienne sur la protection de la vie privée, quelques formulaires secondaires ont été enlevés de cette thèse.

While these forms may be included in the document page count, their removal does not represent any loss of content from the thesis.

Bien que ces formulaires aient inclus dans la pagination, il n'y aura aucun contenu manquant.


Canada

Table of Contents

	Page
List of Tables.....	viii
List of Figures.....	ix
Glossary of Acronyms.....	x
Abstract.....	x
Acknowledgements.....	xiii
Contributions of Co-Authors and Collaborators.....	xv
Dedication.....	xv
Executive Summary.....	xvi
References.....	xxiii
Introduction.....	xxiv
Population Health and HIV.....	xxiv
The Cambodian Context and the HIV epidemic.....	xxviii
What is to Follow.....	xxix
References.....	xxxii
Chapter 1	
The Impact of Migration on HIV Prevention for Women: Constructing a Conceptual Framework.....	1
Acknowledgments.....	2
Abstract.....	2
Historical Context of HIV Prevention.....	3
Factors Impacting on HIV Prevention: An International Review.....	10
Developing a Conceptual Framework.....	17
References.....	23
Chapter 2	
Researching Context: The Place and Process.....	29
The Place: The Research Setting.....	29
The Context of Migration in Cambodia.....	30
The Economic Role of the Garment Factories in Cambodia.....	32
The Status of Cambodian Women.....	34
Cambodian Health Care System.....	36
HIV Prevention in Cambodia: Voluntary Counselling and Testing.....	38
The Process: Methodological Choices for Researching Context.....	39
Study Design: The Choice of Mixed Methods.....	40
Qualitative Paradigm: Using Ethnography to Research Context.....	44
Quantitative Paradigm: The Health Care Provider Survey and the Theory of Planned Behaviour.....	47
The Challenges of Mixed Methods: Paradigms and Practice.....	51
A Final Reflection on the Process: Outsider as Researcher.....	57
References.....	61

Chapter 3

Life in the Big City: The Multiple Vulnerabilities of Migrant Cambodian Garment Factory Workers to HIV.....	69
Acknowledgments.....	70
Abstract.....	71
Context of the HIV Epidemic and Migration in Cambodia.....	72
Literature Review.....	73
Methods.....	79
Study Setting.....	79
Ethics.....	80
Data Collection Procedures.....	80
Migrant Women Interviews.....	80
Key Informant Interviews.....	81
Focus Groups with Health Care Providers.....	82
Analysis.....	82
Results.....	83
Demographic Description of the Migrant Garment Factory Workers.....	84
Experience of Life in the Big City for Migrant Garment Factory Workers.....	86
Perspectives of the Key Informants and Health Care Providers.....	92
Comparison Between Data Groups: Finding agreement, complementarity or dissonance.....	96
Discussion.....	100
Limitations.....	103
Conclusion.....	105
References.....	106

Chapter 4

Discourses and Silences on Condom Use: HIV Prevention Challenges in Sexual Relationships for Migrant Garment Factory Workers in Cambodia	110
Acknowledgments.....	111
Abstract.....	112
Introduction.....	113
Literature Review.....	114
International Literature.....	114
Cambodian Literature.....	116
Methods.....	119
Results.....	121
Demographic Picture of the Migrant Women.....	121
HIV Knowledge.....	121
No Condom, No Sex.....	122
He will not wear it.....	124
Silences on Condom Use.....	126
I can't stand condoms.....	126

I am too shy.....	127
I am confident in my husband.....	128
Summary of Discourses.....	130
Perspectives of the Workshop Participants.....	130
Discussion.....	132
Limitations.....	136
Conclusion.....	137
References.....	138

Chapter 5

How Ready are Cambodian Health Care Providers for VCT? A Survey on HIV

Knowledge, Attitudes and Intentions to Take a Sexual History.....	141
Acknowledgements.....	142
Abstract.....	143
Introduction.....	144
Literature Review	
HIV Knowledge and Attitudes.....	145
The Theory of Planned Behaviour.....	146
Methods	
Research Design.....	148
Questionnaire Development.....	148
Data Collection.....	150
Sampling Procedures.....	151
Statistical Analysis.....	151
Results.....	153
Demographic Characteristics.....	154
HIV Knowledge and Attitudes.....	157
Theory of Planned Behaviour.....	158
Past Behaviour and Intention.....	158
Theory of Planned Behaviour Constructs.....	162
Discussion	
HIV Knowledge and Attitudes.....	165
Theory of Planned Behaviour.....	167
Study Limitations.....	170
Conclusion.....	171
References.....	172

Chapter 6

Reflections on the Journey.....	175
Socheata's Story.....	176
Challenges of Research Abroad.....	179
Funding.....	179
Time Limitations.....	180
Thesis Committee Support.....	180
Collaboration and the Use of Research Assistants.....	181
Language.....	182

Issues of Power.....	182
Benefits of Outsider Status.....	183
Sharing the Results.....	184
Summary.....	184
Strengths and Limitations.....	187
Qualitative Phase.....	187
Quantitative Phase.....	190
Mixed Methods.....	192
The Research Design.....	193
Limitations to Integration.....	195
Theory of Planned Behaviour and Gender Norms.....	197
Integration of Findings.....	199
The Integration Method.....	200
Gendered Sexual Norms.....	201
The Impact of AIDS Stigma.....	204
Limited Access to Health Care.....	207
Implications for the Socio-Ecologic Model.....	208
Reflections on the Global Economy and Cambodia's Garment Factory Workers.....	210
Moving Forward: Recommendations for Cambodia.....	213
1. Address Gender Inequity in Sexual Relationships.....	213
2. Reduce AIDS Stigma.....	214
a. Condom Use.....	215
b. Health Care Providers and HIV Testing.....	215
3. Improve Reproductive Health Care Access.....	216
4. Development of an HIV Prevention Research Agenda.....	218
a. Evaluation of Interventions.....	218
b. Researching Health Care Provider Behaviour.....	218
c. Understanding Other Impacts on HIV Prevention for Migrant Garment Factory Workers.....	219
d. Beyond Cambodia: The Need for a Global Research Agenda for Migrant Women.....	219
Contributions to Population Health.....	220
Process Contributions: Mixed Methods Design, Multiple Theories and a Gender Lens.....	220
Content Contributions: Research Findings for Cambodia.....	222
The Canadian Link.....	224
Conclusion.....	226
References.....	227
Appendices	
Appendix A	233
Research Collaboration Agreement	
Agreement between the University of Ottawa and the International Organization for Migration.....	234

Schedule 1: Research Collaboration Agreement between Dr. Nancy Edwards and Dr. Gail Webber, and the International Organization for Migration, Cambodia	242
Appendix B	245
Ethics Approval	
University of Ottawa Ethics Approval for Phase One.....	246
University of Ottawa Ethics Approval for Phase Two.....	248
National Ethics Committee, Cambodia Approval (both phases).....	250
Appendix C	251
Phase One Recruitment Texts and Consent Forms	
Recruitment Text for Migrant Women.....	252
Consent Forms for Interviews with Migrant Women.....	253
Recruitment Text for Key Informants.....	255
Consent Forms for Key Informant Interviews.....	256
Recruitment Text for Health Care Provider Focus Groups.....	258
Consent Forms for Focus Groups with Health Care Providers.....	259
Appendix D	261
Phase One Guidelines for Interviews and Focus Groups	
Guidelines for Semi-Structured Interviews with Migrant Women.....	262
Interview Guidelines for Key Informant Interviews.....	267
Guidelines for Focus Groups with Health Care Providers.....	268
Appendix E	270
Chinese health care providers' attitudes about HIV: A review	
Abstract.....	270
Introduction.....	271
Limitations of Health Care Provider attitude studies.....	271
HIV in China and Health Care Providers' Attitudes.....	273
Attitudes of Chinese Health Care Providers.....	276
Survey Instruments.....	281
Recommendations for Future Research.....	282
References.....	285
Appendix F	288
Phase Two Questionnaire for Health Care Providers	
Sample letter for Clinics and pharmacies to get permission for recruitment.....	289
Questionnaire for Health Care Providers.....	290
Cambodian Health Care Provider Questionnaire: Origin of HIV	
Knowledge and Attitude Questions.....	302
Health Care Provider Questionnaire Key for Analysis.....	304

Appendix G	305
Analysis of Responses from Health Care Provider Survey on Issues affecting Garment Factory Workers	
Note about Analysis.....	305
Table G.1: Health Care Providers’ Responses on Access to Health Care for Migrant Garment Factory Workers.....	306
Table G.2: Health Care Providers’ Responses to Migrant Garment Factory Worker HIV Knowledge.....	307
Table G.3: Health Care Providers’ Responses on Migrant Garment Factory Workers’ Sexual Risks	308
 Appendix H	 309
Copyright Permissions	
Copyright Permission from <i>National Academy of Sciences</i> for Table 1.2, Chapter 1, p.10.....	309
Copyright Permission from <i>Springer Science and Business</i> <i>Media</i> for Table 1.3, Chapter 1, p. 18.....	310
Letter of permission from Taylor and Francis to use the article from <i>Health Care</i> <i>for Women International</i> as Chapter 1 of thesis.....	311
Copyright permission to use map of Cambodia in Chapter 2 p. 29, from <i>Graphic Maps and World Atlas</i>	312
Permission from Dr. I. Aizek to use Figure 2.3, Chapter 2, p.44.....	313
Permission to use article from <i>AIDS Care</i> in Appendix E.....	314
 Appendix I	 315
Knowledge Translation Documents	
Report on Research Results for Garment Factory Workers (CARE Report)....	316
IOM Report	320

List of Tables

Chapter 1	page
Table 1.1: Early Theories used in HIV Prevention Research.....	6
Table 1.2: Factors associated with HIV dissemination related to Migration.....	11
Table 1.3: Examples of Structural and Environmental Interventions to Reduce HIV Transmission.....	20
Chapter 2	
Table 2.1: Summary of Research Questions, Description of Data, and Data Collection Methods.....	43
Chapter 3	
Table 3.1: Demographic Description of Interviewed Migrant Garment Factory Workers.....	85
Chapter 4	
Table 4.1: Understanding <i>Confidence</i> in the Husband: The Workshop Participants' Perspectives.....	132
Chapter 5	
Table 5.1: Demographic Characteristics of Health Care Providers Surveyed.....	155
Table 5.2: Chi square analysis of Garment Factory Workers Seen, Training on HIV, and Workplace Testing of HIV by Profession.....	156
Table 5.3: HIV Knowledge and Attitudes of Cambodian HCPs	159
Table 5.4: Past Behaviour and Intention Bivariate Analysis by Gender and Profession.....	161
Table 5.5: Median, IQR, and Pearson Correlations between TPB Constructs.....	163
Table 5.6: Results of Multiple Linear Regression: Generalized Intention.....	164
Table 5.7: Significant Results of Multiple Linear Regression: Generalized Intention with Interaction Terms.....	165
Chapter 6	
Table 6.1: Ten Lessons Learned From Doing International Doctoral Research.....	186
Table 6.2: Summary of the Qualitative and Quantitative Research Findings and Dominant Issues from Triangulation.....	201
Appendix E	
Table E.1: Summary of Chinese Studies of Health Care Providers and HIV.....	274

Appendix G

Table G.1: Bivariate Analysis of Health Care Providers' Responses on Access to Health Care for Migrant Garment Factory Workers by Gender and Primary Profession.....	306
Table G.2: Bivariate Analysis of Health Care Providers' Responses to Migrant Garment Factory Workers' HIV Knowledge by Gender and Primary Profession.....	307
Table G.3: Bivariate Analysis of Health Care Providers' Responses on Migrant Garment Factory Workers' Sexual Risks.....	308

List of Figures

Introduction	page
Figure I.1: Timeline for Thesis.....	xxxii
Chapter 1	
Figure 1.1: Socio-Ecologic Conceptual Framework for HIV Prevention in Women.....	18
Figure 1.2: Conceptual Framework on the Impact of Migration on HIV Prevention for Women.....	22
Chapter 2	
Figure 2.1: Map of Cambodia.....	30
Figure 2.2: The Research Plan: Exploratory Sequential Design.....	42
Figure 2.3: Theory of Planned Behaviour Constructs.....	48
Chapter 3	
Figure 3.1: Map of Cambodian Provinces.....	86
Chapter 6	
Figure 6.1: Socio-ecologic Impacts on HIV Prevention for Migrant Cambodian Garment Factory Workers.....	209

Glossary of Acronyms

AIDS: Acquired Immune Deficiency Syndrome

CIDA: Canadian International Development Agency

GP: General Medical Practitioner

HCP: Health care provider

HIV: Human Immunodeficiency Virus

HSV type 2: Herpes Simplex Virus, type 2

ILO: International Labour Organization

IOM: International Organization for Migration

IQR: Inter-quartile range

NCHADS: National Center for HIV/AIDS, Dermatology and STDs

NGO: Non-governmental organization

PLWHA: People living with HIV/AIDS

STD: Sexually transmitted disease

STI: Sexually transmitted infection

TPB: Theory of Planned Behaviour

UNAIDS: The Joint United Nations Program on HIV/AIDS

UNTAC: United Nations Transitional Authority in Cambodia

USAID: United States Agency for International Development

VCT: Voluntary counselling and testing for HIV

WHO: World Health Organization

LIFE IN THE BIG CITY

Understanding the Context of HIV Prevention for Rural-to-Urban Migrant Cambodian Garment Factory Workers

Abstract

Objectives: The purpose of this two phase research study was to better understand the socio-ecologic context of HIV prevention for rural-to-urban migrant female garment factory workers in Cambodia.

Methods: The research used a mixed methods exploratory sequential design. Phase one consisted of interviews with migrant garment factory workers and key informants, and focus group interviews with health care providers about the women's migration experience and factors affecting HIV prevention. Phase two was a cross-sectional survey of health care providers (doctors, nurses, midwives, and pharmacists) about their HIV knowledge and attitudes, and their intentions to take a sexual history from migrant garment workers using constructs from the Theory of Planned Behaviour (TPB). The qualitative data were analyzed by comparison of the key themes discussed by the participant groups, while the quantitative survey data were analyzed using descriptive statistics, bivariate analysis, and multiple linear regression of the TPB constructs.

Results: Migrant women garment factory workers were at risk of HIV infection because of both economic and social vulnerability. These women migrated in order to support their poor families financially. They worked long hours in factories, sending a large proportion of their income home. Despite overall good knowledge about HIV

transmission, there was a spectrum of discourses on condom use in relationships: many women maintained that their partners refused to wear condoms, or the women did not discuss the issue of condom use with their partner.

Cambodian health care providers were generally knowledgeable about HIV transmission, although attitudes about people with HIV were not always positive. The TPB constructs explained 55.5% of the variance in generalized intention to take a sexual history; the construct of perceived behavioural controls was the strongest contributor at 50.6%, subjective norms contributed 2.8%, and attitudes construct was non-significant.

Conclusions: There were multiple, contextual factors that put migrant women garment factory workers in Cambodia at risk for HIV: gender norms promoting a sexual double standard, AIDS stigma limiting condom use, and limitations in access to health care were predominant themes. These important issues should be considered in the development of interventions to improve HIV prevention for these migrant garment factory workers.

Acknowledgements

This thesis would not have been possible without the support of many people both in Canada and Cambodia. From Canada, I would like to acknowledge the support and guidance of my thesis supervisor, Dr. Nancy Edwards, who was both rigorous and encouraging, and a thorough editor. I also appreciated the support of my thesis committee members, Dr. Carol Amaratunga and Dr. Ian Graham. Others who gave helpful guidance included my statistical consultants, Ms. Isabelle Gaboury and Dr. Ian McDowell, Dr. Lynne Leonard, my qualitative tutor Dr. Alison Hamilton, and my personal editor Ms. Mary-Anne Nixon. The financial support of the Women's Health Scholar's Doctoral Award from the Ontario Women's Health Council and the Department of Family Medicine, University of Ottawa made the research possible.

The support I received from my family, my office staff and colleagues, and my five classmates also allowed me to do this research. I am grateful to my classmates for our regular support dinners, my staff and colleagues for tolerating my absences from my clinical work, and to my children, Asha and Ruth, for their patience with me when I was absent in body or mind, and not able to focus on their needs. A very large part of the credit for completion of this thesis should go to my husband Barathlall Juggoo (Hugo), who encouraged me to pursue this degree, and supported me throughout by pulling extra weight at home so that I could complete it.

In Cambodia, there were many who made invaluable contributions to the research. The International Organization for Migration (IOM), Cambodia was my collaborator and through the work of Dr. Vincent Keane, Dr. Socheat Ros and other staff, IOM Cambodia assisted with ethics approval, financial management, and developing

connections with other organizations. CARE Cambodia and the Reproductive Health Association of Cambodia staff were very helpful in the recruitment of research participants. Marie Stopes International and Pharmaciens Sans Frontiers also provided useful assistance with recruitment. Cambodian government staff and several non-governmental organizations provided important information and documentation. Preliminary findings were presented during a workshop on June 6, 2007. Participants gave helpful input that was much appreciated.

This research would not have been possible without the hard work of my two Cambodian research assistants, Ms. Mora Gibbings and Ms. Phoumy Ouch, who, in addition to providing their research skills, acted as translators, cultural interpreters, and restaurant guides. The students who worked to get permission from the clinics and the ten data collectors who assisted with the survey were also much appreciated: Borami, Bunari, Bunly, Dani, Ranil, Samphors, Sok Ra, Somnom, Veasna, and Voha were all good workers. The joy of doing this research was due much to the pleasure of working with Mora, Phoumy and the data collectors.

Finally, I am very grateful to all the research participants: the key informants, focus groups participants, and health care workers who participated in the survey, and particularly to the migrant women garment factory workers who took the time to meet with us and share their experiences. It is my hope that telling these stories will lead to improvements in the life circumstances of these women and their colleagues, and their families.

Contributions of Co-Authors and Collaborators

My co-authors and collaborators made essential contributions to this thesis. Dr. Nancy Edwards, my supervisor, met with me regularly and gave significant guidance throughout each stage of the thesis. Along with Dr. Edwards, my thesis committee, Dr. Carol Amaratunga and Dr. Ian Graham, participated in conceptual development, provided assistance in analysis and editing, and met with me on several occasions. The collaborators in Cambodia, Drs. Vincent Keane and Socheat Ros from the International Organization for Migration, Cambodia provided support during the process of obtaining ethics approval in Cambodia, organizing data collection, and giving editorial input. Ms. Isabelle Gaboury and Dr. Ian McDowell were particularly helpful with statistical analysis. As primary author and Ph.D. candidate, I was responsible for preparing the literature review, writing the proposal, conducting the interviews and disseminating the questionnaires with the research assistants, analyzing the data (with the assistance noted above), and writing the drafts and final version of the series of papers that together form this thesis.

Dedication

This thesis is dedicated with gratitude to the migrant garment factory workers of Phnom Penh, to my husband Hugo for his support, and to my daughters Asha and Ruth for their patience.

LIFE IN THE BIG CITY

Understanding the Context of HIV Prevention for Rural-to-Urban Migrant Cambodian Garment Factory Workers

Executive Summary

There are an estimated 33.2 million people currently living with HIV globally, 15.4 million of whom are women (UNAIDS, 2007). Women are particularly vulnerable to HIV for biologic and social reasons. In the past, HIV prevention theorists have not considered the importance of the context of women's lives, but have instead focussed their interventions on behaviour change. A review of the literature on migrant women's vulnerability to HIV (Webber, 2007) in Chapter One, illustrates that the *socio-ecologic context* of HIV prevention for migrant women is dependent on multiple factors. Factors at the individual, relationship, and community levels, as well as structural factors (both policy and cultural norms) impact on HIV prevention for women.

The setting for this doctoral research on issues affecting HIV prevention for migrant women is Cambodia (Chapter Two). This southeast Asian country is situated between Thailand, Laos and Vietnam. Cambodia has a unique and complex history. The Revolution of 1975 to 1979, left over one million Cambodians dead, and a further half a million exiled in Thailand (Chandler, 1991). Since the early 1990's, another tragedy has affected the Cambodian survivors and their children: the spread of HIV/AIDS. Cambodia has had one of the highest prevalence rates of HIV in Asia, with a peak adult prevalence of 3.9 % in 1999 (United Nations Development Program, 2007), levelling at 0.9 % in 2006 (UNAIDS, 2007).

Internal migration is common in Cambodia. Eighty-five percent of the Cambodian population live in the countryside, and many choose to migrate because of poverty and landlessness (Nareoun, 2004). Hundreds of thousands of young Cambodian women migrate to the capital, Phnom Penh, to work in the garment factories in order to help support their families (International Labour Organization, 2005). It is these rural-to-urban migrant female garment factory workers who are the focus of this doctoral research. The purpose of the research is to better understand the context of the lives of rural-to-urban migrant female garment factory workers with respect to issues affecting HIV prevention.

The research design of this study is an *exploratory sequential design* (Creswell and Plano Clark, 2007). The research consisted of two phases. The first phase involved qualitative interviews with migrant garment factory workers and key informants. The second phase was a survey of health care providers who work with migrant garment factory workers. The setting of the research Phnom Penh, Cambodia, and data collection took place in 2006, with the collaboration of University of Ottawa, Canada and International Organization for Migration, Cambodia.

The first phase of the study consisted of interviews with twenty migrant garment factory workers and eight key informants, and focus groups with health care providers. The women were asked about their experience of migration, their knowledge of sexually transmitted infections and HIV, their relationships and work experience. The key informants were non-governmental organization (NGO) and government staff who had knowledge about garment factory workers. The key informants were asked about individual, community and structural factors that impacted on HIV prevention

for these workers. The health care providers in the focus groups also discussed the factors affecting HIV prevention for these migrants, and the challenges they faced in HIV prevention with this population of women.

From this qualitative phase of the research it was evident that migrant garment factory workers were vulnerable to HIV infection through *economic, social, and occupational vulnerability* (Chapter Three).

(1) *Economic vulnerability*: These women migrated in order to support their poor families, and as a result they worked long hours in the factory, sending a large portion of their income home. The long hours in the factory prevented them from having time to take care of their own health, and they often ate poorly in order to save money for their families. In addition, the key informants were aware that a minority of garment factory workers were employed in the sex trade industry in order to further supplement their income.

(2) *Social vulnerability*: The women were also vulnerable with respect to their social context. Away from the restrictions of their families and surrounded by peers, they were more likely to develop *sweetheart* relationships with local men, which were often transient.

(3) *Occupational vulnerability*: Factory pressures to produce prevented many women from accessing health care and health education programs. These garment factory workers had limited time to access local clinics. While some factories had health education programming for their workers, only a few women could attend, and many factories had no programming whatsoever.

Chapter Four addresses the issue of condom use in the women's sexual relationships. The women were knowledgeable about modes of HIV transmission and the need to use condoms to prevent HIV, but there was a spectrum of perspectives about condom use with their current or future partners. Some women insisted that partners use condoms, while others asked but did not expect their partners to agree to do so. A third group did not discuss condom use with their partners because of shyness, dislike of condoms, or confidence in their partner. The concept of *confidence* or *trust* in their sexual partner was explored in a workshop with government and NGO staff who worked with migrant garment factory workers. Four key themes arose from the discussion: men are the economic head of the family, men have greater knowledge than women about sexual matters, men are dominant in sexual relationships, and women should appear confident in their marriages. Significantly, the use of condoms was interpreted as a sign of distrust in the male partner, and hence condoms were considered undesirable by many, even if the woman was aware of the infidelity of her partner.

The second phase of the research was a survey of health care providers (doctors, nurses, midwives, and pharmacists) who worked with migrant garment factory workers (Chapter 5). The survey focussed on their knowledge of HIV transmission, their attitudes about people with HIV and HIV testing, their understanding of the issues facing migrant garment factory workers, and their intention to take a sexual history from a garment factory worker with a vaginal discharge (as part of assessing the patient's need for treatment and HIV testing). Cambodian health care providers were very knowledgeable about HIV transmission with the exception of perinatal

transmission. Many held negative views about the rights of people with HIV to marry and have children, and most thought pregnant women should have compulsory testing for HIV, contrary to the WHO recommendations. Using the Theory of Planned Behaviour, it was determined that the constructs *perceived behavioural controls* (feeling that one is able to take a sexual history) was a particularly strong predictor of the health care providers' intention to take a sexual history (50.6%). *Subjective norms* (feeling social pressure to take a sexual history) was also predictive (2.8%). *Attitudes* about sexual history taking were not predictive.

Chapter Six addresses the integration of the two phases of the research. Three dominant themes arose out of this integration of the mixed methods study:

(1) The impact of gender norms on sexual behaviour was the first dominant issue. In Cambodian society, there are very different expectations of acceptable sexual behaviour for each gender. Cambodian women are expected to lack knowledge of sexual matters and remain chaste until they are married, protected by their families, while men are encouraged to have multiple sexual relationships. These gender norms placed particular pressure on the married migrants, and interfered with their ability to practice safe sex. While the women's knowledge about the risks of HIV was for the most part accurate, those who were married were challenged to translate their knowledge into protective behaviours with their sexual partners. Most of the married women were unwilling or felt unable to ask their partners to use condoms.

The gender norms of the society also influenced the interaction of the migrant garment factory workers with the health care providers through the health care providers' attitudes. One of the limitations of the survey of health care providers was

that the impact of gender norms was not explored. The impact of gender norms on the relationship of migrant women with their health care providers should be investigated in future research.

(2) AIDS stigma also had a negative impact on HIV prevention for the migrant garment factory workers. AIDS stigma is a social construct that may result in the poor treatment of those infected with and affected by HIV (Taylor, 2001), however, this stigma can also have other far-reaching consequences. Condom use is stigmatized by an association with promiscuity and sexually transmitted diseases, including HIV. The very act of suggesting condom use is fraught with problems for women as it suggests to her male partner that she does not trust him, and that she believes he may be diseased. Use of condoms is therefore stigmatised for women as condoms represent an accusation that their partner is unfaithful and potentially infected.

There is also evidence from this research that AIDS stigma affects Cambodian health care provider attitudes. While the health care providers surveyed had good knowledge of the modes of HIV transmission, they had negative attitudes towards people with HIV: only 41% thought HIV positive people should be allowed to marry and 56% thought they should be permitted to have children. In addition, 94% supported mandatory HIV testing for pregnant women. Such perspectives may be in line with the general Cambodian public, however, they are problematic for HIV prevention. These health care provider attitudes are counterproductive as they discourage migrant women garment factory workers and others from considering testing for HIV.

(3) The third dominant issue that was evident from integration of the qualitative and

quantitative phases of the research was limitations in access to health care. Significant limitations to accessing health care are financial costs, employer restrictions on their time, and geographic proximity of services. In addition, knowledge of services, and the attitudes of the health care providers themselves are important factors in access to health care.

This research makes several important contributions to the population health literature both in process and in content. The integration of two different theoretical frameworks, the socio-ecologic model with the Theory of Planned Behaviour, and the application of a gender lens (ie., a consideration of issues of power differences between the genders) was an important contribution. In addition, the use of an exploratory sequential design with a mixed methods approach, is another contribution. With respect to content, this research contributes to the growing literature bridging the *10-90 gap* – the relatively low level of investment by rich developed countries in research on issues important to the health of those living in lower income countries (Neufeld, MacLeod, Tugwell, Zakus, & Zarowsky, 2001; Spiegel, Labonte, Hatcher-Roberts, Girard, & Neufeld, 2003). Finally, this study is a significant addition to the limited literature on HIV prevention for migrant Cambodian garment factory workers. The research findings provide an opportunity for the Cambodian government and non-governmental organizations working in this area to consider the multiple factors that affect these migrant workers' ability to prevent HIV infection, and apply this knowledge to the development of interventions and policies for this population of women.

References

- Chandler, D. (1991). *The tragedy of Cambodian history: Politics, war, and revolution since 1945*. Chiang Mai: Silkworm Books.
- Creswell, J. & Plano Clark, V. (2007). *Designing and conducting mixed methods research*. Thousand Oaks: Sage.
- International Labour Organization (2005). Better factories Cambodia: Facts and figures. Retrieved July 10, 2007 from <http://www.betterfactories.org/content/documents/Facts%20and%20Figures.pdf>.
- Nareoun, T. (2004). The economic impact of garment factory workers on their own families in the village. In *Rural Urban Migration in Cambodia* (pp. 77-120). Phnom Penh: Royal University of Phnom Penh.
- Neufeld, V., MacLeod, S., Tugwell, P., Zakus, D., & Zarowsky, C. (2001). The rich-poor gap in global health research: Challenges for Canada. *Canadian Medical Association Journal*, 164, 1158-1159.
- Spiegel, J., Labonte, R., Hatcher-Roberts, J., Girard, J., & Neufeld, V. (2003). Tackling the "10-90 Gap": A Canadian report. *Lancet*, 362, 917-918.
- Taylor, B. (2001). HIV, stigma and health: Integration of theoretical concepts and the lived experiences of individuals. *Journal of Advanced Nursing*, 35, 792-798.
- UNAIDS (2007). 07 AIDS Epidemic Update. UNAIDS. Retrieved August 3, 12, 2008, from http://data.unaids.org/pub/EPISlides/2007/2007_epiupdate_en.pdf
- United Nations Development Program (2007). UNDP - Cambodia. Retrieved October 12, 2007, from http://www.un.org.kh/undp/content/index.php?option=com_content&task=blogcategoryEn&id=6&Itemid=45
- Webber, G. (2007). The impact of migration on HIV prevention for women: Constructing a conceptual framework. *Health Care for Women International*, 28, 712-730.

LIFE IN THE BIG CITY

Understanding the Context of HIV Prevention for Rural-to-Urban Migrant Cambodian Garment Factory Workers

Introduction

Any traveller benefits from an orientation to the journey, and the reader of a thesis is no exception. This introduction serves as the reader's orientation with three main purposes. The first is to situate why a Canadian population health student should embark on this study, the second is to introduce the context of the HIV epidemic in Cambodia, and the third is to orient the reader to the research process and the chapters to follow.

Population Health and HIV

A population health approach addresses the entire range of individual and collective factors that determine health. Population health strategies are designed to affect whole groups or populations of people. The overarching goals of a population health approach are to maintain and improve the health status of the entire population and to reduce inequities in health status between population groups. (Health Canada, 2001)

Population health is concerned with the multiple factors that determine the health status of communities and collectives. What does migration and HIV in Cambodia have to do with population health as a discipline in Canada and why should this research be undertaken by a Canadian doctoral student? There are several reasons.

HIV is a massive global health problem and thus it is appropriate for a population health scholar to focus on an issue affecting a large proportion of the world's population. UNAIDS estimated that in 2006, 39.5 million people were living with HIV, 4.3 million were newly infected that year, and 2.9 million people died of AIDS (UNAIDS, 2006). Prevention is an important facet of population health research, and

HIV prevention is arguably one of the highest priority global population health prevention needs at present. With 150 million migrants living outside of their countries, and hundreds of millions more moving within their country, the risks associated with urbanization, social disruption, poor medical services, and a declining economy put migrants at greater risk of contracting HIV, in addition to other health problems (UNAIDS, 2001; Quinn, 1994). Canadians are familiar with the consequences of population mobility, both from receiving immigrants from elsewhere in the world and because of extensive travel ourselves. Thus an understanding of migration and HIV is very pertinent to population health in Canada.

The massive global reach of the HIV epidemic justifies the choice of this topic for a population health thesis. However, there is another reason why a Canadian population health scholar should undertake this research as a contribution to Canadian population health literature. Canadian researchers have been critical of the “10-90 gap” – the low level of investment by wealthy developed countries in research on issues important to the health of those living in the developing world (Neufeld, MacLeod, Tugwell, Zakus, & Zarowsky, 2001; Spiegel, Labonte, Hatcher-Roberts, Girard, & Neufeld, 2003). These authors argue that global health research should become a focus for Canadian researchers and funders. It is hoped that this research will contribute to Canadian global health literature, and will serve to prepare me to join the growing group of Canadian global health researchers.

This study of migrant women garment factory workers and their context of HIV prevention is appropriate for a population health researcher because of its focus on the social determinants of health. Population health literature has moved away from an

emphasis on individual health behaviour and risk factors prevalent in clinical medicine. The foundation of population health discipline is an understanding of the *upstream* factors or social determinants that affect health status (Lalonde, 1974; Federal Provincial and Territorial Advisory Committee on Population Health, 1994). Some authors have applied an ecologic or socio-ecologic theoretical framework to more fully understand the nature of these upstream factors and their intersections (Stokols, 1996; Sallis & Owen, 1997; Krieger, 2001; Ockene et al., 2007; Beyrer, 2007). The key to these theoretical models is that the health of a population is seen as being determined by layers of relationships and processes that can interact, just as a living organism is affected by multiple and interacting processes. The focus of this research is therefore to examine how the life experience of the Cambodian migrant women working in Phnom Penh garment factories may place them in a position of vulnerability to HIV infection. The *context of HIV prevention* refers to the upstream factors that augment or limit the risk of these women acquiring this virus. The thesis uses a socio-ecologic theoretical framework in order to understand this context: the application of this framework is consistent with population health's focus on upstream factors as social determinants of health.

Finally, this research provides a contribution to population health literature through the use of a gender lens, a perspective that has been largely absent in population health literature in Canada. Love and colleagues have been critical of population health's emphasis on socio-economic status to the exclusion of other health determinants, particularly gender (in Hayes & Dunn, 1998, p. 36). Indeed, a gender analysis was not

even considered in germinal population health texts (Wilkinson, 1996; Marmot & Wilkinson, 1999).

Gender refers to the socially constructed norms for women and men in society, and has a large and very separate contribution to health status apart from *sex*, the biological differences between males and females (Krieger, 2003). Women's health experience varies from men's because the power differential between the genders has an impact on such diverse issues as access to health care resources and prevention measures, sexual violence, social networks, roles in the household and the workplace, and gender discrimination, among many others (Moss, 2002; McGrath & Puzan, 2004; Spitzer, 2005). Clearly, socioeconomic status and culture modify the effect of gender on health, as economically disadvantaged women and women from cultures that are strongly patriarchal, generally fair worse. However, gender must not be overlooked nor subsumed under these categories. The role of gender as a determinant of HIV risk for women has been well documented in reviews of international literature, and will be discussed in greater detail in Chapter One (Webber, 2007b). Discussion of the implications of gender power dynamics, as an important upstream factor to women's health, results from the use of the gender lens.

Thus, this research makes a significant contribution to population health through its focus on HIV prevention – an important global health issue, its geographical setting in a developing world country with limited research resources, its use of the socio-ecologic context to understand the social determinants of health, and through implementation of a gender lens as a means to examine gender dynamics, one of the important determinants of women's health status. Examining the contextual factors

affecting HIV prevention for this population of migrant garment factory workers has significance for us all. HIV is a global health issue, migration (both internal and international) is widespread, and the gender issues revealed in this study of migrant women have applicability to other vulnerable populations.

The Cambodian Context and the HIV epidemic

The geographic context of this research will be explored in further depth in the second chapter, however, the reader deserves an introduction here. Cambodia is in the doubly tragic position of having suffered a brutal civil war only thirty years ago, and being located in the center of a burgeoning AIDS epidemic in South-east Asia. In 1975, Pol Pot and his Khmer Rouge soldiers took control of Cambodia and forced the population to move to the countryside to labour in agriculture. These new leaders refused to import food, medicine, and pesticides that had been responsible for malaria control. This resulted in tens of thousands of Cambodians dying of malnutrition and inadequate health care. In addition, the Khmer Rouge sought out and killed many Cambodians, targeting the educated, thus decimating the health care system through the murder of many trained health care providers. Over one million Cambodians died during the four year revolution from 1975 to 1979, approximately one in every eight Cambodian citizens (Chandler, 1991).

HIV was first detected in Cambodia's blood system in 1991 (Saphonn *et al.*, 2004), about the same time that the soldiers of United Nations transitional authority in Cambodia (UNTAC) arrived to stabilize the country. These troops contributed to the further spread of the virus because of their leisure time employment of local sex workers. Without the infrastructure of a sound public health system, the epidemic

flourished. Recently, there have been notable reductions in the rates of HIV in Cambodia, particularly amongst sex workers, however there is concern that the epidemic is shifting. An increasing proportion of people living with HIV in Cambodia are married women; husband-to-wife transmission is now the major means of being infected by the virus, and one third of all new infections are from mother to child (UNAIDS, 2007).

There are vast numbers of internal migrants in Cambodia. Mobility has been determined to be a risk factor for HIV transmission for Cambodians (Sopheab, Fylkesnes, Philos, Chhi Vun, & O'Farrell, 2006). Despite this reality, there has been very little research on the health implications of migration for the hundreds of thousands of rural young women who make their way to Phnom Penh to work in the garment factories (International Labour Organization, 2005). This mixed methods study focuses on the context of the lives of these young migrant women and the impact of migration on HIV prevention for them.

What is to Follow

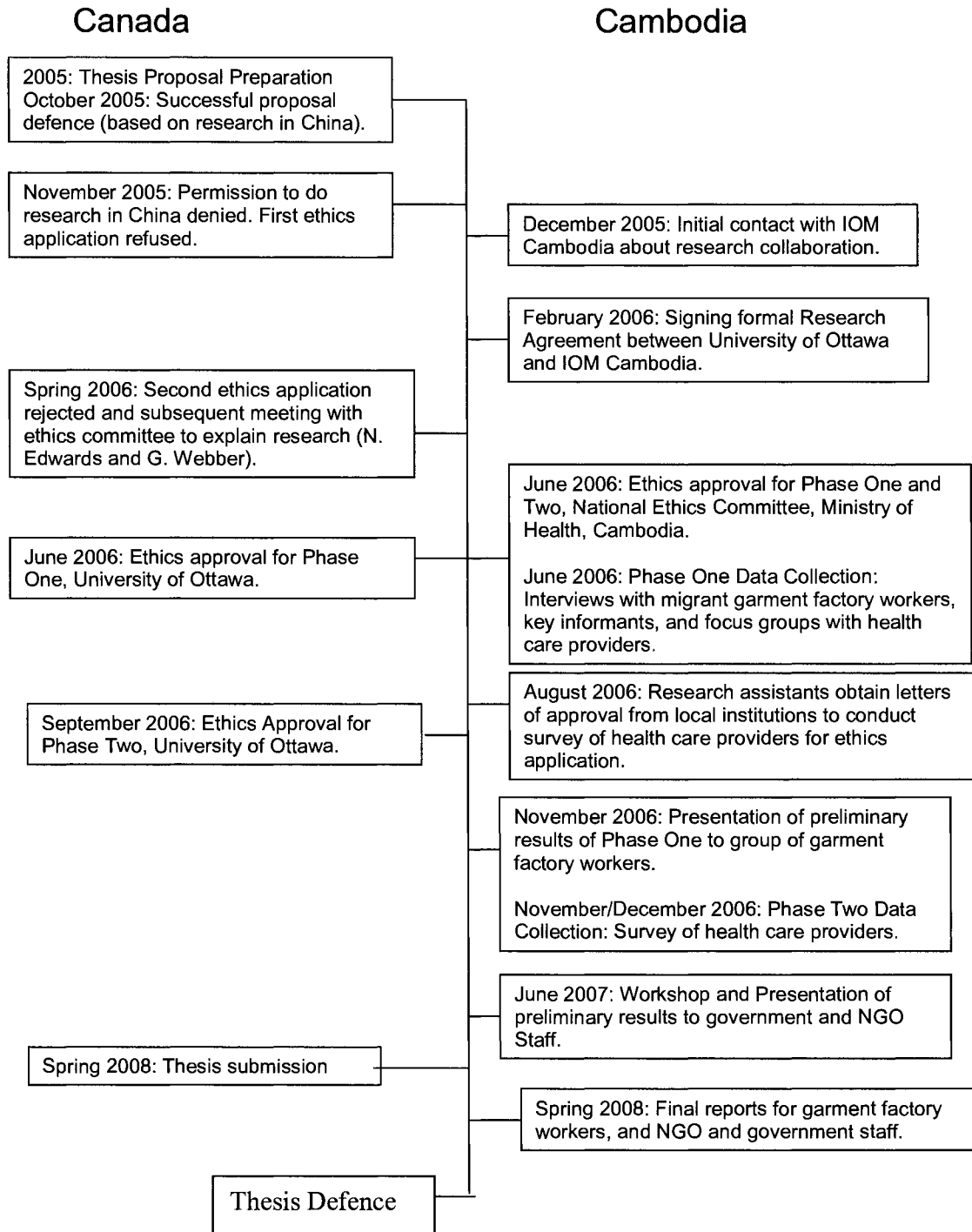
Now that the reader is better oriented to the research within the discipline of population health in Canada and the recent historical context of the HIV epidemic in Cambodia, it is appropriate to provide a perspective on the thesis itself. It should be noted here that the original plan was to conduct this research in China, and the thesis proposal was presented with a full literature review of HIV in China, including a draft of the paper found in Appendix E: Chinese Health Care Providers' Attitudes about HIV: A Review (Webber, 2007a). However, after the thesis proposal defence, it was confirmed that permission to do the research would not be granted by the Chinese

authorities. Cambodia appropriately became the focus of the research because of the relatively high prevalence of HIV and migrant women's involvement in garment factories supplying the global market.

The chapters that follow begin with a published international literature review of the impact of migration on women's vulnerability to HIV and the development of a conceptual framework in the first chapter. Chapter two further explores the Cambodian context of the research and the significance of the mixed methods used in the study. Chapters three and four describe the findings of the qualitative interviews with garment factory workers and key informants with a focus on the economic factors (Chapter Three) and cultural gender dynamics (Chapter Four) that place these workers in a vulnerable position. Chapter Five describes the results of a survey of HIV knowledge and attitudes of the health care providers who serve the garment factory workers, and their intention to take a sexual history, assessed using the constructs of the Theory of Planned Behaviour. These three chapters (three through five) are written as manuscripts for eventual publication and thus there is some repetition, particularly in the literature review and methods sections. Chapter Six, the conclusion, integrates the findings and the implications, both for future research and for interventions to address HIV prevention for this population of migrant women. The appendices contain documents related to the research and other relevant information such as the published literature review of Chinese health care providers' knowledge and attitudes about HIV.

This concludes the orientation of the reader to the thesis. The timeline of the research is illustrated for the reader's benefit in Figure I.1.

Figure I.1: Thesis Timeline 2005 to 2008



References

- Beyrer, C. (2007). HIV epidemiology update and transmission factors: Risks and risk contexts -16th International AIDS Conference epidemiology plenary. *Clinical Infectious Diseases*, 44, 981-987.
- Chandler, D. (1991). *The Tragedy of Cambodian history: Politics, war, and revolution since 1945*. Chiang Mai: Silkworm Books.
- Federal Provincial and Territorial Advisory Committee on Population Health (1994). *Strategies for population health: Investing in the health of Canadians*. Ottawa: Health Canada.
- Hayes, M. & Dunn, J. (1998). *Population Health in Canada: A systematic Review* (Rep. No. CPRN Study No. H 01).
- Health Canada (2001). *The Population health template: Key elements and actions that define a population health approach*.
- International Labour Organization (2005). Better factories Cambodia: Facts and Figures [Fact sheet] Retrieved November 20, 2007, from <http://www.betterfactories.org/content/documents/Facts%20and%20Figures.pdf>
- Krieger, N. (2001). Theories for social epidemiology in the 21st century: An ecosocial perspective. *International Journal of Epidemiology*, 30, 668-677.
- Krieger, N. (2003). Genders, sexes, and health: What are the connections and why does it matter? *International Journal of Epidemiology*, 32, 652-657.
- Lalonde, M. (1974). *A New Perspective on the health of Canadians: A working document* Ottawa: Government of Canada.
- Marmot, M. & Wilkinson, R. G. (1999). *Social determinants of health*. Oxford: Oxford University Press.
- McGrath, B. & Puzan, E. (2004). Gender disparities in health: Attending to the particulars. *Nursing Clinics of North America*, 39, 37-51.
- Moss, N. E. (2002). Gender equity and socioeconomic inequity: A framework for the patterning of women's health. *Social Science & Medicine*, 54, 649-661.
- Neufeld, V., MacLeod, S., Tugwell, P., Zakus, D., & Zarowsky, C. (2001). The rich-poor gap in global health research: Challenges for Canada. *Canadian Medical Association Journal*, 164, 1158-1159.

Ockene, J., Edgerton, E., Teutsch, S., Marion, L., Miller, T., Genevro, J. *et al.* (2007). Integrating evidence-based clinical and community strategies to improve health. *American Journal of Preventive Medicine*, 32, 244-252.

Quinn, T. C. (1994). Population migration and the spread of types 1 and 2 human immunodeficiency viruses. *Proceedings of the National Academy of Sciences of the United States of America*, 91, 2407-2414.

Sallis, J. F. & Owen, N. (1997). Ecological models. In K. Glanz, F. M. Lewis, & R. K. Rimer (Eds.), *Health behaviour and health education: Theory, research, and practice* (2nd ed., pp. 403-424). San Francisco: Jossey-Bass.

Saphonn, V., Sopheap, H., Sun, L. P., Vun, M. C., Wantha, S. S., Gorbach, P. M. *et al.* (2004). Current HIV/AIDS/STI epidemic: Intervention programs in Cambodia, 1993-2003. *AIDS Education and Prevention*, 16 (3 Suppl A), 64-77.

Sopheap, H., Fylkesnes, K., Philos, D., Chhi Vun, M., & O'Farrell, N. (2006). HIV-related risk behaviors in Cambodia and effects of mobility. *Journal of Acquired Immune Deficiency Syndromes*, 41, 81-86.

Spiegel, J., Labonte, R., Hatcher-Roberts, J., Girard, J., & Neufeld, V. (2003). Tackling the "10-90 Gap": A Canadian report. *Lancet*, 362, 917-918.

Spitzer, D. (2005). Engendering health disparities. *Canadian Journal of Public Health*, 96 Supplement 2, S78-S92.

Stokols, D. (1996). Translating social ecological theory into guidelines for community health promotion. *American Journal of Health Promotion*, 10, 282-298.

UNAIDS (2001). *Population mobility and AIDS: UNAIDS technical update* Geneva: UNAIDS.

UNAIDS (2006). 2006 AIDS epidemic update. Retrieved July 20, 2007, from <http://data.unaids.org/pub/EpiReport/2006>

UNAIDS (2007). UNAIDS Cambodia Country Office. Retrieved July 20, 2007, from <http://www.un.org.kh/unaid/default.asp>

Webber, G. (2007a). Chinese health care providers' attitudes about HIV: A review. *AIDS Care*, 19, 685-691.

Webber, G. (2007b). The impact of migration on HIV prevention for women: Constructing a conceptual framework. *Health Care for Women International*, 28, 712-730.

Wilkinson, R. G. (1996). *Unhealthy societies: The afflictions of inequality*. London: Routledge.

Chapter One

The Impact of Migration on HIV Prevention for Women: Constructing a Conceptual Framework

This paper has been published in *Health Care for Women International*,
September 2007, 28 (8): 1-18.

Reprinted with permission of Taylor and Francis (see Appendix H).
Journal website: www.informaworld.com

The Impact of Migration on HIV Prevention for Women: Constructing a Conceptual Framework

Gail Webber

Acknowledgements: I would like to acknowledge the support and guidance of my thesis supervisor, Dr. Nancy Edwards, and my thesis committee members, Dr. Carol Amaratunga, Dr. Ian Graham, and Dr. Lynne Leonard. I also acknowledge and appreciate the financial support of the Women's Health Scholar's Award from the Ontario Women's Health Council through the Ontario Council on Graduate Studies.

Abstract

There are an estimated 40.5 million people currently living with HIV globally, 17.5 million of whom are women (UNAIDS & WHO, 2005)¹. Women are vulnerable to HIV for biologic as well as social reasons. In the past, the HIV prevention theorists have not considered the context of women's lives; factors at the individual, relationship, and community levels, as well as structural factors (both policy and cultural) impact on HIV prevention for women. This is particularly true for migrant women, who may be especially vulnerable to HIV infection during their time of transition. Throughout this paper the author explores the international literature for both the historical context of HIV prevention for women, and the impact of migration on HIV risk for women. The literature review provides a basis for the development of a conceptual framework of the socio-ecologic factors affecting HIV prevention for migrant women. The author calls for consideration of the broad context of women's experience when developing interventions for this population.

Key words: HIV, AIDS, women, migration, prevention.

Shortened Title: Impact of Migration on HIV Prevention for Women

¹ Note that this statistic differs from that found in the executive summary on page xvi as this paper was written and published earlier and thus used the available 2005 statistics.

The Impact of Migration on HIV Prevention for Women: Constructing a Conceptual Framework

UNAIDS has estimated that of the 40.5 million people currently living with HIV globally, 17.5 million are women (UNAIDS *et al.*, 2005). The proportion of women with HIV has increased steadily, and the feminization of the epidemic has become more evident, particularly in sub-Saharan Africa, where 57% of adults infected are women, and 75% of infected youth are female (UNAIDS, 2004). In Asia, HIV continues to spread in women and UNAIDS estimated that in 2005, 2 million women were living with HIV on the Asian continent, three hundred thousand more than two years previously (UNAIDS *et al.*, 2005). The increasing prevalence of HIV amongst women is attributed to women's *biologic* and *social* vulnerability to transmission. Unfortunately, HIV prevention researchers have historically focussed on women's biologic vulnerability, and not considered the implications of women's social status on infection risk. An analysis of the literature on migration of women reveals a complexity of factors affecting women's vulnerability to HIV. The goal of the author is to develop a conceptual framework of the factors impacting on HIV prevention for migrant women by: (1) reviewing the historical context of HIV prevention research on women and its critique, (2) summarizing the research on the impact of migration on HIV prevention for women, and (3) presenting a conceptual framework of this impact in order to illustrate the complexity of factors that affect HIV prevention for migrant women.

Historical Context of HIV Prevention

Biologically, women present a larger surface area for virus transmission, and there is a higher concentration of HIV in sperm than in vaginal secretions. The vaginal mucosa of

women is more permeable than the skin on the penis: the efficiency of transmission from man to woman has been estimated to be two to four times that of the reverse direction (WHO, 2000; UNAIDS, 2004). The 'biologic sexism' of HIV (Doyal, 1994) also applies to other sexually transmitted diseases (STDs). The presence of sexually transmitted infections such as chancroid, syphilis, and genital herpes, that may be asymptomatic in women, further increase the risk of HIV transmission (Wasserheit, 1992). While biologic approaches to HIV prevention are available (e.g., male and female condoms), issues of partner cooperation and acceptability are at play here for women. There is hope that with the development of new biologic means of HIV prevention, such as a vaccine and microbicides (topical products designed to prevent STDs and HIV and potentially still allow for pregnancy) women will have improved access to biologic HIV prevention options that do not require their partner's involvement (Blocker & Cohen, 2000).

In addition to their sexual risks due to biologic vulnerability, the social construct of gender which differentiates the power, roles, responsibilities, and obligations of women from men, significantly impacts on women's ability to take precautions against acquiring HIV. The role of gender as a determination of HIV risk for women has been well documented in early reviews of the international literature (de Bruyn, 1992; Gupta & Weiss, 1993; Doyal, 1994; Heise & Elias, 1995). It has also been recognized by international organizations such as the United Nations (UNAIDS, UNDP, & UNIFEM, 2004), the World Health Organization (WHO, 2000), and the Commonwealth Secretariat (Commonwealth Secretariat, 2002) in addition to national aid agencies (CIDA, 2000) and Non-Governmental Organizations (Interagency Coalition on AIDS and Development, 2003), and has become a focus for program development. Ongoing measurements of the

epidemic have begun to address women's biologic, cultural, economic and social status vulnerabilities by capturing diverse data sources along gendered lines, including biologic surveillance, policy environment, behavioural surveillance, and service delivery (De Lay, 2004). The recognition of the importance of gender (i.e., the social construction of women and men's roles) to HIV prevention was not originally reflected in the HIV prevention research, however.

Much of the early research to prevent HIV in women focused on behavioural interventions to increase condom use. These interventions either lacked an explicit theoretical base or were based on psychological theories of behaviour change that were used to attempt to explain risk behaviours as summarized by Amaro (Amaro, 1995) and illustrated in Table 1.1.

Table 1.1: Early Theories used in HIV Prevention Research

Theory	Application to HIV Prevention Research
Health Belief Model (Becker, 1974)	Individuals participate in HIV prevention behaviour because they believe they are at risk for serious consequences and that they can prevent these consequences by behaviour change. This theory was used implicitly in many of the early HIV education interventions.
Theory of Reasoned Action (Ajzen & Fishbein, 1977)	Individuals are most likely to make a behaviour change (such as protecting themselves from HIV by using a condom) if they believe it will benefit their health, it is socially desirable, and they feel pressure from others to make the change.
Social Cognitive Theory (Bandura, 1977)	Individuals will reduce their risk for HIV if they have self-efficacy (knowledge of the steps involved, motivation to take them, and a belief that they can carry out the necessary behaviour).
AIDS Risk Reduction Model (Catania, Kegeles, & Coates, 1992)	Combines concepts from Health Belief Model and Social Cognitive Theory. Individuals need to achieve 3 levels of behaviour change: labelling of the high-risk behaviour, making a commitment to changing it, and moving on to the new behaviour.
Transtheoretical Model of Behaviour Change (Prochaska & DiClemente, 1983)	Also known as the Stages of Change, originally used in smoking cessation. Based on hypothesis that behaviour change such as wearing a condom requires the stages of pre-contemplation, contemplation, preparation, action and maintenance of behaviour change. This theory has been used in order to elicit many different behaviour changes.

In their review of the theoretical approaches to individual level change in HIV risk behaviour, Fisher and Fisher (2000) were critical of the usefulness of these theories within the context of sexual behaviour as they are based on rational decision making that does not reflect the reality of the sexual relationship. Other researchers have moved the critique even further by calling for attention to the context of women's lives, and the very different roles women and men take in HIV prevention:

For women, this often means that sexual behaviour occurs in the context of unequal power and in a context that socializes women to be passive sexually and in other ways. Yet, none of the behaviour modes used to study HIV risk behaviours explicitly includes gender dynamics (e.g., power in relationships, as well as attitudes and values regarding gender roles) as factors that affect sexual behaviour directly...Even more surprising is that in most studies, sexual risk behaviours (e.g., not using a condom) in both women and men are seen as the same behaviour. In fact, these are distinctly different behaviours. For men, the behaviour is wearing the condom; for women, the behaviour is persuading the male partner to wear a condom, or, in some cases, deciding not to have sex when the male partner refuses to wear a condom. (Amaro, 1995, p. 440)

While not disputing the potential value of the behavioural theories, Amaro encouraged the psychological theorists to consider how the context of women's lives impacts on behaviour. She emphasized four central assumptions that are critical to the development of a theoretical model of women's sexual risks: social status, connection to others, male partners as key role players, and experience and fear of physical and sexual violence (Amaro, 1995). In their review of the literature, Logan and colleagues distinguish between the social and contextual factors that contribute to HIV prevention in women (Logan, Cole, & Leukefeld, 2002). They define social factors as those issues that affect groups of people similarly, and are external to individuals: social and cultural norms of the society, social status, and incarceration history are the examples they provide of social factors that impact on HIV prevention for women. Contextual factors may define an individual's perspective, though may not be evident to others. Logan and colleagues attribute connection and relationships, victimization, mental health problems, substance abuse, sex exchange, and STDs to the class of contextual factors.

Zierler and Krieger (1997) have illustrated the importance of social factors in HIV prevention as they documented the focus of the U.S. epidemic on poor, African American

and Latina women. These authors note the lack of research on the economic and racial factors in the epidemic and they also call for a move away from psychological theories of behaviour change to alternative theoretical frameworks in order to explore the inequalities of class, race/ethnicity, gender and sexuality in the HIV epidemic in the United States. The preferences of HIV for the lower social class and non-white racial groups in the United States as well as the multiple contextual factors affecting women's ability to protect themselves from HIV have been confirmed by other authors reviewing the research (Carovano, 1991; Cohen, 1997; Gavey & McPhillips, 1997; Stevens, 1995). Cultural practices and norms, including traditional concepts of gender norms, are contributing features to the challenges of HIV prevention for women within the Latina culture in the U.S. (Russell, Alexander, & Corbo, 2000).

Contextual factors are not only issues for American women. Parker, Easton, and Klein (2000) have documented the structural barriers that affect HIV prevention internationally; economic (under) development and poverty, mobility including migration, seasonal work, social disruption due to war and political instability, and gender inequalities are all issues that cannot be modified easily with behavioural interventions. Heise and Elias (1995) have articulated how the global AIDS strategy has been inadequate to meet the needs of women in the developing world as it has focussed on reduction of numbers of sexual partners, condom use, and STD treatment, and not addressed the reality that many women are not in any position to implement these terms. Lack of partner fidelity, sexual work as an economic necessity, non-consensual sex, desire for pregnancy, and inability to access STD treatment services are very real factors for many women in the developing world. Authors from Asia and Africa have confirmed that condom promotion alone is insufficient for

women (Bhattacharya, 2004), and that attention to women's role and power within society are key features in addressing the epidemic (Aniekwu, 2002).

Heterosexual transmission is the most common route of women acquiring HIV, however, it is not the only means. Intravenous drug using women are particularly vulnerable to HIV for a variety of behavioural, relationship, network, and structural reasons (Miller & Neaigus, 2001; Latka, 2003). Women are more likely to be initiated into drug use by their male sexual partner, and thus are at an increased sexual risk of contact with HIV positive individuals. Like men, women are influenced by their social networks, and although there are gaps in the research about the impact of gender on networks, there is no doubt that women's social networks are key to both their drug use, and to interventions to reduce HIV risk behaviour. Finally, social and economic structural factors also put drug-using women at risk for HIV. Perhaps the most obvious risk occurs when sex work is resorted to as a means of generating income to purchase drugs:

Women who use drugs may be at high risk from sex work because they may be more likely than other women to engage in unprotected sex with customers; to engage in sex risk practices, such as anal sex; and may have more customers, thereby increasing their risk of exposure. However, much research suggests that the greatest HIV risk faced by sex workers, as well as by other women who use drugs, is through relationships with their primary sex partners; that is, within dyadic relationships... For women who use drugs, these partners are often men who inject drugs (Miller *et al.*, 2001, p. 973).

Thus, the issue of power in the gender relationship affects HIV prevention behaviour for women using drugs, sex workers, adolescent girls, and monogamous married women with no other risk behaviour. It is a universal concept that all women are confronted with, though synergies with racial and social disadvantages can vary how it is experienced. Gender inequity happens at the most intimate, individual level in sexual relationships and

in communities; in addition, it is institutionalized into economic and social policies and cultural norms, all which can influence women's ability to protect themselves from HIV.

While the preceding paragraphs have summarized the literature and critique of the historical context of HIV prevention for women in general, there is a paucity of research on migrant women's vulnerability to HIV. The purpose of the following section is to present the literature on HIV prevention for migrant women in order to illuminate the factors impacting on their risk of infection.

Factors Impacting on HIV Prevention for Migrating Women: An International Review

We postulate that it is not the origin, or the destination of migration, but the social disruption which characterizes certain types of migration, which determines vulnerability to HIV. The fact that population movements distribute HIV is secondary to the fact that certain types of migration cause HIV epidemics (Decosas, Kane, Anarfi, Sodji, & Wagner, 1995, p. 826).

The process of migration consists of more than the shifting of humans around the globe sometimes accompanied by unwanted infectious agents such as HIV. Migration is complex: the decision about migrating, the impact of migration on the individual and their relationships, the migration process, the nature of the receiving community, and the implications of migration policies on the new-comers are all factors that impact on HIV prevention. Mobility may lead to increased vulnerability to HIV through risky sexual behaviour with frequent partner changes, such as occurs in sex work, or alternatively may reduce the risk of HIV through better access to health care and STD treatment (White, 2003). For the purposes of considering the impact of migration for women on HIV prevention, the literature was searched on September 3, 2005 using the following search terms: HIV or AIDS, women, prevention and migration or acculturation. *Pubmed, medline,*

embase, and *sociologic abstracts* were accessed and provided literature. (No further studies were found through searching *CINAHL*, *psych info*, or *healthstar*.) Studies focussing on migration within developing countries were emphasized. A summary of the issues highlighted by the literature follows.

Migration is the movement of people in space over time, and often involves a change in usual place of residence (Quinn, 1994). Internal migration denotes movement within national boundaries and can be in a myriad of directions, though rural-to-urban migration is the most common. Quinn has concisely summarized the contextual factors of migration associated with HIV dissemination in the following table (Table 1.2).

Table 1.2: Factors associated with HIV dissemination related to migration (adapted from Quinn, T. C. (1994). Population migration and the spread of types 1 and 2 human immunodeficiency viruses. *Proceedings of the National Academy of Sciences of the United States of America*, 91, p. 2413, Copyright 1994, National Academy of Sciences, U.S.A.)

1. Population Migration	Internal and international
2. Urbanization	Migration of poor, sexually active young people from rural regions to cities in search of employment
3. Social disruption	Changes in social and cultural values secondary to migration from families or from political repression and civil disruption
4. Poor medical services	Less effective facilities for diagnosis and treatment of increasing medical problems associated with urbanization and a failing economy
5. Declining economy	Overall decrease in average income per capita, resulting in increased migration and prostitution
6. Low social status of women	Difficult to obtain educational opportunities, less training for skilled labour, and consequently fewer economic possibilities, resulting in increased prostitution
7. STD epidemic	Many of the factors above contributed to further spread of STDs, particularly genital ulcers, which facilitated HIV transmission

Urbanization, social disruption due to family movement or civil disruption, poor medical services, and a declining economy put migrants of both genders at risk of HIV. The low social status of women and a prevalence of other STDs make women migrants particularly vulnerable. Quinn's list of migration factors is helpful at moving the discussion about HIV risk and prevention from individual factors to contextual issues. UNAIDS has confirmed that the vulnerability of women migrants to HIV is connected to their limited access to reproductive health care services, their lack of bargaining power in sexual negotiations, and their reliance on sometimes inferior and risky jobs (UNAIDS, 2001). Discrimination resulting from ill-adapted migration policies may also be a factor (Haour-Knipe & Grondin, 2003). It is these "intersectionalities of influence", locating the health of migrant women within the "complex socio-economic, historical, political, and institutional structures and dynamics in the pre- and post-migration context." (Guruge & Khanlou, 2004, p.33) that are the focus of this literature review.

However, women's migration to cities is not only governed by differential labour opportunities between countryside and town; indeed, such a narrowly economic perspective would give the misleading impression that women were necessarily free to determine where they lived. A third critical factor that must be taken into account, therefore, is the extent to which female population mobility is constrained by social and cultural constructions of gender (Chant & Radcliffe, 1992, p. 7).

Gender has a major impact on HIV prevention for migrants at individual, community and structural levels. Cultural gender norms influence the power women can exercise in relationships (which directly affects their ability or willingness to enforce condom use), and their employment opportunities. Human rights abuses of women migrants can affect individual women or be institutionalized for a more general effect, and can occur during the process of migration or at the destination. A discussion of gender power dynamics,

employment issues and human rights abuses will be followed by a consideration of the positive aspects of migration that impact on HIV prevention for women, as presented in the literature.

Early literature from South Africa demonstrated that migrant men were at risk of acquiring HIV through extra-marital liaisons, and returning home with the virus passing it on to their wives. Such risks of HIV transmission continue for women across the globe and have been documented in countries as diverse as Senegal (Pison, Le Guenno, Lagarde, Enel, & Seck, 1993), Botswana (Hope, 2001), Honduras (Stansbury & Sierra, 2004), and Mexico (Hirsch, Higgins, Bentley, & Nathanson, 2002; Parrado, Flippen, & McQuiston, 2005). Recently it has been noted that the transmission of HIV from male migrant to wife at home may not be the whole story. Studies from South Africa where large numbers of male migrants return home to visit their families, demonstrate that while women may be exposed through *circular migration* of partners, they may be also at risk through occasional liaisons of their own in the absence of their migrant partners, i.e. HIV transmission has been shown to move from migrant to waiting partner and in the reverse direction (Williams & Gouws, 2001; Lurie *et al.*, 2003a; Lurie *et al.*, 2003b). Mobility within West Africa was also associated with higher levels of HIV infection and HIV risk behaviour in mobile men and sexually active women (Lagarde *et al.*, 2003). Travel back to regions of high HIV prevalence is another consideration for increased risk in migrants, particularly if unprotected sexual relations take place, as is the case for some Haitian Canadian women (Adrien *et al.*, 1999).

Regardless of the direction of HIV spread, gender power dynamics are an important factor in migrant women's vulnerability to HIV. This has been particularly well

documented in Hispanic societies where *machismo* features strongly. In this culture, it is expected that men will have extra-marital affairs, however, women feel unable to protect themselves by requesting condom use as this would imply lack of trust in their relationship, or would generate anger in their partner. Such concerns have been expressed by women migrants from Mexico (Hirsch *et al.*, 2002; Parrado *et al.*, 2005), Salvadorean and Chilean migrants to Australia (Dawson & Gifford, 2001; Dawson & Gifford, 2003), and Haitian migrant farm-workers in the United States (Gadon, Chierici, & Rios, 2001).

Gender power dynamics can be a factor in the employment of women migrants as well. Migration of men has created job opportunities for women, often including sex work. In the northeast region of Botswana, 98% of the migrants are women and there is a large number of commercial sex workers (CSWs) operating in this commercially-oriented district. Hope (2001) has reported how multiple-partner sex norms, and the proximity of the country to other African countries with a high prevalence of HIV, in addition to a male-dominant culture, has made the risk of HIV for migrants significant. Another example of sex work amongst female migrants resulting in a very high prevalence of HIV is the food and recreation workers in Tanzanian gold mines. Forty two percent of these women were documented to be HIV positive, while only 6% of the male miners were positive (Clift *et al.*, 2003).

Other women migrants are not primarily employed in the sex industry, however, many supplement their income by this work. Examples here are numerous and include migrant women workers on the sugar cane plantations of the Dominican Republic (Brewer *et al.*, 1998), Hispanic farm workers in the U.S. (Gadon *et al.*, 2001; Fernandez *et al.*, 2004), Burmese factory workers in Thailand (Mullany, Maung, & Beyrer, 2003), and Cambodian

garment workers (Nishigaya, 2002). In the latter study, Nishigaya reported how poor Cambodian women migrated to the cities to make money to support their families at home. As they were paid less than minimum wage at their factory jobs, they barely made enough money to support themselves, and thus resorted to sex work. In the Dominican Republic study of Haitian migrant workers in the sugar cane plantations, close to 20% of the women surveyed admitted to sex work. The authors comment that sex work is often an *interim survival strategy* employed by women in the first few years after migration (Brewer *et al.*, 1998, p. 1885). Sexual liaisons can also be a factor in other migrant women's jobs. Women itinerant traders in Ghana are vulnerable to sexual exploitation as they frequently rely on males to assist them find shelter and protect their market goods (Anarfi, Appiah, & Awusabo-Asare, 1997).

Human rights abuses for women migrants are prevalent and diverse. Such abuses may occur at the individual level or may be institutionalized. Examples of individualized abuses are the sexual exploitation of vulnerable women such as the itinerant Ghanaian traders (Anarfi *et al.*, 1997). Institutionalized abuses vary from underpaying women employees such as the Cambodian garment workers and sex workers (Nishigaya, 2002), to the sexual exploitation of women migrants in transit stations of Central America and Mexico by authorities (Bronfman, Leyva, Negroni, & Rueda, 2002). Culturally institutionalized human rights abuses include the Ugandan practice of disinheriting widows after their husband's death: as a result many of these women chose to migrate to their natal homes or in search of other opportunities for themselves and their children (Ntozi, 1997). State human right abuses in Myanmar have created the situation of ethnic minority Burmese fleeing to factory jobs in Thailand, uninformed about their risks of HIV (Mullany *et al.*,

2003). Unfortunately, there are also examples of human rights abuses of migrants in the health care system. Over 90% of Hispanic farm-worker migrants to Florida had no health insurance (Fernandez *et al.*, 2004). Bandyopadhyay and Thomas examined the risks of women migrants to Hong Kong as domestic helpers in their survey of 1,963 women. Forty two percent felt discrimination at Hong Kong hospitals, and medical confidentiality was lacking as more than one third of the women found that their medical records were disclosed to their employers without their knowledge (Bandyopadhyay & Thomas, 2002).

Thus far the discussion has focussed on the negative aspects of migration on HIV prevention for women. Indeed the literature is almost unanimous that migration increases women's vulnerability to HIV. There are rare exceptions, however. Educated Nepalese women who migrated to Australia found that they developed more power within the family and were able to share in decision-making (Rolls & Chamberlain, 2004). While not explicitly discussed, this process of acculturation for these women would presumably give them more power to enforce condom usage by their partners. This was a limited study of eleven professional married Nepalese migrants, and thus may not be generalizable to other situations. In their study of Chilean women in Chile and Australia, Dawson and Gifford found that the more educated women in both countries were no longer willing to live under the weight of *machismo* culture and would not tolerate infidelity in their partners (Dawson *et al.*, 2003). A study of Mexican migrants was less conclusive: while migration provides women with greater economic opportunities and a potentially more gender-equalitarian culture, marginalization, family separation, and social isolation may increase women's dependence on their male partner (Parrado *et al.*, 2005). The authors summarized:

It is increasingly recognized that migration may simultaneously challenge and reinforce patriarchy, presenting women with opportunities in some domains and imposing constraints on them in others... However, few studies have systematically examined the gender domains that are associated with gains and losses for migrant women and isolated and interrelated the factors that condition power outcomes (Parrado *et al.*, 2005, p. 348).

Thus, migration presents women with many challenges including sexual exploitation, vulnerable employment opportunities, and a variety of human rights abuses that serve to increase their risk of HIV. In select circumstances, migration can also result in positive impacts for women including increased relationship power and better economic prospects. The third and final goal of this paper is to synthesize the findings from the literature review of HIV prevention and migrant women into a conceptual framework depicting the impact of migration on HIV prevention for women.

Developing a Conceptual Framework of the Impact of Migration on HIV Prevention for Women

Historically, the HIV epidemic had been largely viewed as an individual-level health phenomenon. This perspective has dominated the field of HIV prevention. More recently, prevention scientists have realized that there are a host of environmental and structural influences that make a significant contribution to sustaining the HIV epidemic. Researchers and practitioners alike are increasingly acknowledging the importance of social contextualism: the need to understand an individual's behaviour within their social environment and intervene not only on the individual level but with broader social structural levels. (DiClemente, 2000, p. 312)

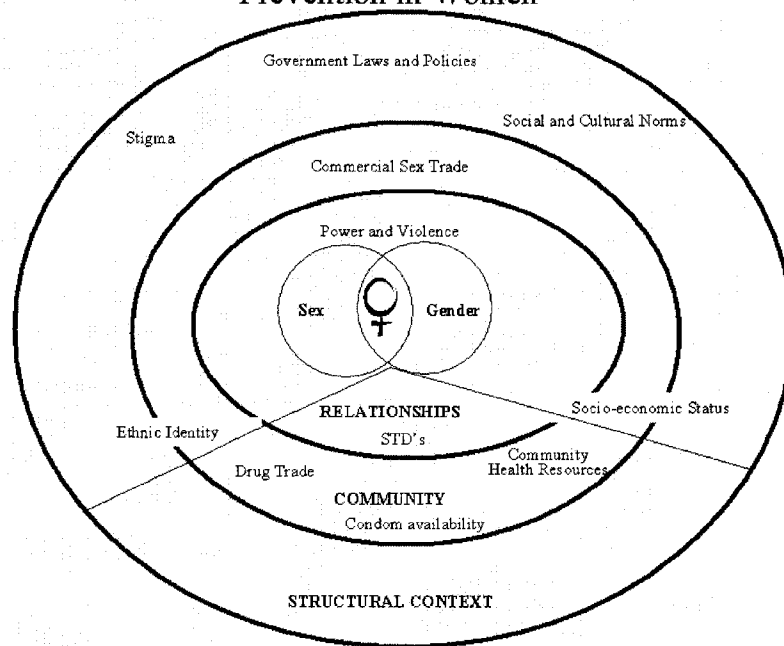
Understanding the contextual factors affecting women's ability to protect themselves from HIV requires moving beyond the individual woman and her behaviour choices. In his perspective on HIV prevention research and the directions for the future, DiClemente wrote of the need for HIV preventions to target multiple levels of causality. This recognition of the broader context of health issues is not, of course, unique to HIV prevention. There has been a call for theory-based understanding of the socio-ecologic

context within social epidemiology (Krieger, 2001), health promotion (Stokols, 1996; Sallis & Owen, 1997) and nursing research (Edwards, Mill, & Kothari, 2004).

Bronfenbrenner's ecological theory of development demonstrates the socio-ecologic factors that can affect an individual's health status by a series of ever widening circles including the individual, family, community factors, and structural (policy or cultural) issues (Bronfenbrenner, 1979). By applying this socio-ecologic conceptual framework to HIV prevention in women, the diagram found in Figure 1.1 was developed.

Figure 1.1:

Socio-Ecologic Conceptual Framework for HIV Prevention in Women



This framework is derived from the literature review of HIV and women, and incorporates the multi-centric contextual features of Bronfenbrenner's ecological theory of development. The context of HIV prevention for women includes their biologic risk intersecting with their gender (socialized position in society) in the setting of their personal relationships, community, and the structural setting. Examples of factors at each level are documented on the framework although there are others. At the relationship level, power and violence impact on women's ability to enforce condom use, while STDs increase women's biologic vulnerability to HIV. Similarly, community characteristics such as health care resources (including issues of quality, quantity and access), presence of the drug and sex trades, and availability of condoms are factors affecting HIV prevention vulnerabilities and options. Finally, structural constraints such as social and cultural norms, stigma about HIV, and government laws and policies impact on HIV prevention. Socio-economic status and ethnic identity are cross-cutting themes: women who are discriminated because of their social status or ethnicity may be forced into vulnerable employment situations, or experience discriminatory policies. Examples of policies that can affect women's vulnerability to HIV either positively or negatively include needle exchange programs and policies requiring condom provision for sex workers, versus laws against the possession of needle sterilization equipment and policies that prevent families from migrating together. Table 1.3 provides examples of structural and environmental interventions to reduce HIV transmission (Dayton & Merson, 2000).

Table 1.3: Examples of Structural and Environmental Interventions to Reduce HIV Transmission

(from Dayton, J. & Merson, M. H. (2000). HIV Prevention in Developing Countries. In J.L.Peterson & R. J. DiClemente (Eds.), *Handbook of HIV Prevention* (pp. 225-243). New York: Kluwer Academic/Plenum Publishers, with kind permission of Springer Science and Business Media)

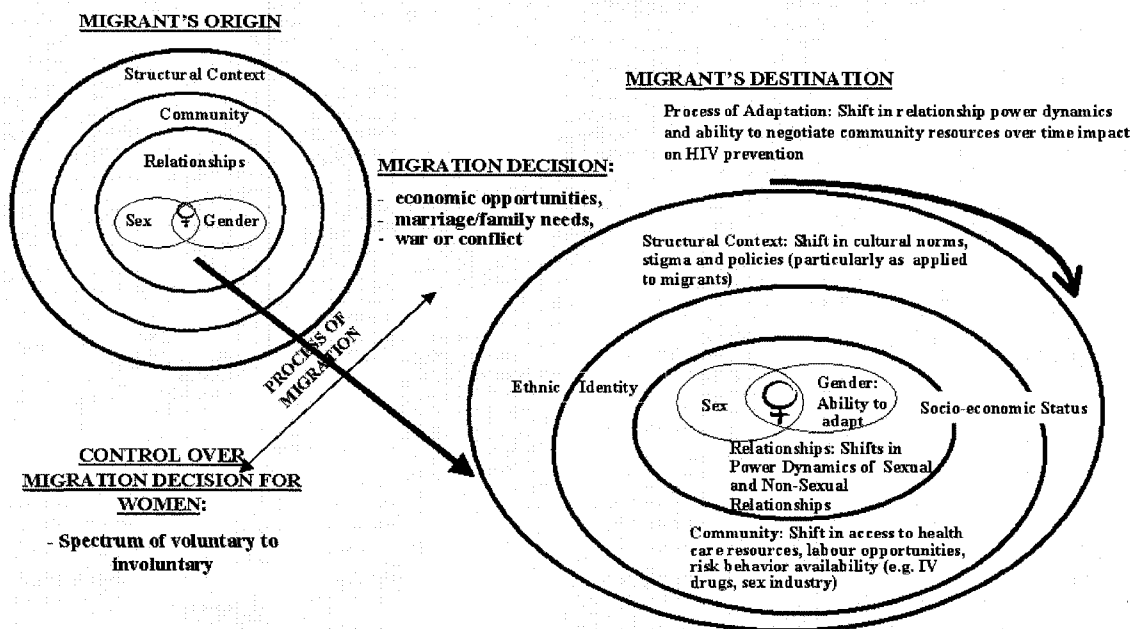
Structural	Environmental
Enact laws and policies requiring condom use in brothels. Legislate requirements for family housing in migrant labour camps. Reduce taxes on condoms. Require that hotels stock condoms in each room. Enact laws outlawing wife inheritance. Subsidize condoms for individuals who engage in high-risk behaviour. Repeal laws that criminalize the possession of drug infection equipment.	Employ the entire family at migrant work camps. Improve STD care and expand access. Expand availability of condoms in traditional and non-traditional settings. Improve the social and economic status of women (thereby increasing their bargaining power in sex). Reduce poverty, which would reduce migration of men and need to work in sex industry

Ecologic transition, though not directly addressed by Bronfenbrenner’s model, is a key feature of human development (McLaren & Hawe, 2005). Ecologic transitions are life-changing episodes that result in an alteration in a person’s role or behaviour. Examples are the arrival of a new sibling, entering school, getting married, having a child, and retiring. Ecologic transitions are understood as dynamic systems in which the relations between the individual and the systems surrounding him or her (i.e., the relationships with others, the community and within society) shift in ways that impact on the individual’s health status. Migration is an ecologic transition: geographic movement is associated with alterations in personal relationships, community context, and structural impacts.

As documented in the literature review of the impact of migration on women and HIV prevention, migration is a complex process with multiple *intersectionalities of influence* on migrant women's health. Figure 1.2 is a conceptual model representing this complexity. Migrant women make their ecologic transition from their community of origin with its particular mix of relationships, community factors and structural context to a new setting. This move is characterized by two dimensions: the migration decision, and the control over the decision. The migration decision is often made for economic reasons such as a better job for the individual and more resources for the family, although marriage is another common reason for migration of women. The decision to migrate may be entirely voluntary, however there is a spectrum here: involuntary migration such as war or sexual trafficking are both unfortunately common occurrences. The migration process itself can be risky for women, and in some situations they may be sexually exploited. HIV vulnerabilities may be exacerbated in the community of destination by shifts in relationship power dynamics, and employment, particularly if women resort to sex work as a survival strategy. Community resources may or may not be accessible to new migrants. Marginalization is common after migration, and it may be difficult for migrants to access employment and health care, particularly if there are language barriers. Finally, structural context factors such as immigration policies may further impact on women's health status. Over time, adaptation to the adopted culture may dissipate the women's vulnerability to HIV through increasing their relationship power, or increasing their access to community resources. In fact, migration may be a positive force in HIV prevention for some women.

Figure 1.2:

**CONCEPTUAL FRAMEWORK OF THE IMPACT OF
MIGRATION ON HIV PREVENTION FOR WOMEN**



In summary, the conceptual model documented in Figure 1.2 is a theoretical perspective developed from the literature. Further research is required to establish if women's experience of the contextual factors impacting on HIV prevention fit with the conceptual framework, if there are other factors to be included, and the relative power each component holds. There is no longer any doubt that some migrant women are particularly vulnerable to HIV/AIDS, however, interventions based solely on behaviour change, as was the historical norm, are not sufficient to prevent HIV amongst migrant women. Researchers, health care providers, and policy makers need to be sensitive to the complexity of the contextual factors contributing to this population's vulnerability to HIV infection in order to effectively contribute to slowing this epidemic amongst migrant women.

References

- Adrien, A., Leune, V., Remis, R. S., Boivin, J. F., Rud, E., Dupernal, R. *et al.* (1999). Migration and HIV: An epidemiological study of Montrealers of Haitian origin. *International Journal of STD and AIDS*, *10*, 237-242.
- Ajzen, I. & Fishbein, M. (1977). Attitude-behaviour relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, *84*, 888-918.
- Amaro, H. (1995). Love, sex and power: Considering women's realities in HIV prevention. *American Psychologist*, *50*, 437-447.
- Anarfi, J. K., Appiah, E. N., & Awusabo-Asare, K. (1997). Livelihood and the risk of HIV/AIDS infection in Ghana: The case of female itinerant traders. *Health Transition Review*, *7 Suppl*, 225-242.
- Aniekwu, N. I. (2002). Gender and human rights dimensions of HIV/AIDS in Nigeria. *African Journal of Reproductive Health*, *6*, 30-7.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioural change. *Psychological Review*, *84*, 191-215.
- Bandyopadhyay, M. & Thomas, J. (2002). Women migrant workers' vulnerability to HIV infection in Hong Kong. *AIDS Care*, *14*, 509-521.
- Becker, M. H. (1974). The health belief model and sick role behaviour. *Health Education Monographs*, *2*, 409-419.
- Bhattacharya, G. (2004). Sociocultural and behavioral contexts of condom use in heterosexual married couples in India: Challenges to the HIV prevention program. *Health Education & Behavior*, *31*, 101-117.
- Blocker, M. E. & Cohen, M. S. (2000). Biologic approaches to the prevention of sexual transmission of human immunodeficiency virus. *Infectious Disease Clinics of North America*, *14*, 983-999.
- Brewer, T. H., Hasbun, J., Ryan, C. A., Hawes, S. E., Martinez, S., Sanchez, J. *et al.* (1998). Migration, ethnicity and environment: HIV risk factors for women on the sugar cane plantations of the Dominican Republic. *AIDS*, *12*, 1879-1887.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge: Harvard University Press.
- Bronfman, M. N., Leyva, R., Negroni, M. J., & Rueda, C. M. (2002). Mobile populations and HIV/AIDS in Central America and Mexico: Research for action. *AIDS*, *16 (suppl 3)*, S42-S49.

- Carovano, K. (1991). More than mothers and whores: Redefining the AIDS prevention needs of women. *International Journal of Health Services*, 21, 131-142.
- Catania, J. A., Kegeles, S., & Coates, T. (1992). Towards an understanding of risk behavior: An AIDS risk reduction model (ARRM). *Health Education Quarterly*, 17, 53-72.
- Chant, S. & Radcliffe, S. A. (1992). Migration and development: The importance of gender. In S.Chant (Ed.), *Gender and migration in developing countries* (pp. 1-29). London: Bellhaven Press.
- CIDA (2000). CIDA's social development priorities: HIV/AIDS and women. Canadian International Development Agency [On-line]. Available: http://www.acdi-cida.gc.ca/cida_ind.nsf/b2a5f300880e7192852567450078b4cb/c5f1dc10bb131992852568fc0054df2c?OpenDocument
- Clift, S., Anemona, A., Watson-Jones, D., Kanga, Z., Ndeki, L., Changalucha, J. et al. (2003). Variations of HIV and STI prevalences within communities neighbouring new goldmines in Tanzania: Importance for intervention design. *Sexually Transmitted Infections*, 79, 307-312.
- Cohen, M. (1997). Natural history of HIV infection in women. *Obstetric and Gynecology Clinics of North America*, 24, 743-758.
- Commonwealth Secretariat (2002). *Gender mainstreaming in HIV/AIDS: Taking a multisectoral approach*. London: Commonwealth Secretariat.
- Dawson, M. T. & Gifford, S. M. (2001). Narratives, culture and sexual health: Personal life experiences of Salvadoran and Chilean women living in Melbourne, Australia. *Health: An Interdisciplinary Journal for the Social Study of Health, Illness & Medicine*, 5, 403-423.
- Dawson, M. T. & Gifford, S. M. (2003). Social change, migration and sexual health: Chilean women in Chile and Australia. *Women & Health*, 38, 39-56.
- Dayton, J. & Merson, M. H. (2000). HIV Prevention in developing countries. In J.L.Peterson & R. J. DiClemente (Eds.), *Handbook of HIV Prevention* (pp. 225-243). New York: Kluwer Academic/Plenum Publishers.
- de Bruyn, M. (1992). Women and AIDS in developing countries. *Social Science & Medicine*, 34, 249-262.
- De Lay, P. (2004). Gender and monitoring the response to HIV / AIDS pandemic. *Emerging Infectious Diseases*, 10, 1979-1983.
- Decosas, J., Kane, F., Anarfi, J. K., Sodji, D. K. R., & Wagner, H. U. (1995). Migration and AIDS. *The Lancet*, 346, 826-828.

DiClemente, R. J. (2000). Looking forward: Future directions for HIV prevention Research. In J.L.Peterson & R. J. DiClemente (Eds.), *Handbook of HIV prevention* (pp. 311-324). New York: Kluwer Academic/ Plenum Publishers.

Doyal, L. (1994). HIV and AIDS: Putting women on the global agenda. In L.Doyal, J. Naidoo, & T. Wilton (Eds.), *AIDS: Setting a feminist agenda* (pp. 11-29). London: Taylor and Francis Ltd.

Edwards, N., Mill, J., & Kothari, A. R. (2004). Multiple intervention research programs in community health. *Canadian Journal of Nursing Research*, 36, 40-54.

Fernandez, M., Collazo, J. B., Hernandez, N., Bowen, G. S., Varga, L. M., Vila, C. K. et al. (2004). Predictors of HIV risk among hispanic farm workers in South Florida: Women are at higher risk than men. *AIDS & Behavior*, 8, 165-174.

Fisher, J. D. & Fisher, W. A. (2000). Theoretical approaches to individual level change in HIV risk behavior. In J.Peterson & R. DiClemente (Eds.), *Handbook of HIV prevention* (pp. 3-56). New York: Kluwer Academic/Plenum.

Gadon, M., Chierici, R., & Rios, P. (2001). Afro-American migrant farmworkers: A culture in isolation. *AIDS Care*, 13, 789-801.

Gavey, N. & McPhillips, K. (1997). Women and the heterosexual transmission of HIV: Risks and prevention strategies. *Women and Health*, 25, 41-64.

Gupta, G. R. & Weiss, E. (1993). Women's lives and sex: Implications for AIDS prevention. *Culture, Medicine & Psychiatry*, 17, 399-412.

Guruge, S. & Khanlou, N. (2004). Intersectionalities of influence: Researching the health of immigrant and refugee women. *Canadian Journal of Nursing Research*, 36, 32-47.

Haour-Knipe, M. & Grondin, D. (2003). Sexual health of mobile and migrant populations. *Sexual Health Exchange*, 2, 1-6.

Heise, L. & Elias, C. (1995). Transforming AIDS prevention to meet women's needs: A focus on developing countries. *Social Science & Medicine*, 40, 931-943.

Hirsch, J. S., Higgins, J., Bentley, M. E., & Nathanson, C. A. (2002). The social constructions of sexuality: Marital infidelity and sexually transmitted disease - HIV risk in a Mexican migrant community. *American Journal of Public Health*, 92, 1227-1237.

Hope, K. R. (2001). Population mobility and multi-partner sex in Botswana: Implications for the spread of HIV/AIDS. *African Journal of Reproductive Health*, 5, 73-83.

Interagency Coalition on AIDS and Development (2003). HIV/AIDS and Gender Issues Fact Sheet. Interagency Coalition on AIDS and Development [On-line]. Available: http://www.icad-cisd.com/content/pub_details.cfm?id=65&CAT=9&lang=e

Krieger, N. (2001). Theories for social epidemiology in the 21st century: an ecosocial perspective. *International Journal of Epidemiology*, 30, 668-677.

Lagarde, E., van der Loeff, M. S., Enel, C., Holmgren, B., Dray-Spira, R., Pison, G. et al. (2003). Mobility and the spread of human immunodeficiency virus into rural areas of West Africa. *International Journal of Epidemiology*, 32, 744-752.

Latka, M. (2003). Drug-using women need comprehensive sexual risk reduction interventions. *Clinical Infectious Diseases*, 37 Suppl 5:S445-50, 37, S445-S450.

Logan, T. K., Cole, J., & Leukefeld, C. (2002). Women, sex, and HIV: Social and contextual factors, meta-Analysis of published interventions, and implications for practice and research. *Psychological Bulletin*, 128, 851-885.

Lurie, M. N., Williams, B. G., Zuma, K., Mkaya-Mwamburi, D., Garnett, G., Sturm, A. W. et al. (2003a). The impact of migration on HIV-1 transmission in South Africa: A study of migrant and nonmigrant men and their partners. *Sexually Transmitted Diseases*, 30, 149-156.

Lurie, M. N., Williams, B. G., Zuma, K., Mkaya-Mwamburi, D., Garnett, G. P., Sweat, M. D. et al. (2003b). Who infects whom? HIV-1 concordance and discordance among migrant and non-migrant couples in South Africa. *AIDS*, 17, 2245-2252.

McLaren, L. & Hawe, P. (2005). Ecological perspectives in health research. *Journal of Epidemiology and Community Health*, 59, 6-14.

Miller, M. & Neaigus, A. (2001). Networks, resources and risk among women who use drugs. *Social Science & Medicine*, 52, 967-978.

Mullany, L. C., Maung, C., & Beyrer, C. (2003). HIV/AIDS knowledge, attitudes, and practices among Burmese migrant factory workers in Tak Province, Thailand. *AIDS Care*, 15, 63-70.

Nishigaya, K. (2002). Female garment factory workers in Cambodia: Migration, sex work and HIV/AIDS. *Women and Health*, 35, 27-42.

Ntozi, J. P. (1997). Widowhood, remarriage and migration during the HIV/AIDS epidemic in Uganda. *Health Transition Review*, 7 Suppl 1, 125-144.

Parker, R. G., Easton, D., & Klein, C. H. (2000). Structural barriers and facilitators in HIV prevention: A review of international research. *AIDS*, 14, S22-S32.

Parrado, E. A., Flippen, C. A., & McQuiston, C. (2005). Migration and relationship power among Mexican women. *Demography*, 42, 347-372.

Pison, G., Le Guenno, B., Lagarde, E., Enel, C., & Seck, C. (1993). Seasonal migration: A risk factor for HIV infection in rural Senegal. *Journal of Acquired Immune Deficiency Syndrome*, 6, 196-200.

Prochaska, J. & DiClemente, C. (1983). Stages and processes of self-change in smoking: Toward an integrative model of change. *Journal of Consulting and Clinical Psychology*, 5, 390-395.

Quinn, T. C. (1994). Population migration and the spread of types 1 and 2 human immunodeficiency viruses. *Proceedings of the National Academy of Sciences of the United States of America*, 91, 2407-2414.

Rolls, C. & Chamberlain, M. (2004). From east to west: Nepalese women's experiences. *International Nursing Review*, 51, 176-184.

Russell, L. D., Alexander, M. K., & Corbo, K. F. (2000). Developing culture-specific interventions for Latinas to reduce HIV high-risk behaviors. *Journal of the Association of Nurses in AIDS Care*, 11, 70-76.

Sallis, J. F. & Owen, N. (1997). Ecological models. In K. Glanz, F. M. Lewis, & R. K. Rimer (Eds.), *Health behaviour and health education: Theory, research, and practice* (2nd ed., pp. 403-424). San Francisco: Jossey-Bass.

Stansbury, J. P. & Sierra, M. (2004). Risks, stigma and the Honduran Garifuna conceptions of HIV/AIDS. *Social Science & Medicine*, 59, 457-471.

Stevens, P. (1995). Impact of HIV/AIDS on women in the United States: Challenges of primary and secondary prevention. *Health Care for Women International*, 16, 577-595.

Stokols, D. (1996). Translating social ecological theory into guidelines for community health promotion. *American Journal of Health Promotion*, 10, 282-298.

UNAIDS (2001). *Population mobility and AIDS: UNAIDS technical update* Geneva: UNAIDS.

UNAIDS (2004). *2004 Report on the global AIDS epidemic*. Geneva: UNAIDS.

UNAIDS, UNDP, & UNIFEM (2004). Women and HIV/AIDS: Confronting the Crisis. UNIFEM webportal [On-line]. Available: http://genderandaids.org/downloads/conference/308_filename_women_aids1.pdf

UNAIDS & WHO (2005). AIDS Epidemic Update: December 2005. UNAIDS [On-line]. Available: http://www.unaids.org/epi/2005/doc/report_pdf.asp

Wasserheit, J. N. (1992). Epidemiological synergy: Interrelationships between Human Immunodeficiency Virus Infection and other sexually transmitted diseases. *Sexually Transmitted Diseases*, 19, 61-77.

White, R. G. (2003). Commentary: What can we make of an association between human immunodeficiency virus prevalence and population mobility? *International Journal of Epidemiology*, 32, 753-754.

WHO (2000). Women and HIV/AIDS. WHO Fact Sheet No. 242. World Health Organization [On-line]. Available: <http://www.who.int/mediacentre/factsheets/fs242/en/>

Williams, B. G. & Gouws, E. (2001). The epidemiology of human immunodeficiency virus in South Africa. *Philosophical Transactions of the Royal Society of London - Series B: Biological Sciences*, 356, 1077-1086.

Zierler, S. & Krieger, N. (1997). Reframing women's risk: Social inequalities and HIV infection. *Annual Review of Public Health*, 18, 401-436.

Chapter Two

Researching Context: The Place and the Process

Chapter One described how behavioural theories of HIV prevention are insufficient for migrant women. It is crucial to explore the context of women's migration experience in order to fully understand the factors that have an impact on their ability to prevent HIV. This context for migrant Cambodian garment factory workers is the focus of the research and will be investigated in the chapters to come. In the second chapter, however, the place and the process of the research will be addressed. These were key dimensions that shaped the research.

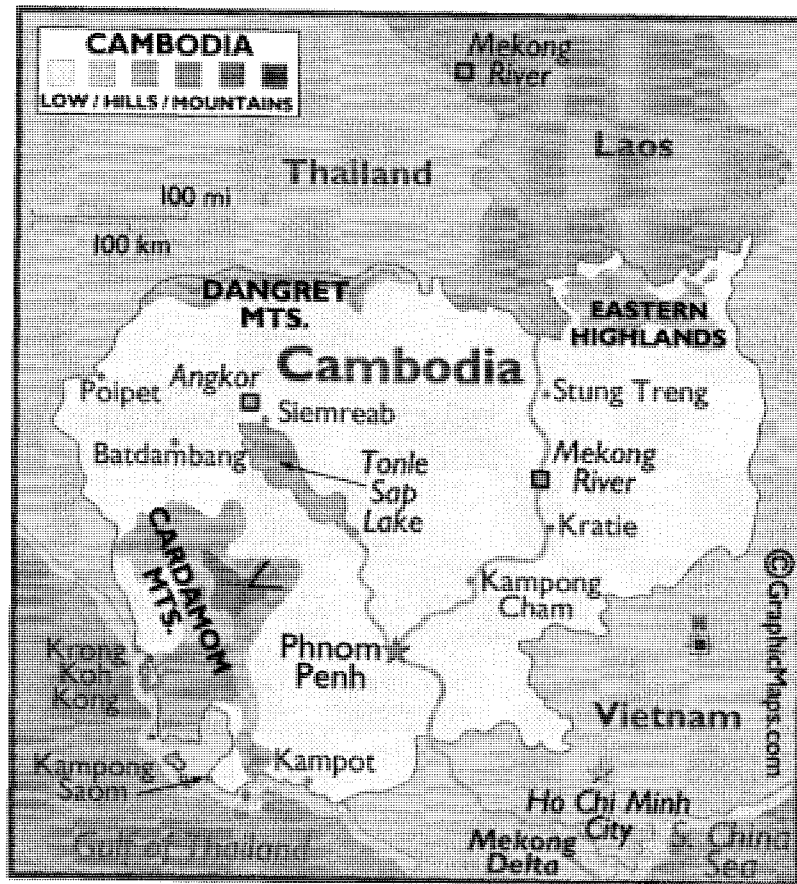
1. The Place: The Research Setting

Cambodia is situated in South-East Asia, between Thailand, Laos and Vietnam (Figure 2.1). While Cambodia shares a similar geographic location and climate with its neighbours, it has a unique and complex history. The recent history of this country is particularly relevant here. As noted earlier, the Revolution of 1975 to 1979, left over one million Cambodians dead, and a further half a million exiled in Thailand (Chandler, 1991). This horrific period in Cambodia's history occurred only thirty years ago. Many of the survivors of the *Killing Fields* are the current leaders of the government and the NGO sector, and the parents of today's youth.

Since the early 1990's, another tragedy has affected the Cambodian survivors and their children: the spread of HIV/AIDS. As Cambodians continue to rebuild their country after the revolution and cope with the menace of the HIV epidemic, research on one vulnerable group of their population, rural-to-urban migrant women, is timely. In order to further understand the setting of the research, however, there are five issues

within the Cambodian context that require attention: migration, the role of the garment factory industry in the present economy, the status of women, the Cambodian health care system, and voluntary counselling and testing for HIV in Cambodia.

Figure 2.1: Map of Cambodia
(Graphic Maps, 2008, used with permission)



The Context of Migration in Cambodia

Cambodians are all too familiar with the phenomenon of migration. The war years were characterized by mass movements of people. When Pol Pot's Khmer Rouge forces entered Phnom Penh in April 1975, they emptied the city of its inhabitants, forcing the population to move to the countryside. Other Cambodian cities were similarly evacuated, and over the next four years there were three major movements of

the population (Chandler, 1991). In addition, many fled Cambodia to Thai refugee camps during the war, and some later emigrated abroad. The remaining citizens were forced by the troops into hard agricultural labour in the rural countryside.

The demographics of current Cambodian society are shaped by its recent past. Over half of Cambodia's fourteen million citizens have been born since the end of the civil war in 1979 (National Institute of Statistics, 2007). These large numbers of young adults and youth translate into a massive potential workforce. Eighty-five percent of the population live in the countryside, and many choose to migrate because of poverty and landlessness (Nareoun, 2004). Thirty percent of Cambodian migrants are young people, aged 15 to 25 (Maltoni, 2004). The Khmer Rouge destroyed all land ownership titles during the war, and even by 2000 only a small minority of properties had been registered (often fraudulently); thus it is not surprising that Cambodia has been described as "a land largely populated by 'wanderers'" (Coates, 2005, p. 152).

Cambodia's economy has been dependent on agriculture, with 70.7 % of the workforce occupied in this sector, while a minority are employed in services (19.8 %) and industry (10.5%) according to the International Labour Organization (2005a). Rural Cambodians have not fared well, despite the foreign investment and economic growth of their country since the 1990's. More than one third of Cambodians exist below the poverty line (International Labour Organization, 2005a), and 35 % of the country's population have experienced internal migration (Maltoni, 2006). Economic reasons are sited as the main driver for current migration, although marriage and education also stimulate population mobility (Kiry, 2004).

As the setting for the research, and the destination of the migrant women in this study, the city of Phnom Penh deserves further comment. Phnom Penh, Cambodia's capital, is situated in the south-central part of the country, at the confluence of the Mekong, Tonlé Sap, and Bassac rivers (Figure 2.1). It is this location that gave Phnom Penh its previous name of *Prong Chaktomuk* or *City of Four Faces*. A former French colony, it was once one of the most beautiful cities in Asia, and earned the title the *Pearl of Asia* in the 1920s (Wikipedia, 2008). The current population of Phnom Penh is about two million, making it the largest city in Cambodia (Wikipedia, 2008). It is the economic, commercial, and industrial centre of the country in addition to being an important historical and cultural site. Phnom Penh is also the most popular destination for rural-to-urban migrants, with one third of all inter-provincial migrants settling there (Nareoun, 2004). While poverty is the primary *push* factor for most migrants to leave their villages behind, for thousands of rural Cambodian women the prospect of employment in the garment factories in Phnom Penh is a major *pull* factor (Maltoni, 2006).

The Economic Role of the Garment Factories in Cambodia

Cambodia's garment factory industry is crucial to the country's economy. The International Labour Organization's garment sector project "Better Factories Cambodia" monitors Cambodian garment factories, and they described the rise of the Cambodian garment industry (International Labour Organization, 2005b). Before 1994, the garment industry was virtually non-existent in Cambodia. However, the "Multi-Fiber Agreement" signed under the 1995 "General Agreement on Tariffs and Trade" meant that key garment manufacturers such as China and India were required

to pay a premium on exports to the United States and United Kingdom. These limitations benefited the smaller producers in places such as Cambodia and Bangladesh, and accordingly, their garment factories flourished (International Labour Organization, 2005b). In 1998, the U.S. government negotiated to bring Cambodia under the quota system in a deal that linked labour conditions to trade privileges.

With such incentives, the Cambodian garment industry has grown remarkably, with exports rising from nil in 1994 to 1.9 billion U.S. dollars in 2004, mostly destined for the U.S. (approximately two thirds) and the European Union (International Labour Organization, 2005a). The Garment Manufacturers Association in Cambodia, the organization that represents the interests of the factory owners, reports that they currently have 305 active factory members, the vast majority of whom are based in Phnom Penh. Most of the factory owners are foreigners from other Asian countries such as China, Hong Kong, or Korea, and the size of the factories varies from under 200 employees to over 1000 workers (Garment Manufacturers Association in Cambodia, 2007).

In their report on the facts and figures of Cambodian garment factories, "Better Factories Cambodia" documented that 84 % of garment factory workers are women, mainly rural migrants. These workers' average income is about \$70 U.S. per month, however, most workers send 30 to 50 % of their income home to their families. In the countryside, the average income for an entire family is \$40 U.S. per month. The garment factory employees officially work an eight hour day, six days per week. However, overtime is common, ten hour workdays are the norm, and forced overtime and underpayment of wages have been reported problems in some factories

(International Labour Organization, 2005a). Although vast numbers of rural Cambodian women migrate to Phnom Penh to work in the garment factories, there has been very little research done on this population. A search of the key databases *CINAHL*, *Embase*, *Medline*, *Psychinfo*, *Genderwatch*, *Women's Studies International*, *eHRAF Collection of Ethnography* and *Sociologic Abstracts* revealed only one published paper on HIV and Cambodian garment factory workers. This paper described the HIV risks of Cambodian garment factory workers who engage in sex work (Nishigaya, 2002) and will be described in greater detail in Chapter Three. Thus, the significance of the garment factory industry to the Cambodian economy, the huge numbers of rural women who are employed in this sector, their potential vulnerability to HIV, and the lack of published research make Cambodian migrant women garment factory workers a particularly important group to study.

The Status of Cambodian Women

Women are the lesser sex in Cambodia, although there are efforts being made to change this. In a 2004 report on the status of women in Cambodia, three main challenges to achieving women's rights were identified as protecting women's rights to property; enacting gender equity legislation (e.g., prevention of domestic violence, gender discrimination, and trafficking of women); and enforcing these laws once they are passed (Cambodian League for the Promotion and Defence of Human Rights, 2004).

Health indicators for Cambodian women are very poor: the World Bank statistics for 2000, the most recent year available, indicate that only 24 % of women in the reproductive age group have access to contraception, only 32 % of births are attended

by skilled staff, and 450 women per 100,000 die in childbirth (as compared to 6 per 100,000 in Canada) (World Bank, 2002). While there are many women in powerful positions in the Cambodian government, business and the NGO sector, they live in a society where women defer to men, particularly domestically and sexually. These descriptions of women's roles remain accurate in Cambodia today:

It is a woman's job to be in the market. It is her job to be at home, to have and raise children, to clean the house and cook the food and greet her husband with enthusiasm. And if she is not doing these things – there is another assumption. She must look beautiful and young and give herself to men (Coates, 2005, p. 169).

Expected codes of sexual conduct differ according to gender. Whereas men are culturally sanctioned to have more than one partner before and outside marriage, women are expected to be virgins until their marriage, and faithful to their husbands (Nishigaya, 2002, p.29).

Women's primary role at home is to keep their men happy, either as wives or mistresses, whereas men are permitted to have extra-marital relationships routinely. This sexual double standard fuels the very strong sex industry in the country. In Cambodia there are estimated to be 100,000 sex workers, with 18,000 in Phnom Penh alone (Mills, Singh, Orbinski, & Burrows, 2005). The initial spread of HIV in the region was the result of a massive demand for sexual services. The prevalence of HIV has begun to decline through the cooperation of sex trade workers using condoms with their clients, however, the larger concern now is how these sex worker clients act as a bridge to the general population (Gorbach *et al.*, 2000; Hor, Detels, Heng, & Mun, 2005). It is the utmost irony, although by no means unique to Cambodia, that almost half of new HIV infections are in women and a third are in newborns, transmitted from their HIV positive mothers (UNAIDS, 2007). Husband-to-wife transmission is

now the major mode of transmission. The emergence of the HIV epidemic in Cambodia, initially amongst sex workers and other high risk groups, and the shift of the epidemic from these groups to the general population, is a direct result of women's low status in Cambodian society.

Cambodian Health Care System

Even before the civil war of 1975 to 1979, the public health care system in Cambodia was limited. Martin (1994) has written that the French colonizers did little to improve the infrastructure of health care during their time in this country:

When France arrived in Cambodia in 1863, the public health system was non-existent; when France left in 1955 it was rudimentary (p. 37).

The provision of health services was more restricted in Cambodia than in Vietnam, which was also under French rule. For example, in 1948, for its population of 3.75 million, Cambodia had 4 medical doctors, 10 qualified local doctors, and no state-certified midwives, while southern Vietnam (population 4.5 million) had 135 medical doctors, 35 local physicians and 9 certified midwives (Annear, 1998). After Cambodian independence in 1953, there was some investment in health care under King Sihanouk's rule, however, despite construction of numerous health care facilities, the financial resources to keep them operational were lacking (Annear, 1998). The coup in 1970, and the civil war from 1975 to 1979 decimated the infrastructure of the already weak Cambodian health care system. Close to half the hospitals in Cambodia were destroyed by bombing and artillery, and of the 450 doctors in the country at the outbreak of the war, most were either killed or fled the country (Vickery, 1984). When the international community returned to Cambodia in 1979, the war and the Khmer Rouge social experiment had resulted in the total

destruction of health care infrastructure. It is estimated that only 50 medical doctors remained in all of Cambodia (Buhler, Wilkinson, Roberts, & Catalla, 2006); a Swedish NGO staff is quoted as writing “[i]n 1979, there was no functioning health service” (Annear, 1998, p.202).

There has subsequently been much international interest in improving the health care system of Cambodia. However, Annear (1998) has noted that the international financial investment has not been wholly effective. Lack of financial skills to manage the funds at the Ministry of Health, poor or nonexistent government health care staff salaries that limit motivation, funders bypassing the government to enact programs that lead to poorly coordinated services, and continuing low levels of local funding have limited the impact of these investments. Immediately after the war, *crash course* training was provided for health care providers of all levels, focussing mainly on curative care. According to the National Center for Health Promotion, the poor quality of this training was responsible for the continuing inadequacy of the public health services, and the distribution of the health care providers was uneven with the more skilled professionals settling in Phnom Penh (Samnany, 1997).

Health care in Cambodia is currently delivered through a variety of services: government health centres and hospitals, private clinics (often staffed by the same government providers, supplementing their limited government income), and non-governmental organization (NGO) clinics. Many people also access private pharmacies directly to obtain medication. Many pharmacies remain unregulated by the government, and research suggests that the quality of medications may vary (Yang,

Plianbangchang, Visavarungroj, & Rujivipat, 2004), despite the Ministry of Health's attempts to monitor the safety of medications (KI Media, 2007).

HIV Prevention in Cambodia: Voluntary Counselling and Testing

Although the challenges of providing health care to a population after total destruction of the infrastructure by war have been monumental, Cambodia has started to address the AIDS epidemic. A key factor of HIV prevention is access to voluntary counselling and testing services (known as VCT). The World Health Organization actively promotes VCT for HIV as they maintain it has benefits for HIV prevention at individual, community, and population levels (World Health Organization, 2003; World Health Organization, 2005). At the individual level, VCT encourages individuals to initiate or maintain behaviours to prevent acquisition or further transmission of HIV and to access interventions to prevent transmission from mothers to their infants. VCT also assists communities to reduce the denial, stigma and discrimination that surround HIV/AIDS and to mobilize support for appropriate responses to the epidemic. At the population level, knowledge of HIV prevalence data can inform HIV policies. As the community becomes aware of how prevalent HIV/AIDS is this may help reduce stigma and discrimination. The World Health Organization and UNAIDS have recently produced a report in support of provider-initiated testing for HIV that promotes routine testing and counselling in generalized epidemics such as Cambodia (World Health Organization & UNAIDS, 2007).

The Cambodian government has scaled up their services for VCT (Ministry of Health Cambodia & National Center for HIV/AIDS Dermatology and STD, 2004). Under the guidance of the National Center for HIV/AIDS, Dermatology and STDs,

Cambodia has seen much growth in their VCT services from a sole point of service in 1996, to 190 sites for VCT by the end of 2005; eighty-six provided by the government, eighteen by NGOs and five by private providers. Improved access has been shown to increase uptake of VCT services and led to a reduction of high risk behaviour in some Cambodian men (Buhler et al., 2006).

The second phase of this research study contains a questionnaire for health care providers about intention to take a sexual history. This behaviour was chosen as a focus for the research on health care providers (HCPs) because it is a part of the World Health Organization's VCT protocol (World Health Organization, 2005). While there is a lack of published literature about the impact of sexual history-taking by HCPs on sexual risk-taking by patients, there is ongoing research to assess this (Callahan, Flynn, Kuenneth, & Enders, 2007). There is also evidence that HCP counselling on other behaviours such as smoking (Singleton, Levin, Feldman, & Truglio-Longdrigan, 2005; Brewster, Victor, & Ashley, 2007) and alcohol use (Whitlock, Polen, Green, Orleans, & Klien, 2004) has an impact on patients, reducing these behaviours.

The preceding discussion about migration within Cambodia, the garment factory industry, the status of women in Cambodia, the health care system, and VCT in Cambodia serves to set the context for the research. The goal for the remainder of the chapter is to explore the process for doing this research.

The Process: Methodological Choices

How does the experience of recent rural-to-urban migration impact on the socio-ecologic context of HIV prevention for migrant Cambodian garment factory workers? This is the primary research question addressed by this mixed methods study. The

discussion to follow will focus on the choice of study design to address this primary research question and the secondary questions arising from it, the qualitative paradigm, the quantitative paradigm, the challenge of mixed methods, and finally on my perspectives as an outsider researcher. Specific details about data collection and analysis will be addressed in the chapters (manuscripts) reporting the results of each methodology (qualitative in Chapters Three and Four, and quantitative in Chapter Five).

Study Design: The Choice of Mixed Methods

Whereas quantitative methods may work best in isolating and identifying the correlates associated with variation at specific moments in time, qualitative techniques are particularly good at gaining insight into the processes and events that lead up to the observed variation and have the key advantage of providing unexpected insights. This last point should be emphasized, because the nature of quantitative research and its data collection tools allow the research to infer only about that which he or she is examining (you “see” only what you are “looking for”), whereas qualitative methods can expand the gaze to key elements that were never elucidated or even previously considered (Borkan, 2004, p.1).

Complex research may involve several questions that are best answered using different data collection techniques, and sometimes different paradigms. There are distinct advantages to combining qualitative and quantitative methodologies in one study, for different perspectives lead to new and interesting findings that may not be achieved by one methodology alone. As Borkan has so eloquently described, quantitative research excels at providing specific answers to particular questions, while qualitative research allows for the possibility to explore areas where the research questions are not as well defined.

The primary research question to be addressed in this study is *How does the experience of recent rural-to-urban migration have an impact on the socio-ecologic*

context of HIV prevention for migrant Cambodian garment factory workers?

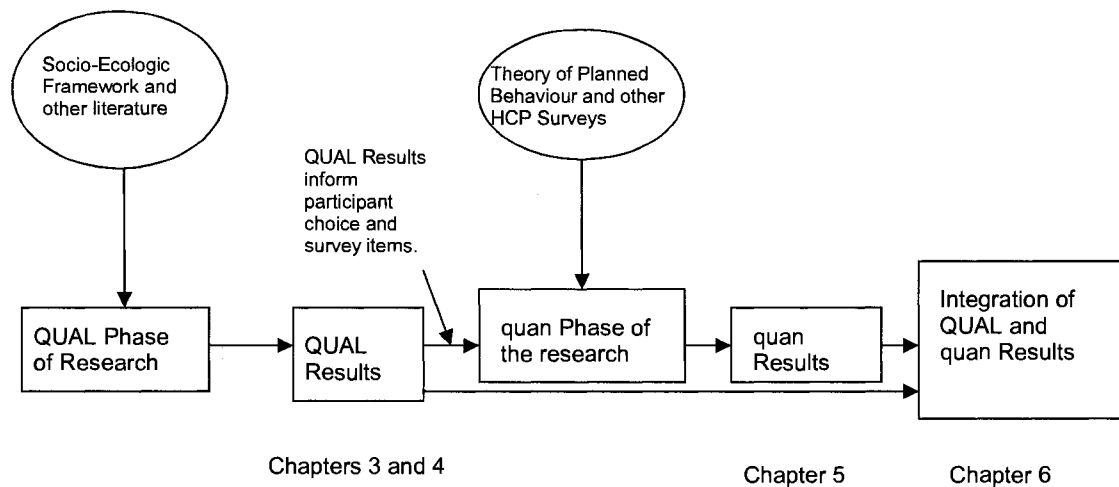
Experience and context are best investigated using a qualitative paradigm, thus the core methodology of this research is qualitative. Socio-ecologic context, however, is a complex phenomenon with multiple layers and contributing factors. While the qualitative phase uses a wide angle lens to examine the context of HIV prevention for migrant garment factory workers, the quantitative component focuses on one specific area of this context, health care provider HIV knowledge, attitudes and intention to take a sexual history.

The WHO considers HIV knowledge, attitudes and ability to assess risk through sexual history-taking to be an integral part of offering HIV testing and key to HIV prevention services (World Health Organization, 2005). Thus, measurement of health care provider HIV knowledge and attitudes and intentions to take a sexual history provide specific details on one locus of the socio-ecologic framework: the ability of health care providers to address HIV prevention with garment factory workers.

Applying Morse's (2003) typology, the overall design of this study is QUAL => quan. This terminology describes the predominant formative methodology as qualitative, while the secondary methodology is quantitative, and is designed from the qualitative results. Another helpful descriptor of this study is an *exploratory sequential design* as illustrated in Figure 2 (Creswell & Plano Clark, 2007). The socio-ecologic framework guides the qualitative data collection. The results of phase one of the study inform both the choice of health care provider (HCP) participants, particularly the inclusion of pharmacists, and the survey content including the decision to assess intentions to take a sexual history. This second phase is also informed by other surveys

of health care provider knowledge and attitudes and by the Theory of Planned Behaviour. The chapters describing each phase of the research are indicated at the bottom of the figure. Table 2.1 can be found following Figure 2.2; this table describes the primary and secondary research questions, methodology to address each question, and data collection methods.

**Figure 2.2:
The Research Plan:
Exploratory Sequential Design**



**Table 2.1:
Summary of Research Questions, Description of Data, and Data Collection
Methods**

Research Question	Methodology	Data Collection Methods
Primary Question: How does the experience of recent rural-to-urban migration have an impact on the socio-ecologic context of HIV prevention for migrant Cambodian garment factory workers?	Qualitative	a. In-depth semi-structured interviews with migrant women. b. Interviews with key informants. c. Focus groups with health care providers. d. Field notes
Secondary Questions: What is the level of understanding about AIDS and HIV prevention among this group of migrant garment factory workers?	Qualitative	Interview and focus group data
What power do these women have to implement HIV prevention in their relationships?	Qualitative	Interview and focus group data Workshop data
What are the knowledge and attitudes about HIV among Cambodian health care providers serving this population of women? What are their intentions to take a sexual history of this population?	Quantitative	Health care provider surveys
How well do these Cambodian health care providers understand the socio-ecologic context of HIV prevention for migrant women? What are the gaps in health care service delivery for HIV prevention for this population of women?	Qualitative Quantitative	Interviews with migrant women Health care provider surveys

Qualitative Paradigm: Using Ethnography and the Socio-Ecologic Model to Research Context

Ethnography is the primary qualitative methodological tradition this study employs. Creswell (1998) defines ethnography as “a description and interpretation of a cultural or social group or system” (p. 58); the purpose of ethnographic research is to produce a holistic portrait of this culture-sharing group through incorporation of both the views of the actors (emic) and the researcher’s interpretation (etic). The origin of ethnography is in the discipline of anthropology, however, it has more recently been accepted as a useful methodology in a diversity of other fields including cultural studies, literary theory, women’s studies, nursing, and law. The practice of ethnography involves fieldwork during which the researcher partakes in interviews, collection of relevant materials, and field notes about his or her observations related to both the research topic and process.

The perspective the ethnographer takes can vary within this tradition. Byron Good (1994), a respected anthropologist, described how medical anthropology has evolved into four different *illness representations*: folk beliefs, cognitive models, culturally constituted realities, and critical medical anthropology. It is the fourth of Good’s categories that is the stance of this research. Good has written that critical ethnography seeks to understand how political and economic forces have shaped health and illness for different populations. A critical feminist perspective will be employed in this study in order to illuminate the socio-political factors contributing to the particular vulnerability of migrant women Cambodian garment factory workers to HIV/AIDS. As illustrated in the conceptual framework (Webber, 2007), these factors may be at work at both the macro level and the micro level: cultural

mores, institutionalized policies, community practices, and intimate relationships are all to be examined with the lens of the critical feminist ethnographer. A focus on power: who holds it, how it is used or abused, who resists it and in what ways, and how gender, class, and ethnicity fit within the power structure is consistent with this particular lens.

The socio-ecologic model has not always demonstrated a gender analysis; certainly the earliest versions were not designed to analyze the social implications of gender (Bronfenbrenner, 1979). More recently, Krieger (2001) has shown how the dimensions of power and inequity can be revealed through the analysis provided by a socio-ecologic framework. She has described how this model incorporates a consideration of *embodiment* (how biologic and social factors are synthesized), *pathways to embodiment* (including both biologic limitations and power structures that may prevent realization of potential), *the interplay between exposure, susceptibility and resistance*, and *accountability and agency*.

...[E]cosocial and other emerging multilevel frameworks seek to integrate social and biological reasoning and a dynamic, historical and ecological perspective to develop new insights into population distributions of disease and social inequalities in health (Krieger, 2001, p. 674).

Recently, authors have applied the socio-ecologic framework to HIV prevention; although terminologies vary, the concept of the dynamic interplay of factors that have an impact at multiple levels is consistent with the socio-ecologic model. Rhodes and Simic (2005) used the term *risk environment* to describe the physical, social, economic and policy factors that had an impact on HIV prevention at the micro (individual and community level) and macro (structural level). They observed that the political transitions of Eastern Europe provided an environment

conducive to the spread of HIV through augmentation of drug use and the sex industry (Rhodes & Simic, 2005).

Beyrer (2007) applied the ecologic model to the southern African setting and described the multiple levels of risk contexts there: individual (condom use, circumcision, other biologic factors such as infection status, medication access, age of coital debut, and marriage), network (intimate partner violence, STI prevalence, labour migration, condom use, concurrent partnerships), community (autonomy of women and girls, civil conflict, stigma, mobility, VCT access, sexual norms and beliefs and anti-retroviral medication access), public policy (human rights contexts, the condom gap, and sexual health education), and the stage of the HIV epidemic. Rhodes and Simic, and Beyrer sagely illuminated the impact of the historical and social context, including the status of women in society, on the ability of individuals and populations to take precautions against HIV/AIDS. Similarly in this study, the application of a gender lens to the socio-ecologic framework of HIV prevention is a key perspective of the research.

In the evolution of the discipline of anthropology, critical theorists, including feminists, made other contributions beyond the application of the analytical lens on the data as described above. Critical ethnography has prompted the tradition to undergo a *crisis of purpose* (Lincoln & Denzin, 2003). While recognizing that it is often the academic researcher who benefits from the work, critical ethnography encourages the movement towards research that serves those from whom the data is collected, not just those who do the collecting. Member checking (sharing results with research participants in order to ensure accuracy of the data) also serves the

purpose of informing the community of the research results. This process element was included in this research and was intended to be a means through which the research participants benefit from the research. The role of the researcher in this process will be discussed at the end of this chapter.

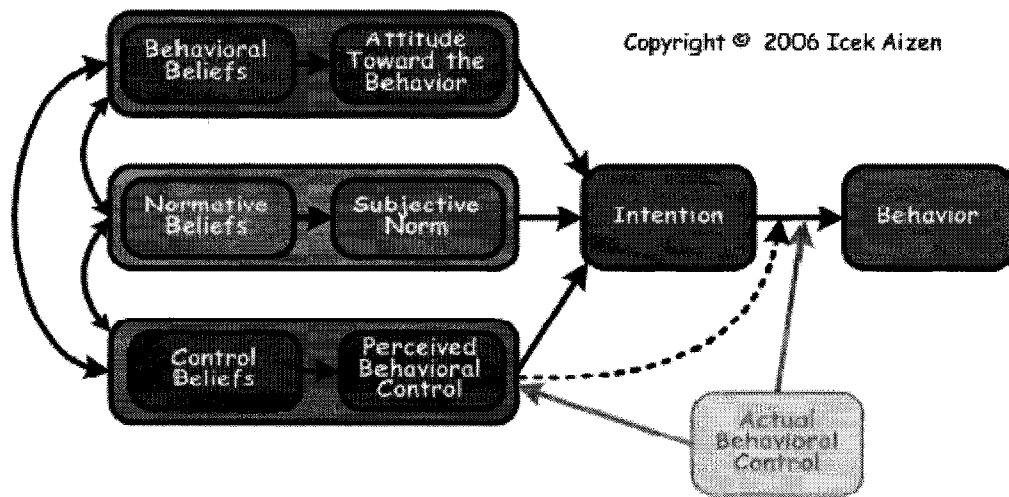
Quantitative Paradigm: The Health Care Provider Survey and the Theory of Planned Behaviour

The tool for the quantitative component of the research was the questionnaire of Cambodian health care providers who provide service to migrant garment factory workers in Phnom Penh. The health care provider questionnaire is embedded within the primary research question of the socio-ecologic context of HIV prevention for garment factory workers. This quantitative portion of the study focuses on the readiness of these Cambodian health care providers to assist migrant women with HIV prevention through assessment of their HIV knowledge, attitudes and intentions to take a sexual history. HIV knowledge and attitudes were measured through direct questioning, using survey items that have been used with health care providers from China for comparison purposes (Chen, Han, & Holzemer, 2004; Hesketh, Duo, Li, & Tomkins, 2005). Intentions to take a sexual history were assessed using the constructs of the Theory of Planned Behaviour, which are elaborated below.

The Theory of Planned Behaviour originated from the Theory of Reasoned Action (Ajzen & Fishbein, 1977). Through the Theory of Reasoned Action, Ajzen and Fishbein sought to understand the discrepancies between attitudes and behaviour. These researchers soon recognized that behaviour was not entirely voluntary and they further developed their theory to include perceived behavioural controls, as it improved prediction of behavioural intention (Madden, Ellen, & Ajzen, 1992). The

refined version of the theory was named the Theory of Planned Behaviour (TPB). The TPB is among the most widely researched models of factors predicting intention available and is considered a strong model for this purpose (Godin & Kok, 1996; Armitage & Connor, 2001). The TPB uses three constructs to predict behavioural intention: *attitudes* towards the behaviour, *subjective norms* defined as how much social pressure is felt to perform the behaviour, and *perceived behavioural control* (PBC) which is the control individuals perceive they have over the behaviour. PBC is also thought to have direct effects on behaviour. Figure 2.3 illustrates relations among the TPB constructs.

Figure 2.3: Theory of Planned Behaviour Constructs
(Aizen, 2006, used with permission)



Generalized intention and the three independent TPB constructs (attitudes, subjective norms, and perceived behavioural controls) are assessed through several survey items, each designed to focus on the related beliefs for that construct. A regression analysis of these independent constructs assesses the contribution of these constructs to the variability of intention. Intention is viewed as a proxy for behaviour,

because behaviour is not always possible or convenient to measure, as was the case in this study.

The TPB has been used in a number of diverse international studies related to HIV prevention. For example, intention to use condoms has been examined in such groups as youth from South Africa and the United States (Heeren, Jemmott, Mandeya, & Tyler, 2007; Bryan, Kagee, & Broaddus, 2006; Boer & Mashamba, 2007), ethnic minority communities in Amsterdam (Wiggers, de Wit, Gras, Coutinho, & van den Hoek, 2003), Central American immigrant women (Salabarría-Pena, Lee, Montgomery, Hopp, & Muralles, 2003), rural Ethiopians (Molla, Astrom, & Brehane, 2007), and heterosexual Swiss men (Gredig, Nideroest, & Parpan-Blaser, 2006). This literature demonstrates that the constructs predicting intention to use condoms vary by both culture and gender. Ethiopian adolescents' motivation to learn about HIV has been studied with TPB constructs (Hadera, Boer, & Kuiper, 2007), while teachers have also been the focus of HIV prevention research utilizing the TPB in research on intention to teach HIV/AIDS education (Burak, 1994) and intention for Tanzanian teachers to use voluntary counselling and testing services (Kakoko, Astrom, Lugoe, & Lie, 2006). This diverse group of studies illustrates the cultural relevance of TPB in HIV prevention research across diverse cultural groups.

There are also numerous examples of health care provider studies using TPB. Nurses' beliefs and intentions have been the focus of TPB research regarding: the use of assistive devices (Roelands, VanOost, Depoorter, Buysse, & Stevens, 2006), counselling the relatives of a person with dementia (Roelands, VanOost, Depoorter, & Verloo, 2005), the use of smoking cessation guidelines (Puffer & Rashidian, 2004),

and recommending breastfeeding (Daneault, Beaudry, & Godin, 2004). Physician studies have focussed on general practitioners' and gynaecologists' intention to prescribe hormone therapy (Legare *et al.*, 2005), anesthetists' intentions to violate safety guidelines (Beatty & Beatty, 2004), and obstetricians' use of antibiotics (Liabsuetrakul, Chongsuvivatwong, Lumbiganon, & Lindmark, 2003). Pharmacists were represented in one TPB study assessing pharmacists' intention to treat vaginal yeast infections (Walker, Watson, Grimshaw, & Bond, 2004). Thus the TPB has been used with a variety of health care providers (nurses, physicians and pharmacists), assessing diverse types of behaviour, although there are no studies using the TPB to examine HIV prevention behaviours among health care providers reported in the literature.

In this wide variety of studies utilizing the TPB both in HIV prevention research and in health care provider behavioural research, the constructs predicting intention vary depending both on the behaviour and the population studied; no one construct was a consistent predictor of intention to perform the behaviour under study. The literature does demonstrate that TPB has been applied in cross cultural situations and can be used to assess intentions of health care providers on a diverse set of behaviours. While TPB has been used in many different cultural settings and with a variety of languages (Francis *et al.*, 2004), there is no indication that it has been used in Cambodia. Further discussion of the strengths and limitations of TPB will follow in Chapters Five and Six.

The Challenge of Mixed Methods: Paradigms and Practice

The qualitative and quantitative components of the study have been described; next we will address the challenges of integrating these two contrasting methodologies in one study. Mixed methods research has been given much attention in recent years and is the focus of several texts (Newman & Benz, 1998; Creswell, 2003; Tashakkori & Teddlie, 1998; Tashakkori & Teddlie, 2003a; Creswell *et al.*, 2007) and a new journal (Tashakkori & Creswell, 2007). The field of mixed method research is still evolving, and definitions vary, even amongst seasoned researchers (Johnson, Onwuegbuzie, & Turner, 2007). However, a broad definition of this emerging methodology is:

Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g. use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and collaboration (Johnson *et al.*, 2007, p. 23).

One of the fundamental challenges facing researchers who choose to combine qualitative and quantitative methodologies is the different paradigms from which these parent methodologies arise. Historically, qualitative and quantitative researchers have been critical of each other's worldviews (commonly described as *positivist* and *constructionist* respectively), and the two camps have been unable to reconcile their differences (Tashakkori & Teddlie, 2003b). Mixed methods researchers, searching for middle ground where both qualitative and quantitative enquiries could be valued, have promoted a *pragmatic* paradigm, that is driven by the research question rather than the methods, and is focused on the ways in which knowledge can be moved forward (Maxcy, 2003; Andrew & Halcomb, 2006; Morgan, 2007).

The philosophical foundation of pragmatism is well suited to mixed methods research because it includes the acceptance of pluralism and moderate dualisms. It also allows the research questions rather than the methods to drive the research, and it locates research within its social, historical, political and cultural contexts (Andrew *et al.*, 2006). Another philosophical orientation that is congruent with pragmatism and integrates well with mixed methods research is the *Transformative Paradigm* (Mertens, 2007). This worldview recognizes the reality that power differentials in society shift the research agenda in favour of the privileged. Mertens maintained that qualitative methods allow for community perspectives to be gathered at all stages of the research process including from those marginalized by class, ethnicity, gender, or disability, while quantitative dimensions of the research provide the opportunity to assess demographic variables and to demonstrate outcomes with credibility for both community members and scholars.

Transformative mixed methodologies provide a mechanism for addressing the complexities of research in culturally complex settings that can provide a basis for social change (Mertens, 2007, p. 212).

This research on the context of HIV prevention for migrant garment factory workers takes on both a pragmatic and transformative world view. The research questions determine the methods chosen and awareness of the social and cultural contexts are integral to the research process. Qualitative and quantitative methods are used for a common goal: to understand the issues facing migrant women Cambodian garment factory workers that affect their ability to take measures to prevent HIV infection. The purpose of this mixed methods research is to guide these women, policy

makers, and program planners on how to best empower the women with the prevention strategies they require.

In the evolving mixed methods literature, there is still much discussion about the practice of doing mixed methods research, although arguably, relatively little about integration of the qualitative and quantitative aspects of the research. The concept of triangulation is prevalent in this literature, however, it represents multiple concepts and is used in different ways even within this thesis. Triangulation was a term that was originally used in navigation and land surveying as a means to determine the location of an unknown spatial point by measurements of two known points (Erzberger & Kelle, 2003). Within the semantics of research, triangulation usually refers to combining different ways of measuring the same phenomenon. Denzin (1978) defined four types of triangulation in his early work on the subject, referring to different stages in the research process. *Theoretical triangulation* combines at least two different theories to inform the research while *methodological triangulation* is the process where different research methods or data collection techniques are used to address the research question. *Data triangulation* refers to the use of multiple data sources or respondent groups. *Investigator triangulation* involves two or more researchers in the analytic process to confirm interpretation of the findings. Just as the measurement of two known points and their relation to each other ensured the accuracy of determination of the third point in navigation, in social science the goal of triangulation is improved validity and generalizability of the findings (Tashakkori & Teddlie, 2003c). As these terms are traditionally associated with quantitative research, some authors have sought more neutral descriptors: *inference quality* (Tashakkori et

al., 2003a) and *legitimation* (Onwuegbuzie & Johnson, 2006) have been used to denote validity within both qualitative and quantitative paradigms as a bilingual nomenclature.

This multi-method study of migrant garment factory workers included two major types of triangulation: methodological and data. Methodologically, not only were qualitative and quantitative methodologies employed, but several qualitative data collection techniques were used (semi-structured interviews, focus groups and a workshop). Data triangulation occurred as several sources of data were used: migrant garment workers, key informants, and workshop participants. While not named by Denzin as a form of triangulation, in this study, triangulation of data collection occurred during the qualitative phase as the two research assistants interviewed and translated for the principal researcher (with frequent discussion between themselves as to the appropriate translation). Investigator triangulation was done to a limited extent only, as thesis committee members reviewed short portions of the transcripts for the purposes of understanding the analysis. While two different theories were used (socio-ecologic and Theory of Planned Behaviour), this was not theoretical triangulation in the true sense of the term as the socio-ecologic framework was the over-arching theoretical model for the study. The Theory of Planned Behaviour was used to assess health care providers' willingness to take a sexual history, one of the contextual areas of HIV prevention to be investigated by the study, and thus was focussed on one locus of the larger socio-ecologic model. The study was also informed by a gender lens, from feminist critical theory. There was triangulation between the socio-ecologic theoretical model and feminist theory.

The importance of triangulation has been noted for improving the validity and generalizability (or legitimation) of the research findings (Onwuegbuzie *et al.*, 2006), however, the pragmatics of how to integrate different qualitative data or mixed methods data at the analysis level have not been fully explored. For example, an examination of Miles and Huberman's (1994) germinal text Qualitative Data Analysis reveals that the term triangulation can be found neither in the table of contents, nor in the index. While Tashakkori and Teddlie's (2003a) text on mixed methods spends much time discussing the importance of triangulation of methods, the exact process to achieve triangulation remains elusive. The authors of the chapter on Making Inferences in Mixed Methods: The Rules of Integration comment:

There is no single methodological mode of method integration available...Consequently, the aim of method integration, be it the mutual validation of data and methods or the complementarity of research results, has to be determined on the basis of theoretical and substantive considerations for each research project (Erzberger *et al.*, 2003, p. 483).

Thus triangulation of the two paradigms is a challenge for many, and limited integration of the qualitative and quantitative components of mixed method research is a common problem. In a review of two hundred and thirty two published mixed methods articles, Bryman found that the authors often failed to define the research questions adequately; in only ten of the papers was it clear that both quantitative and qualitative methodologies had been used to answer specific questions (Bryman, 2006). Intrigued to discover the barriers to integration of qualitative and quantitative findings, Bryman interviewed twenty mixed methods researchers to determine their views on this issue (Bryman, 2007). He concluded that there were several significant barriers preventing researchers from integrating their findings. The differences between the

methodologies meant that researchers failed to find ways to bridge the *ontological divide*, and the challenges of different research structures and timelines. In addition, researchers found that the qualitative and quantitative research lent themselves to different journals and audiences; integration was not encouraged by editors of publications. Finally, the skills and preferences of the researchers themselves led them to favour one type of data over the other. Bryman was also surprised to discover that, when he asked these researchers to name an exemplary mixed methods study as an example, they could think of none. He concluded that lack of mixed methods exemplars hinders researchers, particularly as they attempt to write up their findings.

Fortunately, opportunities for mixed methods researchers are on the horizon. In an effort to encourage researchers to integrate qualitative and quantitative findings, mixed methods research advocates have published exemplar mixed methods studies from the health care literature (Happ, Dabbs, Tate, Hricik, & Erlen, 2006) and examples of different mixed methods designs (Creswell *et al.*, 2007). The editors of the new Journal of Mixed Methods Research have provided a forum, and general guidance for authors who wish to publish integrated mixed methods research (Creswell & Tashakkori, 2007). The mixed methods movement is still developing, particularly when elucidating the means and processes by which integration happens. However, it is my goal that this study of the context of HIV prevention for migrant garment factory workers will make a contribution to the mixed methods literature. The integration of the qualitative and quantitative findings of this study is explored in Chapter Six.

A Final Reflection on the Process: Outsider as Researcher

In the introduction, I reviewed the importance of international research in developing countries to help narrow the “10/90 gap”. There are definite challenges, however, for a female Canadian family physician and doctoral student to undertake this research with a marginalized population in Cambodia. Clearly there are distinct disadvantages to being an outsider; my life experiences are very different from the migrant women interviewed. I come from a middle class Canadian family, while they have grown up impoverished in the Cambodian countryside. While we both work long hours to support our families, I am able to live in relative luxury and have a respected occupation, while they struggle to cover their expenses with a job that is considered low status, even in Cambodia. In addition to class differences, my cultural background (British/Canadian heritage) is very different from that of the Cambodian research participants. I have migrated from one small Canadian city to a large Canadian city for education and marriage. In addition, I live in a society where women experience more equal relations with men than in Cambodia, and I view the world from a feminist perspective, believing strongly in the equality of the genders both in private and public life. Through my occupation as a family physician I also treat many international migrants who have come to Canada, however, I have never lived with the poverty and relative lack of power in society that these migrant women have experienced.

Merton (1972) has considered the argument about the privileged status of the insider over outsider. He argued that insiders and outsiders are both important for knowledge production, however, achieving knowledge of the contextual process requires taking a detached perspective.

In short, sociological understanding involves much more than acquaintance with. It includes an empirically confirmable comprehension of the conditions and often complex processes in which people are caught up without much awareness of what is going on. To analyze and understand these requires a theoretical and technical competence which, as such, transcends one's status as Insider or Outsider. The role of social scientist concerned with achieving knowledge about society requires enough detachment and trained capacity to know how to assemble and assess the evidence without regard for what the analysis seems to imply about the worth of one's group (Merton, 1972, p. 41).

Feminist researchers (Hill Collins, 1986; Edwards, 1990; Opie, 1992; Acker, 2000) have written about the benefits to being an outsider that contribute to the quality of data obtained in the research process. Outsider researchers may be safer for research participants to confide in, particularly when the participant is critical of her own local context. In addition, some argue that a stranger is more able to see patterns and question assumptions, than an insider researcher (Hill Collins, 1986; Acker, 2000). For example, as I am employed in a relatively strong primary health care system in Canada, I may be better able to see the gaps in primary health care for the Cambodian research participants. As this study sought to understand contextual issues about HIV prevention, I would argue that an outsider perspective is not, in fact, significantly disadvantageous (although requiring strategies to compensate as discussed below). The viewpoint of an outsider can promote sharing by research participants and provide an opportunity to examine the structural and cultural context that may be overlooked by an insider researcher.

I utilized several strategies in order to compensate for my cultural and class differences from the research participants. Firstly, I collaborated in this research with the International Organization for Migration (IOM) in Cambodia, which has a long

history of working in this country, and is very well respected locally and globally. One of the collaborators with IOM is a Cambodian physician. In addition, I employed two Khmer women who assisted me with interviewing and translation; they also acted as cultural interpreters for me. Female research assistants were chosen for the interviews with migrant women as matters of sexual intimacy were discussed, and it would be viewed as unacceptable for Cambodian women to discuss these issues with male interviewers. In the context of this study, female sex of the interviewers was a particularly important factor for both ease and quality of data collection. While the research assistants were not from the same social class as the women interviewed, they were from the same cultural background and were also experienced working with both research participants of lower social status than themselves and foreign researchers. Thus, although using research assistants from the same gender and cultural background as the participants does not entirely resolve the issues of being an outsider researcher in the community (Temple, 2002), the strengths these two research assistants brought through their knowledge and experience as researchers were extremely valuable to me as a foreign researcher.

During the survey phase of the research, I was fortunate to have ten Khmer young adults work as data collectors. These research assistants were able to explain the research to the participants in a language they could understand. Finally, I made two presentations of preliminary data (*member checks*), first to a group of migrant garment factory workers (November 2006) and then to a group of NGO and government staff (June 2007). Feedback was sought on both these occasions to ensure that my interpretation of the findings was appropriate.

Throughout the research process, from conceptualization through to production, I have been grounded by the following linked principles of feminist research methodology noted in italics below (Edwards, 1990):

1. Women's lives should be addressed in their terms, using their own experiences. I have striven to understand and portray women's experiences through the choice of qualitative methodology and the use of direct quotations of the research participants to give them a voice.

2. Locate myself in the process of knowledge production based on my cultural and class differences. The previous discussion about the differences between the researcher and the research participants serves to position me "at the edge of the frame" (Opie, 1992, p. 58).

3. Feminist research is not on women, but for women. Qualification of this point is needed: ideally feminist research is in fact *with* women, recognizing the strengths that women bring and sharing power between the researcher and the participants, in the spirit of the work of Paolo Freire (Freire, 1970). The goal of this research has been to discover with women, what the issues are for them, and then to give them back this information and to those who develop the policies and programs that affect them. As previously stated, the preliminary results of this research were shared with those who work with garment factory workers in the government and NGO sectors. A final report will also be provided to interested government and NGO staff through IOM and a simplified *low literacy* version provided to garment factory workers through CARE Cambodia (Appendix J).

Thus, while being an outsider researcher has its limitations, particularly with respect to language and cultural understanding, there are also significant benefits to the research process. By allowing the participants' words to be heard, involving Cambodian collaborators and research assistants, member checking the analysis, and disseminating the results, the hope of this researcher is that the research results will provide opportunities for the migrant women Cambodian garment factory workers and those who provide services for them to reduce their risk of HIV infection.

References

Acker, S. (2000). In/out/side: Positioning the researcher in feminist qualitative research. *Resources for Feminist Research, 28*, 189.

Aizen, I. (2006). Theory of Planned Behaviour. Retrieved November 20, 2007, from www.people.umass.edu/aizen/tpb.html

Ajzen, I. & Fishbein, M. (1977). Attitude-behaviour relations: A theoretical analysis and review of empirical research. *Psychological Bulletin, 84*, 888-918.

Andrew, S. & Halcomb, E. (2006). Mixed methods research is an effective method of enquiry for community health research. *Contemporary Nurse, 23*, 145-153.

Annear, P. (1998). Health and development in Cambodia. *Asian Studies Review, 22*, 193-221.

Armitage, C. J. & Connor, M. (2001). Efficacy of the Theory of Planned Behaviour: A meta-analytic review. *British Journal of Social Psychology, 40*, 471-499.

Beatty, P. C. & Beatty, S. F. (2004). Anaesthetists' intentions to violate safety guidelines. *Anaesthesia, 59*, 528-540.

Boer, H. & Mashamba, M. T. (2007). Gender power imbalance and differential psychosocial correlates of intended condom use among male and female adolescents from Venda, South Africa. *British Journal of Health Psychology, 12*, 51-63.

Borkan, J. (2004). Mixed methods studies: A foundation for primary care research. *Annals of Family Medicine, 2*, 1-4.

Brewster, J., Victor, J., & Ashley, M., (2007) Views of Ontarions about health professionals' smoking cessation advice. *Canadian Journal of Public Health 98*, 395-399.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge: Harvard University Press.

Bryan, A., Kagee, A., & Broaddus, M. R. (2006). Condom use among South African adolescents: Developing and testing theoretical models of intentions and behavior. *AIDS and Behavior*, 10, 387-397.

Bryman, A. (2006). Integrating quantitative and qualitative research: How is it done? *Qualitative Research*, 6, 97-113.

Bryman, A. (2007). Barriers to integrating quantitative and qualitative research. *Journal of Mixed Methods Research*, 1, 8-22.

Buhler, M., Wilkinson, D., Roberts, J., & Catalla, T. (2006). *Turning the tide: Cambodia's Response to HIV and AIDS 1991-2005*. Phnom Penh: National AIDS Authority.

Burak, L. J. (1994). Examination and prediction of elementary school teachers' intentions to teach HIV/AIDS. *AIDS Education and Prevention*, 6, 310-321.

Callahan, E., Flynn, N., Kuenneth, C., & Enders, S., (2007). Strategies to reduce HIV risk behaviour in HIV primary care clinics: Brief provider messages and specialist interventions. *AIDS and Behavior* 11, S48-57.

Cambodian League for the Promotion and Defence of Human Rights (2004). *The situation of women in Cambodia*. Phnom Penh.

Chandler, D. (1991). *The tragedy of Cambodian history: Politics, war, and revolution since 1945*. Chiang Mai: Silkworm Books.

Chen, W. T., Han, M., & Holzemer, W. L. (2004). Nurses' knowledge, attitudes, and practice related to HIV transmission in northeastern China. *AIDS Patient Care & STDs*, 18, 417-422.

Coates, K. (2005). *Cambodia now: Life in the wake of war*. Jefferson: McFarland and Company.

Creswell, J. (2003). *Research design: Qualitative, quantitative and mixed methods approaches*. (2nd ed.) Thousand Oaks: Sage.

Creswell, J. & Plano Clark, V. (2007). *Designing and conducting mixed methods research*. Thousand Oaks: Sage.

Creswell, J. & Tashakkori, A. (2007). Developing publishable mixed methods manuscripts. *Journal of Mixed Methods Research*, 1, 107-111.

Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks: Sage Publications.

Daneault, S., Beaudry, M., & Godin, G. (2004). Psychosocial determinants of the intention of nurses and dieticians to recommend breastfeeding. *Canadian Journal of Public Health, 95*, 151-154.

Denzin, N. K. (1978). *The research act: A theoretical introduction to sociological methods*. (2nd ed.) New York: McGraw Hill.

Edwards, R. (1990). Connecting method and epistemology. *Women's Studies International Forum, 13*, 477-490.

Erzberger, C. & Kelle, U. (2003). Making inferences in mixed methods: The rules of integration. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioural research* (pp. 457-488). Thousand Oaks: Sage.

Francis, J., Eccles, M., Johnston, M., Walker, A., Grimshaw, J., Foy, R. *et al.* (2004). Constructing Questionnaires based on the Theory of Planned Behaviour: A manual for health services researchers. Retrieved July 10, 2006, from <http://www.rebeqi.org/ViewFile.aspx?itemID=212> .

Freire, P. (1970). *Pedagogy of the Oppressed*. New York: Continuum.

Garment Manufacturers Association in Cambodia (2007). Retrieved November 2, 2008, from www.gmac-cambodia.org .

Godin, G. & Kok, G. (1996). The Theory of Planned Behavior: A review of its applications to health-related behaviors. *American Journal of Health Promotion, 11*, 87-98.

Good, B. J. (1994). *Medicine, rationality and experience: An anthropological perspective*. Cambridge: Cambridge University Press.

Gorbach, P. M., Sopheab, H., Phalla, T., Leng, H. B., Mills, S., Bennett, A. *et al.* (2000). Sexual bridging by Cambodian men: Potential importance for general population spread of STD and HIV epidemics. *Sexually Transmitted Diseases, 27*, 320-326.

Graphic Maps (2008). Map of Cambodia. Retrieved January 11, 2008 from <http://www.worldatlas.com/webimage/countrys/asia/kh.htm>.

Gredig, D., Nideroest, S., & Parpan-Blaser, A. (2006). Explaining the condom use of heterosexual men in a high-income country: Adding somatic culture to the Theory of Planned Behavior. *Psychology and Health, 21*, 541-555.

Hadera, G., Boer, H., & Kuiper, W. (2007). Using the Theory of Planned Behaviour to understand the motivation to learn about HIV/AIDS prevention among adolescents in Tigray, Ethiopia. *AIDS Care, 19*, 895-900.

- Happ, M., Dabbs, A., Tate, J., Hricik, A., & Erlen, J. (2006). Exemplars of mixed methods data combination and analysis. *Nursing Research*, 55, S43-S49.
- Heeren, G. A., Jemmott, J. B., Mandeya, A., & Tyler, J. C. (2007). Theory-based predictors of condom use among university students in the United States and South Africa. *AIDS Education and Prevention*, 19, 1-12.
- Hesketh, T., Duo, L., Li, H., & Tomkins, A. M. (2005). Attitudes to HIV and HIV testing in high prevalence areas of China: Informing the introduction of voluntary counselling and testing programmes. *Sexually Transmitted Infections*, 81, 108-112.
- Hill Collins, P. (1986). Learning from the outsider within: The sociological significance of black feminist thought. *Social Problems*, 33, S14-S32.
- Hor, L. B., Detels, R., Heng, S., & Mun, P. (2005). The role of sex worker clients in transmission of HIV in Cambodia. *International Journal of STD and AIDS*, 16, 170-174.
- International Labour Organization (2005a). Better factories Cambodia: Facts and figures. Retrieved July 10, 2007 from <http://www.betterfactories.org/content/documents/Facts%20and%20Figures.pdf>.
- International Labour Organization (2005b). *International trade agreements and the Cambodian garment industry* Phnom Penh. Retrieved April 6, 2008, from <http://www.betterfactories.org/content/documents/International%20trade.pdf>
- Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed method research. *Journal of Mixed Methods Research*, 1, 112-133.
- Kakoko, D. C., Astrom, A. N., Lugoe, W. L., & Lie, G. T. (2006). Predicting intended use of voluntary HIV counselling and testing services among Tanzanian teachers using the Theory of Planned Behavior. *Social Science & Medicine*, 63, 991-999.
- KI Media (2007). More than 2000 unlicensed pharmacies in Cambodia. Retrieved January 4, 2008 from <http://www.cambodiaforum.com/More-than-2000-unlicensed-pharmacies-in-Cambodia-t21494.html>.
- Kiry, K. S. (2004). *Rural-Urban migration in Cambodia (A case study: Migration to Phnom Penh)* Phnom Penh: Royal University of Phnom Penh.
- Krieger, N. (2001). Theories for social epidemiology in the 21st century: An ecosocial perspective. *International Journal of Epidemiology*, 30, 668-677.
- Legare, F., Godin, G., Ringa, V., Dodin, S., Turcot, L., & Norton, J. (2005). Variation in the psychosocial determinants of the intention to prescribe hormone therapy prior to the release of the Women's Health Initiative Trial: A survey of general

practitioners and gynaecologists in France and Quebec. *BMC Medical Informatics and Decision Making*, 5, 31.

Liabsuetrakul, T., Chongsuvivatwong, V., Lumbiganon, P., & Lindmark, G. (2003). Obstetricians' attitudes, subjective norms, perceived controls, and intentions on antibiotic prophylaxis in caesarean section. *Social Science & Medicine*, 57, 1665-1674.

Lincoln, Y. S. & Denzin, N. K. (2003). *Turning points in qualitative research: Tying knots in a handkerchief*. Walnut Creek: Altamira Press.

Madden, T., Ellen, P., & Ajzen, I. (1992). A comparison of the Theory of Planned Behavior and the Theory of Reasoned Action. *Personality and Social Psychology Bulletin*, 18, 3-9.

Maltoni, B. (2004). Comparison between beer girls and garment factory workers in Cambodia. In *Rural Urban Migration in Cambodia* (pp. 121-136). Phnom Penh: Royal University of Phnom Penh.

Maltoni, B. (2006). *Review of labor migration dynamics in Cambodia* Phnom Penh: International Organization for Migration.

Martin, M. (1994). *Cambodia: A shattered society*. (Revised English edition) Los Angeles: University of California Press.

Maxcy, S. (2003). Pragmatic threads in mixed methods research in the social sciences: The search for multiple modes of inquiry and the end of the philosophy of formalism. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioral Research* (pp. 51-89). Thousand Oaks: Sage.

Mertens, D. (2007). Transformative paradigm: Mixed methods and social justice. *Journal of Mixed Methods Research*, 1, 212-225.

Merton, R. (1972). Insiders and outsiders: A chapter in the sociology of knowledge. *American Journal of Sociology*, 78, 9-47.

Miles, M. B. & Huberman, A. M. (1994). *Qualitative data analysis*. (Second ed.) Thousand Oaks: Sage Publications.

Mills, E., Singh, S., Orbinski, J., & Burrows, D. (2005). The HIV/AIDS epidemic in Cambodia. *The Lancet Infectious Diseases*, 5, 596-597.

Ministry of Health Cambodia & National Center for HIV/AIDS Dermatology and STD (2004). *Voluntary confidential counselling and testing for HIV (VCCT): A guide for implementation* Phnom Penh: Ministry of Health.

Molla, M., Astrom, A. N., & Brehane, Y. (2007). Applicability of the Theory of Planned Behavior to intended and self-reported condom use in a rural Ethiopian population. *AIDS Care, 19*, 425-431.

Morgan, D. (2007). Paradigms lost and pragmatism regained: Methodological implications of combining qualitative and quantitative methods. *Journal of Mixed Methods Research, 1*, 48-76.

Morse, J. (2003). Principles of mixed methods and multimethod research design. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 189-208). Thousand Oaks: Sage.

Nareoun, T. (2004). The economic impact of garment factory workers on their own families in the village. In *Rural Urban Migration in Cambodia* (pp. 77-120). Phnom Penh: Royal University of Phnom Penh.

National Institute of Statistics (2007). National Institute of Statistics website. Retrieved October 5, 2007, from www.stats.nis.gov.kh

Newman, I. & Benz, C. (1998). *Qualitative-quantitative research methodology: Exploring the interactive continuum*. Carbondale: University of Illinois Press.

Nishigaya, K. (2002). Female garment factory workers in Cambodia: migration, sex work and HIV/AIDS. *Women and Health, 35*, 27-42.

Onwuegbuzie, A. J. & Johnson, R. B. (2006). The validity issue in mixed research. *Research in the Schools, 13*, 48-63.

Opie, A. (1992). Qualitative research, appropriation of the 'other' and empowerment. *Feminist Review, 40*, 52-69.

Puffer, S. & Rashidian, A. (2004). Practice nurses' intentions to use clinical guidelines. *Journal of Advanced Nursing, 47*, 500-509.

Rhodes, T. & Simic, M. (2005). Transition and the HIV risk environment. *British Medical Journal, 331*, 220-223.

Roelands, M., VanOost, P., Depoorter, A., & Verloo, H. (2005). Knowing the diagnosis and counselling the relatives of a person with dementia: The perspective of home care nurses and home care workers in Belgium. *Health and Social Care in the Community, 13*, 112-124.

Roelands, M., VanOost, P., Depoorter, A. M., Buysse, A., & Stevens, V. (2006). Introduction of assistive devices: Home nurses' practices and beliefs. *Journal of Advanced Nursing, 54*, 180-188.

Salabarría-Pena, Y., Lee, J. W., Montgomery, S. B., Hopp, H. W., & Muralles, A. A. (2003). Determinants of female and male condom use among immigrant women of Central American descent. *AIDS and Behavior*, 7, 163-174.

Samnany, P. (1997). *The effect of population growth on health sector development in Cambodia*. Phnom Penh: National Center for Health Promotion.

Singleton, J., Levin, R., Feldman, H. & Truglio-Longdrigan, M. (2005). Evidence for smoking cessation: Implications for gender-specific strategies. *Worldviews on Evidence-based Nursing* 2, 63-74.

Tashakkori, A. & Creswell, J. (2007). Editorial: The new era of mixed methods. *Journal of Mixed Methods Research*, 1, 3-7.

Tashakkori, A. & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches*. Thousand Oaks: Sage.

Tashakkori, A. & Teddlie, C. (2003a). *Handbook of mixed methods in social and behavioral Research*. Thousand Oaks: Sage.

Tashakkori, A. & Teddlie, C. (2003b). Major issues and controversies in the use of mixed methods in the social and behavioral sciences. In A.Tashakkori & C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioral Research* (pp. 3-50). Thousand Oaks: Sage.

Tashakkori, A. & Teddlie, C. (2003c). Preface. In A.Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. ix-xv). Thousand Oaks: Sage.

Temple, B. (2002). Crossed Wires: Interpreters, translators, and bilingual workers in cross-language research. *Qualitative Health Research*, 12, 844-854.

UNAIDS (2007). Uniting the world against AIDS: Cambodia. Retrieved September 5, 2007, from http://www.unaids.org/en/Regions_Countries/Countries/cambodia.asp

Vickery, M. (1984). *Cambodia 1975-1982*. Boston: South End Press.

Walker, A., Watson, M., Grimshaw, J., & Bond, C. (2004). Applying the theory of planned behaviour to pharmacists' beliefs and intentions about the treatment of vaginal candidiasis with non-prescription medicines. *Family Practice*, 21, 670-676.

Webber, G. (2007). The impact of migration on HIV prevention for women: Constructing a conceptual framework. *Health Care for Women International*, 28, 712-730.

Whitlock, E., Polen, M., Green, C., Orleans, T., & Klein, J. (2004). Summary of the evidence: Behavioral counseling interventions in primary care to reduce

risky/harmful alcohol use by adults. U.S. Preventive Services Task Force. Originally in *Ann Intern Med* 140, 558-569. Retrieved April 11, 2008, from <http://www.ahrq.gov/clinic/3rduspstf/alcohol/alcomissum.htm>

Wiggers, L., de Wit, J. B., Gras, M. J., Coutinho, R. A., & van den Hoek, A. (2003). Risk behavior and social-cognitive determinants of condom use among ethnic minority communities in Amsterdam. *AIDS Education and Prevention*, 15, 430-447.

Wikipedia (2008). Phnom Penh. Retrieved August 4, 2008, from http://en.wikipedia.org/wiki/Phnom_Penh

World Bank (2002). Genderstats. World Bank Group. Retrieved December 29, 2007, from <http://genderstats.worldbank.org>

World Health Organization (2003). The right to know: New approaches to HIV testing and counselling. Retrieved July 10, 2006, from http://www.who.int/hiv/pub/vct/en/Right_know_a4E.pdf

World Health Organization (2005). Scaling-up HIV testing and counselling services: A toolkit for programme managers. World Health Organization. Retrieved July 10, 2006, from <http://www.who.int/hiv/pub/vct/counsellingtestingtoolkit.pdf>

World Health Organization & UNAIDS (2007). *Guidance on provider-initiated HIV Testing and Counselling in Health Facilities* Geneva: World Health Organization.

Yang, D., Plianbangchang, P., Visavarunroj, N., & Rujvivipat, S. (2004). Quality of pharmaceutical items available from drugstores in Phnom Penh, Cambodia. *Southeast Asian Journal of Tropical Medicine and Public Health*, 35, 741-747.

Chapter Three

Life in the Big City: The Multiple Vulnerabilities of Migrant Cambodian Garment Factory Workers to HIV

A version of this paper has been submitted to *Women's Studies International Forum*

**Life in the Big City:
The Multiple Vulnerabilities of Migrant Cambodian
Garment Factory Workers to HIV**

Gail Webber

University of Ottawa

Nancy Edwards

CHSRF/CIHR Nursing Chair, University of Ottawa

Ian D. Graham

Canadian Institute for Health Research

Carol Amaratunga

OWHC Chair, University of Ottawa

Vincent Keane

Formerly of International Organization for Migration, Cambodia

Socheat Ros

International Organization for Migration, Cambodia

Author's Note: Direct correspondence to Dr. Gail Webber, Lancaster Medical Clinic,

Acknowledgements:

The authors would like to acknowledge the support and assistance of the following organizations in this research: International Organization for Migration, Cambodia, CARE Cambodia, and the Reproductive Health Association of Cambodia. The two Cambodian research assistants Mora Gibbings and Phoumy Ouch provided invaluable help, Dr. Lynne Leonard made helpful conceptual comments, and Dr. Alison Hamilton's guidance on qualitative analysis was also appreciated. Finally, we wish to thank our key informants, our focus groups participants, and particularly the garment workers who took the time to meet with us and share their stories. Financial support for the study was provided for the primary author through the Ontario Women's Health Scholar's Doctoral Award, and from the Department of Family Medicine, University of Ottawa.

**Life in the Big City:
The Multiple Vulnerabilities of Migrant Cambodian
Garment Factory Workers to HIV**

Abstract

Cambodia has one of the highest prevalence rates of HIV in Asia; an increasing number of HIV positive Cambodians are women. The purpose of this qualitative study was to assess the context of HIV prevention for rural-to-urban migrant Cambodian female garment factory workers. Personal interviews with migrant garment factory workers and key informants, and focus group interviews with health care providers confirmed that poverty was the primary motivator for migration. Women reported awareness that some of their colleagues had sexual relationships with local men or engaged in sex work in order to supplement their income, and thus were at risk of HIV, and this was confirmed by key informants. Factory restrictions limited women's ability to access health care services and health education programs. The key themes of the research were economic, social and occupational vulnerabilities of these migrant workers which placed them in a context of increased risk of acquiring HIV. Interventions to reduce the risk of HIV infection for migrant Cambodian garment factory workers should address these themes.

Key words: HIV prevention, women, Cambodia, migrants.

**Life in the Big City:
The Multiple Vulnerabilities of Migrant Cambodian
Garment Factory Workers to HIV**

Context of the HIV Epidemic and Migration in Cambodia

Cambodia has one of the highest prevalence rates of HIV in Asia, with a peak adult prevalence of 3.9 % in 1999 (United Nations Development Program, 2007), levelling at 0.9 % in 2006 (UNAIDS, 2007a). This paper describes a qualitative study of one group of Cambodians vulnerable to HIV infection: female rural-to-urban migrant garment factory workers. The purpose of this research was to determine the socio-ecologic contextual factors affecting HIV prevention for these migrant workers.

HIV first became evident in the Cambodian blood system in 1991, after the Cambodian infrastructure had been decimated by years of civil war. Two years later, the first case of AIDS was reported to the Ministry of Health (Ministry of Health & National Center for HIV/AIDS, 2003). In the subsequent decade, thousands of Cambodians became infected. Currently, about 130,000 people live with HIV in this country of 14 million, although only a minority are aware of it (UNAIDS, 2007b). In recent years, an increasing proportion of HIV positive Cambodians are women; this proportion rose from 37% in 1998 to 47% in 2003 (UNAIDS, 2006). Experts on the Cambodian HIV epidemic have highlighted the need for research and HIV prevention amongst vulnerable groups as the virus moves from high risk groups into the general population (Saphonn *et al.*, 2004).

In Cambodia, thousands of women migrate annually from their rural villages to work in the garment factories in the capital, Phnom Penh. This labour migration is a direct result of the stimulation of the Cambodian garment industry by the Multilateral

Trade agreement, an agreement signed between the Kingdom of Cambodia and the Government of the United States of America in 1999, that remained in effect until the end of 2004. By 2005, the International Labour Organization reported that the Cambodian garment industry was essential to the country's economy; close to 80 % of Cambodia's exports were garments, and the industry then contributed about 270,000 jobs, the vast majority of which were occupied by rural-to-urban migrant women aged 18 to 25 years old (International Labour Organization, 2005). The International Labour Organization documented that the salaries of garment factory workers exceeded that of Cambodian civil servants. However, most factory workers send home 30 to 50 % their salaries to their families, thus they remain relatively impoverished. They are also poorly educated, with only 8 % having completed high school (International Labour Organization, 2005). This industry continues to grow and now close to 290,000 workers are employed, over 90 % of whom are female (CARE Cambodia, 2006).

Literature Review

Understanding the impact of migration on HIV vulnerability is complex; it is much more than a calculation of the sum of each individual's risks of acquiring the virus. Indeed, it is the *socio-ecologic context* in which migrants live that determines their vulnerability to HIV. The socio-ecologic context of HIV has recently been described for the geo-political contexts of Eastern Europe (Rhodes & Simic, 2005) and southern Africa (Beyrer, 2007). These authors have noted that the socio-ecologic context (also referred to as the risk context) consists of multiple, often interacting layers stretching from individual behavioural risks, to relationship dynamics, community factors, and

structural impacts at the policy level. There remains a need to understand the larger context of migrant garment workers lives, and the factors that put them at risk for HIV in order to tailor interventions to best suit their needs. Understanding the socio-ecologic context is key to developing successful interventions (Krieger, 2001; Edwards, Mill, & Kothari, 2004), and this is particularly true for HIV prevention interventions involving vulnerable populations such as migrant women.

Migration often increases vulnerability to HIV (Quinn, 1994; Decosas, Kane, Anarfi, Sodji, & Wagner, 1995; MacPherson, Gushulak, & Macdonald, 2007). This phenomenon has been well described for populations of women migrants in a diversity of situations (Webber, 2007), and for rural-to-urban migrants of both genders in China (Hong *et al.*, 2006; Hu, Liu, Li, Stanton, & Chen, 2006; Yang, Derlega, & Luo, 2007). Although internal migration in Cambodia is a common phenomenon (Maltoni, 2006), there is almost no published literature on HIV and Cambodian rural-to-urban migrants. In a wide search of multiple databases (*CINAHL, Embase, Medline, Psycinfo, Genderwatch, Women's Studies International, eHRAF Collection of Ethnography and Sociologic Abstracts*) using the key words Cambodia, migration, and HIV, only a single study was found (Nishigaya, 2002).

Nishigaya (2002) described the findings of interviews with twenty garment factory workers who were supplementing their income by work in the sex trade. These women had been recruited from the larger sample in an earlier survey of 852 never-married garment factory workers (briefly discussed in the same paper), based on their admission of multi-partner sex in the previous week. Nishigaya explored the women's reasons for engaging in sex work, their working conditions in the sex industry, their

sweetheart relationships, and their partners' use of condoms. She concluded that it is the context of poverty that forces these migrant women to find ways to support themselves and their families outside their work in the factories, and that this work is highly risky to them as condoms are not always used. Nishigaya's work is important for its focus on a unique population in the published literature, and for determination of the vulnerability to HIV of some garment factory workers through their work in the sex trade industry.

CARE Cambodia has reported on the reproductive health of migrant garment factory workers, as this non-governmental organization has developed health education programs for these workers. Their report, entitled Sewing a Better Future?, reviewed the findings from discussions with garment factory workers about life, work, and sexual health (CARE International in Cambodia, 1999). The working conditions and health status of 77 participants aged 15 to 24 (75 % female) from three Cambodian garment factories were explored through focus groups interviews. Most of the respondents sought employment in the garment factories of Phnom Penh because of poverty and a lack of opportunities in their home provinces. They reported long working hours and insufficient income through their work in the factory. The garment factory workers had relatively good knowledge about the sexual transmission of HIV in both this study and in a later study done by CARE (CARE Cambodia, 2003).

The Cambodian National Center for HIV/AIDS, Dermatology and STDs also produced a report on sexual risks of HIV in garment factory workers (National Center for HIV/AIDS Dermatology and STDs & University of California, 2005). This quantitative study was conducted to establish the risks of HIV for garment factory

workers as previous research reported conflicting results on the sexual activity of garment factory workers. Sampling was based on random selection of approximately 115 women from each of four villages (total of 464 women). Biomarker testing for both herpes simplex virus type 2 and HIV accompanied the survey to assess sexual activity. The authors determined that the rates of risk behaviour and prevalence of the herpes type 2 and HIV viruses were low; only 40 women of their cohort of 464 (8.6 %) tested positive for the herpes virus at the end of the first year of the study, while two had HIV at baseline, and one developed it during the study period (n = 3; 0.6 %). A total of 344 women (n = 462; 74.5 %) denied ever having had sexual intercourse. Of these, thirteen women developed herpes (3.8 %) suggesting that they had not disclosed their history of sexual activity. The authors concluded that garment factory workers are not highly sexually active outside of marriage and should not be considered a high risk group for HIV.

These few reports on migrant Cambodian garment factory workers have several limitations. Nishigaya's (ibid) conclusions from her qualitative research on garment factory workers who supplemented their income with sex work have relevance to other populations of migrant workers, as poverty and vulnerable employment situations are commonplace. The specific behaviours of those garment factory workers who work in the sex industry, however, may make them at higher risk of HIV infection than others who are not involved in sex work. Similarly, caution is required in interpreting the Cambodian National Center for HIV/AIDS, Dermatology and STDs survey data about the limited sexual activity of garment factory workers for several reasons. Herpes simplex virus type 2 is an imperfect proxy for sexual activity as the

prevalence of this virus in the Cambodian population is not known; in fact it only indicates the minimum number of women who are sexually active: many more women could be at risk than the study predicts. Secondly, even if this study was correct in stating that only 8.6 % of the population of garment factory workers was at risk of HIV through sexual activity, with a population of garment factory workers in Phnom Penh alone approaching 300,000, this still equates to thousands of women vulnerable to infection. The most significant limitation of this survey and other Cambodian research, however, is their predominant focus on the individual's sexual risks of acquiring HIV, rather than the broader socio-economic context that produces this vulnerability. A brief review of some of the international studies on migrants is warranted to elicit a wider perspective of the factors impacting on HIV prevention for migrant women.

A review of the international literature has illustrated that migrant women are particularly vulnerable to HIV as a result of limited access to health care, the change in norms and social supports in their new environments, and, as was found by Nishigaya (2002), lack of sufficient employment that results in the economic need for generating income. Many authors have described how migrant women have found this supplemental income in sex work. Limited access to health care has been a problem for Hispanic farm workers in Florida as over ninety per cent lack health insurance (Fernandez *et al.*, 2004). Hong Kong migrant domestic workers also experienced health care access issues as they described episodes of discrimination and breaches of confidentiality at Hong Kong hospitals (Bandyopadhyay & Thomas, 2002).

Three studies of Chinese migrants have demonstrated how the change of norms and social supports in their migration destination increased the vulnerability to HIV for women migrants. Hong and colleagues' (2006) qualitative study of Chinese rural-to-urban migrants documented how the shift to more liberal sexual norms in the urban community and the passive role of women in that society subsequently increased their sexual risks. A second study of Chinese migrants (Yang *et al.*, 2007) illustrated through quantitative survey data that social isolation from family members and lax social controls in the migrants' destination led to high risk behaviours. Similarly, another study documented that the prevalence of sex work and casual sex was much higher for migrant women in China than for non-migrants (Yang & Xia, 2006). There are a number of other examples from diverse regions of the world of migrant women who used commercial sex work to supplement their income. Migrant women working on sugar cane plantations of the Dominican Republic (Brewer *et al.*, 1998), Hispanic farm workers in the United States (Gadon, Chierici, & Rios, 2001; Fernandez *et al.*, 2004), and Burmese factory workers in Thailand (Mullany, Maung, & Beyrer, 2003) have all relied on sex work as an income supplement and thus this has been termed an *interim survival strategy* for migrant women (Brewer *et al.*, 1998).

Therefore, a variety of factors increase migrant women's vulnerability to HIV. Although these studies used different methods, they all relied on data from the migrants themselves about their experience of migration. However, a *key informant* perspective was not evident in the literature. To explore the broader socio-ecologic framework of HIV prevention, input from the migrants benefits from supplementation by key informants (including health care providers) who have knowledge of the

migrants' experiences and can comment on the individual, community and structural factors that may have an impact on HIV prevention for these migrants. For example, key informants may comment on policies and gender norms that may be unfamiliar to migrants. Qualitative methods are well suited to such research, as they permit exploration of the issues that both research participants and researchers determine are significant to this context.

The purpose of this study was to elicit the socio-ecologic factors that make migrant Cambodian garment factory workers vulnerable to HIV by consultation with migrant women and key informants, including local health care providers. The focus of this paper is the impact of migration on HIV prevention.

Methods

This study was the first phase of a larger mixed methods research project; the second phase involved a survey of health care providers and is reported elsewhere (Chapter 5). The methodology of the first phase of this study was ethnographic.

Study Setting

Cambodia is situated in south-east Asia, bordering Thailand, Laos, and Vietnam. The study was undertaken in Phnom Penh, the capital of Cambodia and the largest city in the country, containing about two million of Cambodia's fourteen million residents, and home to thousands of rural-to-urban migrant garment factory workers. All the migrant women were recruited from the Toule Sangke region of Phnom Penh in the north-east section of the city, where there is a concentration of garment factories.

Ethics

Prior to embarking on this research project, a formal agreement was established between the University of Ottawa and the International Organization for Migration Cambodia, for the purposes of research collaboration. Ethical approval for the study was obtained from both the Cambodian National Ethics Committee and the University of Ottawa Research Ethics Board. The Khmer research assistants obtained signed consent from each of the research participants prior to the interview. Illiterate women were permitted to make a mark signifying consent.

With the approval of both ethics committees, each participating migrant woman, and health care providers in the focus groups was paid \$3.00 U.S. in recognition of their time. The migrant women were also given a small stipend for travel if they required local transportation to get to the interview (\$0.50 U.S.). The key informants were not paid.

Data Collection Procedures

The data collection procedures involved semi-structured interviews with the migrant garment factory workers and key informants, and focus groups with health care providers for this population of women.

Migrant Women Interviews

The inclusion criteria for the migrant women were rural-to-urban migration within 10 years, and age of at least 18 years. The migrant garment workers were recruited using a purposive sampling approach, in order to have women with a variety of sexual and health care experiences represented. Purposive recruitment is a recognized tool for improving the *information-richness* of the data collected, to increase the perspectives

presented (Kuzel, 1992). A Cambodian non-governmental organization running reproductive health education programs with garment factory workers agreed to recruit several of their *peer educators*, garment factory workers who had been trained in reproductive health issues in order to educate their colleagues. These women recruited other garment factory workers (snowball method). In addition, several garment factory workers were recruited by research assistants from the factory neighbourhood where the women lived. As the initial cohort of young women recruited were young and reported lacking sexual experiences or experiences within the health care system in Phnom Penh, the health care staff from a clinic frequented by garment factory workers assisted with recruitment of several migrant women who had used the health care system within the same district.

We conducted confidential interviews with the garment factory workers in a private home located near the workplace of the garment factory workers. All of the interviews were conducted in Khmer by a research assistant, with simultaneous whisper translation to English for the Canadian researcher (GW) by a second research assistant. Simultaneous translation facilitated effective interviewing as the researcher was able to respond to the research participants immediately for clarification or further probing. This *dynamic flexibility* (Esposito, 2001) was key to ensuring the quality of the data collected. The migrant garment workers were indirectly asked about their contextual issues for HIV prevention through enquiry of their migration experiences.

Key Informant Interviews

Key informants in Phnom Penh who worked with garment factory workers were also recruited for interviews. These key informants were recruited through

convenience sampling, with deliberate inclusion of individuals from both government departments and non-governmental organizations. The interviews were conducted in the workplace of the informant in English or Khmer, depending on the choice of the individual interviewee. Key informants were asked directly about individual, community, and structural factors that might impact on HIV prevention for migrant garment factory workers.

Focus Groups with Health Care Providers

Finally, two focus groups were held with health care providers working in Phnom Penh clinics that served garment factory workers' reproductive health care needs. Focus group participants consisted of all health care providers from clinics serving garment factory workers of one local non-governmental organization in Phnom Penh. The two focus groups were conducted in Khmer with simultaneous translation to English in the offices of this organization. The focus group discussion addressed the most important issues that prevent migrant garment factory workers from protecting themselves from HIV.

Analysis

Translated interviews were typed into transcripts by GW and were checked for accuracy by one of the Khmer research assistants. Analysis of the data was assisted by the use of the qualitative software program Atlas-ti. Transcripts were organized into document families based on the demographic differences in the research participants. Data were then analyzed through an iterative process of multiple readings of the text noting recurrent ideas, coding for common concepts, and constructing matrices of related themes. This process permitted observation of the intensity of themes, thematic

patterns, and contrasts and comparisons among data groups (migrant women, key informants, and health care providers), in addition to clustering of themes (Miles & Huberman, 1994). The data triangulation process is a recognized tool for enhancing trustworthiness in qualitative analysis (Denzin, 1978; Farmer, Robinson, Elliot, & Eyles, 2006). Using a modified triangulation protocol as described by Farmer and colleagues (2006), the thematic input from different respondent groups was sorted, examined and coded for convergence. Convergence coding applied the terms *agreement* for issues that were considered important by both migrant women and key informants (including health care providers), *complementary* for issues that were mentioned by both groups, but with differing perspectives, and *dissonance* when the migrant women and key informants did not agree on the research issue. Convergence with agreement, including complementarity, was a means of confirming the importance of the findings, while dissonance on an issue suggested the need for further discussion and future exploration. These research codes were organized into the levels similar to Beyrer's socio-ecologic model of HIV prevention (Beyrer, 2007): individual risks, relationship issues, community factors and larger structural issues. The themes connecting these codes were identified and presented.

Results

Twenty migrant garment workers and eight key informants were recruited and interviewed. The key informants worked in government positions (3) and local NGOs (5). Two focus groups were held with a total of 13 health care providers.

Demographic Description of the Migrant Garment Factory Workers

The demographic characteristics of migrant respondents are displayed in Table 3.1. Most (18 of 20) were under the age of 30. The women had all migrated within the last 10 years; 13 of the 20 had migrated within 5 years. All of the women described themselves as Khmer (Cambodian). They had all migrated from provinces in the south-east of the country, surrounding Phnom Penh (Figure 3.1). Most had less than nine years of schooling; all were fluent in the Khmer language, and a few had some knowledge of a second language. Most of the women only read Khmer, however, of the 17 who read Khmer, over half described their ability as limited. Some women stated they had forgotten much of what they learned, or had not used their reading skills since leaving school. Two women were illiterate. Almost all of the migrant women had previously worked as farmers, usually cultivating rice. The research participants had a variety of roles in the process of garment production, including cloth organizer or counter, marker or cutter of the cloth, tailor, seam finisher, ironer and packer of the finished product.

**Table 3.1: Demographic Description of Interviewed Migrant
Garment Factory Workers**

Demographic Variable	Value for Interview Population
Average Age (range)	24.5 years (18-39)
Average Time since Migration (range)	4.7 years (9 mos to 10 years)
Demographic Variable	Number of Women
Ethnicity: Cambodian	20
Province of Origin:	
Preyveng	9
Kampong Cham	4
Kandal	3
Kampong Thom	2
Kratie	1
Svay Rieng	1
Education:	
2 to 5 years	11
6 to 9 years	8
Completed High School	1
Languages spoken:	
Khmer only	13
Khmer and other languages (limited)	7
Languages Read:	
Khmer only	13 (8 limited ability)
Khmer and other languages (limited)	4
Illiterate	2
No response	1
Previous Occupation:	
Farmer	17
Mat Weaver	1
Vegetable seller	1
Volunteer (with Child Labour Association)	1
Marital Status:	
Single	12*
Married	6
Widowed	1
Divorced	1
	(*includes 2 engaged, and 1 with a boyfriend)

Migration from the countryside was an enormous change for these young women: several women lamented the loss of opportunity to complete their education, as their commitment to their family's economic needs took them into the workforce prematurely. Their work in the garment factory impeded their ability to continue to improve themselves. When asked what other comments she had about moving to the city, this young woman replied:

“I would like to suggest that we need opportunities to learn to read and write. When I arrived here, I could not read. I would like a program to improve the factory girls reading, writing and maybe even speaking in English.” (Migrant woman 7, single, age 22)

In addition to missing their lost opportunities for education, several of the migrant women recalled the loneliness and fear they experienced after migration. They worried about being cheated, and missed the closeness of their families and community. Several of the migrants described concerns for their safety, particularly when they saw groups of young men congregating on the streets.

“I am afraid of the boys when they get drunk, when people fight on the street. This makes me afraid. I prefer the village. I am only in Phnom Penh for the money. I have heard about a case of rape, but this has never happened to me. I am afraid of this.” (Migrant Woman 2, single, age 25)

While several of the women were distressed by their move to the city, the income they generated through their work in the factories was welcome. The garment factory workers interviewed related that they usually earned \$45 to \$55 U.S. per month for regular working hours (an 8 hour day, 6 days per week), however, many worked overtime hours into the evenings or weekends to earn extra money. These overtime hours could mean the factory workers were at their job for 14 to 16 hours, with meal breaks only. Overtime hours were not always entirely voluntary: one woman related

that occasionally she was forced by her employer to work on Sundays if a clothes order was due. Most garment workers could earn a total of \$60 to \$70 U.S. per month with overtime. The women reported how the income made a difference in their lives, and the lives of their extended families as the migrant quoted here describes:

“Now I have enough money to survive and support family because after my mother died, my father took a second wife. My brother and sister live on their own. Now I have to support my brother and sister.” (Migrant Woman 2, single, age 25)

Because the migrant women routinely sent a large portion of their income home to their families, several still found it difficult to manage on their remaining resources. It was the single migrants who were most responsible for financially supporting their family; once married, the women often used their resources for their immediate family, and were no longer as responsible for their parents and siblings. The single migrant women usually reserved up to half their monthly income for family support, although this was not without challenges, as the two women quoted below attest:

“I send 50% of my salary to my mother and I keep the rest for household expenses: electricity, water, and also for eating. The money is not enough. Sometimes I cannot send 50% of the money I make to my mother. My salary including overtime is \$45 to \$50 per month. I have to be very economical about my expenses.” (Migrant Woman 7, single, age 22)

“The total including overtime in my salary I get about \$55. I send my mother \$20 and I keep the rest to pay for rent, clothes and eating. This month’s salary is not sufficient for me, but I do not have another job.” (Migrant Woman 9, single, age 24)

Financial pressures meant that in many cases women reported that they did not eat well; in their commitment to family well-being they compromised their own nutrition. The poor dietary standard of the migrant workers was confirmed by the following migrant, who struggled to cook on a very limited budget:

“My salary is \$45, with overtime I can get \$50 to \$60 per month. With the money that I have, I try to be very economical. If I am not economical, there will be insufficient money. For one day I have spent around 3,000 riel [US \$0.75] for food. I cook soup in the morning to keep for lunch and dinner.” (Migrant woman 12, recently married, age 23)

Many women would like to have had extra jobs outside the factory to supplement their income, but either could not find positions they were qualified for, given their limited education, or had no energy or time after their long working days in the factory to pursue additional employment. The participants were asked if they were aware of any colleagues who worked in the *entertainment industry* as a means of further income generation. Most women denied this, however, two observant migrants commented:

“Some women at the garment factory also work as beer girls as the money is not sufficient.” (Migrant woman 11, married, age 26)

“I saw that some garment factory workers that are close to my house, work as a beer and karaoke girls. That girl goes out every evening; she wears nice clothes and make-up. Very few women work in the beer gardens and sing songs in the karaoke clubs.” (Migrant Woman 10, single, age 19)

While only two of the migrants were aware of garment factory workers being employed in the entertainment industry, several of the women reported that they knew garment factory workers who had boyfriends in Phnom Penh. The migrant woman quoted below expressed her concern for this practice as she was aware this put her friends at risk:

“One thing that I would like to say to you is that I am not happy to see the girls of the same age as me. I am not happy to see these girls getting boyfriends and sleeping with their boyfriends, and getting disease. I would prefer to see them get engaged. The way they carry on is not good.” (Migrant woman 9, single, age 24)

Access to health care was another issue that concerned the research participants. It was difficult for them to get time off from their factory line

positions when needed, even for health appointments. Typically, they were allowed only one hour for visiting a clinic, which was impractical as they had to travel to the clinic and wait in line before being seen (fixed appointment times are not the norm in Cambodian public health facilities). When expressing their preferences for obtaining health care, the timeliness of the services was key, as was the friendliness of the service providers. At the time of the interviews, the public health care system was only available to the women during weekdays, although weekend clinics have since been arranged to accommodate the garment factory workers.

“The private clinics are very polite. They are better, you get quick treatment. They pay more attention. RHAC [Reproductive Health Association of Cambodia, an NGO clinic] is polite and you get good care. I usually go to the private system as the public health care system is closed on Saturday and Sunday when I have time to go. The public health care system takes too long. I prefer to go to the private clinic, it is more time convenient.” (Migrant Woman 2, single, age 25)

The factories also provide limited clinical services for the workers, however, these are designed for treatment of minor health problems such as headaches. The migrant workers generally did not seek care for reproductive health problems in these clinics. Their access to the factory clinics was tightly controlled by factory management, and several women commented that the quality of service at the factory clinics was inconsistent. The migrant worker cited below used the factory clinics for her health problems, though she was not happy about the limitations to access, the attitude of the health care worker, and the availability of medication:

“Yes, I went also to the factory clinic to take some medicine when I don’t feel well or to do the coin massage [traditional medicine]. This is not good, because the health worker has a very nasty voice. Also the health workers have their own ground rules. In one month we are only allowed two visits

for medicine. If you are sick more than this, then you cannot get medicine. They treat headache, cough and teeth pain, with the same medicine so I do not like to go.” (Migrant woman 16, widowed, age 28)

The other major complaint that some of the women had about their work in the factory was their limited exposure to health education programs. At the time of the interviews, several of the non-governmental organizations and the Ministry of Social Affairs were running health education programs for the garment factory workers in the factories. Only a limited number of women were selected to participate, and the smaller factories did not offer these programs at all. Those excluded from the education programs desired the opportunity to join their colleagues and learn more about their own health:

“In order to improve health services, all the women in the factory would like to attend the training. The training only selects one or two women. This is difficult because everyone has to work, so the time to educate others is limited. Increase the number of women attending the training, this would be better. Many garment factory girls really want to do the training, usually only 10 girls get to attend. They do not think it is fair as they all want to learn too.” (Migrant Woman 6, single, age 23)

We did not question the women directly about their experience of stigma in Cambodian society, however, several women made revealing comments about this issue. One young migrant attributed her marginalization in the marketplace to her low socio-economic status:

Participant: “Everywhere I go I feel that people look down on me. Women garment workers are discriminated from society. In the market, I feel they discriminate against me because I have a lower salary.”

Interviewer: “How can you tell they are discriminating against you?”

Participant: “From their body language, attitudes, behaviour, the tone of their voice and their eyes. They don’t want to talk to me. They act like I don’t exist. They don’t look at me. I feel lonely, isolated from my family. No one takes care of me.” (Migrant woman 2, single, age 25)

Other migrant women attributed the bad reputation of their profession to the perceived sexual activity of migrant garment factory workers. The accepted norm for young Cambodian women is to live with their parents: young single women living away from their families are viewed with suspicion, as it is viewed as preferable for women to live under the close protection of their families.

“The reputation of garment factory girls is that we are not good girls. The people think that the women who work in the garment factory have boyfriends and then they go home. It does not look good. Some women after they come here, when they get the money they don’t want to go back home. When they go back home they act like they are a city girl now.”
(Migrant woman 4, married, age 21)

These were the views of the garment factory workers on their experiences of migration. The following paragraphs describe the key informants and health care providers’ views on what the major issues affecting HIV prevention are for garment factory workers.

Perspectives of the Key Informants and Health Care Providers

Several of the issues expressed by the migrant garment factory workers were further elaborated by the key informants in interviews and health care providers in focus groups. These individuals also raised new issues. Almost all of the informants discussed poverty, lack of education, separation from the control and support of family, and peer pressure as contextual factors that contributed to vulnerability to HIV for the migrant garment factory workers. According to these informants, having left the protection and control of their families in the country-side, the young women were influenced by their peers and the media to develop relationships with local men. The key informants and health care providers described how the young men wooed the migrant women with gifts. Unfortunately, the men often terminated their relationships

and moved on when their interest in the women lagged, leaving the women alone and vulnerable to further risky relationships or even sex work. According to a focus group participant, “When she has lost her virginity, she feels she does not have value, and then she may become an indirect sex worker”. The key informant quoted below described how the migrant women are enticed to have relationships with young men in Phnom Penh:

“Girls have a lot of friends. Peers encourage them to enjoy the city life...Community factors [affecting HIV prevention] include the peer group, who the girls associate with. When she sees other women with boyfriends, she thinks why can't I have a boyfriend too, and get a lot of money and gifts.” (Key informant, Government staff)

In addition, to consensual relationships, several of the focus group participants confirmed the migrant women's fears of street gangs. They reported their knowledge of several garment factory workers who had been raped after working late in the factories. Another risk, that garment factory workers experienced, was trafficking into the sex industry. A government official described the predicament this posed for some women:

“As garment factory work is not seen as high status, sometimes sex workers are recruited by trafficking, and the girls are told they will have an office job. It is sad to say that once women are trapped into sex work, they can't escape: drop yourself in a big hole and you can never get out. Sex work is the end of her life.” (Key Informant, Government staff)

The key informants and health care providers related that very few migrant garment factory workers took up extra jobs in the sex industry voluntarily. As one key informant described, the women did not have much time for sex work, with their very long hours in the factory.

In addition to sexual risks through consensual relationships and exposure to sex work, the key informants expressed other concerns for the health of the garment factory workers. The following quote confirms that in their efforts to send so much money home to their poor families, the migrant garment factory workers compromised their own health by living in substandard housing, and consuming an inadequate diet.

Participant: “For example, they have to live together in a crowded place. One room for, five or six people, and the living area is not so hygienic. This is very important to their general health: access to safe drinking water.”

Interviewer: “This is a problem for them, even here in the city?”

Participant: “Yes even here in the city. One more thing is their food intake. Most of them have malnutrition problems as well. Most of them work for their salary and want to send money home so they spend very little on their food. That is why they have a problem with malnutrition.” (Key informant, NGO staff)

Access to health care was also addressed by the key informants and health care providers. While there are more services available to the garment factory workers in the capital than in their villages, access remains an issue. Respondents confirmed that migrant women lack the knowledge of the services, the financial resources to afford the available services, and sometimes, the awareness that they have a health problem that requires medical care. The health care providers were very aware of the limitations on free time for these garment factory workers, and were frustrated as often the women were unable to return to the clinic to complete their treatment. While time restrictions limit access, the attitude of the health care provider is also an important issue. One key informant noted:

“...for young women, young girls, if you go to the service for something like a sexually transmitted infection, maybe they don't get any respect from the service provider, they don't get good words from them. This is also a barrier for the women to go to the service as well. Some of them are saying that they don't want to go there because [the health care provider]

might say something to them if they get a disease like that. So they just go to a traditional healer... Sometimes they just buy medicine from the pharmacy and just take it.” (Key Informant, NGO staff)

The key informants also described how the lack of implementation of labour policies impacted on the migrant women’s ability to prevent HIV infection, particularly overtime. While there is a Cambodian law prohibiting excess overtime, such laws are difficult to enforce. The key informants demonstrated concern that the workers were sometimes deprived of some basic human necessities such as access to health care when needed, clean water in the factories, and trained health care providers in the factory clinics. Factories were beginning to follow the encouragement of the Ministry of Labour to develop HIV committees and their own policies in this area, with the assistance of the NGO sector, according to one NGO key informant.

Several informants discussed these women’s perceptions of stigma. The informants reported that the stigma the migrants experienced was related both to the past association of sexual availability of garment factory workers, and to the reality that garment factory workers defied the norms for young Cambodian women by living away from the protection of their families.

“We can say that so far there is stigma against garment workers as well. It has decreased compared to 4 to 5 years ago. The stigma was very heavy against them. Many people thought garment factory workers were the same as indirect sex workers. They thought they were available at any time, if the men have money.” (Key informant, NGO staff)

These were the most important issues discussed by the key informants and health care providers. How these compared with the views of the migrant women will be explored next.

Comparison Between Data Groups: Finding agreement, complementarity or dissonance

Convergence of the views of the two data groups, the migrant women and key informants (including health care provider focus group participants) was assessed using the terminology *agreement*, *complementary* (agreement with differing perspectives), or *dissonance* for each of the elicited themes. These terms referred respectively to issues that were either represented in the same light by the groups, represented by both groups but for differing reasons, or represented differently by the data groups. The convergence coded issues are organized by levels of the socio-ecologic framework: individual, relationships, community, and structural.

Considering the individual level in the socio-ecologic framework, there was agreement between the migrant women and key informants about the motivation for migration and the cause of the migrants' poor nutrition status; poverty was the predominant explanation here. Views on education showed complementarity. Limited or truncated educational opportunities meant poor access to better employment for the women. The key informants described lack of education as an explanation for the women's poor understanding of their own health care needs.

At the relationship level, separation from family was viewed as a negative consequence of migration both from the perspective of the migrant workers and the key informants, but for different reasons (complementarity). Many migrant women found that the isolation from their families was emotionally challenging for they missed the close community ties. The key informants believed that without the controlling influence of their parents close at hand, the migrant women were more

likely to take sexual risks. This risk-taking behaviour was likely to be exacerbated by peer pressure according to the key informants.

Relationships with peers was the only issue where complete dissonance was noted between the two groups. The women were asked about their relationship with their friends, while the key informants were not asked specifically about the relationship of the women with their peers, but rather the *relationship factors* that may impact on HIV prevention for these women. The women referred to their peers as friends who provided support for them; unlike the key informants, they did not raise the issue of peer pressure to have sexual relationships. There are several possible reasons for this difference of opinions. First, the particular group of women interviewed may not have experienced negative peer pressure. Another potential explanation is that the women chose not to be influenced by peers who involved themselves in activities of which they did not approve. This possibility is supported by the migrant garment factory worker quoted below:

“I do not like to have friends who have boyfriends from Phnom Penh. They are not part of my group. The reason I don’t make friends with those women who have relationships with city men is I don’t think it is proper.”
(Migrant Woman 5, age 21, recently married)

It is also possible that the key informants over-estimated the impact that peers had on the migrant garment factory workers or held inaccurate beliefs about the power of peer pressure. This was a consistent finding, however, raised by six of eight key informants and by both focus groups. Further exploration of the impact of peers on the migrant garment factory workers would be best accomplished by in-depth interviews on this topic. Intervention programs in factories use peer educators (CARE Cambodia,

2003), hence both the positive and negative impact of peers on the migrant garment workers would be important to establish.

The contextual factor of sexual relationships with local sweethearts or boyfriends was raised by both interviewed groups and demonstrated agreement. None of the migrant women respondents claimed to have local boyfriends, however, several were aware of others who did associate with local men, as were the key informants. Both migrants and key informants agreed that those women who were sexually involved with local men were at increased risk of HIV and STIs.

The migrant garment factory workers and key informants shared similar views on the community factors impacting on HIV prevention (agreement). Problems with access to health care was a particularly strong issue for both with a focus on lack of time for appointments, the attitude of health care providers, and cost of care. Access to quality medication was another issue raised by several garment factory workers, but not key informants. Sex work as an income supplement was agreed by both groups to be a limited factor. Fear of violence was an issue for some garment factory workers. Focus group participants confirmed that sexual violence was also a contextual factor for some women.

With respect to structural factors impacting on HIV prevention, stigma was a complementary issue raised by several women and key informants, although their understanding of the cause of Cambodian society stigma against garment factory workers varied somewhat. One worker attributed stigma to her lower socio-economic status, while two others thought that the reputation of some garment factory workers who had relationships with local men was the reason for the marginalization they

experienced. One key informant also attributed the stigma to the past association of garment factory workers with sexual availability for local men. A second key informant noted that Cambodian society did not approve of young women living independently from their family hence these women were regarded with suspicion. Further research is needed on the nature and implications of the stigma experienced by migrant garment factory workers.

At the structural level, factory policies were the largest focus of discussion for the migrant factory workers. The workers were generally not happy about the limited time they were permitted to seek health care during their workdays and the lack of access to health education programs for some of the women. The health care providers also agreed with these views. However, they also focussed on human rights issues such as access to health care and limits to overtime work in their discussion of problematic factory policies.

There was significant silence on the impact of global trade policies on the migrant garment factory workers. Neither migrant women, nor key informants were asked directly about the impact of global trade policies. When the key informants were questioned about structural factors impacting on HIV prevention, only one key informant raised this as an area of vulnerability for the migrant workers. He stated that if Cambodia was no longer able to find an export market for the garments produced, these women would no longer have a source of income. The silence on this issue was perhaps not surprising; the migrant women and many of the key informants were more focussed on local issues such as factory policies as they faced the impact of these policies daily.

Discussion

Despite stereotypes and common assumptions, it is neither migrants nor migration per se that increases the risks of HIV transmission. It is the trying conditions and hardships that many face throughout the migration experience that makes them more vulnerable to infection (United Nations Population Fund, 2006, p. 16).

The convergence coding of the research issues raised by the migrant garment factory workers, key informants, and health care providers revealed three key themes. The overarching theme arising from this research is the *economic vulnerability* of the migrant workers. Their poverty is the push factor for migration to the city. It limits their educational opportunities, and forces them to leave families behind and take on employment in the big city. Although the women make a reasonable income by Cambodian standards, their continued support of their families means that they remain functionally impoverished, and may thus have limited opportunities for good nutrition. Their limited economic resources may also encourage them to have relationships with local men (who buy them gifts) or occasionally to take on sex work as an income supplement, and may explain in part the stigma they experience from other Cambodians.

The economic vulnerability of female migrants is a particularly important theme, for the poverty of women globally has been well established (Chen *et al.*, 2005). Krishnan and colleagues have written how poverty is a key driver of the global HIV epidemic in women (Krishnan *et al.*, 2007). They have argued that the negative consequences of migration make women especially vulnerable to HIV infection through limited educational opportunities, low-status and low paying jobs, and an increase in sex work. Such is the situation for Cambodian migrant garment factory

workers: their educational opportunities have been limited by the need to provide for their families and they are thus forced to take on low status employment. While sex work was not a large factor for the women we interviewed, some knew of other garment factory workers who relied on this risky activity as an income supplement.

Two other themes are evident in the research: *social vulnerability* and *occupational vulnerability*, and these will be described in turn. When the migrant garment factory workers leave the support and control of their parents and their communities, they are left with a large void in their social support networks. While other migrant colleagues fill this gap, for some women their new-found friends may encourage them to pursue sexual relationships with local men according to the key informants. This social vulnerability is augmented by loneliness and absence of family restrictions. Migrants may breach the societal norms for acceptable behaviour for women that families reinforce (i.e., chastity until marriage), due to this social vulnerability. Hence, the geographic move from the country-side to the city results in a social vulnerability for these migrant women that contributes to their risk of acquiring HIV.

Social vulnerability for migrants to have casual sex has been documented for Chinese rural-to-urban migrants (Yang *et al.*, 2007). These authors used quantitative measures and determined that lax social controls in the absence of family and community supports was the most significant mediating factor to explain migrants' increased HIV risk behaviours over their non-migrant colleagues. Research on young Nepalese migrant factory workers also noted that living in mixed gender hostels permitted more opportunities for sexual partnerships (Puri & Cleland, 2006).

Occupational vulnerability is the third theme of this research. While factory employment is a life-changing experience for these women, providing them with the chance to help their rural families escape their desperate economic circumstances through respectable employment, there are also negative effects on their health status. Clearly, the factory management's primary motivation is production and profit; such factory pressures are transmitted to the workers. Access to health care services and health education programs are limited as the workers are not permitted time away from the production line. The pressure of production and profit may affect local factory policies – or adherence to policies - such as time off for healthcare appointments, over-time requirements, sick leave policies, and willingness to cooperate with government and non-governmental organization programmers to allow health education classes during working hours. Thus, factory pressures may result in occupational vulnerability as workers may have limited knowledge of and access to HIV prevention services.

There is limited international literature on how factory work increases vulnerability to HIV prevention for migrant workers. One quantitative study of Burmese migrant factory workers in Thailand noted their poor levels of knowledge about HIV, and attributed this in part to the lack of effective HIV prevention interventions for this population in their host country (Mullany, Maung, & Beyrer, 2003a). Studies of factory workers in northern Thailand (qualitative) and Nepal (quantitative) have noted the relatively high levels of sexual risks taken by migrant workers (Theobald, 2002; Puri *et al.*, 2006), however, there was no critique or

discussion of the factory policies that may have limited access to health care, thereby contributing to HIV risk.

There are several areas where additional research is called for. Further research is needed to know if the stigma associated with poverty, and with the previous association of garment factory work with sex work, limits the access of these workers to HIV prevention resources, or further impacts on their risk behaviours. There is also a need for additional research on both the positive and negative impacts of peers on migrants' vulnerability to HIV, for peer education is a key to the health education programs in Cambodian factories (CARE Cambodia, 2003). Thirdly, there is a need for further research on the role of factory policies (including the lack of implementation of these policies) on the structural socio-ecologic context of HIV prevention. Research on the larger structural issues including global trade policies is also called for. Interviews with other key informants such as the garment factory owners and government officials involved in trade might provide interesting contextual data on the impact of global trade policies on the migrant garment factory workers.

Limitations

This research has several potential limitations. Our sample of 20 migrant garment factory workers was small, and from one area of Phnom Penh only. However, our participants were similar ages to the majority of garment factory workers - 18 of the 20 migrants were under 30 as is common of garment factory workers (International Labour Organization, 2005), and maximum variation sampling ensured that diverse

experiences were represented in the group. Saturation was reached on many of the topics discussed by the migrants and key informants.

Time was a significant limitation of the research, as the workers had very little free time, and only spent about 60 to 90 minutes with the research team (including the time required for translation). Cultural differences between the Canadian researcher and the research participants were another concern. In order to address these limitations of time and culture, we used several strategies for researching sensitive topics in ethnically diverse populations such as attention to the timing and circumstances of the interview and ethnically-matched interviewers (Elam & Fenton, 2003). Interviews were conducted late in the day or on a Sunday so as not to interrupt the research participants' work schedule, and the interviews were held in a private home, close to the factories. The two research assistants who conducted and translated the interviews were Khmer women. Gender of the interviewer was an important factor as some of the research questions involved issues of sexual intimacy. Female research assistants were chosen as Cambodian women would find such discussions with a male inappropriate. Despite ethnicity and gender matching of research assistants there remained a gap in socio-economic status between the research assistants and the research participants, that is a noted limitation of cross-cultural research (Temple, 2002). Both research assistants had experience interviewing Cambodians of lower socio-economic status, however, thus minimizing the impact of this limitation. A final limitation in the research was the minimal diversity of key informants; representation from factory management, and senior government officials would have augmented our

understanding of other structural factors such as the implications of global trade policies for these women.

Conclusion

Coming of age for rural Cambodian women provides important employment opportunities in the city; work in the garment factories is one of the better options available to them. Obtaining a job producing clothes for people elsewhere in the world is the first step away from the poverty in which these women have been raised. While this employment has benefits to the women and their families, the economic, social, and occupational vulnerabilities they experienced in the city have significant impacts on the socio-ecologic context of HIV prevention for this population of women. More work now needs to be done to implement interventions for these migrants to help them gain knowledge and skills to engage in HIV prevention behaviours, and to modify some of the contextual factors in the community and the factory that have a negative impact on HIV prevention for these women. Expanding and improving the peer education and support programs, and monitoring the implementation of positive factory policies to protect workers' access to health care and health education programming is key. Such changes will enable young migrants to better protect themselves from the HIV epidemic spreading through Asia. Much more work now needs to be done to understand the impact of larger structural issues such as global trade policies and gender norms on HIV prevention for these migrant women.

References

- Bandyopadhyay, M. & Thomas, J. (2002). Women migrant workers' vulnerability to HIV infection in Hong Kong. *AIDS Care, 14*, 509-521.
- Beyrer, C. (2007). HIV epidemiology update and transmission factors: Risks and risk contexts -16th International AIDS Conference epidemiology plenary. *Clinical Infectious Diseases, 44*, 981-987.
- Brewer, T. H., Hasbun, J., Ryan, C. A., Hawes, S. E., Martinez, S., Sanchez, J. et al. (1998). Migration, ethnicity and environment: HIV risk factors for women on the sugar cane plantations of the Dominican Republic. *AIDS, 12*, 1879-1887.
- CARE Cambodia (2003). *A stitch in time saves nine: Tailoring health in the garment factories: Evaluation and comparison of a sexual and reproductive health project in intervention and non-intervention factories*. Phnom Penh: CARE Cambodia.
- CARE Cambodia (2006). *Cambodia: Women and work in the garment industry*. Phnom Penh: CARE Cambodia.
- CARE International in Cambodia (1999). *Sewing a better future? A report of discussions with young garment factory workers about life, work and sexual health*. Phnom Penh: CARE Cambodia.
- Chen, M., Vanek, J., Lund, F., Heintz, J., Jhabvala, R., & Bonner, C. (2005). *Progress of the world's women 2005: Women, work, and poverty*. New York: Unifem.
- Decosas, J., Kane, F., Anarfi, J. K., Sodji, D. K. R., & Wagner, H. U. (1995). Migration and AIDS. *The Lancet, 346*, 826-828.
- Denzin, N. K. (1978). *The research act: A theoretical introduction to sociological methods*. (2nd ed.) New York: McGraw Hill.
- Edwards, N., Mill, J., & Kothari, A. R. (2004). Multiple intervention research programs in community health. *Canadian Journal of Nursing Research, 36*, 40-54.
- Elam, G. & Fenton, K. (2003). Researching sensitive issues and ethnicity: Lessons from sexual health. *Ethnicity and Health, 8*, 15-27.
- Esposito, N. (2001). From meaning to meaning: The influence of translation techniques on non-English focus group research. *Qualitative Health Research, 11*, 568-579.
- Farmer, T., Robinson, K., Elliot, S., & Eyles, J. (2006). Developing and implementing a triangulation protocol for qualitative health research. *Qualitative Health Research, 16*, 377-394.

Fernandez, M., Collazo, J. B., Hernandez, N., Bowen, G. S., Varga, L. M., Vila, C. K. *et al.* (2004). Predictors of HIV risk among Hispanic farm workers in South Florida: Women are at higher risk than men. *AIDS & Behavior*, 8, 165-174.

Gadon, M., Chierici, R., & Rios, P. (2001). Afro-American migrant farmworkers: A culture in isolation. *AIDS Care*, 13, 789-801.

Hong, Y., Stanton, B., Li, X., Yang, H., Lin, D., Fang, X. *et al.* (2006). Rural-to-urban migrants and the HIV epidemic in China. *AIDS and Behavior*, 10, 421-430.

Hu, Z., Liu, H., Li, X., Stanton, B., & Chen, X. (2006). HIV-related sexual behaviour among migrants and non-migrants in a rural area of China: Role of rural-to-urban migration. *Public Health*, 120, 339-345.

International Labour Organization (2005). Better factories Cambodia: Facts and figures Retrieved July 10, 2007 from <http://www.betterfactories.org/content/documents/Facts%20and%20Figures.pdf>

Krieger, N. (2001). Theories for social epidemiology in the 21st century: An ecosocial perspective. *International Journal of Epidemiology*, 30, 668-677.

Krishnan, S., Dunbar, M., Minnis, A., Medlin, C., Gerdtz, C., & Padian, N. (2007). Poverty, gender inequities and women's risk of HIV/AIDS. *Annals of the New York Academy of Sciences*, Oct 22 [epub ahead of print].

Kuzel, A. (1992). Sampling in qualitative inquiry. In B. Crabtree & W. Miller (Eds.), *Doing Qualitative Research* (pp. 31-44). Newbury Park: Sage Publications.

MacPherson, D. W., Gushulak, B. D., & Macdonald, L. (2007). Health and foreign policy: Influences of migration and population mobility. *Bulletin of the World Health Organization*, 85, 200-206.

Maltoni, B. (2006). *Review of labor migration dynamics in Cambodia*. Phnom Penh: International Organization for Migration.

Miles, M. B. & Huberman, A. M. (1994). *Qualitative data analysis*. (second ed.) Thousand Oaks: Sage Publications.

Ministry of Health & National Center for HIV/AIDS, Dermatology and STDs. (2003). *Report on HIV sentinel surveillance in Cambodia 2003* Phnom Penh: Ministry of Health.

Mullany, L. C., Maung, C., & Beyrer, C. (2003). HIV/AIDS knowledge, attitudes, and practices among Burmese migrant factory workers in Tak Province, Thailand. *AIDS Care*, 15, 63-70.

National Center for HIV/AIDS Dermatology and STDs & University of California, L. A. (2005). *Sexual risk and HIV/STD in vulnerable Cambodian females, the Cambodian young women's cohort: Factory workers*. Phnom Penh: National Center for HIV/AIDS Dermatology and STDs.

Nishigaya, K. (2002). Female garment factory workers in Cambodia: Migration, sex work and HIV/AIDS. *Women and Health*, 35, 27-42.

Puri, M. & Cleland, J. (2006). Sexual behavior and perceived risk of HIV/AIDS among young migrant factory workers in Nepal. *Journal of Adolescent Health*, 38, 237-246.

Quinn, T. C. (1994). Population migration and the spread of types 1 and 2 human immunodeficiency viruses. *Proceedings of the National Academy of Sciences of the United States of America*, 91, 2407-2414.

Rhodes, T. & Simic, M. (2005). Transition and the HIV risk environment. *British Medical Journal*, 331, 220-223.

Saphonn, V., Sopheap, H., Sun, L. P., Vun, M. C., Wantha, S. S., Gorbach, P. M. *et al.* (2004). Current HIV/AIDS/STI epidemic: Intervention programs in Cambodia, 1993-2003. *AIDS Education and Prevention*, 16 (3 Suppl A), 64-77.

Temple, B. (2002). Crossed wires: Interpreters, translators, and bilingual workers in cross-language research. *Qualitative Health Research*, 12, 844-854.

Theobald, S. (2002). Gendered bodies: Recruitment, management and occupational health in Northern Thailand's electronics factories. *Women and Health*, 35, 7-26.

UNAIDS (2006). 2006 Report on global AIDS epidemic. Retrieved August 30, 2007 from http://www.unaids.org/en/HIV_data/2006GlobalReport/default.asp

UNAIDS (2007a). 07 AIDS Epidemic Update. Retrieved December 30, 2007 from http://data.unaids.org/pub/EPISlides/2007/2007_epiupdate_en.pdf

UNAIDS (2007b). Uniting the world against AIDS: Cambodia. Retrieved October 27, 2007, from http://www.unaids.org/en/Regions_Countries/Countries/cambodia.asp

United Nations Development Program (2007). UNDP - Cambodia. Retrieved October 12, 2007, from http://www.un.org.kh/undp/content/index.php?option=com_content&task=blogcategoryEn&id=6&Itemid=45

United Nations Population Fund (2006). *A passage of Hope: Women and international migration*. Retrieved October 15, 2007, from http://www.unfpa.org/upload/lib_pub_file/650_filename_sowp06-en.pdf

Webber, G. (2007). The impact of migration on HIV prevention for women: Constructing a conceptual framework. *Health Care for Women International*, 28, 712-730.

Yang, X., Derlega, V. J., & Luo, H. (2007). Migration, behaviour change and HIV/STD risks in China. *AIDS Care*, 19, 282-288.

Yang, X. & Xia, G. (2006). Gender, migration, risky sex, and HIV infection in China. *Studies in Family Planning*, 37, 241-249.

Chapter Four

Discourses and Silences on Condom Use: HIV Prevention Challenges in Sexual Relationships for Migrant Garment Factory Workers in Cambodia

A version of this paper has been submitted to *Social Science & Medicine*

**Discourses and Silences on Condom Use:
HIV Prevention Challenges in Sexual Relationships for
Migrant Garment Factory Workers in Cambodia**

Gail Webber

University of Ottawa

Nancy Edwards

CHSRF/CIHR Nursing Chair, University of Ottawa

Carol Amaratunga

OWHC Chair, University of Ottawa

Ian D. Graham

Canadian Institutes of Health Research

Vincent Keane

Formerly of International Organization for Migration, Cambodia

Socheat Ros

International Organization for Migration, Cambodia

Author's Note: Direct correspondence to Dr. Gail Webber, Lancaster Medical Clinic, 2450 Lancaster Road, Units 11 and 12, Ottawa, ON, Canada, K1B 5N3
Email

Acknowledgements:

The authors would like to acknowledge the support and assistance of the following organizations in this research: International Organization for Migration, Cambodia, CARE Cambodia, and the Reproductive Health Association of Cambodia. The contributions of participants in the June 6, 2007 workshop and presentation in Phnom Penh are also appreciated. In addition, we are grateful to our key informants, our focus groups participants, and particularly to our two invaluable research assistants Ms. Mora Gibbings and Ms. Phoumy Ouch. Dr. Lynne Leonard assisted with conceptual development and Dr. Alison Hamilton gave particularly helpful suggestions with analysis. Finally, we especially want to thank the garment workers who took the time to meet with us and share their stories. We hope that by telling them we will help improve their circumstances and those of their colleagues. Financial support for the study was provided for the primary author through the Ontario Women's Health Scholar's Doctoral Award, and from the Department of Family Medicine, University of Ottawa.

**Discourses and Silences on Condom Use:
HIV Prevention Challenges in Sexual Relationships for
Migrant Garment Factory Workers in Cambodia**

Abstract

Cambodia is in the midst of a generalized AIDS epidemic (Gorbach, Sopheab, Chhorvann, Weiss, & Chhi Vun, 2006). Amongst its Asian neighbours, Cambodia has one of highest prevalence rates of HIV. An increasing proportion of HIV positive Cambodians are married women (UNAIDS, 2008). Twenty migrant garment factory workers were interviewed about their knowledge and experience of HIV prevention. The women were knowledgeable about modes of HIV transmission and the need to use condoms to prevent HIV, but there was a spectrum of perspectives about condom use with their current or future partners. Some women insisted partners use condoms, while others asked but did not expect their partners to agree to do so. A third group did not discuss condom use with their partners because of shyness, dislike of condoms, or *confidence* in their partner. The concept of *confidence* or *trust* in their sexual partner was explored in a workshop with government and NGO staff who work with migrant garment factory workers. Four key themes arose from the discussion: men are the economic head of the family, men have greater knowledge than women about sexual matters, men are dominant in sexual relationships, and women should appear confident in their marriages. Significantly, the use of condoms was interpreted as a sign of distrust in the male partner, and hence condoms were considered undesirable, even if the woman was aware of the infidelity of her partner.

Key words: HIV prevention, women, Cambodia, migrants, condoms.

**Discourses and Silences on Condom Use:
HIV Prevention Challenges in Sexual Relationships for
Migrant Garment Factory Workers in Cambodia**

Introduction

Cambodia is in the midst of a generalized AIDS epidemic (Gorbach *et al.*, 2006). Through efforts of the Cambodian government and non-governmental organizations (NGOs), the prevalence rates of HIV in high risk populations such as sex workers has begun to decline. However, there is now a concern about the rising number of married Cambodian women who are contracting HIV (UNAIDS, 2008). Migration can increase vulnerability to HIV for women through a variety of individual, community, and structural factors (Webber, 2007). Internal migration within Cambodia is a common phenomena: about one third of this country's population has relocated within its borders, usually for economic reasons (Maltoni, 2006). Rural young women migrate to the capital Phnom Penh by the hundreds of thousands in order to find work in the garment factories (International Labour Organization, 2005).

There has been limited research on migrant Cambodian garment factory workers and their vulnerability to HIV (CARE International in Cambodia, 1999; Nishigaya, 2002; CARE Cambodia, 2003). The economic factors affecting HIV vulnerability of these migrants have been explored elsewhere (Chapter Three). The purpose of this paper is to investigate the migrant garment factory workers' perspectives on the use of condoms, in order to better understand the HIV prevention challenges they face in their sexual relationships.

Literature Review

This literature review will focus on the issues affecting condom use in sexual relationships from a summary of the themes in the published international literature on condom use, and from research describing sexual activity among Cambodians, including rural-to-urban migrants.

International Literature

There are numerous international studies about the context of condom use for women. In their early review of qualitative and quantitative studies of female adolescent and women's vulnerability to HIV, researchers from the International Center for Research on Women (Weiss, Whelan, & Gupta, 1996), noted that the social costs of HIV prevention may be too high to motivate behaviour change. Despite knowledge about HIV and involvement in risky sexual behaviour, youth from developing countries believed themselves to be safe from infection, and they experienced barriers to condom use. For young women, use of condoms was associated with lack of trust in the partner, fear their partner would assume they had a disease or were unfaithful, and concern about losing the relationship.

In their systematic review of 268 qualitative studies of young people's sexual behaviour published between 1990 and 2004, Marston and King identified a number of universal themes despite wide cultural differences in the study populations (Marston & King, 2006). These seven themes were that: youth assess how *clean* their sexual partners are, sexual partners influence behaviour, condoms are stigmatising and associated with a lack of trust, gender stereotypes determine sexual expectations and

behaviour, society gives penalties and rewards for sex, reputations and social displays of sexual activity and inactivity are important, and social expectations can impair communication about sex. Interestingly, the last four of these themes relate to gender norms and expectations. For example, the authors found that gender stereotypes are a strong influence on sexual behaviour, as men are expected to be highly sexually active, while women should remain virgins until marriage. These gender expectations result in societal rewards and punishments: men are lauded for sexual activity while women are chastised for *loose* behaviour, unless they succeed in finding a long-term partner. The reputations of men and women are dependent on accommodation to their respective societal gender norms: men establish their *manliness* through sexual activity while women risk damaging their reputations if seen as too active. Social communication about sex between men and women is also affected by gender norms, particularly for women, who can find it difficult to discuss their sexual desires, especially early in a relationship. If sex is not discussed, safer sex and condom use are clearly also neglected.

Another key theme of Marston and King's review was that condom use was stigmatising (Marston *et al.*, 2006), a finding that is consistent with the earlier review by Weiss *et al* (1996). Use of condoms was associated with lack of trust in the partner, and with disease, for women feared their partners would assume they had a sexually transmitted infection if the women suggested condom use. While Marston and King's review focussed on youth, the stigma of condom use has been reported in a variety of cultural settings for married couples as well. For example, there is evidence from rural Malawi (Chimbiri, 2007), that the condom is an *intruder* in marriage;

discussions of condom use are limited to extra-marital relationships only. Similarly, research indicates that the association of the condom with commercial sex work discourages married women from using them in India (Bhattacharya, 2004) and Thailand (Klunkin & Greenwood, 2005). Even HIV positive women in Ghana reported difficulty implementing condom use in their sexual relationships (Mill & Anarfi, 2002). In their study of the social context of the migration-related HIV epidemic in western Mexico Hirsch, Higgins, Bentley, and Nathanson (2002) found that requesting condom use in marriage threatened the love ideal, for it suggested that men had been unfaithful, and “mistrust is a lack of love” (p. 1232).

Thus promotion of condoms as an HIV prevention method, particularly with long-term *trusted* partners, is fraught with challenges. Throughout the world, in different cultural contexts, gender stereotypes promote greater sexual activity for men, and impair communication between men and women about sex. In addition, condoms are associated with a lack of trust and disease, thus the barriers to their use in marriage are large. The reality of gender relationships and condom use in Cambodia is consistent with the international literature previously discussed.

Cambodian Literature

The literature about sexual behaviour and young women in Cambodia is not large: it was obtained using the search terms *Cambodia, women and HIV prevention*, and from the grey literature provided by Cambodian organizations. Amongst the most relevant was a qualitative study of the sexuality of Cambodian urban and rural youth (Tarr & Aggleton, 1999). From their in-depth interviews with 281 Cambodian youth, the authors noted that rates of sexual activity were reportedly much higher for young

men than for young women. The majority of the urban young men had routine liaisons with sex workers and the patterns of sexual activity among rural men were similar, although less frequent. The authors summarized their findings about Cambodian youths' sexual relationships:

These discourses about sexuality are best characterized by contradiction. Young unmarried women are expected to do everything in their power to resist the sexual advances of young men, while the latter, regardless of what they do, avoid condemnation for their actions...virginity is a commoditized symbol [for women]. It still means much to most Cambodians, young or old, and the whole society has a "stake" in the virginity of young women (Tarr *et al.*, 1999, p. 376).

In their survey of Cambodian university students in Phnom Penh, Glaziou and colleagues (1999) demonstrated the same differential between the genders with respect to sexual activity. They reported that 44 % of the male students surveyed claimed to have been sexually active. Almost two thirds of these sexually active males had experienced their first intercourse with a sex worker, while 13 % of the male students had more than ten relations with sex workers. In contrast, only 3 % of the female students reported being sexually active.

Despite the prevalence of sex worker liaisons, condom use in Cambodia is not routine among men. Only about half of the men surveyed in Cambodia's 2003 sentinel surveillance survey stated that they used condoms with regular partners, while a third of this male group also admitted to relations with a female sex worker in the previous year, putting their regular female partners at risk of HIV and other sexually transmitted infections (Sopheab, Morineau, & Gorbach, 2005).

The gendered nature of sexual behaviour as described above, combined with the poverty of many Cambodian families fuels a very strong commercial sex industry in

the country (Mills, Singh, Orbinski, & Burrows, 2005). Poverty is the main impetus for internal migration (Nareoun, 2004), and most of the research on Cambodian female migrants has been conducted with direct and indirect sex workers. Like the garment factory workers, these women come from the countryside to the city to seek financial support for their families (Prybylski & Alto, 1999; Ohshige *et al.*, 2000a; Ohshige *et al.*, 2000b; Wong *et al.*, 2003a; Kim *et al.*, 2005; Gorbach *et al.*, 2006). These studies of migrant sex workers illustrate the vulnerability of migrant women to HIV as in the past condoms have not been routinely used in their sexual encounters with male clients or with their regular partners (Prybylski *et al.*, 1999; Wong *et al.*, 2003b; Kim *et al.*, 2005). Recently, through the influence of prevention programs, particularly Cambodia's 100 % condom policy for brothels, there is quantitative evidence that condom use for sex workers is increasing, although more with clients (transactional sex) than *sweetheart* partners (Gorbach *et al.*, 2006).

The published literature contained only one study of the sexual behaviour of migrant women working in the garment factories of Cambodia. In her qualitative research with twenty migrant garment factory workers who engaged in sex work to supplement their incomes, Nishigaya (2002) found that the cultural value of virtuousness for women caused these young workers to redefine their relationships with their male clients:

In a society where women are expected to be virtuous and obedient to parents and husbands, these workers are motivated to identify male sex partners in paid sex as "sweethearts" rather than "guests". These factors contribute to the low consistency of condom use (Nishigaya, 2002, p. 28).

The author pointed out that by describing their relationships with these clients in more acceptable terms, the women were thus expected to respond to the men's sexual

desires as they would their husbands'. Contrary to the recent trends in increase in condom use amongst some populations in Cambodia (Gorbach *et al.*, 2006), Nishigaya found that the women she interviewed did not use condoms consistently.

An earlier unpublished study (CARE International in Cambodia, 1999), with 77 migrant female and male garment factory workers in same sex focus groups reported consistent findings with those of Nishigaya. The authors of the CARE study concluded that the garment factory workers identified condoms with sex workers. The garment factory workers felt condoms were to be used with partners who were not trusted. In contrast, these workers did not consider condoms appropriate for relationships with spouses or trusted sweethearts. Another study (National Center for HIV/AIDS Dermatology and STDs & University of California, 2005), also concluded that sexually active migrant garment factory workers rarely used condoms in their sexual relationships. In a survey of 102 sexually active female garment factory workers, 87.2 % reported never using a condom with their partners.

Methods

This study was conducted in the Toule Sangke region of Phnom Penh Cambodia, where there is a concentration of garment factories. A formal research agreement was established between the University of Ottawa and the International Organization for Migration Cambodia, for the purposes of research collaboration. Ethical approval for the study was obtained from both the Cambodian National Ethics Committee and the University of Ottawa Research Ethics Board.

This article presents selected findings from a larger ethnographic study of the contextual factors affecting HIV prevention for migrant Cambodian garment factory

workers. Several components of data collection comprised this study. First, in June 2006, semi-structured interviews were held with twenty rural-to-urban migrant garment factory workers about their experience of migration. Interviews were held in Khmer with simultaneous translation to English for the primary researcher. As part of these interviews, migrant women who were married or sexually experienced were asked to comment on their experience of using condoms with their partners. Those who were not married were asked to consider how they would respond to the use of (male) condoms with a future partner. (These discussions were about non-transactional sex, as all women denied involvement in the sex trade.) These discussions are the focus of this paper. After the interviews, women were provided with information on HIV/AIDS prevention and local health care services. Further details of the recruitment process and procedures of data collection for this portion of the study are documented in Chapter Three.

In June 2007, a workshop was held with interested government and NGO (non-governmental organization) staff who provide services for migrant garment factory workers. The purpose of the workshop was to share preliminary results and explore underlying concepts of the research. The participants were divided into three groups and were asked about several issues, including what the women meant by *confidence* or *trust* in their husbands when they also described knowledge of their partners' potential extramarital relationships. Research assistants in each group took notes in Khmer, that were subsequently translated into English.

Analysis of the interview data was aided by use of the qualitative software program Atlas-ti. The transcripts of the interviews with migrant women were coded for

demographic descriptors and common issues. Matrices of the discourses about condom use were developed for linking themes (Miles & Huberman, 1994). Content analysis of these discourses by the first author guided organization of the transcripts of the migrant research participants into *document families*. The document families are described and their viewpoints illustrated through quotations. Data from the workshop were also inductively analyzed for common themes related to condom use. The workshop participants' views on the concept of *trust in the partner* were categorized into thematic gender norms, with illustrative examples from the workshop participants. These findings are presented following the women's perspectives.

Results

Demographic Picture of the Migrant Women

The average age of the twenty women interviewed was 24 years. Only one woman completed high school, the majority had between 2 and 5 years of education. Nine of the women were single, without partners. Five women were currently unmarried but had past or current partners: 2 were engaged, 1 had a long-term boyfriend, and 2 women were previously married (1 widowed and 1 divorced). The remaining 6 women were married at the time of the interviews. The women interviewed had all migrated to Phnom Penh within the previous 10 years, the majority (13 of the 20) within the last 5 years.

HIV Knowledge

The migrant women had varying knowledge about HIV and sexually transmitted infections, however, through exposure to media messages, factory education programs and occasionally through personal experience with family or friends with AIDS, they

were all aware that HIV was transmitted by sexual intercourse. When questioned about means to prevent HIV infection, almost all replied that condoms should be used as a protective measure during sexual relations.

“I know that HIV/AIDS is a sexually transmitted disease. All the people in my country know about HIV/AIDS. I know about HIV/AIDS because there is a lot of information on the television. Also I get information from different organizations working in this area. HIV/AIDS is transmitted through needles and having sex. AIDS is a dangerous disease as it cannot be cured.” (Migrant woman 19, single, age 26)

While knowledge about HIV prevention amongst these garment factory workers was adequate, there were significant barriers to implementation of this knowledge. The women used a variety of discourses on condom use with their sexual partners, from refusal to have sex without a condom to silence on this issue with the male sexual partner.

No condom, No Sex

Four of the 20 migrant women interviewed stated that if their partner refused to wear a condom, they would not have sex with them. A fifth woman did not use this language, however, she appeared convinced of her ability to negotiate condom use if she felt her partner was not trustworthy.

Only one woman was sexually experienced in the *no condom, no sex* group of women. This particular migrant spoke with conviction about using condoms in a future relationship as her husband had died of AIDS and she was thus fully aware of the risks of unprotected sex. Her initial relationship with her husband was characterized by trust, and condoms were not used, but after he became ill she stopped having intercourse with him as she suspected that he had HIV, acquired during his business travels. After his death, she was left alone with their 4 year old child.

Fortunately, she subsequently tested negative for the virus, and about one year later she left her child with her sister in the village in order to generate some income through garment factory work. She was adamant that she would only consider having another sexual partner if he was willing to use a condom:

“If I had a boyfriend, I would tell him to wear a condom.”

Interviewer: “Would he wear it?”

“If he loved me and wanted to be with me, he would use a condom...”

Interviewer: “What if the man refused?”

“If the man does not want to wear a condom I will not have sex with him.”

(Migrant woman 16, widowed, age 28)

The remaining four migrants in the *no condom, no sex* category were single and sexually inexperienced. They varied in age between 18 and 25, and 3 stated strongly that future sexual relationships were dependent on condom use. For example, this young woman was adamant:

“If I have a fiancé, I must ask him to wear a condom. If he does not accept, I will try again and again and try to lobby him to use it, but finally if he still does not want to use it then I will refuse have sex with him. To protect from HIV/AIDS, I need to use condoms if my partner has multiple partners. We need to be honest to each other as husband and wife. If my partner doesn't want to use the condom, I will not accept to have sex.”

(Migrant Woman 7, single, age 22)

The fifth single migrant also recognized the need to use a condom with her partner, however, she intended to be discriminating: if she was convinced he was *good* and faithful to her alone, a condom would not be necessary. She did appear ambivalent about this however, as in her opinion men were not always trustworthy. Her strategy to get her future husband to wear a condom was to appeal to his love for her and she spoke with confidence that she would be successful in this endeavour.

“I feel I can be at risk of HIV/AIDS if I do not protect myself. For example if I get married, I need to use a condom because I cannot trust the man. So to use the condom, I would not use it every time. If my husband is good and has only me as his partner, then I don't need to use [it]... I feel to ask the man to wear a condom is not a problem. I am going to tell him, if he loves me, he needs to use a condom. This can protect both our lives from disease.”(Migrant Woman 6, single, age 23)

These migrant women who insisted on condom use were the minority in the group.

More common were the women who desired to use condoms, however, were unconvinced of their ability to consistently implement this practice.

He will not wear it

Almost half of the migrant women interviewed were also cognizant of the need for condom use to ensure protection from HIV infection, however, they were less convinced of their ability to ensure condom use in their relationships than the first group. These women recognized that the cooperation of their partners was not likely to be forthcoming or sustained.

“If I get married, I think that if I ask my husband to wear a condom, he will not wear it.” (Migrant Woman 20, single, age 23)

Several of the women thought that their partners would seek sexual relations outside of marriage, and they were resigned to the reality that as married women they could be exposed to HIV. The case of migrant woman 12 provides an interesting example of how a woman's perspectives about her safety from HIV may evolve after marriage. This young woman had met her husband in Phnom Penh, and they had married seven months prior to her interview. He had migrated from the same province (though from a different district), in order to work as a phone technician in the capital. Before getting married her family requested that her partner have an HIV test:

“The reason why we asked for the blood test is because it is difficult to be confident with the man. We cannot believe in men. Also, my husband is very thin, so my neighbours thought he might have HIV, and they pushed me to ask him to get tested.” (Migrant woman 12, married, age 23)

Once married, she spoke more of her concern for pregnancy than about contracting a sexually transmitted infection, including HIV. However, even for family planning he refused to wear a condom:

“For the family planning I asked him to use the condom, but he refused to wear a condom as he says the condom is dirty. When I asked him why he doesn’t want to use the condom, I did not get an answer. He says we are husband and wife, why do we need to use the condom. I am afraid when I take the pills I will not be able to have a baby. My husband still refuses to use the condom. I do not want to push him too much.

... I am afraid that he will go find other partners. That is okay, but I do not want him to bring AIDS home. I think that my husband does not go out to find other women, because he said why does he need to find other girls as he is married and has the same woman?”
(Migrant Woman 12, married, age 23)

When probed again about why she and her friends were not worried about the risks of sexually transmitted infections, this woman replied:

“The husband and wife they have to trust each other, if I do not believe my husband who else can I believe?” (Migrant Woman 12, married, age 23)

The comments of this migrant revealed the complexity of issues at stake for her. She lacked control over sexually transmitted disease protection, and her preferred means of contraception as she did not want to use the birth control pill. While she was aware of her partner’s infidelity as a risk to her, she also wanted to trust him. It is possible that the trust discourse was her means of internally resolving the conflict she experienced about her safety in her marriage relationship.

Another concern for women was the stigma attached to condom use. The migrant quoted below noted that requesting that her husband use a condom could indicate to

him that she was sexually experienced, or even carrying a sexually transmitted infection:

“I think that he may refuse to wear a condom. I think that if I ask him to wear a condom he may think that I am not a virgin and he may think that I have some disease. He will wonder as I have come to the city, why after marriage I ask him to wear a condom.” (Migrant Woman 9, single, age 24)

Thus this group of migrant women all found negotiating the use of condoms to be a challenge in their marital relationships. Asking her husband to wear a condom may signal that the woman has had prior relationships, a sexually transmitted infection, or that she does not trust her male partner. Once married, the discussion about condom use focussed on contraception rather than protection from HIV and other STIs. For some married women, preventing pregnancy appeared to be a higher priority than preventing infection, although this may be a reflection of which discussion it was easier to have with her partner. The remaining women chose to remain silent with their husbands on condom use, although their silences were for different reasons.

Silences on Condom Use

Six of the twenty migrants interviewed remained (or expected to remain) silent on the issue of condom use with their current (or future) partners. These women did not plan to discuss condom use with their partners for several reasons that varied from dislike of the sensation of condom use, to shyness about having the discussion, to trust in their partners.

I can't stand condoms

“I never use the condom with my husband. I never asked my husband to use the condom because it is slimy. I don't like it. My husband accepts to use the condom but I can't stand it inside me. I feel the condom is very oily.” (Migrant Woman 4, age 39, married)

The woman quoted above was unique among the interviewed women. Not only was she considerably older than most of the migrant women, but her silence on condom use was motivated by her dislike of them. Her partner, a former soldier, was very knowledgeable about the benefits of condoms, however, she preferred that he not use them as she detested their sensation. This migrant's situation was particularly precarious. She related that she had been afraid of getting HIV in the past as her husband had previously lived with a sex worker for ten years. He had always tested negative on the routine HIV tests conducted for his military position every three to six months, though he had not been tested for the last two years as he was no longer with the military. While she was reassured by the negative testing lingering doubts must have remained, for at the end of the interview she questioned the researcher about how long it could take for the symptoms of HIV to appear. We encouraged her to have herself tested for HIV and she was given materials on HIV transmission and information about a local NGO clinic that provided HIV testing for garment factory workers at a low cost.

I am too shy

Discomfort discussing condom use with their partners resulted in silence for two of the women. They described themselves as too shy to have such a discussion with their husbands. One young migrant had only recently married, and felt unable to raise any issues related to sex with her new husband, including family planning.

“I cannot ask my husband to wear a condom because I feel too shy.”

Interviewer: Have you and your husband discussed family planning?

“My husband and I never talk about family planning or sex.” (Migrant woman 5, married for 1 month, age 21)

Another single migrant also felt that shyness prevented her from discussing condom use with her future husband, however, this shyness was motivated by a concern that he would find such a discussion offensive as it would illustrate her lack of trust in him. Such a perspective was interesting as this woman had related a story of how a female relative had gotten infected with HIV from her husband. Despite her knowledge of the risks, this migrant was also aware of the challenges of implementing condom use with her life partner.

“I cannot ask my husband to wear a condom if I get married. I don’t want to tell him to wear a condom because I feel shy. It is difficult to answer, but I agree that he might get angry with me.”

Interviewer: “Why would he be angry?”

“I am worried that he would get angry because he is my husband and I don’t trust him. (Migrant woman 10, single, age 19)

Concern that asking her husband to wear a condom would indicate a lack of trust in him was not unique to this woman. The remaining silences about condom use were directly related to the woman’s trust or confidence in her husband.

I am confident in my husband

“I haven’t been asking my husband to wear a condom, I am confident in him. If I asked him to use a condom he would feel that I think he has HIV/AIDS. He would be offended.” (Migrant woman 1, married, age 28)

Three of the migrants related that their silence about condom use with their partners was a result of *tukchet* the Khmer word meaning *to trust, have confidence in* (Headley, Chha, Lim, Kheang, & Chum, 1977). Confidence or trust in the partner did not always equate with belief that their partner remained faithful to them alone. Migrant woman 14 illustrates this paradox well. She had migrated to Phnom Penh for employment 5 years earlier and had been married for 2 years to a man from her village, a marriage that had been arranged by their families, as is common practice in

Cambodia. She was knowledgeable about sexually transmitted infections including HIV and she spoke freely of her understanding about the common means of transmission in the local population and her risks as a married woman.

Participant: "I know that STD transmission is because the men go out and have relationships with women, and they transmit it. I think when I was single I was 100 % confident that I would not get that disease. Now that I am married, I am not so confident as I do not know what my husband is doing. To protect from the STD's it is important to use condoms. The reason why I know about the disease is that I have watched TV and they explain how to protect the right way."

Interviewer: "How are you protecting yourself from STD's now? Do you use condoms in your marriage?"

Participant: "My husband and I never use condoms as we are confident in each other. The way that I protect myself is to explain to my husband and tell him not to go out and sleep with other girls." (Migrant woman 14, married, age 26)

When probed again how she personally was most at risk of HIV, this woman replied with an embarrassed laugh:

Participant: "Actually I do not have experience about that, but I think the easiest way for me to get HIV/AIDS is through sex with my husband."

Interviewer: "What kinds of things do you do to avoid getting HIV?"

Participant: "For keeping myself from HIV/AIDS, I need to tell my husband to wear the condom. I can tell him. I think that he is a good husband, serious, honest. I have not tried to ask him to wear a condom..."

Interviewer: "You say you are more at risk being married, yet you also trust your husband?"

Participant: "I feel that between me and my husband, he can listen to me. I trust him completely." (Migrant woman 14, married, age 26)

As an additional complication, the migrant woman quoted above was trying to conceive, thus condom use was undesirable from this perspective as well. This migrant's story thus illustrates the paradox some married migrants faced: negotiation about condom use demonstrated lack of faith in the relationship to both her partner and herself. Condom use may also have competed with the desire for children. When

faced with such conflicts, silence was the preferable route for some married migrant garment factory workers.

Summary of Discourses

Women had a range of responses about the use of condoms with their partners. The factors that favoured a discourse supportive of condom use were sexual inexperience and history of an HIV positive partner. Anticipating a partner's refusal to wear a condom, trust in the partner, shyness and dislike of condoms resulted in an absence of discourse about condom use. These discourses or their absence are important because they influence women's vulnerability to HIV. The vulnerability of individual migrant women to HIV is dependent on the factors that affect their discussion of condom use with their male partners, as condom use will rarely occur without the discourse. Amongst the migrant women interviewed, only one stated that her partner raised the issue of condom use; for most couples, if the issue was raised, it was the women who did so.

One of the key factors contributing to silence on condom use for these women was trust or confidence in their sexual partners. In order to develop a richer understanding of this concept, the factor of partner trust was explored in the workshop with health care providers and government and non-governmental organization staff.

Perspectives of the Workshop Participants

In June 2007, a workshop was held to share preliminary results of the research and to explore the concept of *trust* or *confidence* in the male partner that several migrants had articulated as a reason for not using condoms with their partners. The results of this workshop discussion are displayed in Table 4.1: gender norm themes are listed in

the first column while in the second column, specific examples provided by the participants serve to illustrate why women may express this confidence in their partner.

The workshop participants provided useful explanations as to why married garment factory workers might not use condoms with their partners. According to the workshop participants, men are seen as dominant with respect to economic matters and sexual knowledge, and they retain the position of power in sexual relations. Women express their confidence in their partners in order to protect the marriage relationship and to provide internal reassurance to themselves about its stability. Thus, *confidence* may not equate with a conviction of fidelity, but rather may express an expectation that the marriage will continue despite the husband's known or potential extra-marital relationships.

**Table 4.1: Understanding *Confidence* in the Husband:
The Workshop Participants' Perspectives**

Gender Norm Themes	Examples provided by the Participants about why Women express confidence in their partners
Men are the Economic Head of the Family	Women are economically reliant on their male partner. There is a lack of gender equity in relationships thus men's opinion is valued more than women's. There may be a risk of domestic violence to the woman if she challenges her partner.
Men have Greater Knowledge than Women about Sexual Matters	Men are better educated. Husband's knowledge will lead him to protect his family from risk. Migrant women are poorly educated. Women lack knowledge about HIV transmission. Women lack confidence and skills to negotiate condom use.
Dominance of Men in the Sexual Relationship	It is <i>male nature</i> to have sexual relationships with women. Condoms are uncomfortable for men. Women are unable to talk to men about condoms: speaking about this is <i>taboo</i> .
Importance of Showing Confidence in the Marriage	Condoms don't show real love: use of condoms equates to a lack of trust in relationship. It is important for a man to feel that his wife is confident in him. The woman states she is confident in her husband in order to <i>save face</i> for him. She has confidence that his relationships with other women are only short-term, that he will not share family resources with his other women, that he will not bring infections home. She is trying to reassure herself even though she knows he has other women.

Discussion

The use of qualitative methods as an exploratory tool, and the combination of both garment factory workers interviews and workshop participants (including male and female providers) discussions are strengths of this study. The findings raise a number of questions. The first surrounds the different discourses on condoms among the migrant women. The group of women who insisted that they would refrain from having sex unless their partner agreed to wear a condom differed in their views from

their more sexually experienced colleagues who were less likely to request condom use. The question arises as to whether the *no condom, no sex* migrants' perspectives on condom use were because they lacked sexual experience, as they had not yet had the opportunity to negotiate this issue with a sexual partner. Alternatively, were they insisting on condom use as this was the reproductive health teaching they had received, and they wished to provide the researcher with the *correct answer*? Yet another explanation is that these women represented a cohort of young Cambodian women who are now being more assertive about condom use. In order to determine if this is the case, longitudinal research over a prolonged timeframe using the themes generated by this study and encompassing the life experiences of sexual relationships, marriage, and desire to start a family would be helpful. Such a research design would help determine if insistence on condom use wanes with sexual and relationship experience in these migrant Cambodian women.

A second question to be addressed is how does this research compare with the existing literature? While this study has focussed on a small group of migrant garment factory workers in Cambodia, it is consistent with wider literature suggesting that negotiating condom use is problematic for many populations of women. In particular, the findings of gender norms favouring male power over sexual matters, and the association of condom use with lack of trust in the partner (the stigmatization of condoms) were key factors limiting safe sex in marital relationships for these migrant Cambodian garment factory workers. This is consistent with the findings from a systematic review of the literature (Marston *et al.*, 2006).

The theme of trust or confidence in their partner was common throughout the discourse of the married women, although their perspective on trust was not uniform. A number of married women commented that they were aware of their partner's potential infidelity on one hand, yet they insisted that they trusted their partner. This seemingly paradoxical finding is also consistent with the literature where the portrayal of trust in the partner has been described as paramount, regardless of knowledge or suspicion of infidelity (Hirsch *et al.*, 2002; MacPhail, 2003).

What is the key factor affecting condom use for these women? Mboi (1996) has written of the power of gender norms in determining Asian women's HIV prevention behaviour. Women are constrained in their discourses by society's expectations of them as sexually innocent and compliant with their male partner's desires. It is not surprising that many of the migrant workers in our study could not, or would not negotiate condom use, for they were following the norms expected of them:

In general "knowledge", "pleasure", "rights" and initiative" belong to men, while "innocence", "acceptance" and "duty" are portrayed as "normal" for women... Women are expected to defer to their men, particularly in sexual matters (Mboi, 1996, p.97).

When women stated they *trusted* or *had confidence* in their husband, they were not necessarily endorsing their partners' faithfulness to them, but rather they were meeting the gender expectations of their role as married women within Cambodian culture. Discourses of trust for married women are expressions of acceptance and duty, and in addition, may act as assurances to themselves of their social and economic security as married women. The expectation of women to defer to men in all sexual matters and not take initiative, means that HIV prevention programs focussing only on education and condom negotiation are doomed to failure.

Condom promotion for HIV prevention has been effective at reducing the prevalence rate of HIV in Cambodia, particularly through the 100 % condom program in brothels (Gorbach *et al.*, 2006). Shifting this success to non-transactional sexual encounters where emotional bonds and issues of trust are at stake is a greater challenge. UNAIDS has documented that almost half of new HIV infections in Cambodia are acquired by married women from their husbands, and a third of new infections among infants are acquired from their infected mothers, hence the urgent need to address condom use in primary relationships (UNAIDS, 2008). Strategies to promote condom use in marriage will need to address the current gender norms of this society. The well-meaning efforts of the NGO and government community to educate and empower the women with new knowledge and skills in condom use are wasted if the taboos within the culture for women to discuss this issue with their intimate partners continue to hold strong, and if men remain resistant to condom use with their wives. For condoms to be effective HIV prevention measures in marital relationships in Cambodia, men must be committed to their use at least as much as women. Interventions focussing on men and couples are thus required, and incentives to encourage men to participate in such programs are warranted.

The authors of the UNAIDS' review of condom promotion have noted that as the efforts to prevent the HIV/AIDS epidemic enter the third decade we need to be cognizant of the actual effects of condom promotion in the developing world (Hearst & Chen, 2004). While there have been successes, such as in the brothels of Thailand and Cambodia (Gorbach *et al.*, 2006), other countries such as Uganda have achieved a decline in HIV through a focus on reduction of sexual partners, more than condom

use. Condom promotion and distribution does not ensure a reduction in transmission of HIV: issues of who uses a condom with whom, consistency of condom use, availability of condoms to the population, particularly in rural areas, and counter-productive interactions of condom use promotion with other strategies (such as increasing partner numbers) are all factors that influence actual condom use in sexual relationships (Hearst *et al.*, 2004). While new biomedical technologies like microbicides offer some hope as HIV prevention tools (for they can be used without the knowledge of the male partner and they may allow for pregnancy while preventing HIV infection), without attention to the social context, their success is not guaranteed (Imrie, Elford, Kippax, & Hart, 2007). Given the gender norms in Cambodia including the desire for trust in their partner, it is not clear that women would readily choose this option even if microbicides become accessible and affordable.

Limitations

There are several potential limitations to this research. Firstly, as foreign researchers (five out of six of us) we could justly be criticized for our interpretation of discourses of young Cambodian women who have a vastly different cultural background than ourselves. The involvement of Khmer women research assistants, the collaboration with local organizations, the reliance on the views of key informants and the contributions of the Khmer co-author (S.R.) help to reduce this limitation, although not to eliminate it entirely. Secondly, the focus here was on female discourses about condom use; male views would further contribute to the discussion as clearly interventions to increase condom use will not succeed without male cooperation. While we did include a spectrum of views from the migrant women (both single and

married), and input from workshop participants of both sexes, inclusion of the male partners' views would have broadened perspectives and deepened analysis.

Finally, as mentioned earlier, this was a small study of 20 garment factory workers. While these qualitative findings appear credible and trustworthy as they were confirmed by the workshop participants, further research is required in order to determine if the themes generated by the research are transferable to the wider population of migrant garment factory workers in Phnom Penh. A survey developed using items produced on the themes of this study, and administration to a random sample of migrant women, would help determine the generalizability of the findings.

Conclusion

To understand the impact of biomedical HIV prevention interventions such as condoms and microbicides at individual, community and population levels, there has been a call for high-quality social and behavioural research globally, including in the developing world (Imrie *et al.*, 2007; King, Webster, Siba, & Pantumari, 2007). As Imrie and colleagues pointed out, the efficacy of HIV prevention interventions under ideal conditions is very different from their effectiveness in the real world. In order to successfully combat the HIV epidemic globally, these authors encouraged social scientists to work in collaboration with HIV trial researchers and to include behavioural assessments in developing and monitoring intervention programs (Imrie *et al.*, 2007). Reducing the risks of sexual transmission between married couples should be a main focus of new research, for this is where women are most vulnerable to HIV transmission. Therefore, despite the challenges, as researchers, program planners, health care providers, and policy makers we must work together to continue to seek

means of levelling the gender power imbalance, as success at over-coming this epidemic depends upon it.

References

Bhattacharya, G. (2004). Sociocultural and behavioral contexts of condom use in heterosexual married couples in India: Challenges to the HIV prevention program. *Health Education & Behavior, 31*, 101-117.

CARE Cambodia (2003). *A stitch in time saves nine: Tailoring health in the garment factories: Evaluation and comparison of a sexual and reproductive health project in intervention and non-intervention factories*. Phnom Penh: CARE Cambodia.

CARE International in Cambodia (1999). *Sewing a better future? A report of discussions with young garment factory workers about life, work and sexual health*. Phnom Penh: CARE Cambodia.

Chimbiri, A. (2007). The condom is an 'intruder' in marriage: Evidence from rural Malawi. *Social Science & Medicine, 64*, 1102-1115.

Glaziou, P., Bodet, C., Loy, T., Vonthanak, S., El-kouby, S., & Sainte Marie, F. F. (1999). Knowledge, attitudes and practices of university students regarding HIV infection, in Phnom Penh, Cambodia, 1999. *AIDS, 13*, 1982-1983.

Gorbach, P. M., Sopheab, H., Chhorvann, C., Weiss, R. E., & Chhi Vun, M. (2006). Changing behaviors and patterns among Cambodian sex workers: 1997-2003. *Journal of Acquired Immune Deficiency Syndromes, 42*, 242-247.

Headley, R., Chha, K., Lim, L. K., Kheang, L. H., & Chum, C. (1977). *Cambodian English dictionary*. Washington: The Catholic University of Americas Press.

Hearst, N. & Chen, S. (2004). Condom promotion for AIDS prevention in the developing world: Is it working? *Studies in Family Planning, 35*, 39-47.

Hirsch, J. S., Higgins, J., Bentley, M. E., & Nathanson, C. A. (2002). The social constructions of sexuality: Marital infidelity and sexually transmitted disease - HIV risk in a Mexican migrant community. *American Journal of Public Health, 92*, 1227-1237.

Imrie, J., Elford, J., Kippax, S., & Hart, G. (2007). Biomedical HIV prevention - and social science. *The Lancet, 370*, 10-11.

International Labour Organization (2005). Better Factories Cambodia: Facts and Figures.[Fact Sheet] Retrieved September 1, 2007, from <http://www.betterfactories.org/content/documents/Facts%20and%20Figures.pdf>

Kim, A. A., Sun, L. P., Chhorvann, C., Lindan, C., Van Griensven, F., Kilmarx, P. H. et al. (2005). High prevalence of HIV and sexually transmitted infections among indirect sex workers in Cambodia. *Sexually Transmitted Diseases*, 32, 745-751.

King, E., Webster, T., Siba, P., & Pantumari, J. (2007). Medical interventions, social science, and resource-poor countries. *The Lancet*, 370, 739-740.

Klunkin, A. & Greenwood, J. (2005). Buddhism, the status of women and the spread of HIV/AIDS in Thailand. *Health Care for Women International*, 26, 46-61.

MacPhail, C. (2003). Challenging dominant norms of masculinity for HIV prevention. *African Journal of AIDS Research*, 2, 141-149.

Maltoni, B. (2006). *Review of labor migration dynamics in Cambodia*. Phnom Penh: International Organization for Migration.

Marston, C. & King, E. (2006). Factors that shape young people's sexual behaviour: A systematic review. *Lancet*, 368, 1581-1586.

Mboi, N. (1996). Women and AIDS in South and South-East Asia: The challenge and the response. *World Health Statistics Quarterly*, 49, 94-105.

Miles, M. & Huberman, A.M. (1994). *Qualitative data analysis*. Thousand Oaks: Sage.

Mill, J. & Anarfi, J. (2002). HIV risk environment for Ghanaian women: Challenges to prevention. *Social Science & Medicine*, 54, 325-337.

Mills, E., Singh, S., Orbinski, J., & Burrows, D. (2005). The HIV/AIDS epidemic in Cambodia. *The Lancet Infectious Diseases*, 5, 596-597.

Nareoun, T. (2004). The economic impact of garment factory workers on their own families in the village. In *Rural Urban Migration in Cambodia* (pp. 77-120). Phnom Penh: Royal University of Phnom Penh.

National Center for HIV/AIDS Dermatology and STDs & University of California, L. A. (2005). *Sexual risk and HIV/STD in vulnerable Cambodian females, the Cambodian young women's cohort: Factory workers*. Phnom Penh: National Center for HIV/AIDS Dermatology and STDs.

Nishigaya, K. (2002). Female garment factory workers in Cambodia: Migration, sex work and HIV/AIDS. *Women and Health*, 35, 27-42.

Ohshige, K., Morio, S., Mizushima, S., Kitamura, K., Tajima, K., Ito, A. *et al.* (2000a). Cross-sectional study on risk factors of HIV among female commercial sex workers in Cambodia. *Epidemiology and Infection*, 124, 143-152.

Ohshige, K., Morio, S., Mizushima, S., Kitamura, K., Tajima, K., Suyama, A. *et al.* (2000b). Behavioural and serological human immunodeficiency virus risk factors among female commercial sex workers in Cambodia. *International Journal of Epidemiology*, 29, 344-354.

Prybylski, D. & Alto, W. A. (1999). Knowledge, attitudes and practices concerning HIV/AIDS among sex workers in Phnom Penh, Cambodia. *AIDS Care*, 11, 459-472.

Sopheab, H., Morineau, G., & Gorbach, P. M. (2005). *Cambodia 2003 Behavioural Surveillance Survey*. Phnom Penh: Ministry of Health, National Center for HIV/AIDS, Dermatology and STDs, Cambodia.

Tarr, C. M. & Aggleton, P. (1999). Young people and HIV in Cambodia: Meanings, contexts and sexual cultures. *AIDS Care*, 11, 375-384.

UNAIDS (2008). UNAIDS Cambodia Country Office. Retrieved January 3, 2008, from <http://www.un.org.kh/un aids/default.asp>

Webber, G. (2007). The impact of migration on HIV prevention for women: Constructing a conceptual framework. *Health Care for Women International*, 28, 712-730.

Weiss, E., Whelan, D., & Gupta, R. (1996). *Vulnerability and opportunity: Adolescents and HIV/AIDS in the developing world: The social costs of HIV prevention may be too high to motivate behaviour change*. International Center for Research on Women.

Wong, M. L., Lubek, I., Dy, B. C., Pen, S., Kros, S., & Chhit, M. (2003b). Social and behavioural factors associated with condom use among direct sex workers in Siem Reap, Cambodia. *Sexually Transmitted Infections*, 79, 163-165.

Wong, M. L., Lubek, I., Dy, B. C., Pen, S., Kros, S., & Chhit, M. (2003a). Social and behavioural factors associated with condom use among direct sex workers in Siem Reap, Cambodia. *Sexually Transmitted Infections*, 79, 163-165.

Chapter Five

Preventing HIV/AIDS in the Garment Factories: A Survey of Cambodian Health Care Providers' HIV Knowledge, Attitudes and Intentions to Take a Sexual History

A version of this paper will be submitted for publication.

**Preventing HIV/AIDS in the Garment Factories:
A Survey of Cambodian Health Care Providers' HIV Knowledge,
Attitudes and Intentions to Take a Sexual History**

Gail Webber

University of Ottawa

Nancy Edwards

CHSRF/CIHR Nursing Chair, University of Ottawa

Ian D. Graham

Canadian Institutes of Health Research

Carol Amaratunga

OWHC Chair, University of Ottawa

Isabelle Gaboury

CHEO Research Institute

Vincent Keane

Formerly of International Organization for Migration, Cambodia

Socheat Ros

International Organization for Migration, Cambodia

Ian McDowell

University of Ottawa

Author's Note: Direct correspondence to Dr. Gail Webber, Lancaster Medical Clinic, 2450 Lancaster Road, Units 11 and 12, Ottawa, ON, Canada, K1B 5N3
Email :

Acknowledgements:

The authors would like to acknowledge the support and assistance of the following organizations in this research: International Organization for Migration Cambodia, CARE Cambodia, the Reproductive Health Association of Cambodia, and Marie Stopes Cambodia. We especially want to thank the health care providers who participated in the research and the Cambodian research assistants who administered the survey. Thanks also to Lynne Leonard for conceptual guidance, and to Jacqueline Tetroe for assistance with survey development. Financial support for the study was provided for the primary author through the Ontario Women's Health Scholar's Doctoral Award, and from the Department of Family Medicine, University of Ottawa.

**Preventing HIV/AIDS in the Garment Factories:
A Survey of Cambodian Health Care Providers' HIV Knowledge,
Attitudes and Intentions to Take a Sexual History**

Abstract

Cambodia has the highest prevalence rate of HIV in Asia, despite recent declines. Although rural-to-urban migration is known to increase HIV risk, little research has been done on Cambodian migrants. This cross-sectional survey was conducted with 358 health care providers in Phnom Penh, Cambodia who serve migrant garment factory workers, to assess their HIV knowledge and attitudes and intentions to take a sexual history using the Theory of Planned Behaviour. These providers were knowledgeable about HIV transmission with more than 90% correctly answering knowledge items. Attitudes of providers were often not positive towards people living with HIV. The Theory of Planned Behaviour constructs explained 55.5% of the variance in generalized intention to take a sexual history: *perceived behavioural controls* was the strongest contributor explaining 50.6 % of the variance while *subjective norms* explained 2.8%, and the *attitude* construct was non-significant. There was a significant interaction term of *perceived behavioural control* with pharmacists explaining a further 1% of the variance. Interventions with health care providers should focus on improving their perceived behavioural control through skill development in sexual history-taking.

Key Words

HIV, Prevention, Migrants, Cambodia, Theory of Planned Behaviour

**Preventing HIV/AIDS in the Garment Factories:
A Survey of Cambodian Health Care Providers' HIV Knowledge,
Attitudes and Intentions to Take a Sexual History**

Introduction

Cambodia has the highest prevalence rate of HIV in Asia; the peak prevalence approached 4 % in the late 1990s and has now levelled at just under 1 % (United Nations Development Program, 2007; UNAIDS, 2007). Sexual transmission of HIV through unprotected heterosexual intercourse remains the most common route for acquiring the virus in Cambodia (UNAIDS, 2006), and the virus is spreading from high risk individuals into the general population (Gorbach, Sopheab, Chhorvann, Weiss, & Chhi Vun, 2006). Cultural gender norms dictate that while pre-marital and extra-marital relationships are acceptable for Cambodian men, women are expected to limit their sexual activity to marriage (Tarr & Aggleton, 1999). As a result of these norms, women experience discomfort discussing sexuality and under-report sexual activity (CARE Cambodia, 2003). It is not clear if Cambodian health care providers (HCPs) also have difficulties reviewing sexual matters with women, for there is currently no published literature on Cambodian HCPs' HIV knowledge and attitudes. The Cambodian government is scaling up voluntary counselling and testing (VCT) services for HIV (Buhler, Wilkinson, Roberts, & Catalla, 2006), and the World Health Organization states that knowledge about HIV transmission, positive attitudes about HIV, and willingness to do sexual risk counselling, including questioning about sexual behaviour are key to VCT (World Health Organization, 2005).

The purpose of this study was to assess the HIV knowledge and attitudes, and the intentions to take a sexual history of Cambodian HCPs who work with migrant

garment factory workers. Intentions to take a sexual history were assessed using the constructs of the Theory of Planned Behaviour (Francis *et al.*, 2004). This study of Cambodian HCPs is part of a larger research project examining the socio-ecologic context of HIV prevention for migrant garment factory workers (Chapters 3 and 4).

Literature Review

HIV Knowledge and Attitudes

A search of multiple databases (*Pubmed, CINAHL, Embase and Medline*) using the search terms *HIV* and *health care providers* revealed no studies of Cambodian HCPs and limited research on HCP knowledge and attitudes to HIV in other Asian countries. One study of Vietnamese physicians (Quach, Mayer, McGarvey, Lurie, & Do, 2005) documented misconceptions on modes of transmission of HIV and some support for mandatory HIV testing. Several studies (Li *et al.*, 1992; Li, Cole, Zhang, & Chen, 1993; Du, Wu, Jiang, & Bedi, 2002; Chen, Han, & Holzemer, 2004) of Chinese HCPs also demonstrated misconceptions about HIV transmission and a lack of understanding about HIV prevention.¹ A more recent study (Hesketh, Duo, Li, & Tomkins, 2005) of Chinese HCPs from Yunnan province, where HIV prevalence rates are amongst the highest in China, documented support for mandatory HIV testing.

¹ It is not surprising that Chinese health care provider knowledge about HIV was limited in the early studies as the Chinese government was slow to respond to the epidemic. The Ministry of Health released their *Suggestions for Enhancing the Prevention and Control of HIV* in 1995, but it was not until 2003 that the government made a commitment at a high level UN meeting to provide free AIDS drugs to the poor (China Ministry of Health & UN Theme Group on HIV/AIDS in China, 2003).

In summary, the Chinese literature on HCP knowledge and attitudes demonstrated HIV stigmatizing beliefs, a lack of understanding of the importance of condom use, and some evidence of gender bias as premarital sex was perceived as more acceptable for men than for women (Webber, 2007), Appendix E.

The Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB) was developed from the Theory of Reasoned Action (Ajzen & Fishbein, 1977), and is based on a psychological model of behaviour change. The major premise of the TPB is that behavioural intention can be determined through measurement of three constructs: attitudes towards the behaviour, how much social pressure is felt to perform the behaviour (subjective norms), and the control individuals perceive they have over the behaviour (perceived behavioural control). The TPB has been used in multiple languages, although careful translation, back translation and pilot surveys are necessary to ensure generalizability (Francis *et al.*, 2004). There is no evidence in the literature of the previous use of this theory in Cambodian research studies or in the Khmer language.

There have been several extensive reviews of TPB research. In an early review of 56 TPB studies of health behaviours, Godin and Kok determined that this theory was very effective at predicting behavioural intention with an average R^2 of 0.41, although explained variance depended on the behaviour studied. Attitudes and perceived behavioural controls were the most common significant predictors of intention in these studies (Godin & Kok, 1996). Armitage and Connor studied the efficacy of this theory through a meta-analysis of 185 independent studies published up to the end of 1997 (including some of the studies in the earlier review). Their findings were similar to

those of Godin and Kok. They determined that the TPB constructs accounted for 39% of the variance in behavioural intention (average determined by weighting studies according to sample size), and of the three constructs, subjective norms was consistently the weakest predictor of intention (Armitage & Connor, 2001).

In HIV prevention research, the TPB has proven useful in predicting both the intention to use condoms and the actual behaviour of condom use in diverse settings. In a narrative review of 20 studies of condom use and TPB (Bennett & Bozionelos, 2000), attitudes and subjective norms were determined to be the main predictors of intention, although there was some variation between the genders and amongst different cultures.

We found no studies of health care provider intentions or behaviour related to HIV prevention, such as taking a sexual history. However, Perkins and colleagues (2007) reviewed 20 studies of various health care provider behaviours, that used either the Theory of Reasoned Action or the TPB. These cross-sectional surveys varied in quality: several were limited by small sample sizes and low response rates. Sample size ranged from under 50 to over 1,000 respondents, and 25% of the studies had a sample size of less than 100 respondents. Response rates were similarly problematic: 20% of the studies failed to report a response rate, while a further 20% had a response rate less than 50%. Only two studies reported a response rate over 70%. Thus, small sample sizes and low response rates limit the generalizability of several of these studies. Only two of the studies included more than one type of health care provider, 90% of the studies were uni-disciplinary (physicians, nurses, pharmacists or mental health professionals). Five of the studies failed to measure all three TPB constructs.

Those studies that did report a total R^2 on health care providers' behavioural intention, (40% of total) demonstrated a mean variance of 50.4% (R^2 ranged from 0.29 to 0.74, unweighted). The reviewers concluded that while TPB is useful at predicting health care providers' intention, the lack of consistency in measuring the TPB constructs between studies made comparisons difficult.

Methods

Research Design

This survey was conducted during the second phase of an exploratory sequential mixed methods study of the socio-ecologic context of HIV prevention for female migrant Cambodian garment factory workers. The qualitative findings from the first phase of the study helped us determine the types of professionals to survey (Chapter 3). We found that migrant garment factory workers obtained reproductive health care from a variety of private and public HCPs (including local pharmacists), close to their place of employment. The purpose of this survey was to assess HCPs' knowledge and attitudes about HIV, and factors influencing their intentions to take a sexual history of a migrant garment factory worker presenting with a vaginal discharge. This scenario was chosen as the focus for the survey as vaginal discharge is a common complaint of migrant workers, and when women present with this symptom, health care providers should assess sexual risks in order to make decisions about appropriate treatment.

Questionnaire Development

The health care provider questionnaire included three components: demographic information, questions about the knowledge and attitudes of health care providers about HIV, and questions assessing the TPB constructs. The series of questions related

to intention to take a sexual history were developed following the guidelines presented in Constructing Questionnaires based on the Theory of Planned Behaviour: A Manual for Health Services Researchers (Francis *et al.*, 2004) and consultation with an experienced TPB researcher. Only direct measures of intention to take a sexual history were used, as the limitations of translation would have made the measurement of indirect concepts (i.e., beliefs) problematic. The TPB part of the questionnaire had one item each on past behaviour and intention (11 point scale, 0 to 10, indicating number of patients questioned about sexual history). Past behaviour was assessed by the item *Thinking about the last 10 patients presenting with vaginal discharge, from how many have you taken a sexual history?* while intention was assessed by *Given 10 migrant garment workers presenting with vaginal discharge, how many patients would you expect to ask about their sexual history?* There were three items assessing generalized intention and four items on each of the remaining three constructs: attitudes, subjective norms, and perceived behavioural control. The TPB construct questions used a 7-point Likert scale (1 to 7). The TPB questions were followed by the HIV knowledge and attitude questions.

The HIV knowledge and attitudes component of the survey drew questions modified from two previous surveys of Chinese HCPs (Chen *et al.*, 2004; Hesketh *et al.*, 2005), in addition to several questions designed specifically for this study. The first study (Chen *et al.*, 2004) assessed the knowledge and attitudes of hospital-based nurses in north-eastern China using a cross-sectional survey (n=177, sampling in one hospital only, sampling procedure not described) combining three separate survey instruments. Hesketh and colleagues (2005) conducted a cross-sectional survey of 840

pregnant women and 780 health care providers (convenience sampling of HCP from 12 hospitals in four high HIV prevalence areas of Yunnan, China). These authors adapted their knowledge survey from existing tools (Center for Disease Control HIV/STD, 2000), while they wrote the attitude questions themselves. Although Chen and colleagues reported acceptability validity and reliability testing, a subset of items were included and thus these results do not apply to this questionnaire. Our completed questionnaire included ten items about HIV knowledge, three items about attitudes to people living with HIV, four about attitudes to HIV testing, and one item about VCT policy in Cambodia (see Appendix F for complete questionnaire and indication of origin of items). Response categories were *agree*, *disagree* and *don't know* for the knowledge and attitude questions.

After translation of the English version of the questionnaire into Khmer, it was back-translated into English by an experienced translator, whose mother tongue was Khmer. The completed questionnaire was pilot tested on eight health care providers in Cambodia to assess clarity of the items; minor revisions were then made.

Data Collection

We sought and obtained ethics approval from the Cambodian National Ethics Committee and the University of Ottawa Research Ethics Board. Permission to conduct the research within each of the settings was obtained from the appropriate managers. We hired and trained ten Cambodian research assistants to administer the survey over a three week period in November and December 2006.

Sampling Procedures

Data collection was conducted in the four regions of Phnom Penh where the garment factories were concentrated. Institutional study inclusion criteria included all government health centres and NGO clinics in these four regions of the city, two government hospitals in Phnom Penh where garment factory workers are known to go, and the private clinics and pharmacies that are within a one kilometre radius of the garment factories. The data collectors recruited health care providers from each of the institutions listed above based on convenience sampling: those HCPs who were working on the day of the survey and were available to participate in the study were recruited. Eligible HCPs included physicians, midwives, nurses and pharmacists.

Statistical Analysis

A research assistant entered the data into *Excel* spreadsheets, and 20 % of the entries were re-entered by the primary author. The data entry error rate was calculated to be less than 0.6 % prior to additional data cleaning. SPSS version 15 (SPSS Inc., Chicago, Illinois, U.S.A.) was used for all analyses.

Descriptive statistics (frequencies) were used to describe the demographic differences of the participants and their responses to the HIV knowledge and attitude questions. As almost 25% of HCPs reported more than one profession, their primary profession was recoded to that which required the most training. The order of training of providers from greatest to least was physician, midwife, nurse, and pharmacist. Using chi square tests, we compared primary profession on three variables: 1) practice consisted of over 25% of garment factory workers, 2) HIV training in the previous year, and 3) workplace offering HIV testing.

For the HIV knowledge responses, the percentage of correct answers was calculated by dividing total correct answers by total responses. A *don't know* response was considered an incorrect answer. Missing data were excluded. For the HIV attitudes responses, the percentage of correct answers was calculated using only those responses supportive of positive attitudes. *Don't know* responses were recoded and excluded as they indicated neither positive nor negative attitudes. Bivariate analyses using chi square testing were done to assess differences in HIV knowledge and attitudes between the sexes and among the primary professions. The Fisher exact test was used, when appropriate, for small cell sizes.

Past behaviour and intention scores were compared by sex (Mann-Whitney test) and primary profession (Kruskall-Wallis test).

For the TPB constructs, we first assessed internal consistency of each of the four TPB constructs (generalized intention, attitude, subjective norms, and perceived behavioural control) using Cronbach's Alpha. For the subjective norms construct, the Cronbach's Alpha was calculated using respondent data only for those who answered all four questions.

As there was a large amount of missing data for the item about supervisors within the subjective norms construct, this item was imputed for those respondents with missing data (i.e., the average score for the three remaining items was used if the fourth item was missing). Pearson correlation coefficients were calculated to assess collinearity. Median values and inter-quartile ranges were calculated (mean was not used as the scores were skewed).

A hierarchical multiple linear regression model using an additive method was fit using the method described by Amireault and colleagues (Amireault, Godin, Vohl, & Perusse, 2008). Each of the four constructs was standardized by subtracting the total sample mean from each individual's score and dividing by the total sample standard deviation. The regression was fit using generalized intention as the dependent variable and attitudes, subjective norms, and perceived behavioural control as the independent variables. The order of entry of the variables into the model was based on the significance of the constructs for TPB health-related research as found in the literature (Godin *et al.*, 1996): attitudes, perceived behavioural control and subjective norms. Gender was tested with each construct to determine if it was an effect modifier by assessing the two-way interaction between gender and construct. Similarly, for primary professions, dummy variables were created (physician was the reference group) and the two-way interaction of profession with each construct was assessed. Due to a singularity (all midwives were female), 3-way interactions terms could not be tested. The criteria for accepting the final regression model were parsimony, significant contribution to independent variables to explained variance, and significant increase in the F test. The assumptions of linear regression were tested for the final regression model by assessing the linearity of the relationship between the dependent and independent variables, the independence of the errors, homoscedasticity, and the normality of the error distribution.

Results

Administrators from all of the government health centers, NGO clinics, and the two hospitals agreed for their respective institutions to participate (100 % organizational

participation rate). The institute participation rate for the private clinics and pharmacies exceeded 75%. All eligible individuals at the institutions on the day of the survey were invited to participate. The total number of HCPs eligible to complete the survey was not recorded (there was no access to a sampling frame or list of HCPs and we made no record of refusals). A total of 358 surveys were completed.

Demographic Characteristics

Table 5.1 presents the demographic description of the research participants. Eighty-five (23.7%) of the HCPs indicated they belonged to a second profession; 74 (87%) of the second professions were pharmacists, as selling medications is a common means for Cambodian HCPs to generate extra income. Many HCPs also noted that they worked in more than one location: all places of employment had representation from each category of profession.

Table 5.1: Demographic Characteristics of Health Care Providers Surveyed (n=358)

Demographic Characteristic	Number of HCPs (%)
Gender (n=355): Female	239 (67.3)
Male	116 (32.7)
Ethnicity (n=358): Cambodian	356 (99.4)
Other	2 (0.6)
Age (n= 358): <30 years	76 (21.2)
30-39 years	124 (34.6)
40-49 years	77 (21.5)
50 or more yrs	81 (22.6)
Primary Profession (n=358): Physician	107 (29.9)
Midwife	104 (29.1)
Nurse	41 (11.5)
Pharmacist	106 (29.6)
Experience as HCP (n=358): < 5 yrs	108 (30.2)
5-9 yrs	89 (24.9)
10-19 yrs	70 (19.6)
20 or more yrs	91 (25.4)
Place of Employment (n=358)*: Pharmacy	176 (49.2)
Hospital	136 (38.0)
Government Health Centre	57 (15.9)
Private Clinic	56 (15.6)
NGO Clinic	33 (9.2)
Estimation of percentage of patients seen who are migrant garment factory workers (n=358):	
Up to 25%	78 (21.8)
26-50 %	107 (29.9)
Over 50 to 75%	76 (21.2)
Over 75%	85 (23.8)
Unable to estimate	12 (3.4)
Received HIV/AIDS training through work in the last year (n=357):	
Yes	151 (42.3)
No	206 (57.7)
Workplace offers HIV testing to patients (n=358): Don't Know	2 (0.6)
No	144 (40.2)
Yes	212 (59.2)
Of those who said "Yes" to workplace offers HIV testing Do you have HIV testing policies in workplace? (n=207): Yes	190 (91.8)
No	11 (5.3)
Don't Know	6 (2.9)

* Percentage exceeds 100 % as several HCPs reported more than one location of employment.

Table 5.2 compares HCPs on several survey items: 1) those who reported more than 25% of patients are garment factory workers, 2) those who received training on HIV in the last year, and 3) those whose workplaces offered testing for HIV. Over 75% of individuals in all categories of HCPs estimated that more than 25% of their patients were garment factory workers. Thus, this population of HCPs was appropriate for the survey as a substantial proportion of their practice involved garment factory workers.

Midwives reported higher rates of training on HIV in the previous year, while pharmacists reported lower levels of training (62.5% versus 17.9%). Midwives more often reported that their work setting offered HIV testing, and pharmacists less often reported working in a setting where HIV testing was offered (92.3% versus 25.5%). There were statistically significant differences among professions for HIV training ($\chi^2 = 44.078$, $df = 3$, $p < 0.001$) and workplace HIV testing ($\chi^2 = 101.554$, $df = 3$, $p < 0.001$).

Table 5.2: Chi Square Analysis of Garment Factory Workers Seen, Training on HIV, and Workplace Testing of HIV by Profession

Survey Item	Total HCP n = 358 n (%)	Physician n = 108 n (%)	Midwife n = 104 n (%)	Nurse n = 41 n (%)	Pharmacist n = 106 n (%)	P Value
More than 25% of patients are garment factory workers	268 (74.9)	80 (74.8)	80 (76.9)	29 (70.7)	79 (74.5)	0.621
Received Training on HIV in last year	151* (42.3)	47* (44.3)	65 (62.5)	20 (48.8)	19 (17.9)	<0.001
Workplace offers HIV testing	212 (59.2)	66 (61.7)	96 (92.3)	23 (56.1)	27 (25.5)	<0.001

* *Missing data for one physician.*

HIV Knowledge and Attitudes

The HIV knowledge and attitudes of the Cambodian HCPs surveyed are presented in Table 5.3. Generally the HCPs demonstrated good knowledge of HIV transmission, with greater than 90% of the respondents answering most questions about modes of transmission correctly. Almost all HCPs were aware that the risk of acquiring HIV is increased by having multiple sexual partners, sexually transmitted infections (STI), blood transfusions, and sharing unsterilized needles, and that HIV is not transmitted through toilets, sharing food, kissing or mosquitoes. There were some gender and professional differences in knowledge and attitudes. Pharmacists had the lowest awareness of sexually transmitted infections and unsterilized needles contributing to HIV transmission. There was a significant difference amongst professions on these items with knowledge about sexually transmitted infections ($\chi^2 = 16.081$, $df = 3$, $p = 0.001$) and sharing unsterilized needles ($\chi^2 = 8.793$, $df = 3$, $p = 0.032$). Men were more aware than women that mosquitoes do not transmit the virus (Fisher exact test, $df = 1$, $p = 0.042$).

Knowledge about perinatal risks of HIV transmission through the placenta and by breastfeeding was generally not as good with only 69.6% and 88.8% of the HCPs aware of these modes of transmission, respectively. Women were statistically more likely to know that the placenta could transmit HIV (Fisher exact test, $df = 1$, $p = 0.004$). Midwives (who were all female) also more often agreed that the placenta has a role in HIV transmission. There was a statistically significant professional difference on this item ($\chi^2 = 8.824$, $df = 3$, $p = 0.032$). Most HCPs knew that the Cambodian government had policies for voluntary testing and counselling (VCT) for HIV,

however, pharmacists were less aware of this than the other providers. There was a statistically significant professional difference on this item ($\chi^2= 10.502$, $df = 3$, $p = 0.015$).

Attitudes towards people with HIV were not consistently supportive. While 98.9% of the HCPs were aware that HIV was not only a disease of poor people, only 47.5% felt that people living with HIV should be allowed to marry. Professions ranged from 39.6% (pharmacists) to 58.5% (midwives) in support of marriage for those with HIV, however, there was no statistically significant difference amongst professions. Thirty six percent of the HCPs agreed that people with HIV should be permitted to bear children. Pharmacists supported free HIV testing less often than others. Overall, the HCPs were generally supportive of HIV testing, although there was a statistical difference between professions ($\chi^2= 17.624$, $df = 3$, $p = 0.001$). Mandatory testing of HIV for pregnant women was supported by most of the HCPs regardless of gender or profession: overall only 4.6% of the HCPs did not support this policy.

Theory of Planned Behaviour

Past Behaviour and Intention

Bivariate analyses of past behaviour and intention by gender and profession are presented in Table 5.4. As the data were skewed, median and inter-quartile ranges (IQR) were reported rather than means. Female HCPs were more significantly more likely to intend in the future to ask about sexual history than male HCPs ($p = 0.020$). There was a statistically significant professional difference between past behaviour and future intention to take a sexual history ($p < 0.001$ for each). The median scores for physicians and midwives were higher than for nurses and pharmacists on these items.

Table 5.3: HIV Knowledge and Attitudes of Cambodian HCPs: Bivariate Analysis by Gender and Primary Profession

HIV Knowledge**	Gender			P value	Primary Profession					P value	
	Female n=239* agree n (%)	Male n=116* agree n (%)			Physician n=107* agree n (%)	Midwife n=104* agree n (%)	Nurse n=41* agree n (%)	Pharmacist n=106* agree n (%)			
HIV transmission is increased by:											
Multiple partners	238 (99.6)	114 (98.3)		0.250	107 (100)	104 (100)	40 (97.6)	104 (98.1)		0.217	
Sexually transmitted infections	220 (92.1)	106 (91.4)		0.829	98 (91.6)	102 (98.1)	40 (97.6)	89 (84.0)		0.001	
Blood transfusions	230 (96.2)	111 (95.7)		0.778	104 (97.2)	102 (98.1)	40 (97.6)	98 (92.5)		0.114	
Sharing unsterilized needles	234 (97.9)	115 (99.1)		0.668	107 (100)	103 (99.0)	41 (100)	101 (95.3)		0.032	
HIV is not transmitted by:											
Sharing a toilet	236 (99.2)	115 (99.1)		1.000	107 (100)	103 (99.0)	41 (100)	103 (98.1)		0.440	
Sharing food	237 (99.2)	115 (99.1)		1.000	107 (100)	104 (100)	41 (100)	103 (97.2)		0.066	
Kissing	233 (97.9)	113 (97.4)		0.720	105 (99.1)	101 (97.1)	41 (100)	102 (96.2)		0.378	
Mosquito Bites	226 (94.6)	114 (99.1)		0.042	102 (96.2)	101 (97.1)	40 (97.5)	100 (94.3)		0.707	
Perinatal Risks of HIV transmission:											
HIV can be passed across the placenta	178 (74.5)	69 (59.5)		0.004	69 (64.5)	84 (80.8)	26 (63.4)	70 (66.0)		0.032	
HIV can be passed through breastfeeding	215 (90.0)	100 (86.2)		0.294	97 (90.7)	94 (90.4)	37 (90.2)	90 (84.9)		0.505	
HIV Testing Knowledge:											
Cambodian government has policies on VCT	232 (97.1)	112 (96.6)		0.754	105 (98.1)	103 (99.0)	41 (100)	98 (92.5)		0.015	
HIV Attitudes**											
Attitudes about HIV:											
HIV is a not only a disease of poor people	238 (100)	113 (98.3)		0.106	106 (99.1)	104 (100)	39 (97.5)	105 (100)		0.247	
HIV positive people should be allowed to marry	103 (49.3)	56 (44.0)		0.389	47 (47.2)	37 (58.4)	18 (41.9)	58 (39.6)		0.070	
HIV positive people should be permitted to have children	77 (36.3)	34 (34.7)		0.800	31 (36.0)	32 (33.3)	11 (33.3)	38 (39.6)		0.817	

Attitudes about HIV testing:												
HIV testing should always be accompanied by counselling about HIV risks	233 (98.7)	115 (99.1)	1.000	107 (100)	103 (99.0)	41 (100)	103 (97.1)	0.198				
Anyone who wishes should have free HIV test	215 (91.9)	102 (87.9)	0.234	96 (90.6)	99 (99.0)	38 (92.7)	87 (82.1)	0.001				
All pregnant women should be offered free HIV test	223 (94.9)	104 (89.7)	0.067	96 (90.1)	100 (98.0)	39 (95.1)	95 (90.5)	0.093				
Pregnant women should NOT have compulsory HIV testing	8 (3.3)	8 (7.1)	0.119	7 (6.6)	4 (3.9)	1 (2.5)	4 (3.8)	0.645				

*Note that n for individual items may be less than total n for group due to missing data.

**'Don't know' responses were included as the incorrect answer for knowledge items and were excluded from analysis for attitudes items (see text).

Table 5.4: Past Behaviour and Intention Bivariate Analysis by Gender and Profession Median (IQR), Mann-Whitney for Gender, Kruskal-Wallis for Profession

Survey Item	Gender (df =1)		Primary Profession (df = 3)	
	Median Score (IQR)*	P value (Mann-Whitney U)	Median Score (IQR)	P value (Chi-Square)
Past Behaviour: Thinking about the last 10 migrant garment factory workers presenting with vaginal discharge, from how many have you taken a sexual history?	Female: 6 (3-10) Male: 5 (3-9)	0.156 (12485.5)	Physician: 7 (3-10) Midwife: 8 (5-10) Nurse: 5 (3-8.5) Pharmacist: 4 (2-7.25)	<0.001 (32.126)
Intention: Given 10 migrant garment factory workers presenting with vaginal discharge, how many patients would you expect to ask about their sexual history?	Female: 7 (5-10) Male: 5 (3-8)	0.020* (11768)	Physician: 6 (4-8) Midwife: 8 (5-10) Nurse: 5 (3-7.5) Pharmacist: 5 (3-8)	<0.001 (23.621)

* IQR denotes inter-quartile range

Theory of Planned Behaviour Constructs

Cronbach's alpha was calculated for each of the four TPB constructs; all constructs were determined to have adequate or better internal consistency using a minimum value of 0.6 that is acceptable for new scales (Ware, Brook, Davis-Avery, Williams, & Rogers, 1980). The generalized intention construct had a Cronbach's alpha of 0.78 using all three items (based on questions that they *intend, plan, and will* take a sexual history). The attitudes construct used all four items (on whether taking a sexual history was *good practice, beneficial, useful, and appropriate*) and the resulting Cronbach's alpha was 0.71. For the subjective norms construct, there were four survey items (whether other *reproductive health care providers, professionally important people, the Ministry of Health, and supervisors* would approve of taking a sexual history). Of a possible 358 responses, there were only 197 responses to the statement "You think your supervisor would approve of you taking a sexual history from this woman." The reason for the high level of missing data for this statement is presumed to be that many of the independent practitioners did not have supervisors. For those individuals who responded to only three questions, the mean of the other three items was used to impute a value for the fourth item. The Cronbach's alpha was 0.60 before imputation (using only 55% of the sample), and 0.64 after imputation for the subjective norms construct. The Cronbach's alpha for the perceived behavioural controls construct was 0.74 using all four survey items (*I feel capable, confident, and have complete control to take a sexual history, and it is easy to take a sexual history.*)

Median, inter-quartile range, and Pearson correlation coefficients for the four constructs are described in Table 5.5. As the data were skewed, means were not

reported. No correlation coefficient exceeded 0.75 and thus collinearity was not a concern for the regression analysis.

Table 5.5: Median, Inter-Quartile Range (IQR), and Pearson Correlations between TPB Constructs

TPB Construct	Median (IQR)	Correlation Coefficients		
		Perceived Behavioural Controls	Attitudes	Generalized Intention
Subjective Norms	6.3 (5.75- 6.75)	0.424*	0.439*	0.455*
Perceived Behavioural Controls	5.5 (5 - 6.25)	-	0.395*	0.711*
Attitudes	6.5 (6- 7)		-	0.387*
Generalized Intention	6 (5 - 6.67)			-

* $p < 0.01$

Table 5.6 summarizes results of the regression analysis of generalized intention as the dependent variable and attitudes, subjective norms, and perceived behavioural control as the independent variables. Perceived behavioural control and subjective norms were significant predictors of generalized intention ($p < 0.001$); the attitude construct was also significant ($p=0.024$). The total variance of generalized intention explained by the three TPB constructs was 54.4%. Perceived behavioural control was the construct that contributed the largest amount of variance at 37.4%, the attitude construct contributed 15%, while subjective norms contributed 2%.

**Table 5.6: Results of Multiple Linear Regression:
Generalized Intention**

Independent Variables	Beta Coefficients	95% Confidence Interval	Significance	% of Variance Explained
Attitude	0.17	0.02 to 0.31	p = 0.024	15.0
Perceived Behavioural Control	0.64	0.55 to 0.72	p < 0.001	37.4
Subjective norms	0.26	0.13 to 0.39	p < 0.001	2.0

F value of regression 84.96
R² = 0.544

Table 5.7 presents the final regression after testing for the interaction terms using gender and profession. When an interaction term for primary profession and PBC was entered into the regression equation, the attitude construct was no longer significant (p = 0.064). In this final regression, PBC explains 50.6 % of the variance while the remainder is explained by subjective norms (2.8%) and profession x PBC interaction (p = 0.031), profession alone is insignificant. The only profession x PBC interaction that was significant was pharmacist x PBC (p = 0.003), which suggests that perceived behavioural control is a stronger predictor of intention to take a sexual history for pharmacists than for other health care providers. There was a significant difference between the two regression models accounting for an additional variance of 1.1 % (multiple partial F test 2.99_(3, 349), p = 0.031). The tests of linear regression assumptions confirmed that the final regression model met the assumptions for linear regression though there was evidence of a ceiling effect and skewed distribution.

Table 5.7: Significant Results of Multiple Linear Regression: Generalized Intention with Interaction Terms

Independent Variables	Beta Coefficients	95% Confidence Interval	Significance	% of Variance Explained
Perceived Behavioural Control (PBC)	0.46	0.32 to 0.60	p < 0.001	50.6
Subjective norms	0.15	0.07 to 0.23	p < 0.001	2.8
Physician*	0	-	p = 0.066	1.0
Midwife	-0.06	-0.25 to 0.13		
Nurse	-0.15	-0.39 to 0.10		
Pharmacist	-0.22	-0.41 to -0.03		
PBC x Physician*	0	-	p = 0.031	1.1
PBC x Midwife	0.16	-0.06 to 0.38		
PBC x Nurse	0.17	-0.12 to 0.46		
PBC x Pharmacist	0.27	0.09 to 0.44		

F value of regression 54.432

R² = 0.555

*Reference Group

Discussion

HIV Knowledge and Attitudes

The HIV transmission knowledge of the Cambodian HCPs was generally very good. The Cambodian HCPs in this study had better knowledge than hospital-based Chinese HCPs in Yunnan province south-western China (Hesketh *et al.*, 2005) and Heilongjiang province, north-eastern China (Chen *et al.*, 2004). The Cambodian HCPs were more knowledgeable than their Chinese counterparts about misconceptions of HIV transmission such as insect bites, toilets, and kissing. The high degree of knowledge on HIV transmission of Cambodian HCPs is no doubt related to the strong messages in the media, and also to HIV/AIDS training programs. The Cambodian HCPs did not demonstrate superior knowledge to the Chinese HCPs on perinatal

transmission, however. When questioned about HIV crossing the placenta to infect the unborn baby, over 90 % of HCP in Yunnan and Heilongjiang answered correctly, while only 69.6% of the Cambodian HCP were aware of this risk. It is unclear why the Cambodian cohort did not score well on this item as Cambodia currently provides antiretroviral treatment to mothers to prevent transmission to their infants. Midwives were more knowledgeable on perinatal transmission, and were more likely to report having had training on HIV. Clearly there is a need for more education of other HCPs on the risks of pregnancy and HIV, and the opportunities for treatment in order to prevent transmission to infants.

Attitudes towards people living with HIV were also surveyed in the Yunnan study. Both in Yunnan and in this study of Cambodian HCPs, the participants were very aware that the poor were not more likely to have HIV; however, there was a strong view amongst a significant proportion of HCPs in both studies that marriage and childbearing for HIV positive people is not appropriate. Attitudes on HIV testing for pregnant women were also comparable between this Cambodian study and the Yunnan study: 95.5% of the Cambodian HCPs and 94% of the Chinese HCPs (Hesketh *et al.*, 2005) felt that compulsory testing for HIV was indicated. These attitudes to people living with HIV and compulsory HIV testing may have implications for the success of a VCT program. The WHO has stated that HIV testing should not be compulsory because it infringes on a person's human rights (World Health Organization, 2005). Again, there is a need for more education, and normalization of HIV testing, in order to reduce stigma and promote the voluntary testing of pregnant women and others at risk.

Theory of Planned Behaviour

This study demonstrated that the TPB constructs were useful at explaining intention with an R^2 of 0.555. This is higher than the average variance explained by the TPB constructs in Godin and Kok's review of health-related TPB studies (0.41) (Godin *et al.*, 1996) and Perkin's review of HCP behaviours (Perkins *et al.*, 2007). Similar to the studies in their review, perceived behavioural control (PBC) was one of the most important constructs predicting intentions, while subjective norms played a minor role. Unlike these reviews, however, in our regression model the attitude construct was not a significant contributor to intentions when the interaction of profession and PBC was included in the final regression model.

For pharmacists, belief in their control over taking a sexual history was a stronger predictor of intentions to take a sexual history than for the other HCPs as indicated by the significant interaction term. This is not surprising, for pharmacists often worked independently, whereas the physicians, nurses and midwives often worked in a clinic or hospital setting with supervision. The independent nature of their work may mean that pharmacists believe they have greater control over their behaviour than the other professions who are more closely supervised. In Perkins and colleagues' (2007) review of TPB studies of HCP behaviours, the authors noted that the TPB constructs could predict HCP intention, however, the constructs that were most important contributors to the variance depended on the behaviour and providers studied.

To determine how comparable the regression model was for pharmacists and non-pharmacists, we ran separate models for each group. When the regression models were tested separately, the attitudes construct was not significant for either group. PBC

remained significant for both pharmacists and non-pharmacists ($p < 0.001$) and the subjective norms construct was significant for non-pharmacists ($p = 0.006$), but was not significant for pharmacists ($p = 0.072$). The R^2 for these regressions were 0.437 (non-pharmacists) and 0.591 (pharmacists). This confirms the regression findings and the contribution of the pharmacist x PBC interaction to the explained variance.

Many authors have been critical of the *intention-behaviour gap* of the TPB (Bennett *et al.*, 2000; Armitage *et al.*, 2001; Perkins *et al.*, 2007). These authors maintain that the TPB does not determine the difference between those individuals who intend to do the behaviour and go on to do it (*performers*), versus those who state their intentions, but then fail to perform the behaviour (*non-performers*). Perkins and colleagues (*ibid*) have hypothesized how such factors as habits and automatic processes, behavioural skills and cues, and environmental obstacles may intervene in the pathway from intentions to actual behaviour. Certainly these barriers may be an issue for Cambodian HCPs. For example, environmental obstacles include lack of private clinic or pharmacy space to take a sexual history.

Another important barrier to sexual history-taking for Cambodian HCPs results from the gender norms of Cambodian society. The social pressure against pre-marital sex for women in Cambodia (Tarr *et al.*, 1999) makes sexual history-taking of young migrant garment factory workers a challenge for HCPs, as single women are expected to be naïve about sexual matters (Chapter 4), and thus they may be unwilling to discuss these issues with HCPs, or to respond accurately to questioning. The cultural barriers for male HCPs to have such a discussion with young females are particularly high as young women would not generally discuss such intimate matters with men. In

future TPB research, incorporation of a new construct into the model may be helpful to assess the impact of societal gender norms. Assessing these beliefs for Cambodian HCPs would involve questioning their underlying gender stereotypes (particularly with respect to the sexual activity of young women) and their understanding of their own role as a health care provider in asking about sexual activity, including with patients of the opposite sex.

The relatively strong contribution of perceived behavioural controls in the generalized intention regression model suggests that future programming should address how to improve the health care providers' skills in sexual history-taking. Unfortunately, while the TPB provides an indication of where change needs to occur, it is not designed to identify the interventions that will promote change (Hobbis & Sutton, 2005). A 2002 systematic review of intervention studies using TPB found that these studies were rarely explicit about TPB use, and that the theory was used more to measure process and outcome variables than to develop the intervention (Hardeman *et al.*, 2002). Fishbein and Ajzen (2005) have suggested that if the TPB is to be used to develop interventions, such interventions are best targeted at behavioural, normative, and control beliefs. Thus, interventions for Cambodian health care providers should be directed at their beliefs and skills around sexual history-taking to help them feel capable, confident, at ease and in control when asking about sexual histories. They should also be educated about the new international norms for providing voluntary testing and counselling for HIV according to the WHO's current guidelines for provider-initiated testing (World Health Organization & UNAIDS, 2007).

Study Limitations

A major limitation of this study is self report bias: HCPs may have overestimated their intentions to take a sexual history. There is evidence that HCPs overestimate their adherence to guidelines by as much as 27% (Adams, Soumerai, Lomas, & Ross-Degnan, 1999). It is possible that over-reporting was uneven between professional groups, thus biasing the results. A second limitation results from population sampling: we sampled available eligible health care providers on day shifts during the study period. However, there is a potential that the HCPs not sampled would have had different views. We presume that we sampled a large proportion of the eligible HCPs working in Phnom Penh. Reliability of the questionnaire is another potential limitation as we did not perform test-retest analysis.

Finally, we chose not to include indirect measures of the TPB constructs in the questionnaire (i.e., asking about beliefs then combining this score with the individual's directly measured items to determine if the attitude was favourable or unfavourable). The indirect measures were excluded due to the limitations of English/Khmer translation for complex concepts requiring accurate measurement. While we believe this pragmatic consideration was appropriate, explanation of variance may be lessened by this omission (Francis *et al.*, 2004). Future research by Khmer researchers should include measures of HCP beliefs about sexual history-taking, as such data would be useful to inform interventions with these HCPs.

Conclusion

Preventing HIV amongst female Cambodian garment factory workers, and indeed in the general population, will require several different strategies. HCPs need further education about the risks of perinatal transmission, and the availability of treatment to prevent infant infection. HCP's require interventions to address negative attitudes towards people with HIV. Furthermore, education about the problems of mandatory testing is urgently needed for Cambodian HCPs, because voluntary testing and counselling, an important component of HIV prevention, requires both positive attitudes about people with HIV and voluntary testing (World Health Organization, 2005). Interventions to improve sexual history-taking will need to focus on skill-development. Programs to target pharmacists may be particularly important as most lack formal training, yet pharmacies are where many migrant garment factory workers access reproductive health care. Further research should focus on barriers to sexual history-taking for Cambodian health care providers, including the gendered implications of this behaviour.

Cambodia has been very successful in slowing the HIV epidemic, in part through promotion of condom use by sex workers and their clients. As the government continues to scale up voluntary counselling and testing programs and to further expand HIV prevention activities, there is a need to also focus on Cambodian health care providers. These providers play an important role in HIV prevention for migrant garment factory workers as well as other Cambodian citizens.

References

- Adams, A., Soumerai, S., Lomas, J., & Ross-Degnan, D. (1999). Evidence of self-report bias in assessing adherence to guidelines. *International Journal for Quality in Health Care*, 11, 187-192.
- Ajzen, I. & Fishbein, M. (1977). Attitude-behaviour relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, 84, 888-918.
- Amireault, S., Godin, G., Vohl, M., & Perusse, L. (2008). Moderator of the intention-behaviour and perceived behaviour control-behaviour relationships. *International Journal of Behavioral Nutrition and Physical Activity*, 5.
- Armitage, C. J. & Connor, M. (2001). Efficacy of the Theory of Planned Behaviour: A meta-analytic review. *British Journal of Social Psychology*, 40, 471-499.
- Bennett, P. & Bozionelos, G. (2000). The Theory of Planned Behavior as predictor of condom use: A narrative review. *Psychology, Health and Medicine*, 5, 307-323.
- Buhler, M., Wilkinson, D., Roberts, J., & Catalla, T. (2006). *Turning the tide: Cambodia's response to HIV and AIDS 1991-2005*. Phnom Penh: National AIDS Authority.
- CARE Cambodia (2003). *A stitch in time saves nine: Tailoring health in the garment factories: Evaluation and comparison of a sexual and reproductive health project in intervention and non-intervention factories*. Phnom Penh: CARE Cambodia.
- Center for Disease Control HIV/STD (2000). *Behavioural surveillance working group 2000, core measures for HIV/STD risk behaviour and prevention: Questionnaire-based measurement for surveys*.
- China Ministry of Health & UN Theme Group on HIV/AIDS in China (2003). *A joint assessment of HIV/AIDS prevention, care and treatment in China*. Retrieved March 27, 2008, from http://data.unaids.org/UNA-docs/china_joint_assessment_2003_en.pdf
- Chen, W. T., Han, M., & Holzemer, W. L. (2004). Nurses' knowledge, attitudes, and practice related to HIV transmission in northeastern China. *AIDS Patient Care & STDs*, 18, 417-422.
- Du, M., Wu, Z., Jiang, H., & Bedi, R. (2002). HIV and AIDS in China: Attitudes of dentists towards provision of care and infection control - A pilot study. *International Journal of Health Promotion & Education*, 40, 36-39.

Fishbein, M. & Ajzen, I. (2005). Theory-based behavior change interventions: Comments on Hobbis and Sutton. *Journal of Health Psychology, 10*, 27-31.

Francis, J., Eccles, M., Johnston, M., Walker, A., Grimshaw, J., Foy, R. *et al.* (2004). Constructing questionnaires based on the Theory of Planned Behaviour: A manual for health services researchers. Retrieved July 10, 2006, from <http://www.rebeqi.org/ViewFile.aspx?itemID=212>

Godin, G. & Kok, G. (1996). The Theory of Planned Behavior: A review of its applications to health-related behaviors. *American Journal of Health Promotion, 11*, 87-98.

Gorbach, P. M., Sopheab, H., Chhorvann, C., Weiss, R. E., & Chhi Vun, M. (2006). Changing behaviors and patterns among Cambodian sex workers: 1997-2003. *Journal of Acquired Immune Deficiency Syndromes, 42*, 242-247.

Hardeman, W., Johnston, M., Johnston, D., Bonetti, D., Wareham, N., & Kinmouth, A. (2002). Application of the Theory of Planned Behaviour in behaviour change interventions: A systematic review. *Psychology and Health, 17*, 123-158.

Hesketh, T., Duo, L., Li, H., & Tomkins, A. M. (2005). Attitudes to HIV and HIV testing in high prevalence areas of China: Informing the introduction of voluntary counselling and testing programmes. *Sexually Transmitted Infections, 81*, 108-112.

Hobbis, I. & Sutton, S. (2005). Are techniques used in cognitive behavioural therapy applicable to behaviour change interventions based on the theory of planned behaviour? *Journal of Health Psychology, 10*, 7-18.

Li, V. C., Clayton, S., Cheng-Zhang, C., Zian, Z. S., Guang-Jen, Y., & Mei, G. (1992). AIDS and sexual practices: Knowledge, attitudes, behaviors, and practices of health professionals in the People's Republic of China. *AIDS Education and Prevention, 4*, 1-5.

Li, V. C., Cole, B. L., Zhang, S. Z., & Chen, C. Z. (1993). HIV-related knowledge and attitudes among medical students in China. *AIDS Care, 5*, 305-312.

Perkins, M., Jenson, P., Jaccard, J., Gollwitzer, P., Oettingen, G., Pappadopulos, E. *et al.* (2007). Applying theory-driven approaches to understanding and modifying clinicians' behavior: What do we know? *Psychiatric Services, 58*, 342-348.

Quach, L., Mayer, K., McGarvey, S. T., Lurie, M., & Do, P. (2005). Knowledge, attitudes and practices among physicians on HIV/AIDS in Quang Ninh, Vietnam. *AIDS Patient Care & STDs, 19*, 335-346.

Tarr, C. M. & Aggleton, P. (1999). Young people and HIV in Cambodia: Meanings, contexts and sexual cultures. *AIDS Care, 11*, 375-384.

UNAIDS (2006). *United Nations HIV/AIDS Joint Support Program 2006-2010 Cambodia*. Phnom Penh.

UNAIDS (2007). 07 AIDS Epidemic Update. UNAIDS Retrieved November 12, 2007, from http://data.unaids.org/pub/EPISlides/2007/2007_epiupdate_en.pdf

United Nations Development Program (2007). UNDP - Cambodia. Retrieved November 20, 2007, from http://www.un.org.kh/undp/content/index.php?option=com_content&task=blogcategory&id=6&Itemid=45

Ware, J., Brook, R., Davis-Avery, A., Williams, K., & Rogers, W. (1980). *Conceptualization and measurement of health for adults in the health insurance study*. (vols. 1) Santa Monica: Rand Corporation.

Webber, G. (2007). Chinese health care providers' attitudes about HIV: A review. *AIDS Care*, 19, 685-691.

World Health Organization (2005). *Scaling-up HIV testing and counselling services: A toolkit for programme managers*. Retrieved October 30, 2007, from <http://www.who.int/hiv/pub/vct/counsellingtestingtoolkit.pdf>

World Health Organization & UNAIDS (2007). *Guidance on provider-initiated HIV testing and counselling in health facilities*. Geneva: World Health Organization.

Chapter Six

Reflections on the Journey

In the introduction, I began by orientating the reader to the journey of this thesis. Continuing with the metaphor of travel, this chapter synthesizes my reflections on the significance and the impact of what transpired during the research journey. What indeed are the benefits - both in content discovered and in processes explored - from this lengthy journey? There are five main foci to this reflection: 1) the challenges of doing doctoral research abroad, 2) an examination of the rigour and limitations of each phase of the research, including the strengths and weaknesses of the mixed methods research design, 3) an integration of the research findings from the two phases of the study, including a reflection on the place of these garment factory workers in the global economy, 4) recommendations for program development and research for Cambodia, and 5) the importance of this research for the field of population health.

However, before embarking toward these final conclusions, it is worthwhile to focus our gaze once again on the migrant garment factory workers themselves. In the box below is the tale of *Socheata*, a young migrant who exemplifies some of the problems that migrant garment factory workers face. Only her name is fictional; her true story reflects some of the important findings from the research and is a good place to begin this final chapter.

Socheata's Story

Socheata was 21 years old when I met her. She had left her village to seek work in the garment factories of Phnom Penh three years earlier. The economic circumstances of her family led her to leave her community; however, life in Phnom Penh was also not easy.

"I migrated to Phnom Penh for myself. No one pushed me to come. I decided myself to come to the factory. I am not so happy about my migration. The purpose to migrate here was to make money for my family, but when I came it was difficult to make money."

Although Socheata was able to obtain a factory position, she found city life intimidating. She admitted that she feared the dangers of the city, particularly, the young men on the streets.

"Here in Phnom Penh I feel afraid to go out. I don't want to go out as something might happen. I just go to work and then straight home. I am afraid of meeting a gang."

Socheata contributed to her family's income by saving a large portion of her salary for this purpose. She managed to live on forty dollars a month or less in order to share the remainder with her family.

"I have also my family to support. Every month I send money to my family, but I keep some, like \$20-40 for house rent and for electricity. The average salary I get is \$50 per month. Every month I send the money to my mother."

While Socheata appreciated the opportunity to have a job and income, she regretted leaving her studies to come work in the city. She had only reached Grade 7, and would have preferred to continue her schooling. When asked about the advice she would give to others, she was frank about the hard work, difficult factory managers, and the negative reputation of female migrant factory workers in Cambodian society.

"Sometimes some women from my village are interested in migrating to work at the garment factory. I advise them it is better not to come here, as it is very difficult to work in the garment factory. Often I have heard bad words from the manager. I also advise them it is better to stay home and study. The reputation of garment factory girls is that we are not good girls. The people think that the women who work in

the garment factory have boyfriends and then they go home."

Socheata clearly felt that young Cambodian women ought to take care of their reputations as chaste young women, and she did not approve of some of her co-workers who chose to have relationships with young men from the city. She preferred not to associate with these migrants:

"I do not like to have friends who have boyfriends from Phnom Penh. They are not part of my group. The reason I don't make friends with those women who have relationships with city men is I don't think it is proper."

Socheata had no personal experience with factory clinics or health education programs in the factories. She worked in a small factory that did not have peer educators and she noted: "I do not know about HIV prevention services provided to migrant women." She herself had used a private provider in the past for health problems although she stated that the provider did not always come to do home visits when requested. Socheata relied on the experience of others for her knowledge about reproductive health care services.

"I have heard from my sister, she went to [a non-governmental organization] clinic for vaginal discharge. After she came back she told me that [name of clinic] gives good service, good attention to the client. When she arrived, she took a number. After that the health workers provide the medicine. Some of my friends went to the [government health center] and they said that the service was not good. They treat you badly when you have a sexually transmitted disease, they are not gentle."

Socheata felt that health care services in her village were superior to Phnom Penh for the health worker had knowledge of the community and was easy to access.

"To compare between the health care in the city and in my place, I can say that health care in my village is better because the health worker knows the community well. It is easy to call the health worker."

Despite having limited access to health care services and no exposure to health education programming in the factory, Socheata was knowledgeable about HIV/AIDS. When asked about how HIV was acquired, she spoke freely of the

dangers of sexual intercourse for women. She was also aware of contaminated needles as a source of infection.

"I know about HIV/AIDS because I have seen people with AIDS... I know that AIDS often comes from the male partner. The men come to Phnom Penh to work, and they go back to the village with HIV/AIDS. That's how I know about HIV/AIDS. I know that AIDS transmission comes through multiple partners. Women get AIDS from the men who have multiple partners, as the men have relationships with more than one woman. I also know that AIDS can transmit through the needles at the hospital if they use one needle for injections for many people, if the needles are not clean. I think that people can die from AIDS. To protect from HIV/AIDS, when I am married like this, I need to use condoms."

Socheata was remarkably clear on how to protect herself from HIV: using condoms in marriage was the obvious solution to the risks of acquiring the virus from her husband. When asked about her personal experience of using condoms, however, Socheata was less forthright. She had married a man from her village only one month prior to the interview. She and her husband had settled in Phnom Penh as he had a construction job, and she continued her work in the factory. She was clearly not comfortable discussing sexual matters with her husband, for she admitted "I cannot ask my husband to wear a condom because I feel too shy."

When asked if she had even discussed contraception with him she stated:

"My husband and I never talk about family planning or sex. Sometimes I ask my husband about having a baby, but my husband says that he has not thought about that yet."

While Socheata chose not to engage in pre-marital relationships with local men as some of her co-workers did, her respectable choice of marriage still left her at risk of HIV. Although she was aware of this risk, she felt unable to address the issue of safe sex with her husband. Thus, while Socheata complied with the gender norms of her society by marrying, these gender norms still left her vulnerable to HIV and other sexually transmitted infections as her husband retained the decision-making power in their sexual relationship.

With Socheata's story in mind, for the well-being of her and her co-workers are the major purpose of this journey, I will begin this final discussion by addressing the challenges of doing research abroad.

Challenges of Research Abroad

Electing to do doctoral research in a distant lower income country with a very different language and culture than one's own is an ambitious undertaking, but also an amazing opportunity for experiential learning. After this journey, it is worth considering the challenges faced in the process of the research, for insights may benefit others involved in research projects abroad.

Funding

There are limited funding opportunities for research abroad for Canadian graduate students: I consider myself fortunate to have received a Women's Health Scholar's Doctoral Award from the Ontario Women's Health Council that allowed me the opportunity to pay for research costs such as travel, accommodation, and research assistant contracts. Funding from the Department of Family Medicine, University of Ottawa, permitted me to hire another physician to cover my clinical practice in my absence. Without this funding support (and a job to cover living expenses), my research opportunities would have been considerably restricted. If Canada wishes to encourage global health research, more funding opportunities for Canadian graduate students for this purpose are warranted, for quality research cannot be done on a shoestring budget, particularly in a lower income country where hiring experienced research assistants for translation (in many cases) and cultural interpretation is essential.

Time Limitations

Of course, as is often the case for travellers, they have either money or time, but rarely both. Responsibility to my family and medical practice meant that extended time in Cambodia was not a possibility for me. I spent a total of about ten weeks in this country during three visits over a one year period. While not ideal, this was a necessary compromise if I wished to do global health research. If time were unlimited, an extended stay in the country (for months rather than weeks) would have provided several advantages. Greater familiarity with the setting of the research prior to ethics application would have eased the ethics process considerably, as I would have been in a better position to advise the University of Ottawa's Research Ethics Board of the geo-political issues and the reality of HIV/AIDS research in Cambodia in order to contextualize the risks for them. In addition, a longer stay in Cambodia would have allowed me a greater understanding of the culture, opportunities for wider breadth of data collection, and potentially more depth of analysis.

Thesis Committee Support

While I did much of the groundwork myself, my thesis supervisor was helpful in fostering overseas connections, and giving guidance on the collaboration process. Having researchers with international experience on my thesis committee who could advise me through some of the potential minefields of cross-cultural research was extremely valuable. None of my committee members had experience in Cambodia; however, and thus this check on my observations was absent. Funding provisions for the supervisor to visit the student researcher in the field would have been advantageous.

Collaboration and the Use of Research Assistants

Given the limitations of time and my status as an outsider researcher, I consider several criteria to be crucial features of the research. Formal and informal collaborations with local organizations were invaluable and an essential requirement for Cambodian ethics approval. Furthermore, access to the research population would have been impossible without it. I was fortunate to have been able to collaborate with the International Organization for Migration (IOM) Cambodia, an inter-governmental organization that is highly respected globally and locally in Cambodia for their work with migrants. The relationship between the University of Ottawa and IOM was carefully spelled out in advance and is documented in Appendix A. This memorandum of understanding addressed issues such as responsibility for costs (solely mine), ownership of the results (shared), and authorship of publications (shared). Development of this agreement was a key step to ensuring clarity of expectations on both sides. IOM also guided me to other organizations working more closely with garment factory workers, who could assist with recruitment. In particular, CARE Cambodia assisted with the recruitment of garment factory workers for interviews, and the Reproductive Health Association of Cambodia (RHAC) staff both assisted with recruitment and participated in focus groups. Other NGOs also provided support for the research, most notably Marie Stopes Cambodia and Pharmaciens Sans Frontiers.

There were other significant factors that facilitated my role as an outsider researcher. Hiring local research assistants was immeasurably important for translation and cultural interpretation. I was fortunate to have two very experienced Khmer research assistants who were familiar with the needs of a foreign researcher. They

were largely responsible for the success of data collection; in fact, the research would not have been possible without them. The ten data collectors who administered the questionnaire allowed for a much larger sample size than would have been achievable with a smaller research team.

Language

I am aware that there remain several challenges to the research. Language was a particular challenge. Simultaneous translation of the interviews and focus groups was a useful tool to allow me to probe further and clarify hazy concepts, however, there was always the concern that some data was lost in translation. In the questionnaire phase of the research, specific and often very similar items required accurate translation. In order to ensure validity, the questionnaire items were translated and back-translated by native Khmer speakers. The questionnaire was then pilot tested on several health care providers and modified accordingly. The data collectors administering the questionnaire received two days of training on the administration of the questionnaire, and ongoing supervision by a senior research assistant in order to ensure that they could accurately explain the questionnaire items to the research participant. Thus, short of learning the language myself, I have done my utmost to ensure accurate translation. There remains an opportunity for the introduction of error, however, at each level of translation, hence one of the on-going challenges of cross-cultural research (Temple, 2002).

Issues of Power

In addition to language issues, I am aware that my ability to conduct truly feminist research remained limited by the power and cultural differential between the research

participants and myself. The structure of the thesis process and the limited time I had available to spend in Cambodia determined that the research questions and methodology were developed prior to interaction with the garment factory workers. True sharing of power in the research process would have involved the research participants in developing relevant research questions and methodologies, collecting and analyzing the data, and reporting the results. This process of participatory action research, while a worthy goal, would be difficult to achieve with migrant garment factory workers as they have very little free time to engage in such pursuits. Further research with this community of women should involve paid focus groups for development of the research questions and design, and ideally employ garment factory workers themselves as research assistants. While this would not resolve the power differential entirely, for the garment factory workers remain in a very different social category than the researchers, it would serve to give these migrants more power in the research process and provide them with potentially marketable skills.

Benefits of Outsider Status

While language, power differentials and cultural differences were obvious limitations, I believe this research has positive contributions to make to Cambodia, and that my role as an outsider researcher presented several advantages (Hill Collins, 1986; Edwards, 1990; Opie, 1992; Acker, 2000). Cambodia has limited resources for research, hence facilitating foreign researchers to fund collaborative projects is a feasible means to encourage research in this region, and provides employment opportunities and training to local residents as research assistants. Secondly, context is not easy to perceive from within, thus an external vantage point is advantageous at

times. My perspectives as a Canadian feminist physician allowed me to question the prevalent societal norms. Outsider status also provided more opportunities for dissemination of the results beyond Cambodia. As an outsider researcher, I remain indebted to my research participants, including the health care providers and key informants, for my observations were informed in large part by theirs.

Sharing the Results

While I was welcomed as a researcher when I arrived in Cambodia, I was repeatedly requested to ensure that my results were returned to Cambodia for use within the country. I have heeded this advice and intend to make two different reports available for Cambodian audiences: English versions of these documents are found in Appendix I. The first is a plain language report for migrant garment factory workers to inform them of the research results, and will be distributed through CARE Cambodia. The second document is intended for a government and NGO audience (health care providers, policy makers, and program developers), and will be distributed through IOM Cambodia. In addition, copies of the final thesis will be provided to IOM Cambodia and to the National Public Health Library in Phnom Penh. Publication of the research findings (Chapters Three through Five) will also be a means of disseminating the research results to a larger audience, increasing awareness of these issues for Cambodia within the wider academic community.

Summary

Would I embark on research in a lower income country again? Most certainly, however, I have more wisdom about the process now and would make different choices next time. An earlier engagement with country partners at the research

question development phase and planning a field visit before data collection would be a couple of the changes I would make in future research. More involvement of the collaborative partners in the research question and design development phase would ensure the relevance of the research for the community involved. It might also allow for involvement of community members to function as research assistants. (I would continue to involve experienced research assistants as research managers, for their facility working with foreigners and their skills in translation and cultural interpretation were crucial for the success of the research). In addition, I would allow extra time for myself to become more aware of the cultural contextual features of the research. For example, in this research, cultural gender norms were a key factor in HIV prevention. Had I been aware of the significance of this factor in relation to the health care services offered by providers, I would have focussed more directly on this issue in the questionnaire of HCPs.

Research abroad presents numerous challenges for the doctoral student (Atieno, Webber & Edwards, 2007). I have summarized the lessons learned from my experience in Table 6.1, so that others can learn from the challenges I faced. I believe that there is a role for motivated Canadian graduate students to involve themselves in research in lower income countries. While the challenges appear daunting at times, the rewards in learning about a new culture and contributing research knowledge to a relatively research-poor community make the challenges worthwhile.

Table 6.1: Ten Lessons Learned From Doing Doctoral Research Abroad

Lesson Learned	Implications
1. Obtain research funding.	Research abroad is costly. Travel and accommodation must be paid for the duration of the data collection (from weeks to months). Research assistants are essential, and experienced research assistants are not inexpensive, particularly if they have worked for international organizations previously.
2. Have a back-up plan in case your research location is no longer suitable.	Conditions in lower income countries may change rapidly (e.g., war, natural disasters), preventing the research from continuing. In addition, there may be unforeseen obstacles that arise, such as in my case, where the Chinese government would not permit foreigners to research sensitive issues like HIV in ethnic minorities, requiring me to identify another country in which to locate my research.
3. Develop a collaboration with a local organization.	Collaborative partnerships are mutually beneficial. The organization gets access and input into your research, while you are given local credibility, guidance on important connections (including other organizations with which to liaise, and the local ethics process), and a means to distribute your results.
4. Visit the location of the research as early as possible.	Better knowledge of the context assists with development of the research questions (as the literature can only tell you so much), and assists with the ethics application. Building relationships with partners early in the research process allows for more participation of partners in the study.
5. Persistence pays off.	Determination is needed all the way through the research process. There are likely to be more obstacles to research abroad, than research at home. Be prepared to be persistent. For example, I sent numerous emails in order to find a collaborating organization, and I visited multiple offices to get Cambodian ethics approval in a timely fashion.
6. Use experienced research assistants.	The quality of the research is highly dependent on the research assistants, thus investment in them is money well spent. Research assistants who have experience working with foreigners are particularly helpful, as they anticipate your needs, and can act as cultural interpreters. Be prepared to pay them what they would make working as consultants for an international organization if their experience warrants this.
7. Train your research assistants.	Training is important. The research assistant should understand the purpose of the research and their role in it. This also provides them with skills that may be useful to obtain future employment. Be prepared to supply them with letters of reference.
8. Be flexible.	As with any research, things do not always go according to plan. Adjust your research goals and timelines if necessary. Remember, the overall goal is to provide research that may be useful to the community, not just to obtain your degree!
9. Enjoy the process, and record it.	Learn as much as you can about the region and the people you are researching both before and during your data collection period. Once in the country, enjoy the experience of living in another culture for a while. Make field notes of your impressions and take lots of pictures, as you will want to reflect back on this time later.
10. Share your results.	I was told many times that foreign researchers often do not share the results of their research. Do not add to this problem. In addition to publishing your results, provide copies of your findings to interested organizations and individuals in the country where you situated your research. Translate them into the local language. This will build credibility for you in the future, and for other foreign researchers who follow.

Strengths and Limitations

The focus of this discussion is on the strengths and specific limitations of each phase of the research, followed by an examination of how this study fits within the paradigm of mixed methods research.

Qualitative Phase

Miles and Huberman (1994) have provided a framework for assessing the quality of the conclusions arising from qualitative studies. The concepts of confirmability, credibility (internal validity), and transferability (external validity), as defined by these qualitative researchers are means of assessing the rigour of the study, and will be applied in turn to the qualitative component of this thesis.

Confirmability, also known as objectivity, assesses the reproducibility of the study findings (Miles and Huberman, 1994). Was enough information provided for another researcher to replicate this research? Indeed, the interview guidelines have been documented in full in Appendix D, and the sampling decisions for this qualitative phase were discussed in Chapter Three. Quotations of the research participants' statements were provided to illustrate how conclusions were reached. I have also taken the time to reflect on how my own perspectives as a Canadian feminist physician, had an effect on the research. These measures have helped to ensure the confirmability of the research findings.

The credibility or internal validity of the study refers to its truth value. This concept is also referred to as trustworthiness and it can be assessed in the study through examination of responses of different participant groups. Did the triangulation of views of the migrant women with those of the key informants and health care

providers produce similar results? For the most part, the answer to this question is yes. Migrants and the key informants views were complementary on almost all of the issues addressed (that is, they agreed to the importance of the issue despite their differing perspectives on why it was significant). The main exception to this trend was the role of peers in the lives of the garment factory workers, as garment factory workers generally thought highly of their peers as friends and avoided associating with colleagues who had relationships with local men. The key informants and health care providers perceived the women's peers to be negative influences. This dissonance in views requires further exploration. The complementary views of the research participants on the majority of the issues raised, affirms the credibility of the findings.

The transferability or external validity of the study is assessed by how well these results apply to other populations or contexts. While the sampling strategy for the migrant women interviews was maximum variation sampling (that is, attempts were made to recruit women with different sexual and health care experiences), all twenty migrant women were recruited from the Toule Sangke region of Phnom Penh. In other aspects there was variation in the sample of migrant women. The interviewed women ranged in age from 18 to 39. Eighteen of the 20 women (90%) were under age 30, which is typical for garment factory workers (International Labour Organization, 2005), hence the sample was similar in age to other Phnom Penh garment factory workers. The women originated from six different Cambodian provinces and they had a variety of educational backgrounds (from two years of schooling to the completion of high school). The key informants came from both the Cambodian government (three) and non-governmental organizations (five). All of the health care providers in

the focus group interviews were employed by the same non-governmental organization, however, they worked at different clinic sites throughout Phnom Penh. Is it reasonable to assume that the results of this study are transferable to other contexts? From discussion with key informants, the experiences of these women from the Toule Sangke region of Phnom Penh are similar to other garment factory workers in the capital; there is nothing unique about the Toule Sangke zone.

Transferability of the findings denotes more than applicability of the results to other female garment factory workers in Phnom Penh, however. Miles and Huberman (1994), state that transferability includes the concept of *theoretical* validity. Are the key themes of the research transferable to other female migrant populations? While the life circumstances of migrant women elsewhere may differ from these Cambodian garment factory workers, the themes raised by this research make an important contribution to understanding the socio-ecologic context of HIV prevention for migrant women in general. The literature has consistently demonstrated that female migrants experience economic, social and occupational vulnerabilities in many different geographical contexts (UNAIDS, 2001; Webber, 2007); poverty, isolation, and risky employment, sometimes involving commercial sex work, put women at risk of HIV. Gender power dynamics within sexual relationships add another layer of vulnerability for migrant women as women face challenges ensuring their sexual encounters are safe. The stigma associated with condoms has been well-documented in reviews of the literature (Weiss, Whelan, & Gupta, 1996; Marston & King, 2006). Thus the key themes of this doctoral study are not unique to Cambodian garment factory workers, but are transferable to other populations of migrant women. A major

contribution of this study is documentation of the layering of vulnerabilities that put migrant women at risk for HIV. Future research on HIV prevention should take account of these key themes when studying other populations of migrant women.

Quantitative Phase

The strengths and limitations of the quantitative phase of the research were assessed through the reliability, internal validity (including the construct validity and discriminant validity), and external validity (or generalizability) of the survey.

Reliability denotes the degree to which the measurements are reproducible (Hunter & Brewer, 2003): how consistent are the results on repeat measurement? One of the limitations of this second phase of the study is that I did not include a test-retest reliability assessment of the questionnaire in the study design. Retesting would have ensured that the questionnaire consistently measured the same concepts each time. However, careful translation, back translation, pilot testing, and training of the data collectors were all steps taken to ensure that the questionnaire was consistently measuring the same concepts. The questionnaire was translated from English to Khmer, and then back-translated to English, by two Khmer translators. The final Khmer version was then pilot tested to ensure clarity of the items. The ten data collectors who were hired to administer the questionnaire attended a two day training session to ensure that they understood the items correctly. They had the opportunity to role play administering the questionnaire with their colleagues. They were then periodically observed by a senior research assistant during the actual administration of the survey to ensure consistency.

The internal validity of the study is defined as whether the study measures what it

was intended to measure (Hunter *et al.*, 2003). Construct validity refers to whether the instrument accurately measures the constructs under investigation. To ensure construct validity, development of the Theory of Planned Behaviour (TPB) questions involved careful consultation with a TPB Manual for Health Service Researchers (Francis *et al.*, 2004) and an experienced TPB researcher. Discriminant validity is the degree to which the questionnaire may show differences between groups that are expected to be different (Tashakorri & Teddlie, 2003). Both construct validity and discriminant validity may have been improved by more involvement of Khmer HCPs in the development of the questionnaire to ensure the items measured what they were intended to measure. The advantage of including Khmer HCPs as collaborators in the development of the questionnaire would be their knowledge of the language and the differences between provider groups.

The external validity of the study is defined as how generalizable the results are to other health care providers and settings (Tashakkori *et al.*, 2003). In this study, I attempted to include as many of the eligible population as possible through a two stage sampling procedure. The first stage of sampling focussed on institutions providing reproductive health care to migrant garment factory workers. The participation rate was 100% of the hospital, government health centre, and NGO clinics, while the participation rate of the clinics and pharmacies was estimated to be 75%. The second stage of sampling was to invite all eligible and available health care providers at the institutions on the day of the field visit to participate in the research. While a total sampling frame of health care providers was not available, we were aware that the majority of available health care providers participated. It is likely that this method of

convenience sampling may have excluded some HCPs, such as those working nights. This excluded population of HCPs may have differed from those included in the study, and hence could be a threat to external validity. Another weakness of this second phase of the study was the failure to accurately record refusals of both institutions and individuals to participate. However, from the high institute participation rate, and the large sample size (n = 358), representing a substantial proportion of eligible providers, it is reasonable to assume that the qualitative results are generalizable to other Phnom Penh health care providers (physicians, midwives, nurses and pharmacists) who treat migrant garment factory workers.

Comparability of the HIV knowledge and attitudes of these Cambodian HCPs with other populations of HCPs was addressed by incorporating the HIV knowledge and attitudes items previously used in surveys of Chinese health care providers (Chen, Han, & Holzemer, 2004; Hesketh, Duo, Li, & Tomkins, 2005).

Mixed Methods Research

Mixed methods research is the third wave of research methodology, and it has advantages over the use of qualitative or quantitative methods alone. Mixed methods design allow for greater flexibility in addressing complex research questions, for it can provide more confidence in results through triangulation (confirmation by both qualitative and quantitative methods), thicker and richer data, and synthesis or integration of theories (Johnson, Onwuegbuzie, & Turner, 2007). In this reflection on limitations of the use of mixed methods within this study, the focus of the discussion will be on the choice of an exploratory sequential design, the limitations of integration of the two phases of the research, and how the Theory of Planned Behaviour could be

better used to assess gender norms.

The Research Design

The choice of an exploratory sequential mixed methods design was deliberate and appropriate to address the primary research question: “How does the experience of recent rural-to-urban migration have an impact on the socio-ecologic context of HIV prevention for migrant Cambodian garment factory workers?” Experience and context are best assessed, at least initially, by qualitative methods. Use of an exploratory ethnographic approach in the first phase of the research meant that the women participants had the opportunity to tell their narratives. This was an important choice for a foreign researcher who was unfamiliar with the context of these women’s lives. The secondary quantitative phase (health care provider questionnaire) was then utilized to explore one facet of the research question and one locus of the socio-ecologic model: the health care providers’ HIV knowledge, attitudes, and intention to take a sexual history. These knowledge, attitudes and history-taking skills are all necessary for effective voluntary testing and counselling for HIV, an important part of HIV prevention.

While I have described the research design as an *exploratory sequential mixed methods design* (Creswell & Plano Clark, 2007), this is somewhat of a misnomer. As Creswell and Plano Clark describe, this particular design is usually employed to develop an instrument or taxonomy (classification or theory). The themes that are uncovered by the qualitative phase are then tested in the subsequent quantitative phase. While this study was organized in the QUAL to quan direction, with emphasis on the qualitative phase, the connection between the two phases was not as strong as

Creswell and Plano Clark's description suggests. The qualitative phase only informed the quantitative survey in part. Findings from the interviews with migrant women and key informants and from the focus group interviews with health care providers indicated that migrant garment factory women obtained reproductive health care from a number of different providers at a variety of locations, including local pharmacies.

Prior to the qualitative phase of data collection, I had planned to survey health care providers, but I had not included pharmacists in this category. The qualitative data phase thus informed the inclusion of pharmacists in the survey. In addition, there were several items in the questionnaire to assess how well the health care providers understood the experiences of migrant garment factory workers (Appendix F questions 30 through 39, responses reported in Appendix G, Tables 1 through 3). These items were also informed by findings from the qualitative phase. For the most part, however, the questionnaire development was guided by the literature, and by the constructs of the Theory of Planned Behaviour. It was designed to address the secondary research questions: "What are the knowledge and attitudes about HIV among the Cambodian health care providers serving this population of women?" And, "What are the intentions to take a sexual history of Cambodian health care providers?" Thus the research design is better described as a *modified* exploratory sequential design as the links between the qualitative and quantitative phases were not strong. Despite their differences, both phases of the research addressed elements of the primary research question about the socio-ecologic factors impacting on HIV prevention for these migrant women, providing complementary perspectives on this important question.

Limitations to Integration

Proponents of mixed methods research have illuminated the barriers to integrating qualitative and quantitative research findings (Williamson, 2005; Bryman, 2007). The most notable barrier to integration in this study was the differing focus of the qualitative and quantitative phases of the research. While the over-arching research question addressing the socio-ecologic factors that impact on HIV prevention for the migrant garment factory workers applies to both phases of the research, it is only indirectly addressed by the quantitative phase. Research questions that incorporate both qualitative and quantitative strands promote integration of the research results (Tashakkori & Creswell, 2007). Then triangulation of methods truly occurs; findings from the qualitative and quantitative strands of the research may be compared and conclusions drawn.

In this study, the socio-ecologic model of HIV prevention (Webber, 2007), Chapter One, was the guiding framework for the study. The secondary quantitative component, including the Theory of Planned Behaviour constructs, addressed one locus of the framework, the health care providers. There was, therefore, not only triangulation of methods, but the inclusion of two very different theoretical frameworks that resulted in an attempt to triangulate theory as well. The emphasis of the TPB on a specific locus of the socio-ecologic framework made integration with the more broadly focussed qualitative phase challenging. Rather than triangulation, this research is better visualized as a nesting of theories, using different methods to achieve this. The primary qualitative phase used a wide-angle lens on a broad picture of the factors affecting HIV prevention for this population. The secondary quantitative phase took a

close-up detailed look at health care providers using the constructs of the Theory of Planned Behaviour.

The research was therefore guided by two very different theoretical frameworks. Just how compatible are these two theories? There are limitations to what we can expect a behavioural theory such as the Theory of Planned Behaviour to measure. It was evident from the qualitative phase that the gender norms of Cambodian society were dominant issues within the study (Chapter 4). Unfortunately, there were no constructs to assess gender norms in the health care provider survey.

The application of a gender lens to the socio-ecologic model is a better illustration of theoretical triangulation. Use of a gender lens has been well described by Health Canada (2003), Canadian Institutes of Health Research (2007), and the Canadian International Development Agency (2008). Application of a gender lens (referred to respectively as a gender-based analysis, gender and sex-based analysis, and gender analysis by the organizations listed above) is the recognition that gender is a social determinant of health, not just biological sex, and involves consideration of how gender as a social construct affects health status. While the initial development of the socio-ecologic framework did not include a gendered perspective (Bronfenbrenner, 1979), gender has since been integrated as a factor in the model (Krieger, 2001) and Beyrer has included it in his HIV prevention framework (Beyrer, 2007). I too have applied it (Webber, 2007), in Chapter One. Use of a gender lens enabled the observation of the sexual double standard in Cambodian society (that is, different expectations of appropriate sexual knowledge and behaviour for men and women), and the impact of this double standard on HIV prevention for the migrant garment

factory workers.

How could a gender lens be applied to the Theory of Planned Behaviour?

Incorporation of questions to assess health care providers' views of gender norms would be particularly useful; propositions on how this could be done are explored next.

Theory of Planned Behaviour and Gender Norms

The Theory of Planned Behaviour consists of direct and indirect measures of the three constructs: attitudes, subjective norms, and perceived behavioural controls (Francis *et al.*, 2004). The indirect measures were not included in this study because of translation limitations and concern that these abstract concepts would not be accurately measured. The indirect measures are named behavioural beliefs for the attitude construct, normative beliefs for the subjective norms construct, and control beliefs for the perceived behavioural control construct. In assessing the health care providers' intentions to take a sexual history, it is conceivable that the behavioural belief and normative belief items could address the gender norms of the society. For example, within the behavioural belief category, health care providers may be asked whether they agree or disagree with this statement: *I believe that it is inappropriate for male health care providers to take a sexual history from female migrant garment factory workers.* A normative belief item may be phrased: *Other male health care providers routinely take sexual histories from female migrant garment factory workers.* Adding items to existing constructs would not clarify the contribution of gender norms to a determination of health care provider intentions or behaviour. A better solution would be the addition of an entirely new construct measuring gender

norms.

I am not the first to suggest the need for new constructs in the TPB. The addition of two new constructs to more accurately determine health care providers' intentions and behaviour has been recommended by Godin and Kok (1996). These reviewers suggested that personal norms (the understanding of one's role, or how one should behave), and moral norms (the feelings of personal responsibility about performing or not performing the behaviour) be included as Theory of Planned Behaviour constructs. Two recent studies of health care provider behaviour have incorporated these constructs. Daneault, Beaudry and Godin (2004) included perceived personal and professional norms in their study of the psycho-social determinants of the intention of nurses and dieticians to recommend breastfeeding. Similarly, Legare and others (2005), incorporated both of these constructs into their TPB study of physicians' prescribing practices of hormones.

It is feasible that well designed items could be developed to explore another new construct entitled *gender norms*. This construct would be important to incorporate into any TPB survey that explores a behaviour that has different implications for men or women, or potentially involves gender stereotypes. Taking a sexual history meets these criteria in two ways. Firstly, the sex of the HCP taking the history may be an issue, for women may not share their sexual history as easily with male providers, and male providers may be more reluctant to ask about sexual history. Secondly, sexual activity outside of marriage is taboo for young Cambodian women, thus asking about this behaviour, particularly with single women, is fraught with meaning. Determining HCPs' perspectives on what is acceptable behaviour both for themselves and for their

women patients would be useful, as these factors could have a significant impact on their intention to take a sexual history. For example, gender norms could be assessed by a statement such as “It is not appropriate in Cambodian society for a male health care provider to take a sexual history of a migrant garment factory worker.” The responses of health care providers may differ according to sex, thus separate analyses including interactions by sex would be required. Similarly, another item to assess beliefs about gender norms and assumptions about young female migrants living away from their parents could be phrased “I don’t ask migrant garment factory workers about their sexual behaviour because I assume they are all sexually active.” These are possible ways of incorporating gender norms into Theory of Planned Behaviour constructs. The development of the items measuring this new construct should involve focus groups with health care providers to fully understand the spectrum of views held and to develop the specific items to measure gender norms.

I have discussed the limitations of this mixed methods study in the research design, theoretical integration, and the TPB in assessing gender norms. Despite these weaknesses, the synthesis of the findings from this mixed methods study has provided deeper insights than either the qualitative or the quantitative strand on their own could achieve. The goal of the following section is to explore the integrated findings of the study and the impact of these findings on the socio-ecologic model.

Integration of Findings

The overall purpose of this two phase mixed methods study was to understand the socio-ecologic context of HIV prevention for rural-to-urban migrant women garment factory workers in Cambodia. The findings and limitations of the qualitative and

quantitative phases of the research have been described in detail in Chapters Three through Five. The purpose of this discussion is to integrate the findings from these two phases in order to understand the dominant issues underlying the research, for to stop short of this level of analysis would be to miss the opportunities afforded by a mixed methods research design.

The Integration Method

The methodological procedure for the integration of the two phases of the research was not obvious for the qualitative phase and quantitative phases focussed on different loci of the socio-ecologic model, as previously discussed. Integration of the two research phases by synthesis of the dominant issues underlying the over-all research was achieved through a process of qualitative analysis. This analysis involved several steps recognized as essential by respected qualitative methodologists (Miles & Huberman, 1994). Through multiple readings of the original data and reflections on both my individual and my committee's response to the research findings and the limitations of the research, the dominant issues uniting this doctoral thesis became evident. This process of triangulation of the key findings and limitations of the research required a reflection on the shared upstream and downstream determinants that linked the two research phases. Visual representation using a matrix diagram helped in this process; a simplified version of this matrix is presented in Table 6.2. The left column presents the key findings of the qualitative phase of the research as it applies to the migrant garment factory workers. The right column of the table documents the findings and important limitations of the quantitative phase of the research relating to the health care providers. The central column at the bottom of the

table presents the three dominant issues that arose from the triangulation of analysis from both phases of the research: the gendered sexual norms of Cambodian society, the impact of AIDS stigma, and the limitations of access to health care services. Verification of the conclusions was another key step in qualitative analysis (Miles & Huberman, 1994). The description of the origin of these dominant issues in the original research and the evidence of their importance in the literature will be followed by a consideration of their impact on the socio-ecologic model.

Table 6.2: Summary of the Qualitative and Quantitative Research Findings and Dominant Issues from Triangulation

Qualitative Phase: Migrant Garment Factory Workers	Quantitative Phase: Health Care Providers
<ul style="list-style-type: none"> - Economic vulnerability - Social vulnerability - Occupational vulnerability - Other Health Care Access Issues for Migrants - Sexual Double Standards - Condom Stigma 	<ul style="list-style-type: none"> - Good HCP Knowledge about HIV transmission (except peri-natal) - Negative HCP attitudes about people with HIV - Intention to take a sexual history mainly determined by PBC - Lack of measurement of impact of gender norms on sexual history-taking (limitation)
Dominant Issues arising from Triangulation of Qualitative and Quantitative Research Phases	
Gendered Sexual Norms AIDS Stigma Health Care Access	

Gendered Sexual Norms

The first dominant issue evident from the integration of the qualitative and quantitative phases of the research was the impact of gender norms on sexual behaviour. In Cambodian society, there are very different expectations of acceptable sexual behaviour for each gender. Cambodian women are expected to lack knowledge

of sexual matters and remain chaste until they are married, protected by their families. Women who do not fit this norm are considered deviant, far from the *ideal* Cambodian women. The interviewed migrant garment factory workers demonstrated that they followed these gendered sexual norms, and were critical of others who did not. The unmarried workers all reported that they had never been sexually active previously, and they spoke with disapproval of some of their single co-workers who got involved with young men from Phnom Penh:

“One thing that I would like to say to you is that I am not happy to see the girls of the same age as me. I am not happy to see these girls getting boyfriends and sleeping with their boyfriends, and getting disease. I would prefer to see them get engaged. The way they carry on is not good.”
(Migrant woman 9, single, age 24)

These sexual norms placed particular pressure on the married migrants, and interfered with their ability to practice safe sex. While the women’s knowledge about the risks of HIV was for the most part accurate, those who were married were challenged to translate their knowledge into protective behaviours with their sexual partners. Most of the married women were unwilling or felt unable to ask their partners to use condoms. One of the government key informants summarized this situation for the garment factory workers concisely:

“Men don’t want to use condoms. They are not happy that their wives know about this. Women have to pretend that they do not know. Our tradition is that if the woman knows about these things she is not a ‘good girl’. Some families would feel that sex workers are the only girls who know about sex. Good girls should not talk about sex.” (Key Informant, Government Staff)

While chastity and lack of sexual knowledge is highly valued for Cambodian women, the opposite is true for Cambodian men. Extra-marital sexual relations for men are commonplace, and many of the married women spoke matter-of-factly about

the assumed sexual activity of their husbands with other women. For example, one migrant stated:

“I know that STD transmission is because the men go out and have relationships with women, and they transmit it. I think when I was single I was 100% confident that I would not get that disease. Now that I am married, I am not so confident as I do not know what my husband is doing.” (Migrant woman 14, married, age 26)

The participants in the June 2007 workshop confirmed that in Cambodian culture men are not only the economic head of the household, they are also dominant sexually, and are expected to hold the sexual knowledge in the relationship. This sexual double standard in Cambodian society undermines the practice of safe sex for these migrant garment factory workers. Men are permitted to have many sexual partners, while women are expected to remain silent about all sexual matters, including condom use. Safe sex for married couples is thus incompatible with the current gendered sexual norms of Cambodian society.

The gendered sexual norms of the society also influence the interaction of the migrant garment factory workers with the health care providers (HCPs) through the HCPs' attitudes. As noted in Chapter Five, one of the limitations of the survey of HCPs was that the impact of gender norms was not explored. Given the presence of the strong sexual double standard in Cambodia, HCPs likely share the views of their society about what is acceptable sexual behaviour for women and men. There is evidence from the survey questions that the HCPs of both genders believed the migrant workers to be very active sexually (Appendix G, Table 3). The HCPs' median response to the questions about sexual activity of migrant garment factory workers in the sex trade and with boyfriends was 5 and 6 respectively (with 1 signifying strongly

disagree and 7 indicating strongly agree). Hence these migrant women may experience discrimination from HCPs because of assumptions about their behaviour, and underlying beliefs about the negative value of sexual activity for young unmarried women. Clearly how the HCP interacts with the migrant woman garment factory worker will affect her feelings about the interaction, and her willingness to pursue care again, perhaps when her need is greater.

Gendered sexual norms may also affect the interaction of male providers with the women, for discussions about sexual matters with males, even HCPs, is problematic for young Cambodian women. If women cannot discuss condom use with their own husbands, it is unlikely they will have conversations about sexual risks with a male HCP. Thus, the impact of gendered sexual norms on the interaction of the migrant women with their HCPs requires further exploration.

The Impact of AIDS Stigma

AIDS stigma also has a negative impact on HIV prevention for the migrant garment factory workers. Stigma has been defined as “an undesirable or discrediting attribute that an individual possesses, thus reducing that individual’s status in the eyes of society” (Brown, Macintyre, & Trujillo, 2003, p. 50). AIDS stigma is a social construct that may result in the poor treatment of those infected with and affected by HIV (Taylor, 2001), however, this stigma can also have other far-reaching consequences. Stigma associated with AIDS has been shown to have negative effects on HIV prevention through avoidance of HIV testing and neglect of safe sex behaviours (Holzemer & Uys, 2004; Kaplan, Scheyett, & Golin, 2005; Obermeyer & Osborn, 2007). For the Cambodian garment factory workers, HIV stigma negatively

affects their ability to negotiate condom use with their partner and their interactions with health care providers as I will illustrate below.

The challenges the migrant garment factory workers experienced negotiating safe sex resulted in part from a stigmatization of condom use, one element of AIDS stigma. The majority of the women interviewed – both single and married – stated that they were unlikely or unwilling to convince their partners to use a condom. Some of their reluctance was based on a concern that their partners would be angry or suspect them of having a disease if the women requested the men wear a condom:

“If I asked him to use a condom he would feel that I think he has HIV/AIDS. He would be offended.” (Migrant woman 1, married, age 28)

Condom use is stigmatized by an association with promiscuity and sexually transmitted diseases, including HIV. Married Cambodian women are trapped: they may be aware of the infidelity of their partners, because gender norms dictate that it is acceptable for Cambodian men to have extra-marital relationships. However, they cannot ask their husband to wear a condom as they would risk appearing knowledgeable or experienced about sexual matters. In addition, the very act of suggesting condom use is fraught with problems for women as it suggests to her male partner that she does not trust him, and that she believes he may be diseased. Use of condoms is therefore stigmatised for married women as condoms represent an accusation that their partner is unfaithful and potentially infected. Thus AIDS stigma, illustrated by the stigmatization of condom use, impacts negatively on HIV prevention.

There is also evidence from this research that AIDS stigma affects Cambodian HCP attitudes. While the health care providers surveyed had good knowledge of the

modes of HIV transmission, they had negative attitudes towards people with HIV: only 41% thought HIV positive people should be allowed to marry and 56% thought they should be permitted to have children. In addition, 94% supported mandatory HIV testing for pregnant women. Such perspectives may be in line with the general Cambodian public, however, they are problematic for HIV prevention. These HCP attitudes are counterproductive as they discourage migrant women garment factory workers and others from considering testing for HIV. The World Health Organization has stated that successful provision of voluntary counselling and testing services are dependent both on knowledge about HIV transmission and positive attitudes about HIV (World Health Organization, 2005). HCPs with negative views about people with HIV risk alienating patients who perceive discrimination against them for real or presumed behaviours. Forcing pregnant women to test for HIV is neither an ethical nor an effective public health policy (World Health Organization, 2003) for it may cause women to avoid health care services altogether. In both situations, opportunities for HIV prevention are lost.

Both gendered sexual norms and HIV stigma may restrict women's access to health care and HIV prevention services through negative attitudes of the HCPs. Migrant women stated that the friendliness of HCPs was an important issue for them, and even the HCPs recognized that taking time to speak in a friendly voice was valued by the migrant women garment factory workers (Appendix G, Table 1). If these women perceive that HCPs discriminate against them because of real or presumed behaviour, they are less likely to access health care, especially for sensitive issues such as suspected sexually transmitted infections. The migrant women's understanding of the

HCPs view of them, and the impact on their access to health care deserves further exploration in future research.

Thus gendered sexual norms act synergistically with HIV stigma both in the migrant garment factory workers' sexual relationships, and possibly in their interactions with health care providers. These key upstream factors affect HIV prevention through negative impacts on condom use, and potentially on health care access through the attitudes of health care providers towards their patients.

Limited Access to Health Care

Access to health care is determined by a number of other factors in addition to the attitudes of HCPs. The circumstances of the migrant's life experience have several impacts on access to health care. A significant limitation to accessing health care is financial costs; the migrant garment factory workers lack disposable income as most are saving money to support their families. Cost of services is an important consideration for them. Employer restrictions on their time are also a major limitation to health care access. They work long hours in the factories and are only permitted one hour to access health care services during their working day. This is an exceedingly short time, given that they must travel to the service and then wait their turn in line because no appointment system exists. Finally, geographic proximity of services is key, because with limited time available to access services, there is no possibility for lengthy travel to the clinic site.

Access to health care is thus determined by structural factors such as cost of services and factory policies, and community factors such as proximity of health care services. These migrants' new social networks are also a key for their access to health

care. Most of the women migrant garment factory workers are young, and reliant on their female family members and local health care providers for information about their health. On arrival from the countryside, women no longer know where to access health care services. Having left the support of their families and communities and moved to the populous capital, the women have lost their social support network and they have to forge new supports in the city, usually with their co-workers. While some migrants learn about available services through the factory health education programs run by the government and local non-governmental organizations, many gather knowledge about health care services from these recently acquired friends.

Access to quality health care services is a global health problem, and not unique to Cambodia. Training programs for health care providers are a waste of resources if the services these providers offer are not accessible to the people who need them. For access to be improved, account should be taken of the issues most important to these migrant workers: cost, geographic proximity, provision of time away from work to seek health care services, and the attitudes of the health care providers towards the women.

Implications for the Socio-Ecologic Model

The primary goal of this study was to understand the socio-ecologic context of HIV prevention for rural-to-urban migrant female garment factory workers in Cambodia. The three dominant issues arising from both the qualitative and quantitative phases of the research are key factors impacting on HIV prevention for this population of women. Figure 6.1 illustrates how the three issues are situated within the socio-ecologic model. In the figure, the two wide grey bi-directional arrows represent the

two major relationships that were the focus in this study: migrant garment factory workers with their sexual partners (Chapter 4), and with their health care providers (Chapter 5). The three dominant issues are shown in the wedges that cross all levels of the socio-ecologic model.

Figure 6.1: Socio-ecologic Impacts on HIV Prevention for Migrant Cambodian Garment Factory Workers

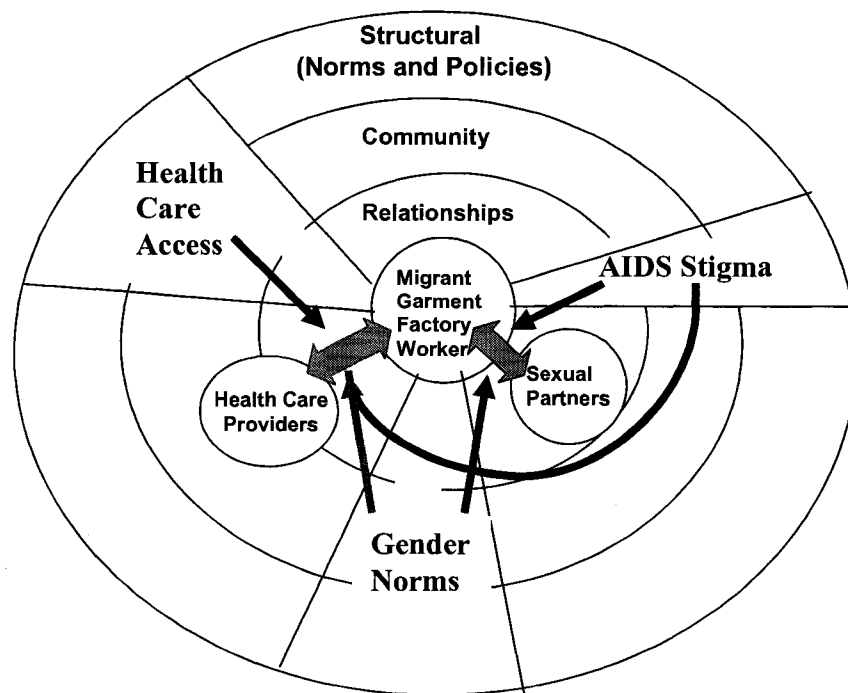


Figure 1 Legend:
 ↔ indicates relationship between
 → indicates impact of issue on relationship

At the structural level, gendered sexual norms and AIDS stigma have compounding effects both on the relationship of the migrants with their sexual partners and with their health care providers. I have demonstrated in the text how the differing sexual norms result in a sexual double standard, permitting men liberal sexual behaviour.

Simultaneously, AIDS stigma, as expressed through the stigmatization of condoms ensures that it is very difficult for women to negotiate condom use in their sexual relationships. The gendered sexual norms and AIDS stigma also have compounding effects on HCP attitudes towards the garment factory workers. For example, assumptions made about the sexual activity of the workers based on the fact that they are young women living away from their parents, combined with the negative attitudes the health care providers have towards people living with HIV can limit the access of these migrants to HIV prevention services including voluntary testing and counselling. Access to health care, the third dominant issue, is also affected by factory policies and costs of health care services (both local structural level issues), proximity of services at the community level, and knowledge about services gained from the migrant's new social networks at the relationship level.

Interventions to address HIV prevention for migrant garment factory workers must include a focus on gendered sexual norms, AIDS stigma, and access to health care services for success. My recommendations for Cambodia to move forward in HIV prevention for this population of women will be addressed after a reflection on Cambodian garment factory workers in the global economy.

Reflections on the Global Economy and Cambodia's Garment Factory Workers

Globalization, that is the trend towards greater economic, financial, technical, and cultural interchanges between different countries and the ability of the developed world to participate more fully in the global economy, has had powerful repercussions on the health and well-being of individuals and communities world-wide (Doyal, 2002). The importance of the garment factory industry to the Cambodian economy

has been discussed in Chapter Two (pp. 32-34). From the decade spanning 1994 to 2004 the Cambodian garment factory industry grew from non-existent, to having annual exports valued at 1.9 billion U.S. dollars (International Labour Organization, 2005). Such an exponential growth has had tremendous implications for Cambodian society and for the hundreds of thousands of women who work in garment factories and is a good illustration of the *feminization* of labour that has accompanied globalization. Doyal (2002) and O'Manique (2004) have noted that the impacts of globalization are gendered: they are experienced differently by women than by men. For example, poverty impacts on women's willingness to endure workplace hazards and abuses without complaint as women lack other opportunities for employment. In addition, women's health needs such as reproduction and breastfeeding put women in a more vulnerable position. Kabeer (2004) has illustrated that addressing global labour standards should not be at the expense of employment of the women workers, but rather incorporate their concerns and basic human rights without depriving them of respectable employment.

Globalization itself has been a major contributor to the spread of HIV/AIDS. Altman (1999) has illustrated how globalization has led to economic changes which have commodified sexuality (through both advertising and sex work), led to cultural changes in acceptable sexual behaviour, and impacted on political regulation of sexual expression in some regions. Certainly for the migrant Cambodian garment factory workers in this study, their increased vulnerability to infection with HIV was a product of these economic, cultural, and political (both at the factory and global market level) changes in their lives.

It would, however, be incorrect to see these migrant women solely as victims of globalization and the gender norms of the society in which they live. Clearly the women and their families have benefitted from globalization through increased income and access to resources. Certainly some of the interviewed women saw the opportunity to come to Phnom Penh and work in the garment factories not only as a chance to economically support their families, but also as a means of self-development. This is consistent with the research on migrant garment factory workers in Thailand where migrant women described the move to the big city as one of adventure, modernity, and an opportunity for personal independence (Mills, 1999). Thus women are not solely the victims of globalization, but also actors who benefit from this process.

There is also evidence in this study, that these women have some agency. While the focus here has been on vulnerability to HIV, women had also taken a role collectively and individually as advocates for their own health. The peer support program is a good example of garment factory workers educating and supporting each other about the risks of HIV. In addition, even within the restrictions of the gender norms of Cambodian society, some of the garment factory workers interviewed stated that they would not consider having sex without a condom. While it remains to be seen if the women will act on these intentions, it does demonstrate that they at least believed that they could. In addition, while it has been noted that the loss of parental controls in the lives of these young migrants was a risk for greater exposure to HIV through casual sexual relationships, I am not advocating that there should be greater social controls of these migrant women. Rather, I would encourage interventions to assist young women

to explore their agency and new-found sexual freedom in a safe manner. These examples illustrate that the migrant garment factory workers are more than just victims of globalization and the socio-ecologic contextual factors that put them at risk of HIV, they are active agents within this context as well.

The following section addresses the recommendations for the Cambodian government and non-governmental organizations to work towards reducing the vulnerability towards HIV for the migrant garment factory workers.

Moving Forward: Recommendations for Cambodia

The recommendations to follow have evolved from the research results. As an outsider researcher, I am in no position to implement these recommendations. However, I respectfully suggest that these four points and their underlying recommendations be addressed to improve HIV prevention for migrant garment factory workers in Cambodia. Some programs for these migrant workers may be integrated into services for the general population, for issues such as HIV stigma and gender inequity are not unique to migrant women. These recommendations arise from the three dominant issues illustrated in the boxes of Figure 1.

1. Address Gender Inequality in Sexual Relationships

This study has demonstrated that one of the major factors that has an impact on HIV prevention for migrant garment factory workers is the current gender norms of Cambodian society. The passive role that women are expected to take in sexual matters and the dominance of men is counter-productive for safe sex practices. This imbalance of power in sexual relationships needs to shift for HIV prevention measures to be successful. While the factory health education programs continue to teach

migrant garment factory workers condom negotiation skills, such skills are not useful if women are not permitted the power within their sexual relationships to use them. Interventions with couples and men would be a better use of programming resources. Couple programming should focus on respect of women, discussions about the needs of both partners, and skills for men and women to communicate these needs to each other. In particular, women should be encouraged to learn condom negotiation skills, while men should be taught to respect these requests. Success is more likely if men are cooperative partners in the process, and on more equal terms with women. There is evidence from other low income countries such as India and Brazil that gender-equity programs with young men are effective in HIV prevention (Pulerwitz, Barker, Segundo, & Nascimento, 2006a; Pulerwitz, Barker, Segundo, & Nascimento, 2006b; Verma *et al.*, 2006, Rivers & Aggleton, 2002). While couple programming is beyond the current scope of health education programs with Cambodian garment factory workers, the involvement of male partners is crucial to the success of HIV prevention programming for women (Rivers *et al.*, 2002; Blanc, 2001). Creative incentives may be required to entice men to participate, for they may not perceive the goals of the program to be beneficial to them. Such programming for men may need to be generalized, as not all women or men will identify themselves in a couple relationship.

Shifting gender norms and the balance of power in relationships is daunting. However, some progress has already been made in Cambodia at improving women's rights through the courts (Cambodian League for the Promotion and Defence of Human Rights, 2004). Attention now needs to turn to addressing women's right to health in their sexual relationships.

2. Reduce AIDS stigma

AIDS stigma affects HIV prevention. There is evidence from the international literature that AIDS stigma prevents individuals from engaging in safe sex practices and testing for HIV (Holzemer *et al.*, 2004; Kaplan *et al.*, 2005). For garment factory workers, there are two ways that AIDS stigma has an impact on their capacity to prevent HIV: stigma against condom use and HCP attitudes about HIV.

a. Condom Use

AIDS stigma has contributed to the stigmatization of condom use. Condoms have become associated with sexual promiscuity and disease. There is a need for public awareness campaigns about condom use in marriage for migrant garment factory workers. For such a campaign to be effective, it would have to move beyond the factory gates and clearly include men, both in the development of messages and as a target for the messages. Condoms need to be repackaged for the public as a tool for demonstrating care and concern for the family rather than a sign of sexual promiscuity or disease. Social marketing of condoms by non-governmental organizations (NGOs) is already happening in Cambodia, and marketing of condoms to married couples is a focus of one NGO's campaign (PSI, 2008). Migrant garment factory workers and their partners would benefit from exposure to these messages. Development of future interventions on condom use for migrants should involve consultation with garment factory workers and their partners about strategies for improving condom use in this population.

b. Health Care Providers and HIV testing

Interventions to decrease AIDS stigma amongst health care providers should be

explored. The evidence from this study shows that health care providers are knowledgeable about HIV modes of transmission, however, many held negative (stigmatizing) views about people with HIV. Cambodian health care providers require more education about peri-natal risks of HIV (HIV transmission through pregnancy and breast feeding), and the human rights of people living with HIV. Health care providers are also the access point for HIV testing and counselling, and the World Health Organization is now promoting provider-initiated testing and counselling (World Health Organization & UNAIDS, 2007). For such an initiative to be successful in Cambodia, Cambodian health care providers need to be comfortable discussing sexual risks. The findings from the Theory of Planned Behaviour portion of the survey indicate that perceived behavioural control was the most important determinant of intention and behaviour to take a sexual history. Skill development in sexual history-taking should be part of education programs for health care providers. A focus on the importance of voluntary HIV testing is key since most health care providers supported mandatory testing although the latter is neither ethical nor an effective public health measure (World Health Organization, 2003).

3. Improve reproductive health care access

The barriers to access of reproductive health care for migrant garment factory workers include cost, time to access services and geographic proximity. The concentration of migrant garment factory workers in the commercial zones of Phnom Penh provides an exciting opportunity for provision of quality reproductive health care for this population of vulnerable women. While factory clinics exist, the interviewed women stated that they do not adequately address their reproductive health care needs.

Migrant women need clinics staffed with skilled health care providers located near the factories. Such clinics should have policies that are particularly supportive to garment factory workers such as reduced costs and means for the workers to move to the front of the queue to be seen expediently. The Reproductive Health Association of Cambodia (RHAC) has several clinics with supportive policies like these near the factories. One key informant from a government health center suggested that their center was attempting to be more accommodating to garment factory workers by having weekend clinics. Such efforts are promising, however, with the vast numbers of garment factory workers in Phnom Penh, convenient and accessible services need to be expanded.

In addition to improving services, there also needs to be a considerable increase in education of factory workers about available health services. Such education should occur when the migrant worker is hired by the factory, and should be reinforced periodically. The involvement of factory managers in providing information to the workers, particularly at the time of their hiring would be a step forward. The existing peer education program could assist with orientation to local clinics.

One of the most important issues of access reported by the garment factory workers was the ability to get sufficient time off work in order to access health care services. The International Labour Organization (ILO) has been monitoring the garment factories of Cambodia since 2001 for human rights abuses (International Labour Organization, 2005). Ongoing monitoring should include measures of the workers' ability to access health care when needed without penalties from their employers.

Most importantly, the involvement of factory management in improving workplace

policies and availability of health education is key to effective HIV prevention programming. In her study of a South African HIV prevention project, Campbell (2003) eloquently illustrated that without the cooperation of workplace administration, HIV prevention programs are doomed to failure.

4. Development of an HIV Prevention Research Agenda

The Cambodian government, in collaboration with the NGO providers and foreign donors, would do well to create an HIV prevention research agenda: identifying areas where research is lacking. Giving priority to research needs in HIV prevention would assist the country to guide interested researchers from within and outside Cambodia to tackle topics needed for the country. I suggest that the following areas would benefit from research:

a. Evaluation of Interventions

As interventions to improve health care access, decrease AIDS stigma, and correct for gender inequity are implemented, careful evaluation is required in order to establish if these programs are indeed effective. For example, while HIV stigma is prevalent throughout the world, interventions to reduce stigma are limited, and evaluation of interventions are even less common (Brown *et al.*, 2003). As Cambodia undertakes interventions to reduce HIV stigma and increase gender equity, documentation and publication of findings would be particularly important for others to learn from their successes.

b. Researching Health Care Provider Behaviour

The health care provider survey in this research used intention to take a sexual history as a proxy for the actual behaviour. Assessment of provider behaviour through

observation under real conditions (perhaps as part of a training program) is an alternate more direct method of determining health care providers' behaviour. Behaviours to focus on for future research include health care providers' approaches to voluntary testing and counselling for HIV and sensitivity to gender issues in HIV prevention.

c. Understanding Other Impacts on HIV Prevention for Female Migrant Garment Factory Workers

This research has focussed on the socio-ecologic framework to understand the HIV prevention context for migrant Cambodian garment factory workers. Certain features of this framework were explored by the research (particularly the interaction of these workers with their sexual partners and their health care providers), while others were not investigated. What are the other loci of the socio-ecologic model that require further exploration? For example, if factory owners or senior government officials were consulted, what would they see as important contextual factors for HIV prevention? What role does the global market play in the lives of these garment factory workers? Further research on these areas could serve to expand the proposed socio-ecologic model (Figure 1) and provide a more complete picture of the breadth and depth of the factors that have an impact on HIV prevention for these women.

d. Beyond Cambodia: The Need for a Global Research Agenda for Migrant Women

The process of globalization and the feminization of labour have particular implications for women, as authors Doyal (2002), O'Manique (2004), and Kabeer (2004) have described, and as this research study has illustrated. These implications move beyond women's specific health needs around reproduction. Poor women are

especially vulnerable to the gender norms of their society which often place expectations on them to financially support their parents and siblings. The emotional bonds of motherhood serve to further increase their desire to find work in order to provide for children. These economic needs drive women around the world to seek employment, even in unsatisfactory circumstances. More research focusing on women as workers in the global market is required to understand the drivers for women to leave their families to find employment in large cities and the conditions these women tolerate in order to maintain an income. There is also a need for the examination of strategies and policies to improve the working conditions for women (including access to quality health care services) without compromising their job security (Kabeer, 2004). Finally, research on how gender norms in the workplace impact on women's health (including their vulnerability to health issues like HIV) is also called for. Globalization will continue to pull women away from their families into jobs in distant cities and countries. Research on the implications of globalization for these migrant women workers must continue.

Contributions to Population Health

The discipline of population health is concerned with the health status of populations and seeks to reduce inequities between population groups using a trans-disciplinary approach. This doctoral study of migrant garment factory workers makes significant contributions to the population health literature both through process and content, and is a reminder to Canadians of our responsibility as global citizens.

Process Contributions: Mixed Methods Design, Multiple Theories, and a Gender Lens

The first major contribution this study makes to the discipline of population health

is the integration of two different theoretical frameworks, the socio-ecologic model with the Theory of Planned Behaviour, through a mixed methods approach. Mixed methodologies have historically been used in international research and have been developed in a number of disciplines independently (Tashakkori & Creswell, 2008). The trans-disciplinary nature of the academic discipline of population health, drawing from such diverse fields as epidemiology, medicine, nursing, sociology, and medical anthropology, ensures that mixed methodologies are well suited to this discipline. The modified exploratory sequential mixed methods (QUAL to quan) design of this study is a good example of how both qualitative and quantitative methodologies, using two different theoretical frameworks, can be used to address a population health research question. The approach of this study to use qualitative methods to assess contextual factors and follow this with quantitative measures of a specific contextual locus, provides a model for other researchers interested in understanding the larger context before exploring a specific area of the socio-ecologic framework with quantitative measures.

The use of a gender lens in Canadian population health research has historically been absent (Hayes & Dunn, 1997). It is now increasingly recognized that a gender-based analysis is necessary for understanding the effect of the HIV epidemic on women globally and for implementing responses to the epidemic (UNIFEM, 2006). Isolated behavioural interventions, such as educating women about the need to use condoms with their partners, are bound to fail if the gender power dynamics of the culture are not acknowledged (Webber, 2007). Heterosexual sex is one of the primary modes of HIV transmission in Cambodia (UNAIDS, 2007), thus research on this

dimension of HIV prevention is crucial. This research contributes to the literature by using a gender lens to consider how gendered power dynamics impact on migrant Cambodian women's ability to prevent HIV in their intimate relationships.

Content Contributions: Research Findings for Cambodia

Finally, moving beyond methods, theory, and the use of a gender lens, this research is an important contribution to Canadian population health research by its focus on the health issues of a lower income country. Canadian researchers have been encouraged to address the *10-90 gap* – the relatively low level of investment by rich developed countries in research on issues important to the health of those living in lower income countries (Neufeld, MacLeod, Tugwell, Zakus, & Zarowsky, 2001; Spiegel, Labonte, Hatcher-Roberts, Girard, & Neufeld, 2003). This study of migrant garment factory workers is a significant addition to the Cambodian literature on HIV prevention for three reasons.

First, this study confirms that gendered sexual norms are a key dimension of HIV prevention as they impact directly on safe sex behaviour, and potentially may influence health care providers' attitudes. The published research on Cambodia and HIV is not extensive. However, the significance of sexual double standards for sexual behaviour is illustrated by the focus of much of the research on the sex industry - an industry generated by Cambodian men's desire for sexual relationships outside of marriage. There are several examples of studies by Cambodians and foreigners on the Cambodian sex trade (Prybylski & Alto, 1999; Ohshige *et al.*, 2000a; Ohshige *et al.*, 2000b; Wong *et al.*, 2003; Kim *et al.*, 2005; Gorbach, Sopheab, Chhorvann, Weiss, & Chhi Vun, 2006). The impact of Cambodian society's gender norms was a key finding

in other studies as well. For example, in Tarr and Aggleton's study of Cambodian youth (Tarr & Aggleton, 1999) and Glaziou and colleagues' study of university students in Phnom Penh (Glaziou *et al.*, 1999) there was clear evidence of a sexual double standard, with men engaging in much higher rates of intercourse than women. Nishigaya's (2002) study of garment factory workers who supplemented their incomes with sex work, noted that even these women, working outside of what is considered acceptable employment for women, attempted to accommodate to their society's gender norms. They preferred to consider their clients as *sweethearts*, as these relationships are more acceptable within Cambodian culture.

This study of the context of HIV prevention for migrant Cambodian garment factory workers thus contributes to the Cambodian HIV literature by confirming that gendered sexual norms have an important impact on HIV prevention for this population of women.

Secondly, this study illustrates that AIDS stigma and the associated stigmatization of condoms are important issues in HIV prevention for migrant garment factory workers, and it documents the stigmatizing beliefs of many Cambodian HCPs. As there is no other published literature on Cambodian health care providers' knowledge and attitudes about HIV or intentions to take a sexual history, the survey results are a major contribution to the Cambodian research literature. Despite an extensive search, I could find only two studies about AIDS stigma in Cambodia. These two qualitative studies involving HIV positive Cambodians note that AIDS stigma is a part of their experience of living with HIV in Cambodia (Geursten, 2005; Paxton & Stephens, 2007). The impact of AIDS stigma on HIV prevention both through limited condom

use and through health care providers' attitudes is thus an important finding.

Finally, factors affecting access to health care is the third significant contribution of this study to the Cambodian literature. The study confirms that cost of services and geographic proximity are important factors in health care access for migrant garment factory workers. Factory policies allowing time to access health care services was also a key issue, and the knowledge gained from the migrants' new social networks contributed to health care access. The access to health care for Cambodians has been assessed in four different studies (Yanagisawa, Mey, & Wakai, 2004; Hardeman *et al.*, 2004; Jacobs, Price, & Oeun, 2007; Noirhomme *et al.*, 2007). Cost has consistently been found to be a major barrier for poor Cambodians to access health care. Yanagisawa *et al.* (2004) and Hardeman *et al.*, (2004) documented that geographic proximity to health care services also limited timely access.

This study of migrant garment factory workers makes several significant contributions to the Cambodian literature on HIV prevention, and is thus a good example of global population health research in a lower income country. Beyond methodology and content contributions of this research to population health, the study is a reminder to Canadians of our global responsibilities.

The Canadian Link

Cambodia is one of twenty five development partner countries for Canada (Canadian International Development Agency, 2008). We are not only linked to Cambodia by development assistance, however, for the global economy within which we live means that Cambodian garment factory workers are not as distant from us as we would think. Canadians are complicit consumers in the world-wide marketplace. If

we take the time to check the labels at some of our favourite clothing stores, we will discover that Cambodian garment factory workers have made the clothes that we and our children are wearing. Clearly, globalization has benefited these workers and their families with income, elevating them out of desperate poverty. As the research has revealed, however, the women remain functionally poor and vulnerable to HIV infection in their new urban settings. As Canadians, we need to be aware that it is our purchase of clothing that has brought these women to the city, hence we bear some responsibility for the implications to their health. The authors of AIDS in the Twenty-First Century warn us:

“The impact of the HIV/AIDS epidemic affects the poor, local and already risk-burdened more than it does the rich and the cosmopolitan....With a long-wave epidemic of infectious disease, the question of downstream costs – impacts – is very complex. So also is the question of upstream responsibilities – the roots of the epidemic in social and economic events (Barnett & Whiteside, 2002, p. 358).”

In a global marketplace, consumers on the other side of the world should not be ignorant of the implications of their purchases on the women and men who have produced them. Canadian population health researchers need to explore and expose these upstream responsibilities so that Canada can take its place in the global community, helping to alleviate health inequities in populations world-wide. This doctoral thesis on the context of HIV prevention in migrant Cambodian garment factory workers is a means of doing just that: highlighting the vulnerabilities of these garment factory workers to HIV through their participation in the global economy.

There is much room for future researchers to continue to explore the context of migrant women’s lives. In particular, there is a need for future research to investigate the ways in which these women successfully protect themselves from HIV in their

sexual relationships over time, the impact of gender norms on their relationships with their health care providers, and the evolution of the wider structural impacts on HIV prevention for these women such as the factory, government, and global trade policies which relate to these migrant workers.

Conclusion

The role of Cambodian migrant garment factory workers in the global economy has implications for Cambodian society. Hundreds of thousands of young Cambodian women will continue to flock to the cities for opportunities that were not conceivable to their mothers a generation ago. As Cambodia moves from a post-conflict society into the global economy, these young women and their families are benefiting. This mixed methods research has illuminated, however, the economic, social and occupational vulnerabilities these women experience that may put them at risk for HIV infection. The gender norms of Cambodian society, AIDS stigma, and limits on access to health care are dominant issues underlying the research findings. These may further increase the vulnerability of these women to HIV. Reversing the migration process is neither an option nor is it desirable, for migration has provided relief from poverty for the workers and their families. Rather, the results of this research provide an opportunity for the Cambodian government and non-governmental organizations working in this area to consider the multiple factors that affect these migrant workers' ability to prevent HIV infection, and apply this knowledge to the development of interventions for this population.

This research journey has provided a social portrait of migrant garment factory workers within Cambodian society. As Cambodia continues its process of economic

development, it is hoped that the results of this research can assist in the parallel process of social development, particularly for these migrant workers who are key players in the Cambodian economy. Social development - including the promotion of greater gender equity, reduction of AIDS stigma, and the improved access to quality health care services - is the journey forward. It is this journey that may help prevent the HIV epidemic from taking hold amongst migrant Cambodian garment factory workers, and may assist these women to benefit more fully from their place in the global economy.

References

- Acker, S. (2000). In/out/side: Positioning the researcher in feminist qualitative research. *Resources for Feminist Research*, 28, 189.
- Altman, D. (1999). Globalization, political economy, and HIV/AIDS. *Theory and Society* 28, 559-584.
- Atieno, P., Webber, G., & Edwards, N. (2007). Conducting graduate research in a lower income country. *Global Health Connections en Santé Modiale* 11: 1,5.
- Barnett, T. & Whiteside, A. (2002). *AIDS in the twenty-first century: Disease and globalization*. New York: Palgrave MacMillan.
- Beyrer, C. (2007). HIV epidemiology update and transmission factors: Risks and risk contexts -16th International AIDS Conference epidemiology plenary. *Clinical Infectious Diseases*, 44, 981-987.
- Blanc, A.K. (2001). The effect of power in sexual relationships on sexual and reproductive health: An examination of the evidence. *Studies in Family Planning*; 32(2): 189-213.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge: Harvard University Press.
- Brown, L., Macintyre, K., & Trujillo, L. (2003). Interventions to reduce HIV/AIDS Stigma: What have we learned? *AIDS Education and Prevention*, 15, 49-69.
- Bryman, A. (2007). Barriers to integrating quantitative and qualitative research. *Journal of Mixed Methods Research*, 1, 8-22.

Cambodian League for the Promotion and Defence of Human Rights (2004). *The situation of women in Cambodia*. Phnom Penh.

Campbell, C. (2003). *Letting them die: Why HIV/AIDS prevention programmes fail*. Bloomington: Indiana University Press.

Canadian Institutes of Health Research (2007). Gender and sex-based analysis in research: A guide for CIHR researchers and reviewers. Retrieved March 4, 2008, from www.cihr-irsc.gc.ca/e/32019.html#6

Canadian International Development Agency (2008). Gender analysis. Retrieved March 23, 2008, from <http://www.acdi-cida.gc.ca/CIDAWEB/acdicida.nsf/En/JUD-31194519-KBD>

Chen, W. T., Han, M., & Holzemer, W. L. (2004). Nurses' knowledge, attitudes, and practice related to HIV transmission in northeastern China. *AIDS Patient Care & STDs*, 18, 417-422.

Creswell, J. & Plano Clark, V. (2007). *Designing and conducting mixed methods research*. Thousand Oaks: Sage.

Daneault, S., Beaudry, M., & Godin, G. (2004). Psychosocial determinants of the intention of nurses and dieticians to recommend breastfeeding. *Canadian Journal of Public Health*, 95, 151-154.

Doyal, L. (2002). Putting gender into health and globalisation debates: New perspectives and old challenges. *Third World Quarterly*, 23, 233-250.

Edwards, R. (1990). Connecting method and epistemology. *Women's Studies International Forum*, 13, 477-490.

Francis, J., Eccles, M., Johnston, M., Walker, A., Grimshaw, J., Foy, R. et al. (2004). Constructing questionnaires based on the Theory of Planned Behaviour: A manual for health services researchers. Retrieved July 10, 2006, from <http://www.rebeqi.org/ViewFile.aspx?itemID=212>

Geursten, B. (2005). Quality of life and living with HIV/AIDS in Cambodia. *Journal of Transcultural Nursing*, 16, 41-49.

Glaziou, P., Bodet, C., Loy, T., Vonthanak, S., El-kouby, S., & Sainte Marie, F. F. (1999). Knowledge, attitudes and practices of university students regarding HIV infection, in Phnom Penh, Cambodia, 1999. *AIDS*, 13, 1982-1983.

Godin, G. & Kok, G. (1996). The Theory of Planned Behavior: A review of its applications to health-related behaviors. *American Journal of Health Promotion*, 11, 87-98.

Gorbach, P. M., Sopheab, H., Chhorvann, C., Weiss, R. E., & Chhi Vun, M. (2006). Changing behaviors and patterns among Cambodian sex workers: 1997-2003. *Journal of Acquired Immune Deficiency Syndromes*, 42, 242-247.

Hardeman, W., Van Damme, W., Van Pelt, M., Por, I., Kimvan, H., & Meessen, B. (2004). Access to health care for all? User fees plus a Health Equity Fund in Sotnikum, Cambodia. *Health Policy and Planning*, 19, 22-32.

Hayes, M. & Dunn, J. (1997). *Population health in Canada: A systematic review* (Rep. No. CPRN Study No. H 01).

Health Canada (2003). Gender-based analysis. Retrieved March 4, 2008, from www.hc-sc.gc.ca/hl-vs/women-femmes/gender-sexe/index_e.html

Hesketh, T., Duo, L., Li, H., & Tomkins, A. M. (2005). Attitudes to HIV and HIV testing in high prevalence areas of China: Informing the introduction of voluntary counselling and testing programmes. *Sexually Transmitted Infections*, 81, 108-112.

Hill Collins, P. (1986). Learning from the outsider within: The sociological significance of black feminist thought. *Social Problems*, 33, S14-S32.

Holzemer, W. L. & Uys, L. R. (2004). Managing AIDS stigma. *Journal of Social Aspects of HIV/AIDS*, 1, 165-174.

Hunter, A. & Brewer, J. (2003). Multimethod research in Sociology. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 577-594). Thousand Oaks: Sage.

International Labour Organization (2005). Better factories Cambodia: Facts and figures. Retrieved July 10, 2007, from <http://www.betterfactories.org/content/documents/Facts%20and%20Figures.pdf>

Jacobs, B., Price, N. L., & Oeun, S. (2007). Do exemptions from user fees mean free access to health services? A case study from a rural Cambodian hospital. *Tropical Medicine and International Health*, 12, 1391-1401.

Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed method research. *Journal of Mixed Methods Research*, 1, 112-133.

Kabeer, N. (2004). Globalization, labor standards, and women's rights: Dilemmas of collective (in)action in a interdependent world. *Feminist Economics* 10, 3-35.

Kaplan, A. H., Scheyett, A., & Golin, C. E. (2005). HIV and stigma: Analysis and research program. *Current HIV/AIDS Reports*, 2, 184-188.

Kim, A. A., Sun, L. P., Chhorvann, C., Lindan, C., Van Griensven, F., Kilmarx, P. H. et al. (2005). High prevalence of HIV and sexually transmitted

infections among indirect sex workers in Cambodia. *Sexually Transmitted Diseases*, 32, 745-751.

Krieger, N. (2001). Theories for social epidemiology in the 21st century: An ecosocial perspective. *International Journal of Epidemiology*, 30, 668-677.

Legare, F., Godin, G., Ringa, V., Dodin, S., Turcot, L., & Norton, J. (2005). Variation in the psychosocial determinants of the intention to prescribe hormone therapy prior to the release of the Women's Health Initiative trial: A survey of general practitioners and gynaecologists in France and Quebec. *BMC Medical Informatics and Decision Making*, 5, 31.

Marston, C. & King, E. (2006). Factors that shape young people's sexual behaviour: A systematic review. *Lancet*, 368, 1581-1586.

Miles, M. B. & Huberman, A. M. (1994). *Qualitative data analysis*. (second ed.) Thousand Oaks: Sage Publications.

Mills, M. (1999). *Thai women in the global labor force: Consuming Desires, contested selves*. New Brunswick: Rutgers University Press.

Neufeld, V., MacLeod, S., Tugwell, P., Zakus, D., & Zarowsky, C. (2001). The rich-poor gap in global health research: Challenges for Canada. *Canadian Medical Association Journal*, 164, 1158-1159.

Nishigaya, K. (2002). Female garment factory workers in Cambodia: Migration, sex work and HIV/AIDS. *Women and Health*, 35, 27-42.

Noirhomme, M., Meessen, B., Griffiths, F., Ir, P., Jacobs, B., Thor, R. *et al.* (2007). Improving access to hospital care for the poor: Comparative analysis of four health equity funds in Cambodia. *Health Policy and Planning*, 22, 246-262.

Obermeyer, C. M. & Osborn, M. (2007). The utilization of testing and counseling for HIV: A review of the social and behavioral evidence. *American Journal of Public Health*, 97, 1762-1774.

Ohshige, K., Morio, S., Mizushima, S., Kitamura, K., Tajima, K., Ito, A. *et al.* (2000a). Cross-sectional study on risk factors of HIV among female commercial sex workers in Cambodia. *Epidemiology and Infection*, 124, 143-152.

Ohshige, K., Morio, S., Mizushima, S., Kitamura, K., Tajima, K., Suyama, A. *et al.* (2000b). Behavioural and serological human immunodeficiency virus risk factors among female commercial sex workers in Cambodia. *International Journal of Epidemiology*, 29, 344-354.

O'Manique, C. (2004). *Neoliberalism and AIDS crisis in sub-Saharan Africa: Globalization's pandemic*. Palgrave MacMillan: New York.

- Opie, A. (1992). Qualitative research, appropriation of the 'Other' and empowerment. *Feminist Review*, 40, 52-69.
- Paxton, S. & Stephens, D. (2007). Challenges to the meaningful involvement of HIV-positive people in the response to HIV/AIDS in Cambodia, India and Indonesia. *Asia-Pacific Journal of Public Health*, 19, 8-13.
- Prybylski, D. & Alto, W. A. (1999). Knowledge, attitudes and practices concerning HIV/AIDS among sex workers in Phnom Penh, Cambodia. *AIDS Care*, 11, 459-472.
- PSI (2008). PSI Cambodia. Retrieved February 17, 2008, from [www.psi.org/where we work/cambodia.html](http://www.psi.org/where_we_work/cambodia.html)
- Pulerwitz J., Barker G., Segundo M. & Nascimento M. (2006a). Promoting more gender-equitable norms and behaviours among young men as an HIV/AIDS prevention strategy. *Horizons Final Report*. Washington, DC: Population Council.
- Pulerwitz J., Barker G., Segundo M. & Nascimento M. (2006b). Promoting gender equity among young Brazilian men as an HIV prevention strategy. *Horizons Research Summary*. Washington, DC: Population Council.
- Rivers, K. & Aggleton, P. (2002). Working with young men to promote sexual and reproductive health. Thomas Coram Research Unit. Institute of Education, University of London.
- Spiegel, J., Labonte, R., Hatcher-Roberts, J., Girard, J., & Neufeld, V. (2003). Tackling the "10-90 Gap": A Canadian report. *Lancet*, 362, 917-918.
- Tarr, C. M. & Aggleton, P. (1999). Young people and HIV in Cambodia: Meanings, contexts and sexual cultures. *AIDS Care*, 11, 375-384.
- Tashakkori, A. & Creswell, J. (2007). Editorial: Exploring the nature of research questions in mixed methods research. *Journal of Mixed Methods Research*, 1, 207-211.
- Tashakkori, A. & Creswell, J. (2008). Mixed methods across disciplines. *Journal of Mixed Methods Research*, 2, 3-6.
- Tashakkori, A. & Teddlie, C. (2003). *Handbook of mixed methods in social and behavioral research*. Thousand Oaks: Sage.
- Taylor, B. (2001). HIV, stigma and health: Integration of theoretical concepts and the lived experiences of individuals. *Journal of Advanced Nursing*, 35, 792-798.
- Temple, B. (2002). Crossed wires: Interpreters, translators, and bilingual workers in cross-language research. *Qualitative Health Research*, 12, 844-854.

UNAIDS (2001). *Population mobility and AIDS: UNAIDS Technical Update*. Geneva: UNAIDS.

UNAIDS (2007). UNAIDS Cambodia Country Office. Retrieved February 17, 2008, from <http://www.un.org.kh/un aids/default.asp>

UNIFEM (2006). *Transforming the national AIDS response: Mainstreaming gender equality and women's human rights into the "Three Ones"*.

Verma R., Pulerwitz J., Vaishali M., Khandekar S., Barker G., Fulpagare P. & Singh S.K. (2006). Shifting support for inequitable gender norms among young Indian men to reduce HIV risk and partner violence. *Horizons Research Summary*. New Delhi: Population Council.

Webber, G. (2007). The impact of migration on HIV prevention for women: Constructing a conceptual framework. *Health Care for Women International*, 28, 712-730.

Weiss, E., Whelan, D., & Gupta, R. (1996). *Vulnerability and opportunity: Adolescents and HIV/AIDS in the developing world; The social costs of HIV prevention may be too high to motivate behaviour change*. International Center for Research on Women.

Williamson, G. (2005). Illustrating triangulation in mixed-methods nursing research. *Nurse Researcher*, 12, 7-18.

Wong, M. L., Lubek, I., Dy, B. C., Pen, S., Kros, S., & Chhit, M. (2003). Social and behavioural factors associated with condom use among direct sex workers in Siem Reap, Cambodia. *Sexually Transmitted Infections*, 79, 163-165.

World Health Organization (2003). The right to know: New approaches to HIV testing and counselling. Retrieved July 15, 2006, from http://www.who.int/hiv/pub/vct/en/Right_know_a4E.pdf

World Health Organization (2005). Scaling-up HIV testing and counselling services: A toolkit for programme managers. Retrieved from October 30, 2007, from <http://www.who.int/hiv/pub/vct/counsellingtestingtoolkit.pdf>

World Health Organization & UNAIDS (2007). *Guidance on provider-initiated HIV testing and counselling in health facilities*. Geneva: World Health Organization.

Yanagisawa, S., Mey, V., & Wakai, S. (2004). Comparison of health-seeking behaviour between poor and better-off people after health sector reform in Cambodia. *Public Health*, 118, 21-30.

APPENDIX A: Research Collaboration Agreements

**Agreement between the University of Ottawa and the International Organization
for Migration: p. 234 – 241**

Schedule 1: p. 242 - 244

**Agreement
between
the University of Ottawa and the International Organization for Migration**

This Agreement is signed on the 28th day of February 2006 between:

The University of Ottawa, a body corporate and politic incorporated under the University of Ottawa Act 1965, S.O. 1965, c. 137 with a place of business situated at 550 Cumberland Street, Ottawa, Ontario, Canada, K1N 6N5, herein acting and represented by Gilles Morier, Director, Research Grants and Ethics Services, duly authorized as he so declares.

hereinafter called the “**University of Ottawa**”

and

International Organization for Migration (IOM), an international inter-governmental organization established by its Constitution, with a place of business situated at Phnom Penh, Cambodia, herein acting and represented by Dr Vincent Keane, Chief of Mission, duly authorized as he(she) so declares.

hereinafter called “**IOM**”

WHEREAS:

- D) The University of Ottawa and IOM (hereinafter jointly referred to as "the Parties" and singularly as the “**Party**” or the “**University of Ottawa**” or “**IOM**”, as the case warrants) wish to collaborate to perform the research described in the Schedule 1 to this Agreement (hereinafter called the “**Project**”).

NOW IT IS HEREBY AGREED as follows:

1. **STATEMENT OF WORK**

The Parties hereby agree to collaborate in performing the Project as described in Schedule 1 attached to this Agreement.

2. **INVESTIGATORS**

The Principal Investigator of the University of Ottawa shall be Dr. Gail Webber, Ph.D. Student in the University of Ottawa's Population Health program. Dr. Webber's thesis supervisor is Dr. Nancy Edwards of the Department of Nursing, Faculty of health Sciences.

The Principal Investigator of IOM shall be Dr. Vincent Keane, Chief of Mission.

(hereinafter jointly referred to as "**Principal Investigators**" and singularly as "**Principal Investigator**" or "**PI**").

2.2 At least two IOM staff members, IOM Principal Investigator and IOM National Investigator (Dr Ros Socheat), shall be co-authors of the research paper(s) produced under this Agreement. In agreeing to be co-authors, Dr. Vincent Keane and Dr. Ros Socheat commit to the principles of co-authorship outlined in Schedule one.

3. **PERIOD OF PERFORMANCE**

This Project shall be conducted over the period of June 2006 to May 2008 unless terminated in accordance with the terms of this Agreement.

4. **PROJECT FUNDING**

4.1 Funding for the Project, as required to support the expenses (including but not limited to manpower, equipment and consumables as further described in Schedule 1), shall be provided through funding independently available to Dr. Webber.

4.2 It is agreed that IOM shall not provide direct financial contributions in support of the project. IOM agrees to provide assistance and coordination support in support of the Project as described in Schedule 1 attached hereto.

5. **PUBLICATION**

5.1 It is the intention of the Parties that the results obtained during the course of the Project be published in the scientific literature with proper acknowledgement of authorship and financial support, as described in Schedule 1 attached hereto.

5.2 The University of Ottawa reserves the right to use the results of the Project in graduate student theses and defenses and for the purpose of evaluating the academic performance of students, in accordance with its policies and procedures. The copyright to a student's own thesis shall belong to that student.

5.3 IOM reserves the right to use the results of the Project only for non-commercial purposes by acknowledging relevant copyrights.

6. INTELLECTUAL PROPERTY

- 6.1 Intellectual Property may include: technical information, know how, copyrights, patents, models, patterns, drawings, specification, prototypes, inventions etcetera.
- 6.2 Intellectual Property developed independently by the University of Ottawa employees and students shall belong to the University of Ottawa. Intellectual Property developed independently by IOM employees shall belong to the inventor(s) and/or IOM, in accordance with the policies of IOM. Intellectual Property developed jointly by the University of Ottawa and IOM employees and students shall be held jointly between IOM and the University of Ottawa.
- 6.3 Each Party shall have the right to use Intellectual Property arising from this work for in-house, operational, non-commercial, research and educational purposes, subject to confidentiality requirements.

7. NO LIABILITY IN USE OF RESULTS

- 7.1 Given the nature of the activities contemplated hereunder, neither Party makes any representations or undertakings as to the quality or nature of the research and development work undertaken hereunder or that the results obtained hereunder will be suitable or marketable for any particular purpose or uses. Each Party is liable for its own losses, costs, damages or expenses of any nature which it may suffer, sustain, pay or by reason of any matter or thing arising out of, or in any way attributable to this Project including, without limitation, the use of the results obtained hereunder.

8. TERMINATION AND SURVIVAL OF CLAUSES

- 8.1 This Agreement may be terminated by either of the Parties without assigning any reason therefore on thirty (30) days written notice to the other Party.
- 8.2 In addition to such provisions which survive the termination of this Agreement by operation of law, the provisions of Clauses 5, 6, 7, 8, shall continue in force in accordance with their terms, notwithstanding the termination of this Agreement for any reason.

9. NOTICE

- 9.1 Any notice to be given by any Party to this Agreement shall be in writing and shall be deemed duly served if delivered personally or sent by facsimile transmission or by prepaid registered post to the addressee at the address as stated below or (as the case may be) the facsimile number of that Party or at such other

address or facsimile number as the Party to be served may have notified the other Party for the purposes of this Agreement:

To the University of Ottawa:

Director, Research Grants and Ethics
University of Ottawa
550 Cumberland Street, Room 160
Ottawa, Ontario
K1N 6N5

Attention: Mr. Gilles Morier
Fax No: (613) 562-5338

To IOM:

Dr Vincent Keane
Chief of Mission
International Organization for Migration (IOM)
Phnom Penh, Cambodia

Tel: 855 23 216532
Fax no: 855 23 216423

9.2 Any notice sent by facsimile shall be deemed served when dispatched and any notice served by prepaid registered post shall be deemed served forty-eight (48) hours after dispatch thereof.

10. CONFIDENTIAL INFORMATION

10.1 IOM and the University of Ottawa may each have certain information that is either non-public, confidential or proprietary in nature. Such information, in whole or in part, is hereinafter referred to as the "Information". Either IOM or the University of Ottawa may disclose the Information to the other to facilitate work under this Agreement. Should either Party require that the other maintain the confidential nature of the Information they shall, prior to disclosure to the other Party, ensure that any and all copies of the Information disclosed are clearly marked as "Confidential" or "Not for Publication". In the absence of such a marking the delivering Party shall be deemed to have placed the Information into the public domain and shall thereafter surrender any expectation of confidentiality under this Agreement. Where, at the time of disclosure, the Information is clearly so marked, the receiving Party shall safeguard the Information and not disclose the Information to anyone without a "need to know" within the IOM or the University of Ottawa.

- 10.1.1 The results obtained in the Project shall be considered to be Information until such time as they are published or released into the public domain by the Party or Parties owning such results.
- 10.2 Where the Information is disclosed verbally and the disclosing Party requires that the other maintain the confidential nature of the Information, there shall be an express statement of confidentiality at the time of disclosure together with confirmation in writing within 30 days after the disclosure. Should the Party making the verbal disclosure of the Information not provide an express reservation of confidentiality and provide the required written confirmation in a timely manner the Information shall be deemed to have been placed in the public domain and the disclosing Party shall surrender any expectation of confidentiality under this Agreement.
- 10.3 The obligation of confidentiality and non-disclosure shall not apply to information which:
- 10.3.1 Is Information which the receiving Party can demonstrate was in its possession at the time of disclosure and was obtained without any obligation of confidentiality;
- 10.3.2 Is, at the time of disclosure, in the public domain;
- 10.3.3 After the time of disclosure, through no breach of this Agreement, becomes part of the public domain;
- 10.3.4 Is obtained from third parties without any breach of confidence on the part of the third party;
- 10.3.5 The disclosure is made in order to comply with the requirements of applicable law or governmental regulation, provided the receiving Party gives prior written notice of such disclosure and takes reasonable actions to avoid such disclosure or minimize its extent; and,
- 10.3.6 is independently developed by the receiving Party, provided that the person or persons developing same have not had access to, either directly or indirectly, the Information received and provided such independent development is documented;
- 10.4 All information, including personal information, related to the identity of research subjects and/or linking or implying the identity of the subject to his or her data, shall be treated as confidential indefinitely unless such information falls under the exception of paragraph 10.3.5 hereof or the subject consents to its disclosure.

10.5 Except for Information identified in Article 10.4 hereof which shall remain confidential indefinitely, this obligation of confidentiality shall expire five (5) years after termination of this Agreement.

11. VARIOUS PROVISIONS

11.1 Entire Agreement

Unless otherwise expressly specified, this Agreement embodies the entire understanding between the University of Ottawa and IOM in respect of the Project and any prior or contemporaneous representations, either oral or written, are hereby superseded. No changes to this Agreement shall be effective unless made in writing and signed by the authorized representatives of the Parties.

11.2 Gender and number

Wherever the context requires it, the masculine gender shall include the feminine and *vice versa*; the singular number shall include the plural and *vice versa*.

11.3 Headings

The headings used in this Agreement have no interpretative value; they are intended only as an aid to the classification and identification of the provisions of the Agreement.

11.4 Separate and distinct provisions

Each provision of this Agreement shall be separate and distinct in such manner that a decision of a court to the effect that one of the provisions of this Agreement is null or of no effect shall not affect the validity of the other provisions of the Agreement or their enforceable character.

11.5 Consent of the Interviewees

The University of Ottawa and IOM shall conduct an interview only when there is an informed written consent of the interviewee prior to the interview. Such consent shall be obtained only after the purpose of the interview is clearly explained and understood by the interviewee. In case an interviewee is a minor, such consent shall be given by a legal guardian and the principle of the best interests of children shall be always upheld. Consent procedures will respect the requirements of the University of Ottawa Research Ethics Board and the Cambodian National Ethics Committee.

11.6 Use of IOM logo

The use of the official logo and name of IOM may only be used by the University of Ottawa in connection with this Agreement and with the prior written approval of IOM.

11.7 Dispute resolution

Any dispute, controversy or claim arising out of or in relation to this Agreement, or the breach, termination or invalidity thereof, shall be settled amicably by negotiation between the Parties. In the event that such negotiation is unsuccessful, either Party may submit the dispute to arbitration. The arbitration will be carried out in accordance with the UNCITRAL arbitration rules. The arbitral award will be final and binding.

11.7 Miscellaneous provisions

Nothing in this Agreement affects the privileges and immunities enjoyed by IOM in Cambodia.

IN WITNESS WHEREOF, the parties hereto have signed the Agreement in triplicate, in the city of Ottawa, on the day, month and year first above written.

University of Ottawa

Gilles Morier
Director, Research Grants and Ethics

Dr. Gail Webber

Dr. Naney Edwards

IOM:

Dr. Vincent Keane
Chief of Mission

Dr. Ros Socheat
National Investigator

Schedule 1

RESEARCH COLLABORATION AGREEMENT BETWEEN DR. NANCY EDWARDS AND DR. GAIL WEBBER, AND THE INTERNATIONAL ORGANIZATION FOR MIGRATION, CAMBODIA

February 24, 2006

This document describes the nature of the research collaboration between Dr. Gail Webber (GW), who is supervised by Dr. Nancy Edwards, both from the University of Ottawa, Canada, and the International Organization for Migration (IOM), Cambodia. The roles, responsibilities, and financial obligations of each party are detailed below.

Project summary

It is understood that this research will involve interviews with rural to urban migrant Cambodian women, and key informants or experts. In addition, the health care providers for these women will be surveyed. The purpose of the research overall is to determine the impact of migration on HIV risk for these women, and the health care provider understanding of this context. This research will form the basis of the Ph.D. dissertation in Population Health of Dr. Gail Webber.

Staffing

A minimum of 2 research assistants (RAs) will be hired to assist with the research. GW will be assisted by IOM staff in hiring these RAs, however, all expenses related to the RAs (salary, travel expenses) will be covered by GW. GW will also be responsible for training the RAs prior to beginning the research.

Transportation

GW's costs of international travel to Cambodia, and local travel within Cambodia will be covered by GW. GW will use public transport (taxis) within Phnom Penh.

Accommodation

GW will cover her own accommodation expenses while in Cambodia. IOM may assist her in finding suitable accommodation (medium level hotel or guest house).

Security and Health Issues

GW will register with the Canadian Embassy/Foreign Affairs on arrival in Cambodia. IOM is not responsible for her security while in Cambodia, though they may advise her on security matters. GW will ensure she has appropriate health insurance coverage during her stay in Cambodia, including appropriate vaccinations.

Funding

The research will be primarily funded through GW's research budget (including transportation, accommodation, research assistants, and research equipment and materials). If IOM educational materials are to be tested in the research (e.g., through

focus group feedback), IOM Cambodia will be responsible for the cost of providing these materials.

Ethics Approval

GW will pursue ethics approval for this research from the University of Ottawa Research Ethics Board, in addition to the Cambodian National Medical Ethics Committee. Approval from both organizations will be obtained before data collection is commenced. IOM will assist in the process of applying and obtaining ethics approval from the Cambodian authorities. GW will be responsible in any fees associated with this process, and for the formal presentation to the Cambodian Ethics Committee.

Ownership and Storage of Research Materials

The research will be primarily conducted by GW and her research assistants, with the support of IOM Cambodia. The interview data and surveys will be stored by GW until analysis is complete. Access to data will be limited to those directly involved in data analysis for reasons of confidentiality. After analysis, the interview data and surveys will be stored on CDs in Dr. Nancy Edwards' office at the University of Ottawa, as per the requirements of the Research Ethics Board, University of Ottawa (maximum period of 10 years). After this period, the data will be destroyed upon IOM's written consent. The University of Ottawa will allow IOM's access to data until they are destroyed.

Authorship of Research Materials

Authorship of the research will be shared. GW will be one of the primary authors (involved in data collection, data analysis and writing) of the papers resulting from the research. It is anticipated that potential co-authors will include Dr. Nancy Edwards and GW's other research committee members, in addition to IOM PI and IOM National Investigator. Co-authors and collaborators will be recognized and described as per the guidelines of the University of Ottawa, Department of Graduate Studies at http://www.grad.uottawa.ca/regulations/thesis_research/manual/definition.html

The conditions for authorship, based on the guidelines published by the International Committee of Medical Journal Editors (ICMJE), October 2005 and common to many journals, are described below. The ICMJE guidelines are available online at: <http://www.icmje.org/index.html#top>

Criteria for Authorship

In accordance with the International Committee of Medical Journal Editors, authorship credit should be based on 1) substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data; 2) drafting the article or revising it critically for important intellectual content; and 3) final approval of the version to be published. Authors should meet conditions 1, 2, and 3. Authors are expected to make timely contributions within a mutually agreed timeframe. If authors are unable to make their contributions within the timeframe agreed upon, they will be excluded from authorship.

Authorship may also be determined by the specific criteria of journals that the group decides to submit to. Authors should provide a description of what each contributed. The order of authorship on the by-line will be a joint decision by co-authors.

Acknowledgments

All contributors who do not meet the criteria for authorship should be listed in an acknowledgments section. Examples of those who might be acknowledged include a person who provided purely technical help, writing assistance, or who provided only general support. Financial and material support will also be acknowledged. Permission will be sought from individuals who will be acknowledged.

Use of Research by GW for Dissertation

The research on rural to urban Cambodian women, and the survey of health care providers will be the basis of GW's Ph.D. dissertation in Population Health at the University of Ottawa. Dr. Nancy Edwards and GW's thesis committee members will retain responsibility for supervision of the thesis and recommendation for submission.

Use of Research Materials by IOM for Operational Purposes

The results of the research may be used by IOM for operational purposes. GW will provide IOM with a copy of the full Ph.D. dissertation, and any published manuscripts from the research. Use of published materials will require the appropriate citing. GW will also provide IOM and other interested organizations and individuals with a non-technical summary of the research for their use.

Summary: Potential Roles of IOM Cambodia in the Research

IOM Cambodia may assist in facilitating the research in the following ways:

1. Assist in writing and editing research paper(s).
2. Assist with establishing contact with local NGOs working with rural to urban migrant Cambodian women for access to research participants.
3. Assist with obtaining permission from the Ministry of Health in Cambodia regarding surveying health care providers.
4. Assist with process of applying to Cambodian National Medical Ethics Committee.
5. Assist in orientation of GW to Phnom Penh, including assisting her with finding accommodation, and hiring research assistants.
6. Contribution of IOM educational materials for discussion by focus groups of migrant women (IOM will cover the cost of providing these materials).
7. Facilitate access of GW to IOM documents regarding migration in the region.
8. Such other reasonable assistance as may from time to time be agreed upon.

APPENDIX B: Ethics Approval

University of Ottawa Ethics Approval for Phase One: Pages 246-247

University of Ottawa Ethics Approval for Phase Two: Pages 248-249

National Ethics Committee, Cambodia Approval (both phases): Page 250



Université d'Ottawa University of Ottawa

Service de subventions de recherche et d'éthologie Research Grants and Ethics Services

June 19, 2006

Nancy Edwards
School of Nursing
University of Ottawa
451 Smyth, room 1118K
Ottawa, ON K1H 8M5

Gail Webber
Institute of Population Health
University of Ottawa
55 Glencarin Ave
Ottawa, ON K1S 1M5

Object: The Impact of Recent Rural-to-Urban Migration on HIV Prevention for Women in Cambodia: Phase 1 (file H 03-06-01)

Dear Doctors Edwards and Webber,

You will find enclosed the Health Sciences and Science REB ethical clearance for the abovementioned study.

During the course of the study, any modifications to the protocol or forms may not be initiated without prior written approval from the REB. You must also promptly notify the REB of any adverse events that may occur.

This certificate of ethical clearance is valid until June 19, 2007. Please submit an annual status report to the Protocol Officer in June 2007 to either close the file or request a renewal of ethics approval. This document can be found at:
http://web9.uottawa.ca/services/rgessrd/ethics/application_dwn.asp

A copy of this approval will be sent to research services, if necessary.
If you have any questions, you may contact the undersigned at the number 562-5387.

Sincerely yours,

Rita D'Alessandro
Protocol Officer for Ethics in Research
For Dr. Daniel Lagarec, Chair of the Health Sciences and Science REB

550, rue Cumberland 550 Cumberland Street
Ottawa (Ontario) K1N 6N5 Canada Ottawa, Ontario K1N 6N5 Canada

(613) 562-5841 • Téléc./Fax (613) 562-5338
<http://www.uottawa.ca/services/research/rge/index.html>



Université d'Ottawa University of Ottawa

Service de subventions de recherche et de déontologie Research Grants and Ethics Services

HEALTH SCIENCES AND SCIENCE RESEARCH ETHICS BOARD

CERTIFICATE OF ETHICAL APPROVAL

This is to certify that the University of Ottawa Health Sciences and Science Research Ethics Board has examined the application for ethical approval of the research project entitled **The Impact of Recent Rural-to-Urban Migration on HIV Prevention for Women in Cambodia: Phase 1 (file H 03-06-01)** submitted by Gail Webber of the Institute of Population Health and supervised by Nancy Edwards of the School of Nursing. The Board found that this research project met appropriate ethical standards as outlined in the Tri-Council Policy Statement and in the Procedures of the University of Ottawa Research Ethics Boards, and accordingly gave it a Category 1a (approval). This certification is valid one year from the date indicated below.

Rita D'Alessandro
Protocol Officer for Ethics in Research
For Dr. Daniel Lagarec, Chair of the
Health Sciences and Science REB

June 19, 2006
Date

550, rue Cumberland 550 Cumberland Street
Ottawa (Ontario) K1N 6N5 Canada Ottawa, Ontario K1N 6N5 Canada

(613) 562-5841 • Téléc. Fax (613) 562-5338
<http://www.uottawa.ca/services/research/rge/index.html>



Université d'Ottawa University of Ottawa

Service de subventions de recherche et deontologie Research Grants and Ethics Services

September 21, 2006

Nancy Edwards
School of Nursing
451 Smyth, room 1118K
Ottawa, ON K1H 8M5

Gail Webber
Institute of Population Health
55 Glencarin Ave.
Ottawa, ON K1S 1M5

Object: The Impact of Recent Rural-to-Urban Migration on HIV Prevention for Women in Cambodia: Phase II (file H 03-06-01)

Dear Doctors Edwards and Webber,

You will find enclosed the Health Sciences and Science REB ethical clearance for the abovementioned study.

During the course of the study, any modifications to the protocol or forms may not be initiated without prior written approval from the REB. You must also promptly notify the REB of any adverse events that may occur.

This certificate of ethical clearance is valid until September 21, 2007. Please submit an annual status report to the Protocol Officer in September 2007 to either close the file or request a renewal of ethics approval. This document can be found at:
http://web9.uottawa.ca/services/rgessrd/ethics/application_dwn.asp

A copy of this approval will be sent to research services, if necessary.
If you have any questions, you may contact the undersigned at the number 562-5387.

Sincerely yours,

Rita D'Alessandro
Protocol Officer for Ethics in Research
For Dr. Daniel Lagarec, Chair of the Health Sciences and Science REB



Université d'Ottawa University of Ottawa

Service de subventions de recherche et de déontologie Research Grants and Ethics Services

HEALTH SCIENCES AND SCIENCE RESEARCH ETHICS BOARD

CERTIFICATE OF ETHICAL APPROVAL

This is to certify that the University of Ottawa Health Sciences and Science Research Ethics Board has examined the application for ethical approval of the research project entitled **The Impact of Recent Rural-to-Urban Migration on HIV Prevention for Women in Cambodia: Phase II (file H 03-06-01)** submitted Gail Webber of the Institute of Population Health and supervised by Nancy Edwards of the School of Nursing. The Board found that this research project met appropriate ethical standards as outlined in the Tri-Council Policy Statement and in the Procedures of the University of Ottawa Research Ethics Boards, and accordingly gave it a Category 1a (approval). This certification is valid one year from the date indicated below.

Rita D'Alessandro
Protocol Officer for Ethics in Research
For Dr. Daniel Lagarec, Chair of the
Health Sciences and Science REB

September 21, 2006
Date

550, rue Cumberland 550 Cumberland Street
Ottawa (Ontario) K1N 6N5 Canada Ottawa, Ontario K1N 6N5 Canada

(613) 562-5841 • Téléc./Fax (613) 562-5338
<http://www.uottawa.ca/services/research/rge/index.html>



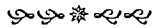
ក្រសួងសុខាភិបាល

MINISTRY OF HEALTH

គណៈកម្មាធិការជាតិក្រុមសិល្បៈ

សម្រាប់ការស្រាវជ្រាវសុខភាពដែលទាក់ទងនឹងមនុស្ស

National Ethics Committee for Health Research



លេខ.០៦១...N.E.C.H.R...

ព្រះរាជាណាចក្រកម្ពុជា
KINGDOM OF CAMBODIA
ជាតិ សាសនា ព្រះមហាក្សត្រ
NATION RELIGION KING



រាជធានីភ្នំពេញ, ថ្ងៃទី.០៧.ខែ...៤...ឆ្នាំ2006..

Dr. Gail Webber
Principal Investigator,

Project: Impact of recent rural-to-urban migration on HIV prevention for women in Cambodia.

Subject: Ethical approval

Dear Dr. Gail Webber

With the revised version of the questionnaire, modification of data collection methods (unique coding instead of the study participant's name, no voice recorded) submitted to the National Ethic Committee for Health Research on June, 08 2006.

I am writing to notify you that your project entitle "Impact of recent rural-to-urban migration on HIV prevention for women in Cambodia." is approved by the National Ethic Committee for Health Research

The principal investigator of the project shall also submit a copy of the progress and final report to the committee's secretariat at the National Institute of Public Health at #2 Kim Il Sung Blvd., Khan Tuol Kok, Phnom Penh, Cambodia (Tel: 855-880-345 , Fax: 855-880-346).

Regards,

Chairman

H.E. Prof. ENG HUOT

APPENDIX C: Phase One Recruitment Texts and Consent Forms

Recruitment Text for Migrant Women: Page 252

Consent Form for Interviews with Migrant Women: Pages 253-254

Recruitment Text for Key Informants: Page 255

Consent Form for Key Informant Interviews: Pages 256-257

Recruitment Text for Health Care Provider Focus Groups: Page 258

Consent Form for Focus Groups with Health Care Providers: Pages 259-260



uOttawa

Université d'Ottawa
Faculté des sciences
de la santé

École des sciences
infirmières

University of Ottawa
Faculty of Health
Sciences

School of Nursing

RECRUITMENT TEXT FOR MIGRANT WOMEN

We are asking you to participate in a research project conducted by Dr. Gail Webber, from the Ph. D. program of Population Health, University of Ottawa, Canada. The project is under the supervision of Dr. Nancy Edwards. Dr. Ros Socheat, of the International Office for Migration, is the Cambodian collaborator. The purpose of the research is to understand women's experience of rural-to-urban migration and how this impacts on their health. The results of the research will be used to improve reproductive health programs for migrant women in Cambodia.

Your participation in this research means that you will attend one or two interview sessions, lasting one to two hours each. These interviews will be scheduled at a time and private place that is convenient for you. There will be three people present, the interviewer, the Canadian researcher, and a translator. You will be asked questions about your life and experience. The questions will be focused on how your experiences may protect or put you at risk for HIV infection. Some of the information you will be asked about is personal. You may refuse to answer questions if you choose. You may also stop the interview at any time you wish. If you withdraw from the interview, you have a choice of requesting the interview information to be destroyed, or allowing it to be used. Anything that you discuss in the interview will be kept confidential. You will be asked to sign a form that you agreed to participate in the research. Your name will not be included in the interview and the signed consent form will be kept separate from the interview information. The interviews will be taped and the tapes of the interview will be kept in a safe place until they are typed, and after this the tapes will be destroyed. There will be no way to identify you in the typed notes or in any written report. You will receive \$3.00 U.S. and local travel expenses for your participation in the research.

If you are interested in participating in this study you may contact the researcher through the following (provide local contact for research assistant) or you may give permission for the researcher to contact you.

If you wish the researcher to contact you, please tell us how to contact you (e.g. a telephone number or address for work or home):

☎ 613 562-5473
📠 613 562-5443

451 Smyth
Ottawa ON K1H 8M5 Canada

www.uOttawa.ca



uOttawa

Université d'Ottawa
Faculté des sciences
de la santé

École des sciences
infirmières

University of Ottawa
Faculty of Health
Sciences

School of Nursing

CONSENT FORM FOR INTERVIEWS WITH MIGRANT WOMEN

Researcher's Name: Dr. Gail Webber
Researcher's Affiliation: Student in Population Health Ph. D.
Program,
University of Ottawa
1 Stewart St. Ottawa, ON
Canada K1N 6N5
Telephone: 1 (613) 730-5970
Email:
Research Supervisor: Dr. Nancy Edwards, Professor,
Faculty of Nursing, University of Ottawa, Canada
Local Contact: Dr. Ros Socheat
International Organization for Migration, No. 46, Street 310,
Khan Chamcarmorn, P.O. Box 435, Phnom Penh.
Tel.: 23 216532 / 720406

We are asking you to participate in a research project conducted by Dr. Gail Webber, from the Ph. D. program of Population Health, University of Ottawa, Canada. The project is under the supervision of Dr. Nancy Edwards. Dr. Ros Socheat of the Cambodian office of the International Organization for Migration is the Cambodian collaborator. The purpose of the research is to understand women's experience of rural-to-urban migration and how this impacts on their health. The results of the research will be used to improve reproductive health programs for women in Cambodia.

Your participation in this research means that you will attend one or two interview sessions, lasting one to two hours each. These interviews will be scheduled at a time and private place that is convenient for you. There will be three people present, the interviewer, the Canadian researcher, and a translator. You will be asked questions about your life and experience. The questions will be focused on how your experiences may protect or put you at risk for HIV infection. Some of the information you will be asked about is personal. You may refuse to answer questions if you choose. You may also stop the interview at any time you wish. If you withdraw from the interview, you have a choice of requesting the interview information to be destroyed, or allowing it to be used. Anything that you discuss in the interview will be kept a secret. You will not be asked your name during the interview. The interviews will be taped and the tapes of the interview will be typed. The taped version will be destroyed once

☎ 613 562-5473
☎ 613 562-5443

451 Smyth
Ottawa ON K1H 8M5 Canada

www.uOttawa.ca



uOttawa

Université d'Ottawa
Faculté des sciences
de la santé

École des sciences
infirmières

University of Ottawa
Faculty of Health
Sciences

School of Nursing

the interviews are typed. The typed versions of the interviews will be kept in a safe place in the researcher's or her supervisor's office for a maximum of 10 years. There will be no way to identify you in the typed notes or in any written report. Your health care provider will not be informed of what you say. You will receive \$3.00 U.S. and local travel expenses for your participation in the research.

If you wish to request any information on your rights as a research participant, you may contact the Protocol Officer for Ethics in Research, University of Ottawa, 550 Cumberland St., Room 159, Ottawa, Ontario, Canada, K1N 6N5, telephone 1 (613) 562-5841 or at ethics@uottawa.ca. You may also contact the researcher or the local International Organization for Migration contact at the addresses above. Thank you for taking the time to help us with this research.

For research participant:

I have read the consent form (or had it read to me). I understand the research, and I am willing to participate in this research project.

Signature of Research Participant

For Research Assistant:

The research participant has been read the consent form (or had it read to them) and been given a copy of it in Khmer. The research participant gives written consent to the interview.

Signature of Research Assistant/ Translator

Signature of Researcher



uOttawa

Université d'Ottawa
Faculté des sciences
de la santé

École des sciences
infirmières

University of Ottawa
Faculty of Health
Sciences

School of Nursing

RECRUITMENT TEXT FOR KEY INFORMANTS

We are asking you to participate in a research project conducted by Dr. Gail Webber, from the Ph. D. program of Population Health, University of Ottawa, Canada. The project is under the supervision of Dr. Nancy Edwards. Dr. Ros Socheat of the Cambodian office of the International Organization for Migration is the Cambodian collaborator. The purpose of the research is to understand women's experiences of rural-to-urban migration and how this impacts on their health. The results of the research will be used to improve reproductive health programs for women in Cambodia.

Your participation in this research means that you will attend one interview session, lasting about 1 to 2 hours. This interview will be scheduled at a time and place that is convenient for you. The Canadian researcher and a translator will be present. You will be asked questions about the experience of migrant women, including their experiences with the health care system. The interviews will be taped and the tapes of the interview will be transcribed. The tapes will be destroyed after transcribing, and the transcriptions will be kept for a maximum of 10 years. There will be no way to identify you in the typed notes or in any written report, unless you give your written consent for this. If you agree to be quoted, you will have an opportunity to view the quotation before it is used in any report. It will not be used without your permission. You may also refuse to answer questions or stop the interview at any time you wish.

We are asking you to be interviewed as you are seen as an expert in the health care issues of migrant women. Thank you for considering taking part in this research. If you wish to participate, please contact the researcher directly through the following: (provide local contact for research assistant) or provide us with a means of contacting you below (e.g. a telephone number or address for work or home).

☎ 613 562-5473
📠 613 562-5443

451 Smyth
Ottawa ON K1H 8M5 Canada

www.uOttawa.ca



uOttawa

Université d'Ottawa
Faculté des sciences
de la santé
École des sciences
infirmières

University of Ottawa
Faculty of Health
Sciences

School of Nursing

CONSENT FORM FOR KEY INFORMANT INTERVIEWS

Researcher's Name: Dr. Gail Webber
Researcher's Affiliation: Student in Population Health Ph. D.
Program,
University of Ottawa
1 Stewart St. Ottawa, ON
Canada K1N 6N5
Telephone: 1(613) 730-5970
Email:
Research Supervisor: Dr. Nancy Edwards, Professor,
Faculty of Nursing, University of Ottawa, Canada
Local Contact: Local Contact: Dr. Ros Socheat
International Organization for Migration, No. 46, Street 310,
Khan Chamcarmorn, P.O. Box 435, Phnom Penh.
Tel.: 23 216532 / 720406

We are asking you to participate in a research project conducted by Dr. Gail Webber, from the Ph. D. program of Population Health, University of Ottawa, Canada. The project is under the supervision of Dr. Nancy Edwards Dr. Ros Socheat of the Cambodia office of the International Organization for Migration is the Cambodian collaborator. The purpose of the research is to understand women's experience of rural-to-urban migration and how this impacts on their health. The results of the research will be used to improve reproductive health programs for women in Cambodia.

Your participation in this research means that you will attend one interview session, lasting about 1 to 2 hours. This interview will be scheduled at a time and place that is convenient for you. The Canadian researcher and a translator will be present. You will be asked questions about the experience of migrant women, including their experiences with the health care system. The interviews will be taped and the tapes of the interview will be transcribed. The tapes will be destroyed after transcribing, and the transcriptions will be kept for a maximum of 10 years. There will be no way to identify you in the typed notes or in any written report, unless you give your written consent for this below. You may refuse to answer questions or stop the interview at any time you wish.

If you wish to request any information on your rights as a research participant, you may contact the Protocol Officer for Ethics in Research, University of Ottawa, 550 Cumberland St., Room 159, Ottawa, Ontario, Canada, K1N 6N5, telephone 1

☎ 613 562-5473
📠 613 562-5443

451 Smyth
Ottawa ON K1H 8M5 Canada

www.uOttawa.ca



uOttawa

Université d'Ottawa
Faculté des sciences
de la santé

École des sciences
infirmières

University of Ottawa
Faculty of Health
Sciences

School of Nursing

(613) 562-5841 or at ethics@uottawa.ca. You may also contact the researcher or the International Organization for Migration contact, both listed above. Thank you for taking the time to help us with this research.

Permission to quote Key Informant in written report

Please sign after one of the following statements that applies to you. Please note that if you agree to be quoted, you will have an opportunity to approve a written draft of the quote before it is used.

I do not want any of my words to be used as direct quotes.

I am willing to be quoted, but do not want my name to be used.

I am willing to be quoted and have my name used.

If I agree to be quoted, I can be reached by email at:

or by regular mail at:

Consent to Participate in Research

I agree to participate in this research project.

Name of Key Informant
Participant _____

Signature of Key Informant Participant

Name of Research Assistant _____

Signature of Research Assistant _____

☎ 613 562-5473
📠 613 562-5443

451 Smyth
Ottawa ON K1H 8M5 Canada

www.uOttawa.ca



uOttawa

Université d'Ottawa
Faculté des sciences
de la santé
École des sciences
infirmières

University of Ottawa
Faculty of Health
Sciences
School of Nursing

RECRUITMENT TEXT FOR HEALTH CARE PROVIDER FOCUS GROUPS

We are asking you to participate in a research project conducted by Dr. Gail Webber, from the Ph. D. program of Population Health, University of Ottawa, Canada. The project is under the supervision of Dr. Nancy Edwards. Dr. Ros Socheat of the Cambodian office of the International Organization for Migration is the Cambodian collaborator. The purpose of the research is to understand women's experience of rural-to-urban migration and how this impacts on their health. The results of the research will be used to improve reproductive health programs for women in Cambodia.

Your participation in this research means that you will participate in a focus group with 6 to 8 health care providers lasting about 1 to 2 hours. This focus group will be scheduled at a time and place that is convenient for you. There will be three other people present, the focus group leader, the Canadian researcher, and a translator. The purpose of this focus group is to explore the issues that impact on migrant women's risk of HIV. You will also be asked to review a questionnaire for health care providers to determine if it is appropriate for use in Cambodia. The focus group discussion will be taped, and notes will also be taken. Your identity will not be recorded during the discussion and it will not be possible to identify you in any report.

If you choose to participate in the focus group, you may decline to answer any questions, and may stop participating at any time. All members of the focus groups will be asked to keep any information shared in the group confidential. You will be compensated \$3.00 U.S. for your time.

If you are interested in participating in this study you may contact the researcher through the following (provide local contact for research assistant) or you may give permission for the researcher to contact you.

If you wish the researcher to contact you, please tell us how to contact you (e.g. a telephone number or address for work or home):

☎ 613 562-5473
📠 613 562-5443

451 Smyth
Ottawa ON K1H 8M5 Canada

www.uOttawa.ca



uOttawa

Université d'Ottawa
Faculté des sciences
de la santé

École des sciences
infirmières

University of Ottawa
Faculty of Health
Sciences

School of Nursing

CONSENT FORM FOR FOCUS GROUPS WITH HEALTH CARE PROVIDERS

Researcher's Name: Dr. Gail Webber
Researcher's Affiliation: Student in Population Health Ph. D.
Program,
University of Ottawa
1 Stewart St. Ottawa, ON
Canada K1N 6N5
Telephone: 1 (613) 730-5970
Email:
Research Supervisor: Dr. Nancy Edwards, Professor,
Faculty of Nursing, University of Ottawa, Canada
Local Contact: Dr. Ros Socheat
International Organization for Migration, No. 46, Street 310,
Khan Chamcarmorn, P.O. Box 435, Phnom Penh.
Tel.: 23 216532 / 720406

We are asking you to participate in a research project conducted by Dr. Gail Webber, from the Ph. D. program of Population Health, University of Ottawa, Canada. The project is under the supervision of Dr. Nancy Edwards. Dr. Ros Socheat of the Cambodian office of the International Organization for Migration is the Cambodian collaborator. The purpose of the research is to understand women's experience of rural-to-urban migration and how this impacts on their health. The results of the research will be used to improve reproductive health programs for women in Cambodia.

Your participation in this research means that you will attend a focus group, lasting one to two hours. These interviews will be scheduled at a time and place that is convenient for you. There will be three other people present, the focus group leader, the Canadian researcher, and a translator. You will be asked to participate in a discussion about the impact of migration on HIV prevention for women garment workers in Phnom Penh. You will also be asked for feedback on a questionnaire for health care providers on this topic. The focus group discussion will be taped, and notes will also be taken. Your identity will not be recorded during the discussion and it will not be possible to identify you in any report.

If you choose to participate in the focus group, you may decline to answer any questions, and may stop participating at any time. It is important that all members of the focus group do not

☎ 613 562-5473
☎ 613 562-5443

451 Smyth
Ottawa ON K1H 8M5 Canada

www.uOttawa.ca



uOttawa

Université d'Ottawa
Faculté des sciences
de la santé

École des sciences
infirmières

University of Ottawa
Faculty of Health
Sciences

School of Nursing

speaking about the information discussed with anyone else outside of this group. By signing this consent you agree to keep the information shared in the group confidential. You will be compensated \$3.00 U.S. for your time.

If you wish to request any information on your rights as a research participant, you may contact the Protocol Officer for Ethics in Research, University of Ottawa, 550 Cumberland St., Room 159, Ottawa, Ontario, Canada, K1N 6N5, telephone 1 (613) 562-5841 or at ethics@uottawa.ca. You may also contact the researcher or the local International Organization for Migration contact at the addresses above. Thank you for taking the time to help us with this research.

For research participant:

I have read the consent form. I understand the research, and I am willing to participate in this research project.

Signature of Research Participant

☎ 613 562-5473
📠 613 562-5443

451 Smyth
Ottawa ON K1H 8M5 Canada

www.uOttawa.ca

APPENDIX D: Phase One Guidelines for Interviews and Focus Groups

Guidelines for Semi-structured interviews with migrant women: p. 262 - 266

Interview Guidelines for Key Informant Interviews: p. 267 - 268

Guidelines for Focus Groups with Health Care Providers: p. 269

GUIDELINES FOR SEMI-STRUCTURED INTERVIEWS WITH MIGRANT WOMEN

Introduction: I am a student researcher and family physician from University of Ottawa, Canada. I am very interested in learning more about the experience of women who have migrated and the impact of their migration experience **on their ability to prevent HIV infection**. I would like to ask you some questions about your life and your experience moving from a rural to an urban area. You are not obligated to answer any questions, but your participation is very much appreciated. If you find some of the questions repetitive or feel that they don't apply to you, you may choose to pass on to the next question. You may also choose to withdraw from the study at any point. Your answers will be kept confidential, and your identity will not be connected with any written reports. Your health care provider will not be told that you participated, or what your answers were. This information will be used to help improve reproductive health programs provided to women in Cambodia. Thank you for taking the time to help us with this research.

Demographic Information

We would like to start by asking you some basic information questions:

1. How old are you?
2. Where did you grow up?
3. Did you attend school? If yes, how many years of school did you attend?
4. Are you married, single, common-law or widowed?
5. Do you have children?
6. What was your occupation before you migrated?
7. What is your current occupation?
8. What is your ethnicity?
9. What languages do you speak and understand?
10. What languages can you read?

Chain Complex Narrative (metonymical reasoning)

We are very interested in hearing about your experiences now. We would like you to take the time you need to tell us the story about migrating to the city.

11. When did you migrate to this city?
12. Did you come to the city alone? If not, who came with you?
13. Please tell me how you came to move to the city.
Probes: Whose idea was it for you to move?
Were you happy about moving to the city? Why or why not?
Were the reasons to move financial (e.g. for a good job)?
What were the other reasons you chose to move?
14. What was it like to move from your village to the city?
Probes: Did you encounter any problems or dangers when you left home?

What did you like about moving?
What did you not like about moving?

15. How did you find work when you arrived in the city?
Probes: Where did you go to look for work?
Did you have help finding work? From whom?
What do you like about your work?
What do you dislike about your work?
Who are you supporting through your work?
Are you making enough money through your work for all your needs?
What other jobs are you working at in order to make enough money?
16. How do you spend time with your friends in the city?
Probes: How did you make friends after you migrated?
Where do you go when you are not working?
What sorts of activities do you like to do when you are not working?

Prototype Narrative (analogical reasoning) [This section was not used due to length.]

We are going to ask what you know about other migrant women's experiences. Please think of your friends, acquaintances or colleagues who have migrated and tell us about their experiences. You may choose to give us different answers for different people you know.

17. What are the reasons that women leave their villages for the city?
Probes: Whose decision is it that they move?
Were they happy about the move? Why or why not?
Were the reasons for their move financial (e.g. for a good job)?
What were the other reasons they chose to move?
18. What is this move like for them?
Probes: What sorts of problems or dangers did they encounter when they moved?
What did they like about moving?
What did they dislike about moving?
19. Where do they find work when they arrived in the city?
Probes: Where did they go to look for work?
Did they have help finding work? From whom?
What do they like about their work?
What do they dislike about their work?
Are they supporting others through their work?
Are they making enough money through their work for all their needs?
What other jobs are they working at in order to make enough money?
19. How do migrant women spend time with their friends in the city?
Probes: How did they make friends after they migrated?

Where do they go when they are not working?
What sorts of activities do they like to do when they are not working?

20. How does these women's experience compare with yours?
Probes: How are your experiences different from other migrant women?
In what ways are your experiences similar to other migrant women?

Impact on Life [Questions were resumed here]

21. How has your experience of migration impacted on your life?
22. If there was anything you could change about your experience since you migrated, what would you change? Why?
23. If you were going to give advice to other women who have just migrated, what would you tell them?
24. Are there any other things you would like to tell me about your experience of migration?

Explanatory Model Narrative (causal reasoning)

We are now going to ask some questions about health. We are interested in finding out how much you know about sexually transmitted infections. Your answers will be helpful at understanding the needs of migrant women. You may find the questions very personal. We would like to remind you that your answers are confidential. Your health care provider will not be told what you say. You may refuse to answer any question.

25. What are sexually transmitted diseases (STD's)? What do you know about STD's?
Probes: Have you ever experienced an STD, or been treated for one?
How do you think you got the STD?
Do you think you are at risk for STDs now? Why or why not?
What do you do to protect yourself from STDs?
Are there other things that you wish you could do to protect yourself from STDs?
26. What do you know about HIV/AIDS?
Probes: Where have you heard about HIV?
How do people get HIV?
What are the dangers of HIV?
How can people protect themselves from getting HIV?
27. What do you think are your chances of getting HIV or AIDS?
Probes: What do you do, that may put you at risk of HIV?
What do other people do that may put you at risk of HIV (such as husbands or boyfriends)?

28. What kinds of things do you do to avoid getting HIV?
 Probes: What are the ways people can protect themselves from HIV?
 What ways have you tried?
29. What gets in the way of you keeping yourself safe from HIV?
 Probes: What would happen if you asked your husband/boyfriend to wear a condom?
 Would asking him to use a condom be difficult in any way?
 Whose job it is to get the condoms and make sure they are worn in your relationship?
 What are the other activities that you are participating in that put you at risk for HIV?

Health Care Services

We are interested in knowing about your experiences with the health care system after you moved to the city.

30. Have you been to a hospital or clinic since you moved to the city?
 Probes: What was the visit for?
 How many times have you gone to the hospital or clinic?
31. Please tell me what it was like to visit the hospital or clinic?
 Probes: What was good about this experience for you?
 Have you had any negative experiences with the health care system?
 How did you feel the health care provider treated you?
 If you had another health problem, would you return to the same clinic or hospital?
 Why or why not?
 Have your experiences with the health care system changed since you have been here?
32. How do the health care services you have experienced in the city compare with those of your home community?
 Probes: What is good about the services here?
 What is not good about the services here?
33. What is your feeling about the quality of reproductive health care in this city, for migrant women?
 Probes: What do you know about the HIV prevention services offered to migrant women in this city?
 What services for this group of women do you think are very good?
 What services for this group of women do you think are lacking or absent?
34. If it was your job to improve the health care system for migrant women, what would you do?
 Probes: What sort of training do the health care providers need?
 What sorts of programs do migrant women need or want?

Summary

35. Is there anything else you would like to tell me about moving to the city, or about receiving health care in the city?
36. The researcher intends to return to Cambodia in 2006/2007 to discuss the findings of the research with the people she interviewed, and with any other interested people. She would particularly like to hear back from those who participated to make sure that she has accurately reported what they have told her. Would you be interested in being present? We will leave the information about the meeting with a local organization. Where would you like us to leave this information? Would you be interested in receiving a copy of the final written report? If so, in what language would you prefer this?

Thank you for taking the time to participate in this study. The information you have shared will help in improving health care programs for migrant women. Please take this information on STD/HIV programs, and this stipend of \$3.00 U.S. and money for travel expenses in appreciation of your help. If you would like to ask any questions about AIDS or HIV prevention, we would be happy to try and answer them now.

INTERVIEW GUIDELINES FOR KEY INFORMANT INTERVIEWS

Introduction: I am a family physician and Ph. D. student researcher from the University of Ottawa, Canada. **I am very interested in doing research on the experience of women who have migrated and the impact of migration on their ability to prevent HIV infection.** You are an expert in this topic. We ask you to try and answer every question; however, if you feel that you cannot answer a question, you may skip it. You may also stop the interview at any time. Your answers will be kept confidential, and your identity will not be connected with any written reports without your written permission. This information will be used to help improve the health care services provided to women. Thank you for taking the time to help us with this research.

1. What experience do you have working with women who have experienced rural-to-urban migration?
2. How does the experience of migration impact on women's health status?
Probes: What are the positive impacts of migration on their health?
What are the negative impacts of migration on their health?
Does their access to health care services change after migration?
3. Are migrant women at risk for HIV? Why or why not?

Vulnerability to illness may be a result of many factors at several levels. For example, individuals may be more vulnerable to diabetic complications for individual/relationship reasons, community reasons, and structural/policy reasons. For example, individual reasons that people are vulnerable to diabetic complications include their genetic make-up, their food choices, and their exercise behaviour. Relationship factors include good family support. Similarly, with respect to HIV prevention, there are multiple layers of factors that impact. We would like to ask you about these.

4. What are the individual/relationship factors that may increase the vulnerability of migrant women in Cambodia to HIV?
Probes: Are migrant women able to protect themselves from HIV in their sexual relationships? Why or why not?
Are there other activities that migrant women participate in that put them at risk for HIV? Please describe.

Community factors that put individuals at risk of complications from diabetes include access to health care, and availability of medications and healthy food choices.

5. What are the community factors that may increase vulnerability of migrant women in Cambodia to HIV?
Probes: How is the access to health care for migrant women?

Are there particular occupations that are common to migrant women in this city that put them at risk? Is so, please describe.

Are condoms readily available and affordable for migrant women?

Finally, structural factors including cultural practices such as certain food choices can have an impact on diabetic complications as well. An example of a policy that may have impact on HIV prevention is the requirement for a mandatory premarital health assessment.

6. What are the structural/policy factors that may increase the vulnerability of migrant women in Cambodia to HIV?
Probes: Are migrant women affected by stigma in Cambodia? Please tell me more about this.
Please tell us about any cultural practices of migrant women that may affect HIV prevention for these women.
Are there policies within the health care system that impact on HIV prevention for these women? If so, what are they?
Are there government (city/county/provincial/national) policies that impact on HIV prevention for this population of women? Please describe.
Does the government have policies about migration or employment that may impact on HIV prevention for these women? Again, please describe these.
What positive steps are being taken by the government at the provincial and national levels to promote HIV prevention for migrant women?
7. What is the experience of these women in the health care system in the city?
Probes: How does health care for these women compare before and after their migration experience?
Do migrant women have any difficulties obtaining health care in the city?
If yes, what are the barriers for migrant women obtaining health care in the city?
8. What are the gaps in health care service delivery for migrant women?
Probe: What improvements would you like to see made to health care service delivery and policies for migrant women?
9. Are there any other issues you think we should know about that impact on HIV prevention for rural-to-urban migrant women?
10. Are there any other sources of information about the impact of rural-to-urban migration on HIV prevention for women that you would suggest I investigate?
Probes: Who else should I talk with about this issue?
What documents or reports should I read to know more about this issue?
Do you have any ideas about where I could find research assistants to help me?

GUIDELINES FOR FOCUS GROUP WITH HEALTH CARE PROVIDERS

Introduction: I am a family physician and Ph. D. student researcher from the University of Ottawa, Canada. I am very interested in doing research on the experience of women who have migrated and the impact of migration on their health. As a health care provider, you are an expert in this topic. The purpose of this group is to discuss the issues that you feel are important in HIV prevention for migrant women garment workers, and to review a questionnaire for health care providers. We would like all members to participate, however, if you feel that you cannot answer a question or do not want to, you may choose to remain silent. You may also withdraw from the focus group at any time. All members participating in the focus group are expected to keep the discussion here confidential. This information will be used to help improve the health care services provided to migrant women. Thank you for taking the time to help us with this research.

1. What do you feel are the most important issues that prevent migrant women from protecting themselves from HIV?
2. What are the problems you face as health care providers, trying to help migrant women protect themselves from HIV?

I would like to take the rest of our time together to review a survey of health care providers that we will be doing later this year. We hope to survey a large group of health care providers in Phnom Penh and we need your help to make sure this survey is appropriate for use in Cambodia. Parts of this survey have been used in China by other researchers, and parts of the survey are new. (Distribute draft copies of questionnaire).

3. Thank you for your time, and for helping us improve this questionnaire. Are there any other comments on this issue that you would like to make now?

Please accept this \$3.00 stipend as appreciation for the time you have given up to do this work. Please remember to keep all the information we discussed today confidential. We hope to use this questionnaire with your colleagues in several months time so it is important that you do not discuss this information with them. Thank you again for your help.

APPENDIX E:

Chinese Health Care Providers' Attitudes about HIV: A Review

Gail Webber

This paper has been published in *AIDS Care* May 2007, 19 (5): 685-691.
Reprinted with permission of Taylor and Francis (see Appendix H).

Abstract

China has one of the fastest growing HIV epidemics in the world with an increase of reported cases of about 30% yearly (UNAIDS, 2004). As the epidemic has grown, there have been several studies of health care provider attitudes towards HIV in China over the last 15 years. While attitudes have evolved, misconceptions about transmission of HIV, low levels of support for people living with HIV/AIDS and stigmatized groups, and a poor understanding of the importance of condoms in HIV prevention, remain. The studies are limited by a weakness of survey instruments and an absence of focus on the gendered nature of the HIV epidemic. Recommendations for future research in this area include development of a theoretical base, consideration of gender and stigma, and incorporation of these issues into the survey instruments.

Key Words

China; health care providers; attitudes; HIV; gender

Chinese Health Care Providers' Attitudes about HIV: A Review

Introduction

Since the beginning of the HIV epidemic, there has been considerable research interest about attitudes towards HIV/AIDS, and increasingly during the 1990's, health care providers' attitudes have been a focus (Valimaki, Suominen, & Peate, 1998). Stigma surrounding individuals with HIV/AIDS and fear of contagion are key elements in negative attitudes of health care providers towards those people living with HIV or AIDS (PLWHA) (Haddock & McGee, 1992; Brown, Macintyre, & Trujillo, 2003) and have contributed to professionals altering career decisions in order to avoid AIDS patients (Wallack, 1991). Brown and colleagues have described the stigma that surrounds HIV/AIDS as a layering of fears. Stigma towards individuals such as homosexuals and sex workers, or behaviours such as intravenous drug use, contribute to a fear of illness and death in the health care provider (HCP). These may lead to secondary stigma where those who are close to PLWHA (such as family members or HCP themselves) also experience the negative results of HIV/AIDS stigma (Brown *et al.*, 2003).

Limitations of Health Care Provider Attitude Studies

There are various methodological limitations of research into HCPs attitudes towards HIV/AIDS documented in the literature. Haddock and McGee are critical of the early studies for sampling limitations (focusing mainly on medical and nursing staff), measurement inconsistency (lack of validity or reliability of measures), and lack of control for care setting and patient population (Haddock *et al.*, 1992). The validity, reliability and generalizability of self-administered questionnaires of knowledge and

attitudes towards HIV/AIDS have been questioned by others (Hingson & Strunin, 1993; Horsman & Sheeran, 1995), while lack of direct observation of behaviour changes is another weakness (Brown *et al.*, 2003). In addition to their critique of the literature on HCPs and HIV for its emphasis on self-report questionnaires and lack of standardized instruments, Horsman and Sheeran point out that a theoretical base is almost entirely lacking in this literature (Horsman *et al.*, 1995). Valimaki and colleagues call for more international comparisons of research, a comprehensive overview of how attitudes have been investigated and an analysis of the advantages and disadvantages of documented methodologies (Valimaki *et al.*, 1998).

While there is a recognition in the literature by some that attitudes appear to be closely linked with levels of knowledge, gender, and culture (Valimaki *et al.*, 1998) there has been very little documentation of HCPs understanding of the gendered nature of both the HIV epidemic (Horsman *et al.*, 1995) and HIV stigma (Brown *et al.*, 2003). Horsman and Sheeran maintain that attitudes towards sexuality may limit sexual history-taking, thus preventing effective screening and counselling for HIV. Risk counselling, an effective prevention measure, is hindered by HCPs discomfort addressing issues of sexuality. Negative attitudes towards female sexuality and sexual double standards, may impact on the care (or lack of it) that female sex workers and women having extramarital relationships receive from health care personnel. These authors point out that women are often given the responsibility of preventing the epidemic, and the blame for its spread. In addition to gender issues, attention to race and ethnicity is also lacking in much of the research on health care provider attitudes (Horsman *et al.*, 1995).

HIV in China and Health Care Providers' Attitudes

While the first case of AIDS in China was detected in 1985, much has changed in the last two 2 decades. China currently has one of the fastest growing HIV epidemics in the world with an increase of reported cases of about 30% yearly. It is estimated that the number of people living with HIV/AIDS could reach 10 million by the end of 2010 if the epidemic is allowed to continue at its current rate (UNAIDS, 2004). The Chinese government has been accused of not responding to the urgency of this escalating public health problem. The UN Theme Group on HIV/AIDS has summarized the context of the slow Chinese response:

Some of the major factors that have contributed to the relatively slow response to AIDS in China comprise insufficient openness in confronting the epidemic, a lack of commitment and leadership at many layers of government, especially provincial and local levels, a lack of adequate resources, a crumbling public health care system, and severe stigma and discrimination by people infected or affected by HIV/AIDS (UN Theme Group on HIV/AIDS in China, 2002, p.7).

Prevention of HIV is a global priority, and the attitudes of health care providers are a key dimension to successful prevention efforts. In order to review the state of the research on the HIV attitudes of HCP in China, a search of medline and embase was conducted on September 4, 2005 using the search words *Health personnel (Medline)* or *health care personnel (Embase)* and *HIV or AIDS and attitudes and China*. The search was limited to English language studies. *Pubmed* was searched with limitations (AIDS, human, and English) and the search terms *health care workers, attitudes, and China*. The purpose of this review was to determine (1) the attitudes of Chinese HCP to HIV prevention and gender issues, (2) the instruments used to measure these attitudes, and (3) recommendations for future research in this area. The search yielded

fourteen studies; two papers were excluded from the analysis as they consisted of brief descriptions of HIV/STD training programs (Xia, Yang, & Wei, 2001; Tucker *et al.*, 2004). The remaining twelve studies are summarized in the table below (Table E.1).

Table E.1: Summary of Chinese Studies of Health Care Providers and HIV

Study	Design/Tool	Measures
Survey of Senior health care personnel from 20 provinces across China, (Li <i>et al.</i> , 1992)	Cross-sectional survey Modified WHO-GPA Questionnaire. N=68, convenience sample	Knowledge, sources of information, attitudes towards AIDS and sex education, sexual relations and condoms.
Survey of Medical Students from Guanzhou, (Li, Cole, Zhang, & Chen, 1993)	Cross-sectional survey Modified WHO Knowledge, Attitudes, Behaviour and Practice Questionnaire for Students. N=322, convenience sample	Information sources, HIV-specific knowledge, and HIV-specific attitudes (empathy with risk groups, government support for control of epidemic, fear and anxiety, and behaviour change in self and others).
Survey of HCP from 11 provinces and regions, (Wu, Qi, Zeng, & Detels, 1999)	Cross-sectional survey 13 item questionnaire, N=1400, (of 1500) randomly selected	Knowledge about HIV including transmission, meaning of universal precautions. No assessment of attitudes.
Training intervention of nurses at Hunan Medical School, (Burgess, Watkins, & Williams, 2001)	Description of training session on HIV by visiting American nurses, N=35	Nurses took part in three workshops about HIV, taking sexual and drug histories, teaching skills, and aspects of living with HIV. No formal evaluation reported.
Survey of medical postgraduates from 2 medical colleges in Beijing and Hebei, (Wang & Zhang, 2002)	Cross-sectional survey 23 items on AIDS knowledge and condom attitude survey, N=271, convenience sample	Basic knowledge about HIV transmission and attitudes towards condoms. Relationship between AIDS-related attitude and condom use.
Survey of dentists in Wuhan City (Du, Wu, Jiang, & Bedi, 2002)	Cross-sectional survey 16 item questionnaire N=267 (of 500) randomly selected	Attitudes towards patients with HIV/AIDS, knowledge of HIV transmission, and infection-control practices with the dental surgery.

Train the trainers workshop interventions with HCP and villagers, Fuyang Prefecture, Anhui province (Wu et al., 2002)	Cross-sectional survey and workshops with follow-up interim and final surveys in intervention and non-intervention communities. Total 563 intervention/ 270 non-intervention HCP completed final survey. Random selection of original trainers and communities.	Knowledge about HIV, attitudes towards HIV prevention and PLWHA, and personal sexual behaviour.
Informational lecture intervention at West China University of Medical Sciences, and Chengdu City, Dept of Public Health, Chengdu, Sichuan, (Buskin, Li, Yin, Yu, & McGough, 2002)	Pre and post questionnaires after 2 informational lectures 12 item questionnaire, 21 completed at university and 101 at Public Health Dept., convenience sample	Knowledge about HIV transmission, and basic knowledge about HIV Some assessment of attitude change.
Training intervention with nursing students in Changsha, (Wang, Fennie, He, Burgess, & Williams, 2003)	Quasi-experimental design with 2 nursing classes, intervention class received structured training intervention. N=106 in both experimental and control gps, convenience sample	Knowledge about universal precautions, and data on professional behaviour. No assessment of attitudes.
Survey of hospital-based healthcare professionals in Guangxi Zhuang Autonomous Region, (Anderson, Zheng, Wu, Li, & Liu, 2003)	Cross-sectional survey, 18 item questionnaire 149 HCP from 3 hospitals, Convenience sample of nurses and physicians	Knowledge of HIV transmission, each hospital's HIV control policies, and attitudes towards infected patients.
Survey of nurses from First Affiliated Hospital of Jiamusi University, Heilongjiang province (Chen, Han, & Holzemer, 2004)	Cross-sectional survey with 3 separate instruments N=177 (of 186), sampling procedure not described	"Knowledge and Attitude Survey", "HIV Knowledge Questionnaire" and "HIV Attitude Questionnaire", looking at HIV transmission, HIV prevention, attitudes towards condom use, and related attitudes
Survey of pregnant women and health professionals in Yunnan province (Hesketh, Duo, Li, & Tomkins, 2005)	Cross-sectional survey of 840 pregnant women (during antenatal visits) and 780 HCP. Convenience sample from 12 hospitals in 4 HIV high prevalence areas of Yunnan.	HIV knowledge, attitudes to PLWHA, and attitudes to HIV testing.

Attitudes of Chinese Health Care Providers

Of the twelve studies of Chinese HCPs, three did not assess HCP attitudes to HIV. One paper was a descriptive report of a training intervention, but there was no assessment of either knowledge or attitudes of those who attended (Burgess *et al.*, 2001). Two other studies focussed on an assessment of HIV knowledge only; attitudes were not addressed in the study. The first of these was a large cross-sectional survey of 1400 HCPs in 11 provinces and regions (Wu *et al.*, 1999). This study documented that HCPs in Yunnan province were the most knowledgeable at the time, and there was clearly a need for training of HCPs working below the provincial level, specifically at the prefecture level and in rural areas. The second of the Chinese studies focussing solely on knowledge was a training intervention to reduce needle-stick injuries for nurses in Changsa, Hunan (Wang *et al.*, 2003). While the authors did see some success with their intervention, they noted that Chinese hospital policy worked against safe needle use as nurses were expected to remove needles from syringes (an activity which is known to result in needle-stick injuries), and glove use was not actively encouraged because of the cost, lack of trainer knowledge of universal precautions, and the relative lack of emphasis on occupational safety in the Chinese health care culture. The remaining nine studies addressed HCP attitudes as well as knowledge and will be discussed in greater detail below.

The nine studies that assessed HCP knowledge and attitudes to HIV span a period of more than a decade, during which time the HIV epidemic in China had taken hold, and sexual attitudes in this society had begun to shift (Zhang, Li, Li, & Beck, 1999). Early studies indicate a lack of trust in government sources about HIV amongst senior

health administrators and educators (Li *et al.*, 1992) and medical students (Li *et al.*, 1993). (Over half of the medical students in the latter study agreed with the statement that AIDS was a result of germ warfare.) Several studies noted a generally high level of knowledge on modes of transmission, although there were also many misconceptions about ways HIV could be transmitted (Li *et al.*, 1992; Li *et al.*, 1993; Du *et al.*, 2002; Chen *et al.*, 2004). In Chen's study for example, nurses from a north-eastern region of China were aware of the risks of blood transfusion (94.9%), sharing needles (88%), sexual intercourse (96.6%), and maternal transmission (91.4%) however, they also believed that contact with an HIV-positive person (84.6%), handling belongings of an HIV positive person (87.4%), and insect bites (79%) could transmit HIV (Chen *et al.*, 2004). Relatively few HCPs (only 57%) were aware of the risks of breastfeeding to babies in HIV prevalent regions in Yunnan (Hesketh *et al.*, 2005). Fortunately, a train-the-trainer intervention showed success in improving knowledge of how HIV can and cannot be transmitted, and means of prevention (Wu *et al.*, 2002). Knowledge did not always transmit to behaviour changes, however, as Du and colleagues noted about dentists in Wuhan city. While 60% were aware that blood was the most likely route of transmission, and a large percentage believed in saliva as a means of transmission, 85% did not sterilize their hand pieces between patients, and only 40% changed their gloves (Du *et al.*, 2002).

In addition to commenting on lack of trust with government, status of knowledge, and effects on behaviour changes, these nine studies assessed attitudes in Chinese HCP in three specific areas. Attitudes towards PLWHA or stigmatized groups

associated with HIV, sexuality including sexual education and extra-marital sex, and condom use were discussed in these papers and are summarized below.

The views of Chinese HCP towards PLWHA and those belonging to so-called *high risk* groups such as sex workers and drug users are likely a reflection of Chinese society, and were no doubt affected by early government propaganda. Li and colleagues survey of medical students in 1989 documented that these students blamed CSWs (43.4%) and IDUs (22%) for the HIV epidemic. Two thirds of the group surveyed felt that people infected with AIDS got what they deserved (Li *et al.*, 1993). A decade later, Anderson's group found that 16.1% of their sample of hospital-based HCP agreed that HIV was a problem for CSWs and IDUs, but not for healthcare workers (Anderson *et al.*, 2003). Hesketh and colleagues study specifically looked at attitudes toward PLWHA with some concerning results: only 64 % HCP believed PLWHA should be allowed to get married, while a mere 48% thought they should be permitted to have children, and 23% thought AIDS was a disease only of low class and illegal people (Hesketh *et al.*, 2005).

Attitudes towards treating PLWHA were also disconcerting in the studies. The study of Wuhan dentists demonstrated that while 92.5% felt dentists had an ethical obligation to treat HIV positive people, only 63.2% would be willing to do so personally (Du *et al.*, 2002). A majority of the nurses (64.1%) in Chen's study reported having sympathy towards HIV positive patients, however, about half admitted they avoided contact with these patients (Chen *et al.*, 2004). While 62% of HCPs in the Yunnan study were willing to treat PLWHA, 82% stated that they would prefer not to (Hesketh *et al.*, 2005). Such attitudes can be improved with training

interventions at least in the short-term. Wu and colleagues were able to increase sympathy and willingness to care for PLWHA from 63.8% to 96.6% with their train-the-trainer intervention (Wu *et al.*, 2002). Even a one-time lecture demonstrated an increase in self-reported willingness to work with or sit next to a PLWHA from 57% to 79% (Buskin *et al.*, 2002).

The attitudes of Chinese HCP towards sex education and extra-marital sex appear to be shifting along with those of the society within which they reside. Li and colleagues study of senior health administrators and educators showed high support (85 to 95%) of sex education for particular groups, including policy makers and high school students. There was less agreement regarding sex education at the elementary school level (less than 50% support, and about one third opposed). The same group demonstrated a higher approval for premarital sex than extramarital sex, though there was a considerable gender bias evident: 61.2% of this mixed gender group showed approval for an unmarried man having sex with his girlfriend, while only 41.8% supported the same behaviour in a woman. Interestingly, 4.5% of this group admitted to extra-marital sex within the previous four weeks (Li *et al.*, 1992). The study of the north-eastern Chinese nurses revealed support for sex education and HIV prevention messages as early as middle school, however, less than half the group of mostly married females (only 2% men) endorsed premarital sex (Chen *et al.*, 2004).

Attitudes to condom use reflect willingness to promote HIV prevention behaviour and thus are particularly salient to our discussion. Four of the studies of Chinese HCPs addressed attitudes towards condom use. Both Li and Wang's studies demonstrated that Chinese HCPs associate condoms with contraception rather than STD prevention

(Li *et al.*, 1992; Wang *et al.*, 2002). In the latter study, which focussed on recent medical postgraduates, a disappointing 14.4% persisted in using condoms, while over one quarter of the group (28%) had never or almost never used them. While the train-the-trainer intervention improved condom use in the intervention group, the impact was relatively low, and not enough to prevent the HIV epidemic (18.5% in the intervention group versus 2.9% in the control group) (Wu *et al.*, 2002). The north-eastern Chinese nurses showed better understanding of condom use, and almost three quarters of the participants agreed that condoms can prevent HIV/AIDS, however, just under a half felt that they were too expensive to use frequently (Chen *et al.*, 2004).

Hesketh's study included attitudes to HIV testing, in preparation for the implementation of voluntary counselling and testing programs (VCT) for HIV. Most HCPs felt that HIV tests should be mandatory at the premarital examination (96%) or for pregnant women (94%). The authors surmise that this preference for mandatory testing should be interpreted in the context of a society where choice is limited, particularly in the area of reproduction. This group of HCPs was also supportive of abortions for PLWHA: 66% stated they would seek an abortion if they or their partner had HIV (Hesketh *et al.*, 2005).

In summary, the research on Chinese HCP attitudes towards HIV demonstrated a generally low level of support for PLWHA and stigmatized groups, and, with the exception of the recent nurses' study (Chen *et al.*, 2004), a disappointingly poor understanding of HIV prevention. Mandatory testing was favoured by most of the Yunnan HCPs surveyed (Hesketh *et al.*, 2005), although it is generally felt in most developed countries that mandatory testing is not ethical and that it in fact works

against prevention by increasing stigma. Sexual attitudes of HCPs showed some evidence of gender bias: premarital sex was perceived as more acceptable for men than for women. There was otherwise no analysis of HCP attitudes or understanding of the gendered nature of the HIV epidemic evident in the literature on Chinese health care providers.

Survey Instruments

A second goal of this review was to consider the instruments utilized in the studies. The tools used to measure HCP attitudes in China included two standardized WHO questionnaires (Li *et al.*, 1992; Li *et al.*, 1993), and several specifically designed short surveys (most of the remaining studies). Generally, there was no reporting on the reliability of the surveys used, nor was there an attempt to compare with other populations. The exception to this trend was Chen's nurses' study which used three separate instruments (1) the Knowledge and Attitude survey from the State Family Planning Commission of China (unpublished but validity and reliability tested), (2) the HIV Knowledge Assessment previously tested in a study of Chinese STD patients (Wang, Jiang, Siegal, Falck, & Carlson, 2001), and (3) the HIV Attitude Questionnaire which had not been used previously in China and was thus reliability tested for the purposes of this study (Chen *et al.*, 2004). The authors of the study of pregnant women and HCPs adapted their knowledge survey from existing tools, while they wrote the attitude questions themselves (Hesketh *et al.*, 2005).

In summary, the Chinese HCP surveys suffer from the international criticisms made earlier: lack of direct observation of behaviour changes and understanding of HIV stigma (Brown *et al.*, 2003), an absence of questioning about the gendered nature

of the HIV epidemic (Horsman *et al.*, 1995), and weaknesses of the survey instruments are limitations of this research. In addition, comparisons of different HCP populations would be facilitated by use of the same survey instrument across different studies.

Recommendations for Future Research

Unfortunately, the prevalence of risk behaviours associated with HIV remain concerning in China, as they are elsewhere in Asia: injection drug use and commercial sex are popular pursuits, condom use remains low, and vast numbers of migrant workers are particularly vulnerable to infection (Yang *et al.*, 2005; Qian, Vermund, & Wang, 2005). Chinese government policies have evolved to meet the burgeoning epidemic: China is currently striving to provide free anti-retroviral medications to all of its population in need (Shen & Yu, 2005). Despite the improved governmental climate, however, there remain challenges with implementation. While large numbers of HCPs have received appropriate training, there are still gaps between their knowledge and its application (Zhang, Pan, Yu, Wen, & Zhao, 2005). He and Detels warn that the limited availability of well-trained HCPs is China's most severe barrier to implementing successful HIV/AIDS prevention and control programs (He & Detels, 2005).

As China and its Asian neighbours deal with the human resource demands accompanying the rise in HIV/AIDS in the region, there are lessons to be learned for future research. The concluding discussion will focus on recommendations for future research of health care provider attitudes and HIV. Future researchers should consider the (1) development of the theoretical base for such studies, (2) incorporation of the

dimensions of gender and stigma into the research, and (3) means to inform the survey instruments of the relevant issues.

In considering theories to apply to research on health care provider attitudes and HIV, there are many to choose from. The early theorists in HIV prevention focussed on education as the means to prevent the epidemic, however, critics have noted that the focus solely on education neglected the larger context within which decisions are made about risk behaviour, particularly for women (Amaro, 1995). Other theorists recognized that context was critical, for example, Wingood and Diclemente applied Connell's Theory of Gender and Power to HIV risk for women. They noted that power over women was a key dimension in women's risk of acquiring HIV: those who were poor, belonged to ethnic minorities, or lacked access to HIV prevention resources were more at risk, as were women with an abusive or controlling partner who refused to use a condom (Wingood & Diclemente, 2002). Parker and Aggleton also found that power and domination figured significantly in their stigma and discrimination conceptual framework. They noted that stigma should be perceived as a social process in which certain groups are made socially unequal, and thus become excluded (Parker & Aggleton, 2003).

While it was not developed specifically for use in HIV research, ecologic perspectives have much potential here in the consideration of the importance of context to HIV risk and prevention. Ecologic perspectives take account of the factors outside of the individual that impact on him or her such as family, community, and structural factors (Bronfenbrenner, 1979; McLaren & Hawe, 2005). Application of ecologic theory to HIV risk and prevention research provides a space for key concepts

such as stigma and gender power dynamics, and thus holds promise as a theoretical framework for this research in the future.

Once there is a theoretical base which includes the concepts of stigma and gender issues for this research, creative and effective means of incorporating these concepts into the research must occur. Contextual issues are notoriously challenging to address through solely quantitative means. Incorporation of qualitative research methods is needed to understand the context of HIV prevention and risk, particularly for marginalized populations. For example, interviews or focus groups with populations at risk will go much farther than surveys to revealing the important contextual issues. Similarly, for HCP attitude research, it may be appropriate to determine the key ecologic variables impacting the population served prior to surveying the HCPs, to ensure the validity of the research.

As the Chinese government and other Asian nations roll out treatment programs for HIV/AIDS across the region, more HCPs will be called upon to actively take part in the screening and managing of this disease. In order to be effective, HCPs must understand the context in which HIV is acquired or prevented for the population they serve, including the specific issues affecting stigmatized groups and women. Without a doubt, addressing the HIV epidemic in the most populous region on earth will require the active participation of all, particularly the front line health care providers and the researchers who study them.

References

Amaro, H. (1995). Love, sex and power: Considering women's realities in HIV prevention. *American Psychologist*, *50*, 437-447.

Anderson, A. F., Zheng, Q., Wu, G., Li, Z., & Liu, W. (2003). Human immunodeficiency virus knowledge and attitudes among hospital-based healthcare professionals in Guangxi Zhuang Autonomous Region, People's Republic of China. *Infection Control & Hospital Epidemiology*, *24*, 128-131.

Bronfenbrenner, U. (1979). *The ecology of human development: experiments by nature and design*. Cambridge: Harvard University Press.

Brown, L., Macintyre, K., & Trujillo, L. (2003). Interventions to reduce HIV/AIDS stigma: What have we learned? *AIDS Education and Prevention*, *15*, 49-69.

Burgess, J., Watkins, C. W., & Williams, A. B. (2001). HIV in China. *Journal of the Association of Nurses in AIDS Care*, *12*, 39-47.

Buskin, S. E., Li, L., Yin, H., Yu, T., & McGough, J. P. (2002). HIV/AIDS knowledge and attitudes in Chinese medical professionals and students before and after an informational lecture on HIV/AIDS. *Journal of Public Health Management & Practice*, *8*, 38-43.

Chen, W. T., Han, M., & Holzemer, W. L. (2004). Nurses' knowledge, attitudes, and practice related to HIV transmission in Northeastern China. *AIDS Patient Care & Stds*, *18*, 417-422.

Du, M., Wu, Z., Jiang, H., & Bedi, R. (2002). HIV and AIDS in China: Attitudes of dentists towards provision of care and infection control - A pilot study. *International Journal of Health Promotion & Education*, *40*, 36-39.

Haddock, C. C. & McGee, G. W. (1992). HIV-related knowledge, attitudes, and stress among health care providers: A literature review and research agenda. *Journal of Health Administration Education*, *10*, 559-576.

He, N. & Detels, R. (2005). The HIV epidemic in China: History, response, and challenge. *Cell Research*, *15*, 825-832.

Hesketh, T., Duo, L., Li, H., & Tomkins, A. M. (2005). Attitudes to HIV and HIV testing in high prevalence areas of China: Informing the introduction of voluntary counselling and testing programmes. *Sexually Transmitted Infections*, *81*, 108-112.

Hingson, R. & Strunin, L. (1993). Commentary: Validity, reliability, and generalizability in studies of AIDS knowledge, attitudes, and behavioural risks based on subject self-report. *American Journal of Preventive Medicine*, *9*, 62-64.

- Horsman, J. M. & Sheeran, P. (1995). Health care workers and HIV/AIDS: A critical review of the literature. *Social Science & Medicine*, *41*, 1535-1567.
- Li, V. C., Clayton, S., Cheng-Zhang, C., Zian, Z. S., Guang-Jen, Y., & Mei, G. (1992). AIDS and sexual practices: Knowledge, attitudes, behaviors, and practices of health professionals in the People's Republic of China. *AIDS Education & Prevention*, *4*, 1-5.
- Li, V. C., Cole, B. L., Zhang, S. Z., & Chen, C. Z. (1993). HIV-related knowledge and attitudes among medical students in China. *AIDS Care*, *5*, 305-312.
- McLaren, L. & Hawe, P. (2005). Ecological Perspectives in health research. *Journal of Epidemiology and Community Health*, *59*, 6-14.
- Parker, R. & Aggleton, P. (2003). HIV and AIDS-related stigma and discrimination: A conceptual framework and implications for action. *Social Science & Medicine*, *57*, 13-24.
- Qian, Z. H., Vermund, S. H., & Wang, N. (2005). Risk of HIV/AIDS in China: Subpopulations of special importance. *Sexually Transmitted Infections*, *81*, 442-447.
- Shen, J. & Yu, D. B. (2005). Governmental policies on HIV infection in China. *Cell Research*, *15*, 903-907.
- Tucker, J. D., Jia, C., Henderson, G. E., Cohen, M. S., Davis, J. A., & Wang, X. C. (2004). Online HIV/STI Chinese clinician training. *Sexually Transmitted Infections*, *80*, 154.
- UN Theme Group on HIV/AIDS in China (2002). HIV/AIDS: China's Titanic peril: 2001 update of the AIDS situation and needs assessment report. Retrieved from www.dec.org/pdf_docs/PNACP742.pdf
- UNAIDS (2004). *2004 Report on the global AIDS epidemic*. Geneva: UNAIDS.
- Valimaki, M., Suominen, T., & Peate, I. (1998). Attitudes of professionals, students and the general public to HIV/AIDS and people with HIV/AIDS: A review of the research. *Journal of Advanced Nursing*, *27*, 752-759.
- Wallack, J. J. (1991). AIDS and the health care professional: Evolving attitudes and strategies to effect change. *Psychiatric Medicine*, *9*, 483-501.
- Wang, H., Fennie, K., He, G., Burgess, J., & Williams, A. B. (2003). A training programme for prevention of occupational exposure to bloodborne pathogens: impact on knowledge, behaviour and incidence of needle stick injuries among student nurses in Changsha, People's Republic of China. *Journal of Advanced Nursing*, *41*, 187-194.

Wang, J., Jiang, B., Siegal, H., Falck, R., & Carlson, R. (2001). Level of AIDS and HIV knowledge and sexual practices among sexually transmitted disease patients in China. *Sexually Transmitted Diseases*, 28, 171-175.

Wang, L. & Zhang, K. L. (2002). AIDS-related knowledge, condom usage among medical postgraduates. *Biomedical & Environmental Sciences*, 15, 97-102.

Wingood, G. M. & Diclemente, R. J. (2002). The Theory of Gender and Power: A social structural theory for guiding public health interventions. In R.J.Diclemente, R. A. Crosby, & M. A. Kegler (Eds.), *Emerging Theories in Health Promotion Practice and Research* (pp. 313-346). San Francisco: Jossey-Bass.

Wu, Z., Detels, R., Ji, G., Xu, C., Rou, K., Ding, H. et al. (2002). Diffusion of HIV/AIDS knowledge, positive attitudes, and behaviors through training of health professionals in China. *AIDS Education and Prevention*, 14, 379-390.

Wu, Z., Qi, G., Zeng, Y., & Detels, R. (1999). Knowledge of HIV/AIDS among health care workers in China. *AIDS Education and Prevention*, 11, 353-363.

Xia, Q., Yang, P., & Wei, X. (2001). STD/AIDS training for medical college students in China. *International Journal of STD & AIDS*, 12, 203.

Yang, H., Li, X., Stanton, B., Liu, H., Liu, H., Wang, N. et al. (2005). Heterosexual transmission of HIV in China: A systematic review of behavioral studies in the past two decades. *Sexually Transmitted Diseases*, 32, 270-280.

Zhang, F. J., Pan, J., Yu, L., Wen, Y., & Zhao, Y. (2005). Current progress of China's free ART program. *Cell Research*, 15, 877-882.

Zhang, K., Li, D., Li, H., & Beck, E. J. (1999). Changing sexual attitudes and behaviour in China: Implications for the spread of HIV and other sexually transmitted diseases. *AIDS Care*, 11, 581-589.

APPENDIX F: Phase Two Survey of Health Care Providers

**Sample letter for Clinics and pharmacies to get permission for recruitment for
Questionnaire of Health care providers: p. 289**

Questionnaire with Health Care Providers: p. 290 – 301

Cambodian HCP Questionnaire:

Origin of HIV Knowledge and Attitude Questions: p. 302 - 303

Cambodian HCP Questionnaire: Key for Analysis: p. 304

**Sample letter for Clinics and pharmacies to get permission for recruitment for
Questionnaire of Health care providers (translated into Khmer)**

Instructions to Research Assistants: If they refuse to sign, but agree to the research, the research assistant should still put all the information down, and they should document time, date, and place that this information was given, and document consent was given by signing their name (only the signature of the clinic manager is blank). Please note that they only need to get permission from the head of the clinic/pharmacy owner. When we return we will then approach the staff to do the survey.

Dear Dr. Webber,

We understand that you are planning on conducting a survey of health care providers about HIV knowledge and attitudes, and behaviour. We understand that you are focussing on health care providers who provide services for the migrant garment factory workers. The _____ (name of institution) would be pleased to participate in your survey. We understand that the survey will be conducted in November/December 2006, and will require 20-30 minutes of our staff's time. We understand that no compensation will be given, however, a snack will be provided. We also understand that we may receive a written report about the research if we wish. You have provided us with documentation of approval from the Cambodian Ministry of Health, National Ethics Committee. We recognize that this letter is required by your university ethics committee. Again, we are happy to participate in this study of Cambodian health care providers.

Yours sincerely,

Name

Signature

Seal if available.

Position

Institution Name

Date

Time

Place

I certify that the above individual provided consent to this research.

Research Assistant
Name

Research Assistant Signature

CODE NUMBER _____

“The Impact of Rural-to-Urban Migration on HIV Prevention for Cambodian Women”

**Principal Investigators: Dr. Gail Webber (University of Ottawa, Canada)
and Dr. S. Ros (IOM Cambodia)**

QUESTIONNAIRE WITH HEALTH CARE PROVIDERS

November/December 2006

(Note to research assistant: DO NOT document the name of the health care provider on this document; the questionnaire is to be identified by code number only.)

Read to research participant:

This questionnaire is for health care providers who provide care in reproductive health to migrant women garment factory workers. We are interested in your knowledge and views about health issues related to sexual health and HIV. The questionnaire will begin with some basic information about yourself, and then will ask you more specific questions about different health topics. Please give the best answer you can. Your name will not be written on the questionnaire. No one will know how you have responded to each question, therefore you can be completely honest in your answers. Thank you for taking the time to do the questionnaire. Your contribution is much appreciated.

CODE NUMBER _____

DEMOGRAPHIC INFORMATION

These questions are about you, and about your place of employment. Please indicate the appropriate response or responses.

QUESTION

RESPONSE

<p>1. What is your age in years?</p>	<p>1 = <20 years 2 = 20-29 years 3 = 30-39 years 4 = 40-49 years 5 = 50-59 years 6 = 60 years or more</p>	
<p>2. What is the gender of the individual?</p>	<p>0 = Male 1 = Female</p>	<p>RA to complete</p>
<p>3. What is your profession? (Please circle all that apply).</p>	<p>1 = Physician 2 = Nurse 3 = Midwife 4 = Pharmacist 5 = Laboratory Technician 6 = Counsellor 7 = Other (Please specify _____)</p>	<p>If research participant is not one of items 1, 2, 3 or 4, they should be excluded from study.</p>
<p>4. What is your ethnicity?</p>	<p>1 = Cambodian National 2 = Ethnic Minority 3 = Other (Please specify _____)</p>	

	CODE NUMBER
5. How many years of experience do you have as a health care provider?	1 = <5 years 2 = 5-9 years 3 = 10-19 years 4 = 20-29 years 5 = 30 years or more
6. What is your place of employment? (Please circle all that apply).	1 = Government Health Center 2 = NGO Clinic 3 = Private Clinic 4 = Pharmacy 5 = Hospital 6 = Other (Please specify _____)
7. Please estimate what percentage of the patients you see in you workplace are rural-to-urban migrant women working in the garment factories.	1 = < 10% 2 = 10 to 25% 3 = 26 to 50% 4 = 51 to 75 % 5 = 76 to 90% 6 = >90 % 7 = Unable to estimate
8. Have you received any training on HIV/AIDS through your work in the last year?	1 = Yes 2 = No 3 = Don't Know

		CODE NO.
9. Does your workplace offer HIV testing to patients?	1 = Yes 2 = No 3 = Don't Know	If the answer to 9 was "no" or "don't know", skip to # 11.
10. Does your workplace have guidelines or polices on HIV testing?	1 = Yes 2 = No 3 = Don't Know	Skip to #13.
11. Do you refer patients elsewhere for HIV testing?	1 = Yes 2 = No 3 = Don't Know	If the answer to 11 was "no" or "don't know" skip to #13.
12. Where do you refer patients if they request HIV testing?	Location _____	

CODE NUMBER _____

SEXUAL HISTORY

The next part of the questionnaire will ask you about taking a sexual history. For this part of the questionnaire, we have defined taking a sexual history as a discussion with the patient about their past and current sexual behaviour. The purpose of this discussion is for education about possible risks and appropriate means to prevent HIV transmission, and to assess the need for HIV testing. Please consider each question carefully and answer to the best of your ability. There are no correct or incorrect answers, we are just interested in your point of view. You may find the questionnaire monotonous as some of the questions appear repetitive, but this is part of the methodology. Your cooperation is very important: we need your opinion.

We would like you to consider the situation when a **migrant female garment worker presents to you with a vaginal discharge**. Please answer the following questions related to this situation.

QUESTION

RESPONSE

<p>13. You intend to take a sexual history from this woman.</p>	<p>Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree</p>
<p>14. You feel capable of taking a sexual history from this woman.</p>	<p>Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree</p>
<p>15. You think most reproductive health care providers in Phnom Penh would approve of me taking a sexual history from this woman.</p>	<p>Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree</p>

	CODE NUMBER _____
We would like you to consider the situation when a migrant female garment worker presents to you with a vaginal discharge	
16. You plan to take a sexual history from this woman.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
For you, taking a sexual history from this woman would be:	
17.	Good practice 1 2 3 4 5 6 7 Bad practice
18.	Beneficial 1 2 3 4 5 6 7 Harmful
19.	Useful 1 2 3 4 5 6 7 Not useful
20.	Not Appropriate 1 2 3 4 5 6 7 Appropriate
21. Thinking about the last 10 patients presenting with vaginal discharge, how many have you taken a sexual history?	0 1 2 3 4 5 6 7 8 9 10
22. For you, taking a sexual history is:	Easy 1 2 3 4 5 6 7 Difficult
23. People who are important to you professionally think that you should take a sexual history from this woman.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
24. You have complete control over whether to take a sexual history from this woman.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

	CODE NUMBER _____
We would like you to consider the situation when a migrant female garment worker presents to you with a vaginal discharge	
25. You will take a sexual history from this woman.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
26. You think the Ministry of Health would approve of you taking a sexual history from this woman.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
27. You are confident that you could take a sexual history from this woman.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
28. You think your supervisor would approve of you taking a sexual history from this woman.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
29. Given 10 migrant garment workers presenting with vaginal discharge, how many patients would you expect to ask about their sexual history?	0 1 2 3 4 5 6 7 8 9 10

CODE NUMBER _____

MIGRANT GARMENT WORKERS

The next questions focus on **women migrant garment workers**. In answering this set of questions, please indicate how much you agree or disagree with the statement.

QUESTION	RESPONSE
30. Many migrant garment workers lack knowledge about HIV prevention.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
31. You believe that migrant garment workers have NO difficulty accessing health care in Phnom Penh if they have a reproductive health problem.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
32. Most sexually active migrant garment workers do NOT use condoms, because their partners refuse to wear them.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
33. Female migrant garment workers sometimes supplement their income by working in the sex trade.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
34. Time is the one of the most important factors determining access to health care for migrant garment workers.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
35. Male sexual partners of migrant women usually take precautions to prevent HIV.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
36. You believe that the Cambodian Ministry of Health is making sufficient efforts to target HIV prevention programs for migrant garment workers.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
37. Taking the time to speak in a friendly way is NOT important when treating migrant garment workers.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

	CODE NUMBER _____
38. You believe that migrant garment workers already know about HIV prevention as there are sufficient health education programs in Phnom Penh for them.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
39. Many migrant garment workers are at risk of HIV as they develop relationships with boyfriends when they come to Phnom Penh.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

CODE NUMBER _____

HIV/AIDS

The remainder of the questionnaire will ask questions about your views on HIV/AIDS. You are asked to respond “agree”, “disagree” or “don’t know” to each question asked. Please give the answer that seems best to you.

QUESTION

RESPONSE

40. Anyone who wishes should be able to have a free HIV test.	1 = Agree 2 = Disagree 3 = Don't Know
41. HIV/AIDS is only a disease of poor people.	1 = Agree 2 = Disagree 3 = Don't Know
42. HIV testing should always be accompanied by counselling about HIV risks.	1 = Agree 2 = Disagree 3 = Don't Know
43. Having multiple sexual partners DOES NOT increase the risk of acquiring HIV infection.	1 = Agree 2 = Disagree 3 = Don't Know
44. People with HIV should be allowed to get married.	1 = Agree 2 = Disagree 3 = Don't Know
45. All pregnant women should have a compulsory HIV test.	1 = Agree 2 = Disagree 3 = Don't Know
46. People with HIV should NOT be allowed to have children.	1 = Agree 2 = Disagree 3 = Don't Know

	CODE NUMBER _____
47. Having a sexually transmitted infection such as syphilis or gonorrhea increases the risk of acquiring HIV infection.	1 = Agree 2 = Disagree 3 = Don't Know
48. All pregnant women should be offered a free test for HIV.	1 = Agree 2 = Disagree 3 = Don't Know
49. The Cambodian Ministry of Health has NO policies on Voluntary Testing and Counselling for HIV (VCT).	1 = Agree 2 = Disagree 3 = Don't Know
50. HIV transmission can potentially occur from an HIV positive person to another person from the following activities:	
a. Blood transfusion	1 = Agree 2 = Disagree 3 = Don't Know
b. Using a toilet after an HIV positive person	1 = Agree 2 = Disagree 3 = Don't Know
c. Sharing food	1 = Agree 2 = Disagree 3 = Don't Know
d. Sharing unsterilized needles	1 = Agree 2 = Disagree 3 = Don't Know

	CODE NUMBER _____
e. Kissing	1 = Agree 2 = Disagree 3 = Don't Know
f. From a mosquito bite	1 = Agree 2 = Disagree 3 = Don't Know
g. From HIV positive mother to her unborn baby across the placenta	1 = Agree 2 = Disagree 3 = Don't Know
h. From HIV positive mother to baby through breastfeeding.	1 = Agree 2 = Disagree 3 = Don't Know

THANK YOU FOR PARTICIPATING IN THIS RESEARCH

Research Assistants: Please comment briefly on interview

**Cambodian HCP Questionnaire:
Origin of HIV Knowledge and Attitude Questions**

1. Chen, W. T., Han, M., & Holzemer, W. L. (2004). Nurses' knowledge, attitudes, and practice related to HIV transmission in northeastern China. *AIDS Patient Care & Stds*, 18, 417-422.

2. Hesketh, T., Duo, L., Li, H., & Tomkins, A. M. (2005). Attitudes to HIV and HIV testing in high prevalence areas of China: informing the introduction of voluntary counselling and testing programmes. *Sexually Transmitted Infections*, 81, 108-112.

3. Author (Webber, G.).

Modifications of original questions noted in footnotes. Some questions were reversed in meaning.

Question	Origin of Question
40. Anyone who wishes should be able to have a free HIV test.	2. ¹
41. HIV/AIDS is only a disease of poor people.	2. ²
42. HIV testing should always be accompanied by counselling about HIV risks.	3.
43. Having multiple sexual partners DOES NOT increase the risk of acquiring HIV infection.	1.
44. People with HIV should be allowed to get married.	2.
45. All pregnant women should have a compulsory HIV test.	2. ³
46. People with HIV should NOT be allowed to have children.	2.
47. Having a sexually transmitted infection such as syphilis or gonorrhoea increases the risk of acquiring HIV infection.	3.
48. All pregnant women should be offered a free test for HIV.	2. ³

¹ Original question was "A free HIV test with the right to refuse should be offered at the premarital examination."

² Original question was "AIDS is a disease only of low class and illegal people."

³ Original question was "All pregnant women should have a free compulsory HIV test."

49. The Cambodian Ministry of Health has NO policies on Voluntary Testing and Counselling for HIV (VCT).	3.
50. HIV transmission can potentially occur from an HIV positive person to another person from the following activities:	
a. Blood transfusion	1., 2.
b. Using a toilet after an HIV positive person	2.
c. Sharing food	2.
d. Sharing unsterilized needles	1., 2.
e. Kissing	2.
f. From a mosquito bite	1 ⁴ ., 2.
g. From HIV positive mother to her unborn baby across the placenta	1., 2.
h. From HIV positive mother to baby through breastfeeding.	2.

⁴ Original question referred to “insect” bite in Chen et al.

Cambodian HCP Questionnaire: Key for Analysis

DEMOGRAPHICS 1-12

SCORING KEY for TPB Items (#13-28)

Question number	Response Format	Items requiring Internal consistency analysis	Construct measured
29	0-10		Intention Statement
13, 16, 25	1-7	13, 16, 25	Generalized Intention
17-20	1-7 (reverse scoring)	17-20	Attitudes
15, 23, 26, 28	1-7	15, 23, 26, 28	Subjective Norms
14, 22, 24, 27	1-7	14, 22, 24, 27	Perceived Behavioural Controls
21	0-10		Past Behaviour

SCORING KEY For Items # 40-50

HIV Knowledge/Attitudes

Question number	Response Format	Items requiring reverse scoring	Construct measured
43, 47, 50 a-h	Agree, Disagree, Don't Know	43, 50 b,c,e,f.	HIV Knowledge (Transmission)
42, 49	Agree, Disagree, Don't Know	49	HIV Knowledge (Testing)
41, 44, 46	Agree, Disagree, Don't Know	41 and 46	HIV Attitudes (PLWHA)
40, 45, 48	Agree, Disagree, Don't Know	45	HIV Attitudes (Testing)

APPENDIX G:
Analysis of Responses from Health Care Provider Survey on
Issues affecting Garment Factory Workers

Note about Analysis:

The quantitative analysis on these items (#30-39 in questionnaire) began with descriptive statistics: medians and inter-quartile ranges were determined for each of the items in the three theme areas (access to health care, migrant's HIV knowledge, and migrant' sexual risks). Means were not used because of the skewed distribution of the data. Subsequently, Spearman correlation coefficients were calculated for the three thematic areas to assess for the possibility of developing a scale. Correlation coefficients were low, indicating that the items within each theme did not factor together as a scale. Instead, each item was assessed to see if there were differences in responses according to gender or profession using the Mann Whitney test (gender) and the Kruskal-Wallis test (profession). The results of these analyses are presented in Tables G.1 through G.3. SPSS was used for all statistical analysis and significance was accepted at a value of $p < 0.05$. Note that while there is some statistical significance between gender and profession on some items, there is limited practical importance of these differences as the changes are small and would not impact on programming.

**Table G.1: Bivariate Analysis of Health Care Providers' Responses on Access to Health Care for Migrant Garment Factory Workers by Gender and Primary Profession
(Response 1= Strongly Disagree to 7 = Strongly Agree)**

Item on Health Care	Gender			P value	Primary Profession						P value			
	Female n=239		Male n=116		Physician n=107		Midwife n=104		Nurse n=41			Pharmacist n=106		
	n* (range)**	Median (IQR)***	n (range)		Median (IQR)	n (range)	Median (IQR)	n (range)	Median (IQR)	n (range)		Median (IQR)	n (range)	Median (IQR)
Taking the time to speak in a friendly way is NOT important when treating migrant garment workers.	239 (1-7)	1 (1-2)	116 (1-7)	1 (1-2)	107 (1-7)	1 (1-2)	104 (1-7)	1 (1-2)	41 (1-7)	1 (1-1.5)	106 (1-7)	1 (1-2.25)	0.829	
Time is the one of the most important factors determining access to health care for migrant garment workers.	239 (1-7)	6 (6-7)	116 (1-7)	6 (6-7)	107 (1-7)	6 (6-7)	104 (1-7)	6 (6-7)	41 (1-7)	6 (6-7)	106 (1-7)	6 (6-7)	0.877	
You believe that migrant garment workers have NO difficulty accessing health care in Phnom Penh if they have a reproductive health problem.	237 (1-7)	6 (3-7)	116 (1-7)	6 (2-6)	107 (1-7)	6 (2-6)	104 (1-7)	6 (4-6.75)	40 (1-7)	6 (5.25-6)	105 (1-7)	6 (3-7)	0.001	

*Note that n for individual items may be less than total n for group due to missing data.

** Range of responses to individual items.

***IQR denotes inter-quartile range.

Table G.2: Bivariate Analysis of Health Care Providers' Responses to Migrant Garment Workers' HIV Knowledge by Gender and Primary Profession (1= Strongly Disagree to 7 = Strongly Agree)

Item on Migrant Garment Workers' HIV Knowledge	Gender				Primary Profession						P value		
	Female n=239		Male n=116		Physician n=107		Midwife n=104		Nurse n=41			Pharmacist n=106	
	n* (range)**	Median (IQR)***	n (range)	Median (IQR)	n (range)	Median (IQR)	n (range)	Median (IQR)	n (range)	Median (IQR)		n (range)	Median (IQR)
Many migrant garment workers lack knowledge about HIV prevention.	239 (1-7)	6 (5-6)	116 (1-7)	6 (5-6)	107 (1-7)	6 (5-6)	104 (1-7)	6 (5-6)	41 (2-7)	6 (5-6)	106 (1-7)	6 (3.75-6)	0.442
You believe that migrant garment workers already know about HIV prevention as there are sufficient health education programs in Phnom Penh for them.	239 (1-7)	6 (4-6)	116 (1-7)	6 (4-6)	107 (1-7)	6 (3-6)	104 (1-7)	6 (4-6)	41 (2-7)	6 (3-6)	106 (1-7)	6 (4-7)	0.774
You believe that the Cambodian Ministry of Health is making sufficient efforts to target HIV prevention programs for migrant garment workers.	239 (3-7)	7 (6-7)	116 (2-7)	7 (6-7)	107 (2-7)	7 (6-7)	104 (3-7)	7 (6-7)	41 (5-7)	7 (6-7)	106 (3-7)	7 (6-7)	0.174

*Note that n for individual items may be less than total n for group due to missing data.

** Range of responses to individual items.

***IQR denotes inter-quartile range.

Table G.3: Bivariate Analysis of Health Care Providers' Responses on Migrant Garment Factory Workers' Sexual Risks (1= Strongly Disagree to 7 = Strongly Agree)

Item on Migrant Garment Factory Workers' Sexual Risks	Gender						Primary Profession									
	Female n=239			Male n=116			P value	Physician n=107		Midwife n=104		Nurse n=41		Pharmacist n=106		P value
	n* (range)**	Median (IQR)***	n (range)	n (range)	Median (IQR)	n (range)		Median (IQR)	n (range)	Median (IQR)	n (range)	Median (IQR)	n (range)	Median (IQR)		
Many migrant garment workers are at risk of HIV as they develop relationships with boyfriends when they come to Phnom Penh.	238 (1-7)	6 (6-6.25)	115 (1-7)	6 (5-6)	0.123	106 (1-7)	6 (5-6)	104 (2-7)	6 (6-7)	40 (1-7)	6 (5.25-6)	106 (2-7)	6 (6-6)	0.166		
Female migrant garment workers sometimes supplement their income by working in the sex trade.	239 (1-7)	5 (4-6)	115 (1-7)	5 (3-6)	0.004	106 (1-7)	4.5 (4-6)	104 (1-7)	5 (4-6)	41 (1-7)	5 (4-6)	106 (1-7)	5 (4-6)	0.014		
Most sexually active migrant garment workers do NOT use condoms, because their partners refuse to wear them.	238 (1-7)	6 (4-6)	115 (1-7)	4 (3-6)	<0.001	106 (1-7)	5 (3-6)	104 (1-7)	6 (5-6)	40 (1-7)	5.5 (4-6)	106 (1-7)	5 (3.75-6)	0.001		
Male sexual partners of migrant women usually take precautions to prevent HIV.	239 (1-7)	5 (3-6)	116 (1-7)	6 (3-6)	0.299	107 (1-7)	5 (2-6)	104 (1-7)	4 (2-6)	41 (1-7)	6 (3-6)	106 (1-7)	6 (4-6)	0.204		

*Note that n for individual items may be less than total n for group due to missing data.

** Range of responses to individual items. ***IQR denotes inter-quartile range.

APPENDIX H: Copyright Permission

Email for Copyright Permission from *National Academy of Sciences* for Table 2, Chapter one, p. 10.

Subject: RE: Permission for figure
From: "Millerd, Tiffany" <TMillerd@nas.edu>
Date: Fri, 29 September, 2006 1:30 pm
To:

Dear Dr. Webber,

Permission is granted for your use of the figure as described in your message below. Please cite the full journal references and "Copyright (Copyright year) National Academy of Sciences, U.S.A."

Best regards,
Tiffany Millerd for
Diane Sullenberger
Executive Editor
PNAS

-----Original Message-----

From:
Sent: Friday, September 15, 2006 12:57 PM
To: PNAS Permissions
Subject: Permission for figure

Dear PNAS staff,

I will be publishing a paper in the journal "Health Care for Women International" entitled "The Impact of Migration on HIV Prevention for Women: Constructing a Conceptual Framework". I would like to include a figure (modified table) from a paper published in your proceedings in 1994, with the following reference:

Quinn, T. C. (1994). Proceedings of the National Academy of Sciences of the United States of America. Proceedings of the National Academy of Sciences of the United States of America, 91, 2407-2414.

The figure is attached in word format. Please provide me with written documentation that this is acceptable.

Warm regards,

Gail Webber M.D.,

Email for Copyright Permission from *Springer Science and Business Media* for Table 3, Chapter one, p. 18.

Subject: RE: Permission from publisher (Gail Webber)
From: "Davis, Caroline, Springer DE" <Caroline.Davis@springer.com>
Date: Fri, 22 September, 2006 8:34 am
To:

Dear Ms. Webber,

Thank you very much for clarification.

With reference to your request to re-use material on which Springer controls the copyright, our permission is granted free of charge, on the following conditions:

- it concerns original material which does not carry references to other sources;
- if material in question appears with credit to another source, authorization from and reference to that source is required as well and permission is also obtained from the author (address is given on the imprint page or with the article);
- allows you non-exclusive reproduction rights throughout the world;
- permission includes use in an electronic form, on the condition that content is
 - password protected,
 - at Intranet or
 - in CD-ROM/E-book;
- full credit (book/journal title, volume, year of publication, page, chapter/article title, name(s) of author(s), figure number(s), original copyright notice) is given to the publication in which the material was originally published by adding: "With kind permission of Springer Science and Business Media."

Permission free of charge does not prejudice any rights we might have to charge for reproduction of our copyrighted material in the future.

Best regards,
Caroline Davis

Copy of PDF Letter of permission from *Taylor and Francis* to use the article from Health Care for Women International as Chapter One of thesis:

325 Chestnut Street, Suite 800, Philadelphia, PA 19106 ☐ Phone: 215-625-8900 ☐ Fax: 215-625-2940
Web: www.informaworld.com

US Ref. No.: P110207-04
November 2, 2007
Gail Webber
Population Health
University of Ottawa
Ottawa, Ontario
Canada

Dear Gail:

Pages 1-18, Health Care for Women International, 2007, 28 (8)

Thank you for your correspondence requesting permission to reproduce the above material in PhD Dissertation, University of Ottawa, 2008

We will be pleased to grant permission on the condition that:

1. You acknowledge the original source of publication and Taylor & Francis, and insert a reference to the Journal's website: www.informaworld.com
 2. You agree to pay our reproduction fee of \$0.00 _____.
- Please note that failure to pay will result in permission begin withheld.
3. You make every reasonable effort to contact the author(s) to: (a) ask their permission; (b) notify them of your intentions.
 4. This permission is limited to one-time print use in the English language.
 5. This permission excludes electronic reproduction rights.

**Please confirm your agreement, and we shall arrange for an invoice to be forwarded to you.
IMPORTANT: If we do not hear from you regarding your intentions within 60 days, your request will be assumed valid and an invoice will be issued for the amount set forth above.**

Thank you for your interest in our Journal.

Sincerely,
John A. Brown
Senior Sales Administrator/Permissions

Email for Copyright permission to use map of Cambodia in chapter 2 p. 29, from
Graphic Maps and World Atlas

Subject: RE: Permission to use Cambodia map
From: "John Moen" <jm@graphicmaps.com>
Date: Fri, 11 January, 2008 8:29 am
To:

Gail,

You have our permission to use the map of Cambodia in your PH.D. thesis. In that regard, we offer the following release:

"The map of Cambodia supplied by the Woolwine-Moen group, d/b/a Graphic Maps is an original cartographic image created by Graphic Maps, and supplied copyright free. It may be used in your stated application with no additional charges or royalties applied, and with no declared time limit."

Ciao from Rome!

John O. Moen
Graphic Maps and World Atlas
Via Del Politeama, 33
00153 Rome, Italy
(worldwide) VOIP phone line: 1.409.209.0080
Rome, Italy (map desk) (39) 349.728.1580
jm@graphicmaps.com
<http://graphicmaps.com/custmaps.htm>
<http://worldatlas.com/aatlas/world.htm>

Email permission from Dr.I. Aizek to use Figure 3, Chapter 2, p. 40 from his website:

Subject: RE: Permission to use TPB diagram
From: "Icek Aizen" <aizen@psych.umass.edu>
Date: Fri, 23 November, 2007 7:01 pm
To:

Dear Ms. Webber,

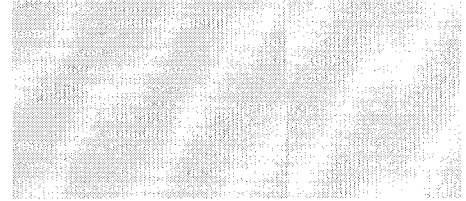
The theory of planned behavior is in the public domain. No permission is needed to use the theory in research, to construct a TpB questionnaire, or to include an original drawing of the model in a thesis, dissertation, presentation, poster, article, or book. However, if you would like to reproduce a published drawing of the model, you need to get permission from the publisher who holds the copyright. You may use the drawing on my website for non-commercial purposes so long as you retain the copyright notice.

Best regards,

Icek Aizen, Professor and Head
Division of Social Psychology
University of Massachusetts
Amherst, MA 01003
<http://www.people.umass.edu/aizen>

Email permission from *Taylor and Francis* to use article from *AIDS Care* in Appendix E:

Title: Chinese health care providers' attitudes about HIV: a review
Author: G. C. Webber
Publication: AIDS Care
Publisher: Taylor & Francis
Date: Jan 5, 2007



Copyright © 2007 Routledge

Thesis/Dissertation Reuse Request

Taylor & Francis is pleased to offer reuses of its content for a thesis or dissertation free of charge contingent on resubmission of permission request if work is published.

APPENDIX I: Knowledge Translation Documents

Report on Research Results for Garment Factory Workers (To be distributed by CARE Cambodia): p. 316 - 319

IOM Report

Life in the Big City: Understanding the Context of HIV Prevention for Migrant Cambodian Garment Factory Workers (to be distributed to government, NGO's and interested others): p. 320 - 368

**Report on Research Results for Garment Factory Workers
(To be distributed by CARE Cambodia)**

Garment factory workers and HIV: How are you at risk?

March 3, 2008

Author: Gail Webber

Most Cambodians know about HIV. HIV has been spreading through the world, and has been in Cambodia since the early 1990's. There is not much information on Cambodian garment factory workers and HIV. This paper will tell you about a study of migrant garment factory workers and Cambodian health care providers done in 2006. The study is about the factors that make HIV prevention difficult for garment factory workers.

This study had two parts. In the first part, two Khmer women helped me interview twenty garment factory workers. We asked about what is what like to migrate to the city. We also asked questions about relationships, health care and work. Then we interviewed eight people in the government and other organizations who work with garment factory workers. We asked them what issues may make it easier for garment factory workers to get HIV. We also spoke with government and NGO (non governmental organization) workers and health care providers. From the research we learned that there were three main problems for garment factory workers that may make it easier for them to get HIV.

The first big problem is poverty. Most women who work in the garment factories come from poor families. They come to the city to make money for their families. They send a lot of money home. Many women do not eat well because they wish to

save money. This means their health is not good and it is easier to get infections. Most women are not able to finish school because they need to work. Education is important to get a better job and to understand about your health problems. Some women have relationships with city boyfriends who buy them gifts. A few women take jobs as sex workers to make more money. These reasons may make it easier for women to get HIV.

The second problem for some women is the factory rules. It is very good for women to have jobs in the factory to help their families, but sometimes the factory rules are a problem for women. Some women cannot find time to visit the health clinics if they have a health problem. The factory only lets them leave work for one hour. Some women want to learn more about their health. The Ministry of Social Affairs, CARE and other organizations run health education programs in some factories. Some women do not have the chance to learn more about their health because their factory does not have a program, or they are not permitted to leave work to go.

The third problem for some women is their relationships after they move to the city. Women miss their families. Their parents are no longer around to advise women, and some women listen more to their friends now. Because of this, some migrants have relationships with city boyfriends. The women we spoke with did not have boyfriends, but many knew other women who did. These women and the health care providers did not think highly of city boyfriends. They felt the boyfriends do not usually want to get married, but just have fun (have sex). After the boyfriends have their fun, the women are left alone again.

We asked the women about using condoms. Some women said they would not have sex without a condom. Most of the married women did not use condoms because they trusted their husbands. Some of them said they knew their husbands might have sex with other women too, but they were afraid to ask their husbands to wear condoms. They thought their husbands would get angry if they asked. Some women were not thinking about getting HIV. They wanted to use condoms so they would not get pregnant.

The second part of my study was a survey of health care providers. We asked 358 health care providers (doctors, nurses, midwives and pharmacists) many questions about HIV. We also asked them questions about how they ask garment factory workers about having sex. It is important for health care providers to be able to ask these questions to find out about garment factory workers' health problems.

We found out that Cambodian health care providers know a lot about HIV. The only area that some of the providers did not know was that with pregnancy and with breast-feeding, HIV can be passed to the baby. Many of the health care providers also thought that people with HIV should not get married and have children. Most thought that all pregnant women should have to have an HIV test. The government of Cambodia says that HIV testing should be done only if you want it.

Then we asked the health care providers about talking to garment factory workers about having sex. We found out that the health care providers will ask women this question if they feel that they have the skills to do this.

HIV is a big problem all over the world. Garment factory workers should think about how they are at risk of HIV, and what things can be done to prevent it. Using a

condom is one very important way to prevent HIV. Even married couples should use condoms. It is often hard to get men to use condoms. Another important way to prevent HIV is to get tested. HIV can be treated, so it is important to know if you have it. If you think that you should be tested for HIV, or want to talk about your health problems, there is a list below of places where you can go. Working together, there are ways that we can stop this infection from spreading further.

List of places to test:

Thank you: I wish to thank many people and groups in Cambodia who helped with the research. The International Organization for Migration, Cambodia was my partner in the research. CARE Cambodia and the Reproductive Association of Cambodia were other groups which helped with the research. Marie Stopes and Pharmaciens sans Frontiers also provided assistance. Mora Gibbings and Phoumy Ouch were my very dedicated research assistants. Thank you to them and to the ten data collectors for the survey. Thank you especially to all the people who participated in the research, especially the garment factory workers.

Note about the author: The author is a Canadian family doctor who did this research as part of her studies in Population Health at the University of Ottawa, Canada

Report to IOM Cambodia

Life in the Big City: Understanding the Context of HIV Prevention for Migrant Cambodian Garment Factory Workers

April 13, 2008

**Author:
Gail Webber
University of Ottawa, Canada**

Acknowledgements:

I would like to acknowledge the support and assistance of the following organizations in this research: International Organization for Migration, Cambodia, CARE Cambodia, and the Reproductive Health Association of Cambodia. In addition, I am grateful to the key informants, the focus groups participants, and particularly to the two invaluable research assistants Ms. Mora Gibbings and Ms. Phoumy Ouch, and ten data collectors Borami, Bunari, Bunly, Dani, Ranil, Samphors, Sok Ra, Somnom, Veasna, and Voha. Finally, I especially want to thank the garment factory workers and health care providers who participated in the research. The contributions of participants in the June 6, 2007 workshop and presentation in Phnom Penh are also appreciated.

Financial support for the study was provided for Dr. Webber through the Ontario Women's Health Scholar's Doctoral Award, and from the Department of Family Medicine, University of Ottawa. I would also like to acknowledge the guidance of my thesis supervisor, Dr. Nancy Edwards, and my thesis committee Dr. Carol Amaratunga and Dr. Ian Graham. Ms Isabelle Gaboury and Dr. Ian McDowell assisted with statistics. Dr. Vincent Keane and Dr. Socheat Ros at IOM Cambodia also provided support.

Disclaimer: The contents in this document represent views of the author. They do not reflect the stand of IOM.

Contact information:

Please note that a copy of the entire thesis will be provided to the National Public Health Library, Phnom Penh, Cambodia.

Executive Summary

This two phase research project was conducted in Phnom Penh in 2006 with the collaboration of University of Ottawa, Canada and International Organization for Migration, Cambodia. The purpose of the study was to better understand the context of rural-to-urban migrant female garment factory workers with respect to issues affecting HIV prevention.

The first phase of the study consisted of interviews with twenty migrant garment factory workers and eight key informants. The women were asked about their experience of migration, their knowledge of sexually transmitted infections and HIV, their relationships and work experience. The key informants were NGO and government staff who had knowledge about garment factory workers. The key informants were asked about individual, community and structural factors that impacted on HIV prevention for these workers.

From these interviews it became evident that migrant garment factory workers were vulnerable to HIV infection both through economic and social vulnerability. These women migrated in order to support their poor families, and as a result they worked long hours in the factory, sending a large portion of their income home. The long hours in the factory prevented them from having time to take care of their own health, and they often ate poorly in order to save money for their families. In addition, the key informants were aware that a minority of garment factory workers were employed in the sex trade industry in order to further supplement their income. The women were also vulnerable with respect to their sexual relationships. Away from their families, they were more likely to

develop “sweetheart” relationships with local men, which were often transient. Even those who married had challenges, for implementing condom use in marriage was difficult for many of the women, and they were generally aware that their husbands could be having extra-marital relationships. Factory pressures to produce prevented many women from accessing health care and health education programs.

The second phase of the research was a survey of health care providers (doctors, nurses, midwives, and pharmacists) who worked with migrant garment factory workers. The survey focussed on their knowledge of HIV transmission, their attitudes about people with HIV and HIV testing, their understanding of the issues facing migrant garment factory workers, and their intention to take a sexual history from a garment factory worker with a vaginal discharge (as part of assessing the patient’s need for treatment and HIV testing). Cambodian health care providers were very knowledgeable about HIV transmission with the exception of perinatal transmission. Many held negative views about the rights of people with HIV to marry and have children, and most thought pregnant women should have compulsory testing for HIV, contrary to the WHO recommendations. Using the Theory of Planned Behaviour, it was determined that the constructs “perceived behavioural controls” (feeling that one is able to take a sexual history) was a particularly strong predictor of the health care providers’ intention to take a sexual history (50.6%). “Subjective norms” (feeling social pressure to take a sexual history) was also predictive (2.8%). Attitudes about sexual history taking were not predictive.

Life in the Big City: Understanding the Context of HIV Prevention for Migrant Cambodian Garment Factory Workers

Cambodia has one of the highest prevalence rates of HIV in Asia, with a peak adult prevalence of 3.9 percent in 1999 (United Nations Development Program, 2007), levelling at 0.9 percent in 2006 (UNAIDS, 2007). An increasing proportion of HIV positive Cambodians are women; this proportion rose from 37% in 1998 to 47% in 2003 (UNAIDS, 2006). In the literature, it is well documented that migration is linked to HIV transmission. The purpose of this mixed method study was to assess the context of HIV prevention for rural-to-urban migrant Cambodian female garment factory workers. The researcher sought to understand the relationship, community and structural factors (norms and policies) that have an impact on the migrant's ability to protect herself from HIV. Twenty migrant garment workers were interviewed about their experience of migration, work, relationships, and health care, in addition to their knowledge about HIV and other sexually transmitted infections. Key informants from government and NGO communities, and health care providers serving this population of women were also asked to contribute their perspectives on the context of HIV prevention for these women.

The quantitative part of the study was a survey of 358 doctors, nurses, midwives and pharmacists who worked with migrant garment factory workers. The survey focussed on HIV knowledge and attitudes of these health care providers, their understanding of the issues facing garment factory workers, and the health care providers' intention to take a sexual history measured using

constructs of the Theory of Planned Behaviour (Ajzen, 1991). There is currently no literature on Cambodian health care providers' HIV knowledge, attitudes, and intention to take a sexual risk history, despite the fact that sexual transmission of HIV is the most common route for acquiring the virus in Cambodia. Cultural gender norms dictate that while pre-marital and extra-marital relationships are acceptable for Cambodian men, women are expected to be married before becoming sexually active (Tarr & Aggleton, 1999). Single women under-report sexual activity and are uncomfortable discussing it (CARE Cambodia, 2003). It is not clear if Cambodian health care providers (HCPs) also have difficulties discussing this issue with women. In addition, over the last decade, the Cambodian government has scaled up their services for voluntary counselling and testing for HIV, known as VCT (Buhler, Wilkinson, Roberts, & Catalla, 2006). According to the World Health Organization (WHO), VCT services require health care providers to have HIV transmission knowledge, positive attitudes about people with HIV, and ability to counsel about HIV risk, including asking questions about sexual behaviour (World Health Organization, 2005).

Methods: Phase One (Qualitative)

Prior to embarking on this research project, a formal agreement was established between the University of Ottawa and the International Organization for Migration Cambodia, for the purposes of research collaboration. Ethical approval for the study was obtained from both the Cambodian National Ethics Committee and the University of Ottawa Research Ethics Board. The first phase of the research was conducted in June 2006.

The study design was ethnographic, focussing on the contextual factors affecting HIV prevention. The data collection method involved semi-structured interviews with the migrant garment factory workers and key informants, and focus groups with health care providers who work with this population of women (see Appendix A for interview and focus group guidelines). All the migrant women were recruited from the Toule Sangke region of Phnom Penh in the north-east section of the city, where there is a concentration of garment factories. The inclusion criteria for the migrant women were rural-to-urban migration within 10 years, age of 18 or more, and Khmer-speaking Cambodian nationals. Key informants belonging to both government departments and non-governmental organizations in Phnom Penh who worked with garment factory workers were also recruited for interviews. Finally, two focus groups were held with health care providers working in Phnom Penh clinics who served garment workers' reproductive health care needs.

The migrant garment workers were recruited through a purposive approach. A Cambodian non-governmental organization (NGO) that ran reproductive health education programs with garment factory workers agreed to recruit several of their "peer educators". These women recruited other colleagues. In addition several garment workers were recruited by research assistants from the factory neighbourhood where the women lived. As the initial cohort of young women recruited were young and lacked sexual experiences or experiences within the health care system in Phnom Penh, the health care staff from a clinic frequented by garment factory workers assisted with recruitment of several

migrant women who had used the health care system within the capital. This purposive recruitment method was utilized in order to have women with a variety of sexual and health care experiences represented. Purposive recruitment is a recognized tool for improving the “information-richness” of the data collected, to increase the perspectives presented (Kuzel, 1992).

Confidential interviews with the garment factory workers were conducted in a private home in Toule Sangke, near several garment factories. All of the interviews were conducted in Khmer by a research assistant, with simultaneous translation to English for the Canadian researcher (GW) by a second research assistant. Informed consent was obtained from each of the garment workers prior to the interview. The Khmer research assistant ensured that all the women understood the study and the consent process before signing or making their mark of consent. Translated interviews were typed into transcripts soon after the interview or during the interview by GW and were checked for accuracy by one of the Khmer research assistants. The migrant women who participated in the interviews were provided with a U.S. \$3.00 stipend in recognition for their time, in addition to reimbursement for travel expenses if local transit was required.

Interviews with key informants were conducted with their consent, in their workplace in English or Khmer depending on the choice of the key informant. No financial compensation was provided to the key informants. The two focus groups with health care providers were conducted in Khmer with the consent of all participants, with simultaneous translation to English, and each participating health care provider was provided with U.S. \$3.00 in recognition for their time.

In June 2007 a workshop was held with health care providers and government and NGO staff to get feedback on preliminary results and explore an understanding of the concept of “trust” in the partner.

The data was analyzed by use of qualitative software. Themes were extracted and illustrating quotes were used to clarify the important issues about HIV prevention.

Results: Phase One

The demographic characteristics of migrant women respondents are displayed in Table 1. Most (eighteen of twenty) were under the age of thirty, as is typical for garment factory workers (International Labour Organization, 2005).

Table 1: Demographic Description of Interviewed Migrant Garment Workers

Demographic Variable	Value for Interview Population
Age Range	18-39 years
Average Age	24.5 years
Range in Time Since Migration to City	9 months to 10 years
Average Time since Migration	4.7 years
Demographic Variable	Number of Women
Ethnicity: Cambodian	20
Province of Origin:	
Preyveng	9
Kampong Cham	4
Kandal	3
Kampong Thom	2
Kratie	1
Svay Rieng	1
Education:	
2 to 5 years	11
6 to 9 years	8
Completed High School	1
Languages spoken:	
Khmer	20
Other languages	7 (limited ability)
Languages Read:	
Khmer	17 (8 claimed limited ability)
Illiterate	2
Other languages	4 (limited ability)
No response	1
Previous Occupation:	
Farmer	17
Mat Weaver	1
Vegetable seller	1
Volunteer (with Child Labour Association)	1
Marital Status:	
Single	12* (*includes 2 engaged, and 1 with boyfriend)
Married	6
Widowed	1
Divorced	1

Almost universally, the migrant women came to Phnom Penh for the purpose of making money to support their families, as they all were living in poverty.

Most of the women made the decision to migrate themselves, though several were encouraged to migrate by their families. The quote below demonstrates the challenges these young women faced at home:

“The idea to come here was from me. My family was in difficult circumstances. My father was sick, and my mother is very old, and my family is poor, with very difficult living conditions. So I came with my cousin to the city. I was happy to come here as I could get money to support the family. The reason to come to the city is for financial problems, and also I want to earn money to keep for my future.” (Migrant Woman 7, single)

The garment factory workers interviewed related that they usually earned \$45 to \$55 U.S. for regular working hours (an eight hour day), however, many chose to work overtime hours into the evenings or weekends to earn extra money. These overtime hours could mean the factory workers were at their job from about 7 a.m. until 9:30 or 10:30 p.m., with meal breaks only. Overtime hours were not always entirely voluntary: one woman related that occasionally she was forced by her employer to work on Sundays if a clothes order was due. Most garment workers could earn a total of \$60 to \$70 U.S. per month with overtime hours, however, most sent a large portion of their income home to their families:

“I send 50% of my salary to my mother and I keep the rest for household expenses: electricity, water, and also for eating. The money is not enough. Sometimes I cannot send 50% of the money I make to my mother.” (Migrant Woman 7, single, age 22)

In addition, in order to save money for their families, they often spent little on food, putting their health at risk:

“One more thing is their food intake. Most of them have malnutrition problem as well. Most of them work for their salary and want to send money home so they spend very little on their food. That is why they have a problem with malnutrition.” (Key informant, NGO staff)

Another risk factor for a minority of the women was sex work: according to the key informants and two of the migrant women, a small number of the migrant garment factory workers supplemented their income by working in the entertainment industry. Such work is also known as indirect sex work, as the male patrons often expect sexual favours from the women.

“Some women at the garment factory also work as beer girls as the money is not sufficient.” (Migrant woman 11, married, age 26)

These issues discussed above are the economic factors that the migrant garment factory workers faced which made them more at risk for HIV infection: their *economic vulnerability*. Another theme affecting the women’s ability to prevent HIV was *occupational vulnerability*. Several of the women expressed their unhappiness at the working conditions of the factory. It was difficult for them to get time off when needed, even for health appointments. Typically, they were allowed only one hour for visiting a clinic, which was impractical as they had to travel to the clinic and wait in line before being seen. Geographic proximity of the clinic, time to access services, and friendliness of the health care provider were issues that were important to these migrants. One woman commented that she preferred one non-governmental clinic as it allowed the garment factory workers to go at the front of the queue. She found the government clinics to be less accommodating as they were not open when she had time off of work (although some clinics have now opened on the weekends).

“The private clinics are very polite. They are better, you get quick treatment. They pay more attention. RHAC [Reproductive Health Association of Cambodia, an NGO clinic] is polite and you get good care. I usually go to the private system as the public health care system is closed on Saturday and Sunday when I have time to go. The public health care

system takes too long. I prefer to go to the private clinic, it is more time convenient.” (Migrant Woman 2, single, age 25)

The garment factories also provided limited clinical services for the workers, however, migrant workers generally did not seek care for reproductive health problems in these clinics. The migrant worker cited below used the factory clinics for her health problems, though she was not happy about the limitations to access, the attitude of the health care worker, and the availability of medication:

“Yes, I went also to the factory clinic to take some medicine when I don’t feel well or to do the coin massage [traditional medicine]. This is not good, because the health worker has a very nasty voice. Also the health workers have their own ground rules. In one month we are only allowed two visits for medicine. If you are sick more than this, then you cannot get medicine. They treat headache, cough and teeth pain, with the same medicine so I do not like to go.” (Migrant woman 16, widowed, age 28)

Some factories offered health education programming for some of the workers (usually organized by the NGO CARE, the Ministry of Social Affairs, or other NGOs). Many of the interviewed women expressed a desire to participate in the health education programs offered in the factory, however, they were only available to those permitted to leave their workstations by their factory manager. Many of the smaller factories did not have any education programs. Women requested that these programs be expanded such that more women could attend.

“In order to improve health services, all the women in the factory would like to attend the training. The training only selects one or two women. This is difficult because everyone has to work, so the time to educate others is limited. Increase the number of women attending the training, this would be better. Many garment factory girls really want to do the

training, usually only 10 girls get to attend. They do not think it is fair as they all want to learn too.” (Migrant Woman 6, single, age 23)

Occupational vulnerability was thus a second key theme in understanding the vulnerability of the migrants to HIV infection. Despite the lack of access to factory education programming for some migrants, all of the women interviewed had basic knowledge of HIV transmission, though they were often less clear about other sexually transmitted infections. Their HIV knowledge came from a variety of sources including friends, the media, and sometimes through personal experience with people living with HIV.

“I know that AIDS often comes from the male partner. The men come to Phnom Penh to work, and they go back to the village with HIV/AIDS. That’s how I know about HIV/AIDS. I know that AIDS transmission comes through multiple partners. Women get AIDS from the men who have multiple partners, as the men have relationships with more than one woman. I also know that AIDS can transmit through the needles at the hospital if they use one needle for injections for many people, if the needles are not clean. I think that people can die from AIDS. To protect from HIV/AIDS, when I am married like this, I need to use the condoms.” (Migrant woman 5, married, age 21)

Despite their knowledge of HIV and the need to use condoms in sexual relationships, the migrant women also faced risks of this infection related to their *social vulnerability*. These young women were no longer protected by the norms of their families and communities, which encouraged them to remain virgins until marriage. Instead they were living with peers; peer pressure had a large influence on their behavior. The women interviewed in this study denied having extra-marital sexual relationships with local men, though both they and the key informants recognized that many garment factory workers did have such

relationships, which put them at risk of HIV and other sexually transmitted infections:

“One thing that I would like to say to you is that I am not happy to see the girls of the same age as me. I am not happy to see these girls getting boyfriends and sleeping with their boyfriends, and getting disease. I would prefer to see them get engaged. The way they carry on is not good.”
(Migrant woman 9, single, age 24)

“Girls have a lot of friends. Peers encourage them to enjoy the city life...Community factors [affecting HIV prevention] include the peer group, who the girls associate with. When she sees other women with boyfriends, she thinks why can't I have a boyfriend too, and get a lot of money and gifts?” (Key informant, Government staff)

In addition to the risks single women faced, those women who were married had great difficulties implementing condom use in their relationships. While they were aware that their husbands may have extra-marital relationships, the women had challenges asking their husbands to use a condom, even for the purposes of family planning.

“For the family planning I asked him to use the condom, but he refused to wear a condom as he says the condom is dirty. When I asked him why he doesn't want to use the condom, I did not get an answer. He says we are husband and wife, why do we need to use the condom... My husband still refuses to use the condom. I do not want to push him too much... Maybe he will be upset and not happy.”

Interviewer: What does he do when he is upset?

“If he is not happy or upset, he will keep quiet, and not talk. I am afraid that he will go find other partners. That is okay, but I do not want him to bring AIDS home.” (Migrant Woman 12, married)

An important factor affecting the vulnerability of migrant women to HIV is the practice of men having relationships outside of marriage, and the difficulty implementing condom use in the marriage. One of the key informants expressed this well:

“Men don’t want to use condoms. They are not happy that their wife knows about this. Women have to pretend that they do not know. Our tradition is that if the woman knows about these things she is not a ‘good girl’. Some families would feel that: ‘Sex workers are the only girls who know about sex. Good girls should not talk about sex.’” (Key informant, Government Staff)

The women were asked about their condom use in marriage (or their intended condom use in marriage if they were not yet married). A quarter of the group suggested they would insist on condom use. Those women that stated they would expect condom use were sexually inexperienced (four) or had a personal experience with HIV (one woman’s husband had died of AIDS).

“If I have a fiancé, I must ask him to wear a condom. If he does not accept, I will try again and again and try to lobby him to use it, but finally if he still does not want to use it then I will refuse have sex with him.” (Migrant Woman 7, single, age 22)

Almost half the group of women stated that they would ask their husband to wear a condom, but would not expect him to do so. These women were concerned about the stigma associated with condom use: their partner may suspect them of extra-marital sexual activity.

“I think that he may refuse to wear a condom. I think that if I ask him to wear a condom he may think that I am not a virgin and he may think that I have some disease. He will wonder as I have come to the city, why after marriage I ask him to wear a condom.” (Migrant Woman 9, single, age 24)

Other reasons for not requesting their partner to use a condom was dislike of the sensation of the condom (one woman), shyness to raise this issue with her husband, and trust in their partner.

“I cannot ask my husband to wear a condom because I feel too shy.”
Interviewer: Have you and your husband discussed family planning?
“My husband and I never talk about family planning or sex.” (Migrant woman 5, married for 1 month, age 21)

“My husband and I never use condoms as we are confident in each other. The way that I protect myself is to explain to my husband and tell him not to go out and sleep with other girls.” (Migrant woman 14, married, age 26)

The concept of trust or confidence in the husband was particularly interesting, as several women spoke of their knowledge that their husbands could be having extra-marital relationships, yet at the same time they claimed that condoms were not necessary as they had confidence or “tukchet” in him. This concept of trust was explored in the June 2007 workshop with health care providers and government and NGO staff. The findings from the workshop are presented in Table 2. The workshop participants summarized the Cambodian gender norms which explain the concept of trust: men are the economic head of the family, men have greater knowledge about sexual matters and are dominant in the sexual relationship, and it is important for women to demonstrate confidence in the relationship. Table two provides examples of how these gender norms may cause women to express confidence in their husband despite knowledge of his extra-marital liasons.

Thus the economic vulnerability of the migrants requiring them to work hard to support their families, factory pressures preventing access to health care and health education, and social vulnerability resulting in isolation from their families and sexual encounters with local men, are all factors that have an impact on HIV prevention for these workers. The need for the women to have trust in their husbands and the stigma associated with condom use are other important factors. The next section will explore the results of the survey with health care providers.

**Table 2: Understanding “Confidence” in the Husband:
The Workshop Participants’ Perspectives**

Gender Norm Themes	Examples provided by the Participants of why Women express confidence in their partners
Men are the Economic Head of the Family	Women are economically reliant on their male partner. There is a lack of gender equity in relationships thus men’s opinion is valued more than women’s. There may be a risk of domestic violence to the woman if she challenges her partner.
Men have Greater Knowledge than Women about Sexual Matters	Men are better educated. Husband’s knowledge will lead him to protect his family from risk. Migrant women are poorly educated. Women lack knowledge about HIV transmission. Women lack confidence and skills to negotiate condom use.
Dominance of Men in the Sexual Relationship	It is “male nature” to have sexual relationships with women. Condoms are uncomfortable for men. Women are unable to talk to men about condoms: speaking about this is “taboo”.
Importance of Showing Confidence in the Marriage	Condoms don’t show real love: use of condom equates with lack of trust in relationship. It is important for a man to feel that his wife is confident in him. The woman states she is confident in her husband in order to “Save face” for him. She has confidence that his relationships with other women are only short-term, that he will not share family resources with his other women, that he will not bring infections home. She is trying to reassure herself even though she knows he has other women.

Methods: Phase 2 (Quantitative)

The survey of health care providers was conducted in November and December of 2006. Development of the survey was informed by the literature and by discussions with migrant garment factory workers, key informants, and health care providers. The survey included four sets of questions in the following order: (1) demographic information, (2) Theory of Planned Behaviour questions on intention to take a sexual history, (3) HIV prevention issues facing

migrant garment factory workers, and (4) knowledge and attitudes about HIV (see Appendix B for full survey).

The HIV knowledge and attitudes component of the survey drew questions modified from two previous surveys of Chinese health care providers (Chen, Han, & Holzemer, 2004; Hesketh, Duo, Li, & Tomkins, 2005). The series of questions related to intention to take a sexual history were developed following the guidelines presented in “Constructing Questionnaires based on the Theory of Planned Behavior: A Manual for Health Services Researchers” (Francis et al., 2004). Taking a sexual history in a patient with vaginal discharge was chosen as the focus for the survey as vaginal discharge is a common complaint of migrant workers, and when women present with this symptom, health care providers should assess sexual risks in order to make decisions about appropriate treatment. The World Health Organization states that knowledge about HIV transmission, positive attitudes about HIV, and willingness to do sexual risk counselling, including questioning about sexual behaviour is key to voluntary counselling and testing for HIV (World Health Organization, 2005).

Ethics approval was sought and obtained from the University of Ottawa Research Ethics Board and a copy of the revised questionnaire was provided to the Cambodian National Ethics Committee as requested, as ethics approval had been granted in June 2006. After translation of the English version of the survey into Khmer, the survey was back-translated into English by an experienced translator. The completed survey was pilot tested on eight health care providers

to assess for any difficulties with the translation. Ten research assistants were hired and trained to administer the survey.

Permission to conduct the research within the hospitals, government, and NGO clinics was sought and obtained by the primary researcher and research manager. The research assistants asked permission of the private clinics and pharmacy owners prior to conducting the survey in these locations. Written permission was documented by provision of a letter from the organization (e.g. hospitals and NGO clinics) or signing of a form prepared for this research. Verbal permission was accepted and documented by the research assistant on the same form.

Data collection was conducted in the four regions of Phnom Penh where the garment factories were concentrated based on consultation with the Garment Manufacturer's Association of Cambodia: Toule Sangke/Russey Keo, Chom Chao/ Teuk Thla/ Pochenton, Stung Meanchey/ Dangko, and Chak Angre Leu/ Krom /Phaa Chba Ampov. The research assistants were assigned to visit government, NGO, and private clinics, and pharmacies in these regions. After confirming they had permission, the research assistants surveyed as many of the staff who were available and willing to participate. In addition, the primary researcher and research manager organized data collection at two local hospitals frequented by migrant garment factory workers, and with assistance from nursing supervisors, the research assistants surveyed staff.

The data was entered into an excel spreadsheet by a senior research assistant. Twenty percent of the input data was reviewed by the primary researcher: the

error rate of data input was found to be less than one percent. The data was corrected and converted into an SPSS file. SPSS version 15 was used for analysis.

Results: Phase 2

Three hundred fifty eight health care providers were surveyed from two hospitals, six government health centers, seven NGO clinics, and numerous private pharmacies and clinics. (We estimated that 75% of the private pharmacies and clinics asked agreed to participate). The demographic description of the health care providers is shown in Table 3 below. As almost 25% of HCPs reported more than one profession, their primary profession was recoded to that which required the most training. The order of training of providers from greatest to least was physician, midwife, nurse, and pharmacist. More than one location of practice was indicated by many as well.

Table 4 presents the comparison by profession of those providers who (1) estimated their practice contained greater than 25% garment factory workers, (2) had training on HIV in the last year, and (3) were aware their workplace offered testing for HIV. Over 75% of individuals in all categories of HCPs estimated that more than 25% of their patients were garment factory workers. Thus, this population of HCPs was appropriate for the survey as a substantial proportion of their practice involved garment factory workers. The trend was for midwives to have received training on HIV in the previous year and to work in a setting where HIV testing is offered while pharmacists were less likely to have received HIV training or work in such a setting.

Table 3: Demographic Characteristics of Health Care Providers Surveyed

Demographic Characteristic	Number of HCPs (%)
Gender (n=355): Female	239 (67.3)
Male	116 (32.7)
Ethnicity (n=358): Cambodian	356 (99.4)
Other	2 (0.6)
Age (n= 358): <30 years	76 (21.2)
30-39 years	124 (34.6)
40-49 years	77 (21.5)
50 or more yrs	81 (22.6)
Profession (n=358): Physician	107 (29.9)
Midwife	104 (29.1)
Nurse	41 (11.5)
Pharmacist	106 (29.6)
Experience as HCP (n=358): < 5 yrs	108 (30.2)
5-9 yrs	89 (24.9)
10-19 yrs	70 (19.6)
20 or more yrs	91 (25.4)
Place of Employment (n=358)*: Pharmacy	176 (49.2)
Hospital	136 (38.0)
Government Health Centre	57 (15.9)
Private Clinic	56 (15.6)
NGO Clinic	33 (9.2)
Estimation of percentage of patients seen who are migrant garment factory workers (n=358):	
Up to 25%	78 (21.8)
26-50 %	107 (29.9)
Over 50 to 75%	76 (21.2)
Over 75%	85 (23.8)
Unable to estimate	12 (3.4)
Received HIV/AIDS training through work in the last year (n=357):	
Yes	151 (42.3)
No	206 (57.7)
Workplace offers HIV testing to patients (n=358):	
Don't Know	2 (0.6)
No	144 (40.2)
Yes	212 (59.2)
Of those who said "Yes" to workplace offers HIV testing Do you have HIV testing policies in workplace? (n=207):	
Yes	190 (91.8)
No	11 (5.3)
Don't Know	6 (2.9)

* Percentage exceeds 100 % as several HCPs reported more than one location of employment.

Table 4: Chi square analysis of Garment Factory Workers Seen, Training on HIV, and Workplace Testing of HIV by Profession

Survey Item	Total HCP n = 358 n (%)	Physician n = 108 n (%)	Midwife n = 104 n (%)	Nurse n = 41 n (%)	Pharmacist n = 106 n (%)	P Value
More than 25% of patients are garment factory workers (n = 358, df = 3)	268 (74.9)	80 (74.8)	80 (76.9)	29 (70.7)	79 (74.5)	0.621
Received Training on HIV in last year (n = 357, df = 3)*	151* (42.3)	47* (44.3)	65 (62.5)	20 (48.8)	19 (17.9)	<0.001
Workplace offers HIV testing (n = 358, df = 3)	212 (59.2)	66 (61.7)	96 (92.3)	23 (56.1)	27 (25.5)	<0.001

* Missing data for 1 physician.

Results: HIV Knowledge and Attitudes

Table 5 presents the responses to questions about knowledge of HIV transmission and HIV policy, and attitudes towards people living with HIV/AIDS and about HIV testing. For the HIV knowledge responses, percentage of correct answers was calculated by dividing total correct answers by total responses (i.e. all who responded “agree”, “disagree”, and “don’t know”, only missing data were excluded, a “don’t know” response was considered an incorrect answer). For the HIV attitudes responses, percentage of correct answers were calculated using only those responses in agreement with the acceptable attitudes (missing data and “don’t know” responses were excluded). Analysis of the differences of responses to these questions by gender and profession is presented in Appendix C.

Table 5: Health Care Provider Knowledge and Attitudes about HIV

HIV Knowledge	% of Total HCPs who agree
HIV transmission is increased by:	
Multiple partners	99.2
Sexually transmitted infections	91.9
Blood transfusions	96.1
Sharing unsterilized needles	98.3
HIV is not transmitted by:	
Sharing a toilet	99.2
Sharing food	99.2
Kissing	97.8
Mosquito Bites	96.0
Perinatal Risks of HIV transmission:	
HIV can be passed across the placenta	69.6
HIV can be passed through breastfeeding	88.8
HIV Testing Knowledge:	
Cambodian government has policies on VCT	96.9
HIV Attitudes	% Total HCPs who agree
Attitudes about HIV:	
HIV is a not only a disease of poor people	98.9
HIV positive people should be allowed to marry	47.5
HIV positive people should be permitted to have children	36.6
Attitudes about HIV testing:	
HIV testing should always be accompanied by counselling about HIV risks	98.9
Anyone who wishes should have free HIV test	90.6
All pregnant women should be offered free HIV test	93.1
Pregnant women should NOT have compulsory HIV testing	4.6

In summary, the health care providers' knowledge on HIV transmission was generally good with the exception of peri-natal transmission and breastfeeding. The majority of health care providers' attitudes about people living with HIV

were generally not supportive of their human rights to marry and have children. While attitudes about HIV testing were generally positive, a majority of health care providers felt compulsory testing of pregnant women was acceptable, which is contrary to World Health Organization guidelines (World Health Organization, 2005).

The survey items assessing health care providers' understanding of the issues facing garment factory workers are presented in Appendix D.

Results: Intention to Take a Sexual History

The Theory of Planned Behavior was used to measure the health care providers' intention to take a sexual history (Francis et al., 2004). Taking a sexual history is part of voluntary testing and counseling for HIV (World Health Organization, 2005). The premise of the Theory of Planned Behavior is that if you cannot measure behavior directly, measuring intention can help predict behavior. Health care providers were asked to consider the situation when a migrant female garment worker presents with a vaginal discharge. They were then asked questions in various ways to assess their intention to take a sexual history. Taking a sexual history was defined as a discussion with the patient about their past and current sexual behaviour for the purposes of education and to assess the need for HIV testing.

The survey contained two ten point measures of past behaviour and intention. The health care providers were asked to report how many of the last ten migrant women with vaginal discharge that they took a sexual history from. They were also asked their intention to take a sexual history by the question "Given 10 migrant garment workers

presenting with vaginal discharge, how many patients would you expect to ask about their sexual history?” Table 6 indicates the median score for this question for health care providers by gender and profession with the inter-quartile range (that is, the twenty fifth to seventy fifth percentiles) indicated in brackets. There was a statistically significant difference only for two professions: midwives were more likely than non-midwives to have taken a sexual history in the past, and pharmacists were less likely than those who did not work solely as pharmacists to have taken a sexual history in the past. Women had greater intention to ask a sexual history than men. Midwives also had a greater intention than the rest of the professions, while those who were pharmacists only were less likely to intend to take a sexual history than the rest of the group.

Table 6: Past Behaviour and Intention Bivariate Analysis by Gender and Profession

	Gender Median Score (IQR)	Profession Median Score (IQR)
Past Behaviour: Thinking about the last 10 migrant garment factory workers presenting with vaginal discharge, from how many have you taken a sexual history?	Female: 6 (3-10) Male: 5 (3-9)	Physician: 7 (3-10) Midwife: 8 (5-10) Nurse: 5 (3-8.5) Pharmacist: 4 (2-7.25)
Intention: Given 10 migrant garment factory workers presenting with vaginal discharge, how many patients would you expect to ask about their sexual history?	Female: 7 (5-10) Male: 5 (3-8)	Physician: 6 (4-8) Midwife: 8 (5-10) Nurse: 5 (3-7.5) Pharmacist: 5 (3-8)

In addition to the two ten point measures of past behaviour and intention, there were questions measuring four constructs named generalized intention, attitudes, subjective norms and perceived behavioural controls. These constructs are all important to measure intention, and are explained below:

To predict whether a person **intends** to do something, we need to know:

- Whether the person is in favour of doing it (**'attitude'**)
- How much the person feels social pressure to do it (**'subjective norm'**)
- Whether the person feels in control of the action in question (**'perceived behavioural control'**) (Francis et al., 2004, p.7)

After measuring these constructs, an analysis was done statistically to make sure that each question could be considered reliable and "internally consistent". In order to do this a calculation of Cronbach's Alpha was done: if the value was 0.6 or greater, the questions were considered reliable. The Cronbach's Alpha varied between 0.64 and 0.78 for the four constructs, which is acceptable.

A regression analysis was then done using generalized intention as the dependent variable and attitudes, subjective norms, and perceived behavioral controls as the independent variables. The initial regression is illustrated in Table 7. The results of the regression suggest that just over half of intention is explained by the constructs of this theory (R^2 was 0.544). The regression was then re-run including the interaction terms of profession (Table 8). In this final regression, the R^2 was 0.555. Attitudes was no longer a significant predictor. Perceived behavioural control (PBC) explained 50.6% of intention, while subjective norms explained 2.8%. Of the interaction terms, only the PBC x pharmacist interaction was statistically significant ($p = 0.003$) and it explained a further 1.1% of the variance. Thus it appears that for these Cambodian health care providers, control over taking a sexual history was the most important predictor of

their intention to take a sexual history. Interventions to improve sexual history taking should thus focus on this area.

Table 7: Results of Multiple Linear Regression: Generalized Intention

Independent Variables	Beta Coefficients	95% Confidence Interval	Significance	% of Variance Explained
Attitude	0.17	0.02 to 0.31	p = 0.024	15.0
Perceived Behavioural Control	0.64	0.55 to 0.72	p < 0.001	37.4
Subjective norms	0.26	0.13 to 0.39	p < 0.001	2.0

F value of regression 84.96

R² = 0.544

Table 8: Significant Results of Multiple Linear Regression: Generalized Intention with Interaction Terms

Independent Variables	Beta Coefficients	95% Confidence Interval	Significance	% of Variance Explained
Perceived Behavioural Control (PBC)	0.46	0.32 to 0.60	p < 0.001	50.6
Subjective norms	0.15	0.07 to 0.23	p < 0.001	2.8
Physician*	0	-	p = 0.066	1.0
Midwife	-0.06	-0.25 to 0.13		
Nurse	-0.15	-0.39 to 0.10		
Pharmacist	-0.22	-0.41 to -0.03		
PBC x Physician*	0	-	p = 0.031	1.1
PBC x Midwife	0.16	-0.06 to 0.38		
PBC x Nurse	0.17	-0.12 to 0.46		
PBC x Pharmacist	0.27	0.09 to 0.44		

F value of regression 54.432

R² = 0.555

*Reference Group

Discussion

From integration of the two phases of data collection there are three dominant issues that are demonstrated (Table 1). These issues are the gendered sexual norms of Cambodian society, the impact of AIDS stigma, and the limitations of access to health care services. These issues will each be discussed in turn.

Table 1: Summary of the Qualitative and Quantitative Research Findings and Dominant Issues from Triangulation

Qualitative Phase: Migrant Garment Factory Workers	Quantitative Phase: Health Care Providers
<ul style="list-style-type: none"> - Economic vulnerability - Social vulnerability - Occupational vulnerability - Other Health Care Access Issues for Migrants - Sexual Double Standards - Condom Stigma 	<ul style="list-style-type: none"> - Good HCP Knowledge about HIV transmission (except peri-natal) - Negative HCP attitudes about people with HIV - Intention to take a sexual history mainly determined by PBC - Lack of measurement of impact of gender norms on sexual history-taking (limitation)
Dominant Issues arising from Triangulation of Qualitative and Quantitative Research Phases	
Gendered Sexual Norms AIDS Stigma Health Care Access	

Gendered Sexual Norms

The first dominant issue evident from the integration of the qualitative and quantitative phases of the research was the impact of gender norms on sexual behaviour. In Cambodian society, there are very different expectations of acceptable sexual behaviour for each gender. Cambodian women are expected to lack knowledge of sexual matters and remain virtuous until they are married, protected by their families. Women who do not fit this norm are considered deviant, far from the “ideal” Cambodian women. The interviewed migrant garment factory workers demonstrated

that they followed these gendered sexual norms, and were critical of others who did not. The unmarried migrants all reported that they had never been sexually active previously, and they spoke with disapproval of some of their single co-workers who got involved with young men from Phnom Penh:

“One thing that I would like to say to you is that I am not happy to see the girls of the same age as me. I am not happy to see these girls getting boyfriends and sleeping with their boyfriends, and getting disease. I would prefer to see them get engaged. The way they carry on is not good.”
(Migrant woman 9, single, age 24)

These sexual norms placed particular pressure on the married migrants, and interfered with their ability to practice safe sex. While the women’s knowledge about the risks of HIV was for the most part accurate, those who were married were challenged to translate their knowledge into protective behaviours with their sexual partners. Most of the married women were unwilling or felt unable to ask their partners to use condoms. One of the government key informants summarized this situation for the garment factory workers concisely:

“Men don’t want to use condoms. They are not happy that their wives know about this. Women have to pretend that they do not know. Our tradition is that if the woman knows about these things she is not a ‘good girl’. Some families would feel that sex workers are the only girls who know about sex. Good girls should not talk about sex.” (Key Informant, Government Staff)

While chastity and lack of sexual knowledge is highly valued for Cambodian women, the opposite is true for Cambodian men. Extra-marital sexual relations for men are commonplace, and many of the married women spoke matter-of-factly about the assumed sexual activity of their husbands with other women. For example, one migrant stated:

“I know that STD transmission is because the men go out and have relationships with women, and they transmit it. I think when I was single I was one hundred percent confident that I would not get that disease. Now that I am married, I am not so confident as I do not know what my husband is doing.” (Migrant woman 14, married, age 26)

The participants in the June 2007 workshop confirmed that in Cambodian culture men are not only the economic head of the household, they are also dominant sexually, and hold the sexual knowledge in the relationship. This sexual double standard in Cambodian society undermines the practice of safe sex for these migrant garment factory workers. Men are permitted to have many sexual partners, while women are expected to remain silent about all sexual matters, including condom use. Safe sex for married couples is thus incompatible with the current gendered sexual norms of Cambodian society.

The gendered sexual norms of the society also influence the interaction of the migrant garment factory workers with the health care providers (HCPs) through the HCPs' attitudes. One of the limitations of the survey of HCPs was that the impact of gender norms was not explored. Given the presence of the strong sexual double standard in Cambodia, HCPs likely share the views of their society about what is acceptable sexual behaviour for women and men. There is evidence from the survey questions that the HCPs of both genders believed the migrant workers to be very active sexually (Appendix D, Table 3). The HCPs' median response to the questions about sexual activity of migrant garment factory workers in the sex trade and with boyfriends was 5 and 6 respectively (with 1 signifying strongly disagree and 7 indicating strongly agree). Hence these migrant women may experience discrimination from HCPs because of assumptions about their behaviour, and underlying beliefs

about the negative value of sexual activity for young unmarried women. Clearly how the HCP interacts with the migrant will affect her feelings about the interaction, and her willingness to pursue care again, perhaps when her need is greater.

Gendered sexual norms may also affect the interaction of male providers with the women, for discussions about sexual matters with males, even HCPs, is problematic for young Cambodian women. If women cannot discuss condom use with their own husbands, it is unlikely they will have conversations about sexual risks with a male HCP. Thus, the impact of gendered sexual norms on the interaction of the migrant women with their HCPs requires further exploration.

The Impact of AIDS Stigma

AIDS stigma also has a negative impact on HIV prevention for the migrant garment factory workers. Stigma has been defined as “an undesirable or discrediting attribute that an individual possesses, thus reducing that individual’s status in the eyes of society” (Brown, Macintyre, & Trujillo, 2003, p. 50). AIDS stigma is a social construct which may result in the poor treatment of those infected with and affected by HIV (Taylor, 2001), however, this stigma can also have other far-reaching consequences. Stigma associated with AIDS has been shown to have negative effects on HIV prevention through avoidance of HIV testing and neglect of safe sex behaviours (Holzemer & Uys, 2004; Kaplan, Scheyett, & Golin, 2005; Obermeyer & Osborn, 2007). For the Cambodian garment factory workers, HIV stigma negatively impacts on their ability to negotiate condom use with their partner, and also on their interactions with health care providers as I will illustrate below.

The challenges the migrant garment factory workers experienced negotiating safe

sex resulted in part from a stigmatization of condom use, one element of AIDS stigma. The majority of the women interviewed – both single and married – felt they were unlikely or unwilling to convince their partners to use a condom. Some of their reluctance was based on a concern that their partners would be angry or suspect them of having a disease if the women requested the men wear a condom:

“If I asked him to use a condom he would feel that I think he has HIV/AIDS. He would be offended.” (Migrant woman 1, married, age 28)

Condom use is stigmatized by an association with promiscuity and sexually transmitted diseases, including HIV. Married Cambodian women are trapped: they may be aware of infidelity of their partners, for gender norms dictate that it is acceptable for Cambodian men to have extra-marital relationships, however, they cannot ask their husband to wear a condom as they would risk appearing knowledgeable or experienced about sexual matters. In addition, the very act of suggesting condom use is fraught with problems for women as it suggests to her male partner that she does not trust him, and that she believes he may be diseased. Use of condoms is therefore stigmatised for married women as condoms represent an accusation that their partner is unfaithful and potentially infected. Thus AIDS stigma, illustrated by the stigmatization of condom use, impacts negatively on HIV prevention.

There is also evidence from this research that AIDS stigma affects Cambodian HCP attitudes. While the health care providers surveyed had good knowledge of the modes of HIV transmission, they had negative attitudes towards people with HIV: only 41% thought HIV positive people should be allowed to marry and 56% thought they should be permitted to have children. In addition, 94% supported mandatory HIV

testing for pregnant women. Such perspectives may be in line with the general Cambodian public, however, they are problematic for HIV prevention. These attitudes are counterproductive as they discourage migrant garment factory workers and others from considering testing for HIV. The World Health Organization has stated that successful provision of voluntary counselling and testing services are dependent both on knowledge about HIV transmission and positive attitudes about HIV (World Health Organization, 2005). HCPs with negative views about people with HIV risk alienating patients who perceive discrimination against them for real or presumed behaviours. Forcing pregnant women to test for HIV can cause women to avoid health care. In both situations, opportunities for HIV prevention are lost.

Both gendered sexual norms and HIV stigma may restrict women's access to health care and HIV prevention services through negative attitudes of the HCPs. Migrant women stated that the friendliness of HCPs was an important issue for them, and even the HCPs recognized that taking time to speak in a friendly voice was valued by the migrant women (Appendix D, Table 1). If women perceive that HCPs discriminate against them because of real or presumed behaviour, they are less likely to access health care, especially for sensitive issues such as suspected sexually transmitted infections. The migrant women's understanding of the HCPs view of them, and the impact on their access to health care deserves further exploration in future research.

Thus gendered sexual norms act synergistically with HIV stigma both in the migrant garment factory workers' sexual relationships, and potentially in their interactions with health care providers. These key upstream factors affect HIV prevention through negative impacts on condom use, and potentially on health care

access through the attitudes of health care providers towards their patients.

Limited Access to Health Care

Access to health care is determined by a number of other factors in addition to the attitudes of HCPs. The circumstances of the migrant's life experience have several impacts on access to health care. A significant limitation to accessing health care is financial costs; the migrant garment factory workers lack disposable income as most are saving money to support their families. Cost of services is an important consideration for them. Factory restrictions on their time are also a major limitation to health care access. They work long hours in the factory and are only permitted one hour to access health care services during their working day. This is an exceedingly short time given that they must travel to the service and then wait their turn in line, for no appointment system exists. Finally, geographic proximity of services is key, for with limited time available to access services, there is no possibility for lengthy travel to the clinic site.

Access to health care is thus determined by structural factors such as cost of services and factory policies, and community factors such as proximity of health care services. Migrants' new social networks are also a key for their access to health care. Most of the migrant garment factory workers are young, and reliant on their female family members and local health care providers for information about their health. On arrival from the countryside, women no longer know where to access health care services. Having left the support of their families and communities and moved to the populous capital, the women have lost their social support network and they have to forge new supports in the city, usually with their co-workers. While some migrants

learn about available services through the factory health education programs run by the government and local non governmental organizations, many gather knowledge about health care services from these recently acquired friends.

Access to quality health care services is a global health problem, and not unique to Cambodia. Training programs for health care providers are a waste of resources if the services these providers offer are not accessible to the people who need them. For access to be improved, account should be taken of the issues most important to these migrant workers: cost, geographic proximity, provision of time away from work to seek health care services, and the attitudes of the health care providers towards the women.

The primary goal of this study was to understand the socio-ecologic context of HIV prevention for rural-to-urban migrant female garment factory workers in Cambodia. The three dominant issues arising from both the qualitative and quantitative phases of the research are key factors impacting on HIV prevention for this population of women. Figure 1 illustrates how the three issues are situated within the socio-ecologic model. In the figure, the two wide grey arrows represent the two major relationships which were the focus in this study: migrant garment factory workers with their sexual partners and with their health care providers. The three dominant issues are shown in boxes. At the structural level, gendered sexual norms and AIDS stigma have synergistic effects both on the relationship of the migrants with their sexual partners and with their health care providers. I have demonstrated in the text how the differing sexual norms result in a sexual double standard, permitting men liberal sexual behaviour. Simultaneously, AIDS stigma, as expressed through the stigmatization of

condoms ensures that it is very difficult for women to negotiate condom use in their sexual relationships. The gendered sexual norms and AIDS stigma also have synergistic effects on HCP attitudes towards the garment factory workers. For example, assumptions made about the sexual activity of the workers based on the fact that they are young women living away from their parents, combined with the negative attitudes the health care providers have towards people living with HIV can limit the access of these migrants to HIV prevention services including voluntary testing and counselling. Access to health care, the third dominant issue, is also affected by factory policies and costs of health care services (both local structural level issues), proximity of services at the community level, and knowledge about services gained from the migrant's new social networks at the relationship level.

Figure 1: Socio-ecologic Impacts on HIV Prevention for Migrant Cambodian Garment Factory Workers

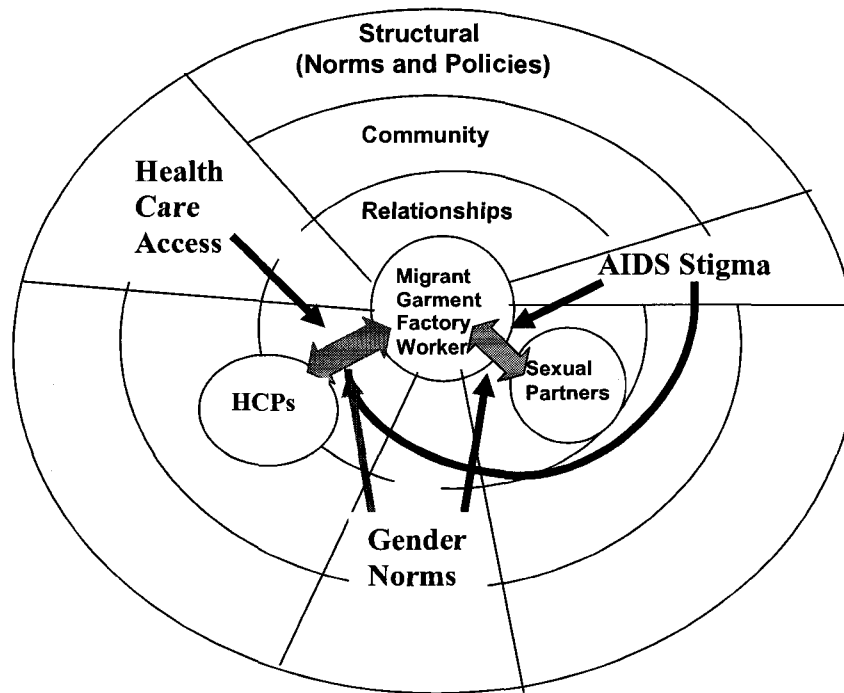


Figure 1 Legend:
 ↔ indicates relationship between
 → indicates impact of issue on relationship
HCPs = Health Care Providers

Interventions to address HIV prevention for migrant garment factory workers must include a focus on gendered sexual norms, AIDS stigma, and access to health care services for success. My recommendations for Cambodia to move forward in HIV prevention for this population of women will be discussed after a review of the limitations of the study.

Study Limitations

One of the criticisms of this study is the apparent focus on the health care providers rather than the garment factory workers with respect to sample size: three hundred and fifty eight health care providers were surveyed, while only twenty garment factory workers were interviewed. The differences in sample size relate to the choice of methodology. Qualitative methods use a smaller sample than quantitative methods, however, they provide much richer data. I chose to use qualitative methods when exploring the lives of the migrant women garment factory workers so that I could understand the context of their lives. This was the best way to explore the factors that impact on HIV prevention for this group of women. Such a level of detail would not be possible with a survey of women. As qualitative methods are very time intensive both in data collection and analysis, interviewing hundreds of women in any depth is neither possible nor practical, particularly for a doctoral thesis in which the primary researcher is present for every interview and has limited time and budget. While the interviewed women were from one region of Phnom Penh, it is reasonable to assume that women migrant garment factory workers have similar experiences in other regions of the capital, as there is nothing unique about Toule Sangke.

Alternatively, quantitative methods such as the questionnaire used in this study, provide answers to very specific questions but do not illuminate context in the same detail as qualitative methods. The nature of the questionnaire demands a pre-set range of answers for statistical analysis purposes, thus I could not ask what the health care providers thought about the available services for example, using this method. The

questionnaire was helpful at answering the specific research questions about health care providers' knowledge and attitudes about HIV, and their intentions to take a sexual history. It is both possible and necessary to survey large numbers of people in order to achieve statistical significance in the analysis, and to make the results generalizable to the larger population of health care providers serving migrant women in Phnom Penh.

Thus both parts of the study made important contributions to the findings, however, the methods each have their own limitations. The qualitative phase of the study (interviews and focus groups) provided rich detail from migrant women, key informants, and focus group participants about the context of migrant women's lives that affected the women's vulnerability to HIV, but was limited to a relatively small number of interviews. The quantitative phase (questionnaire) provided a specific measure of health care providers' HIV knowledge and attitudes, and intentions to take a sexual history with a large number of providers, but is limited in the types of information collected as it requires a specific response ("agree", "disagree", "don't know" or 1-7 on a Likert scale).

There were other limitations to this study. As I do not speak or write Khmer, I was reliant on translation, which can introduce errors (Temple, 2002). Similarly, my identity as a foreign researcher means that I come from a different cultural context than the research participants, and hence I may misinterpret findings. For this reason, I used Khmer research assistants who also acted as cultural interpreters and presented my preliminary results to a group of garment factory workers and the workshop participants as a means to check the findings. Thus, despite the limitations noted

above, this study makes an important contribution to research on migrant women garment factory workers in Cambodia, and their health care providers.

Moving Forward: Recommendations for Cambodia

The recommendations to follow have evolved from the research results. As an outsider researcher, I am in no position to implement these recommendations, however, I respectfully suggest that these four points and their underlying recommendations be addressed to improve HIV prevention for migrant garment factory workers. Some programs for these migrant workers may be integrated into services for the general population, for issues such as HIV stigma and gender inequity are not unique to migrant women. These recommendations arise from the three dominant issues illustrated in the boxes of Figure 1.

1. Address Gender Inequality in Sexual Relationships

This study has demonstrated that one of the major factors impacting on HIV prevention for migrant garment factory workers is the current gender norms of Cambodian society. The passive role that women are expected to take in sexual matters and the dominance of men is counter-productive for safe sex practices. This balance of power in sexual relationships needs to shift for HIV prevention measures to be successful. While the factory health education programs continue to teach migrant garment factory workers condom negotiation skills, such skills are not useful if women are not permitted the power within their sexual relationships to use them. Interventions with couples would be a better use of programming resources. Couple programming should focus on respect of women, discussions about the needs of both partners, and skills for men and women to communicate these needs to each other. In

particular, women should be encouraged to learn condom negotiation skills, while men should be taught to respect these requests. Success is more likely if men are cooperative partners in the process. There is evidence from other low income countries that gender-equity programs with young men are effective in HIV prevention (Pulerwitz, Barker, Segundo, & Nascimento, 2006a; Pulerwitz, Barker, Segundo, & Nascimento, 2006b; Verma et al., 2006, Rivers & Aggleton, 2002). While couple programming is beyond the current scope of health education programs, the involvement of male partners is crucial to the success of HIV prevention programming for women (Rivers et al., 2002; Blanc, 2001). Creative incentives may be required to entice men to participate, for they may not perceive the goals of the program to be beneficial to them.

Shifting gender norms and the balance of power in relationships is daunting, however, some progress has already been made in Cambodia at improving women's rights through the courts (Cambodian League for the Promotion and Defence of Human Rights, 2004). Attention now needs to be turned to addressing women's rights to health in their sexual relationships.

2. Reduce AIDS stigma

AIDS stigma affects HIV prevention. There is evidence from the international literature that AIDS stigma prevents individuals from engaging in safe sex practices and testing for HIV (Holzemer et al., 2004; Kaplan et al., 2005). For garment factory workers, these are two ways that AIDS stigma has an impact on their capacity to prevent HIV.

a. Condom Use

AIDS stigma has contributed to the stigmatization of condom use. Condoms have become associated with sexual promiscuity and disease. There is need for a public awareness campaign about condom use in marriage for migrant garment factory workers. For such a campaign to be effective it would have to move beyond the factory gates, and clearly include men both in the development of messages, and as a target for the messages. Condoms need to be “repackaged” for the public as a tool for demonstrating care and concern for the family rather than a sign of sexual promiscuity or disease. Social marketing of condoms by non governmental organizations (NGOs) is already happening in Cambodia, and marketing of condoms to married couples is a focus of one NGO’s campaign (PSI, 2008). Migrant garment factory workers and their partners would benefit from exposure to these messages. Development of future interventions on condom use for migrants should involve consultation with garment factory workers and their partners about strategies for improving condom use in this population.

b. Health Care Providers and HIV testing

Interventions to decrease AIDS stigma amongst health care providers should be explored. The evidence from this study shows that health care providers are knowledgeable about HIV modes of transmission, however, many held negative (stigmatizing) views about people with HIV. Cambodian health care providers require more education about peri-natal risks of HIV (HIV transmission through pregnancy and breast feeding), and the human rights of people living with HIV. Health care providers are also the access point for HIV testing and counselling, and the World

Health Organization is now promoting provider-initiated testing and counselling (World Health Organization & UNAIDS, 2007). For such an initiative to be successful in Cambodia, Cambodian health care providers need to be comfortable discussing sexual risks. The findings from the Theory of Planned Behaviour portion of the survey indicate that perceived behavioural control was the most important determinant of intention and behaviour to take a sexual history. Skill development in sexual history taking should be part of education programs for health care providers. A focus on the importance of *voluntary* HIV testing is key since most health care providers supported mandatory testing although the latter is neither ethical nor an effective public health measure (World Health Organization, 2003).

3. Improve reproductive health care access

The barriers to access of reproductive health care for migrant garment factory workers include cost, time to access services and geographic proximity. The concentration of migrant garment factory workers in the commercial zones of Phnom Penh, provides an exciting opportunity for provision of quality reproductive health care for this population of vulnerable women. While factory clinics exist, women have stated that they do not adequately address their reproductive health care needs. Migrant women need clinics staffed with skilled health care providers located near the factories. Such clinics should have policies that are particularly supportive to garment factory workers such as reduced costs and means for the workers to move to the front of the queue to be seen expediently. The Reproductive Health Association of Cambodia (RHAC) has several clinics with supportive policies like these near the factories. One key informant from a government health center suggested that their

center was attempting to be more accommodating to garment factory workers by having Sunday clinics. Such efforts are promising, however, with the vast numbers of garment factory workers in Phnom Penh, convenient and accessible services need to be expanded.

In addition to improving services, there also needs to be a considerable increase in education of factory workers about available health services. Such education should occur when the migrant worker is hired by the factory, and should be reinforced periodically. The involvement of factory managers in providing information to the workers, particularly at the time of their hiring would be a step forward. The existing peer education program could assist with orientation to local clinics.

One of the most important issues of access reported by the garment factory workers was the ability to get sufficient time off of work in order to access health care services. The International Labour Organization (ILO) has been monitoring the garment factories of Cambodia since 2001 for human rights abuses (International Labour Organization, 2005). Ongoing monitoring should include measures of the workers' ability to access health care when needed without penalties from their employers.

4. Development of an HIV Prevention Research Agenda

The Cambodian government, in collaboration with the NGO providers and foreign donors, would do well to create an HIV prevention research agenda: identifying areas where research is lacking. Prioritizing research needs in HIV prevention would assist the country to guide interested researchers from within and outside of Cambodia to tackle topics of need for the country. I would suggest that the following areas would benefit from research:

a. Evaluation of Interventions

As interventions to improve health care access, decrease AIDS stigma, and correct for gender inequity are implemented, careful evaluation is required in order to establish if these programs are indeed effective. For example, while HIV stigma is prevalent throughout the world interventions to reduce stigma are limited, and evaluation of interventions are even less common (Brown, Macintyre & Trujillo, 2003). As Cambodia undertakes interventions to reduce HIV stigma and increase gender equity, documentation and publication of findings would be particularly important for others to learn from their successes.

b. Researching Health Care Provider Behaviour

The health care provider survey in this research used intention to take a sexual history as a proxy for the actual behaviour. Assessment of provider behaviour through observation under real conditions (perhaps as part of a training program) is an alternate more direct method of determining health care providers' behaviour. Behaviours to focus on for future research include health care providers' approaches to voluntary testing and counselling for HIV and sensitivity to gender issues in HIV prevention.

c. Understanding Other Impacts on HIV Prevention for Migrant Garment Factory Workers

This research has focussed on the socio-ecologic framework to understand the HIV prevention context for migrant Cambodian garment factory workers. Certain features of this framework were explored by the research (particularly the interaction of migrant garment factory workers with their sexual partners and their health care

providers), while others were not investigated. What are the other loci of the socio-ecologic model that require further exploration? For example, if factory owners or senior government officials were consulted, what would they see as important contextual factors for HIV prevention? What role does the global market play in the lives of these garment factory workers? Further research on these areas could serve to expand the proposed socio-ecologic model (Figure 1) and provide a more complete picture of the breadth and depth of the factors impacting on HIV prevention for these women.

Conclusion:

The role of Cambodian migrant garment factory workers in the global economy has implications for Cambodian society. Hundreds of thousands of young Cambodian women will continue to flock to the cities for opportunities that were not conceivable to their mothers, a generation ago. As Cambodia moves from a post conflict society into the global economy, these young women and their families are benefiting. This mixed methods research has illuminated, however, the economic, social and occupational vulnerabilities these women experience which may put them at risk for HIV infection. The gender norms of Cambodian society, AIDS stigma, and limits on access to health care are dominant issues underlying the research findings which may further impact to increase the vulnerability of these women to HIV. Reversing the migration process is neither an option nor is it desirable, for migration has provided relief from poverty for the workers and their families. Rather, the results of this research provide an opportunity for the Cambodian government and non governmental organizations working in this area to consider the multiple factors that affect these

migrant workers' ability to prevent HIV infection, and apply this knowledge to the development of interventions for this population.

This research journey has provided a social portrait of migrant garment factory workers within Cambodian society. As Cambodia continues its process of economic development, it is hoped that the results of this research can assist in the parallel process of social development, particularly for these migrant workers who are key players in the Cambodian economy. Social development - including the promotion of greater gender equity, reduction of AIDS stigma, and the improved access to quality health care services - is the journey forward. It is this journey that may help prevent the HIV epidemic from taking hold amongst migrant Cambodian garment factory workers, and may assist these women to benefit more fully from their place in the global economy.

Appendices of the Report:

APPENDIX A: Guidelines for Semi-Structured Interviews with Migrant Women and Key Informants, and Focus Groups with Health Care Providers

APPENDIX B: Questionnaire with Health Care Providers

**APPENDIX C: HIV Knowledge and Attitudes of Cambodian HCPs
Bivariate Analysis by Gender and Primary Profession**

APPENDIX D: Analysis of Health Care Providers' Responses on Factors affecting HIV prevention for Migrant Garment Factory Workers

References

Ajzen, I. (1991). The Theory of Planned Behaviour. *Organizational Behaviour and Human Decision Processes*, 179-211.

Brown, L., Macintyre, K., & Trujillo, L. (2003). Interventions to reduce HIV/AIDS stigma: What have we learned? *AIDS Education and Prevention*, 15, 49-69.

Blanc, A.K. (2001). The effect of power in sexual relationships on sexual and reproductive health: An examination of the evidence. *Studies in Family Planning*; 32(2): 189-213.

Buhler, M., Wilkinson, D., Roberts, J., & Catalla, T. (2006). *Turning the Tide: Cambodia's Response to HIV and AIDS 1991-2005* Phnom Penh: National AIDS Authority.

Cambodian League for the Promotion and Defence of Human Rights (2004). *The Situation of Women in Cambodia* Phnom Penh.

CARE Cambodia (2003). *A stitch in time saves nine: Tailoring health in the garment factories: Evaluation and comparison of a sexual and reproductive health project in intervention and non-intervention factories*. Phnom Penh: CARE Cambodia.

Chen, W. T., Han, M., & Holzemer, W. L. (2004). Nurses' knowledge, attitudes, and practice related to HIV transmission in northeastern China. *AIDS Patient Care & Stds*, 18, 417-422.

Francis, J., Eccles, M., Johnston, M., Walker, A., Grimshaw, J., Foy, R. et al. (2004). Constructing questionnaires based on the Theory of Planned Behaviour: A manual for health services researchers. Retrieved July 10, 2006, from <http://www.rebeqi.org/ViewFile.aspx?itemID=212>

Hesketh, T., Duo, L., Li, H., & Tomkins, A. M. (2005). Attitudes to HIV and HIV testing in high prevalence areas of China: Informing the introduction of voluntary counselling and testing programmes. *Sexually Transmitted Infections*, 81, 108-112.

Holzemer, W. L. & Uys, L. R. (2004). Managing AIDS stigma. *Journal of Social Aspects of HIV/AIDS*, 1, 165-174.

International Labour Organization (2005). Better factories Cambodia: Facts and figures. Retrieved July 15, 2006, from <http://www.betterfactories.org/content/documents/Facts%20and%20Figures.pdf>

Kaplan, A. H., Scheyett, A., & Golin, C. E. (2005). HIV and stigma: Analysis and research program. *Current HIV/AIDS Reports*, 2, 184-188.

Kuzel, A. (1992). Sampling in qualitative inquiry. In B. Crabtree & W. Miller (Eds.), *Doing qualitative research* (pp. 31-44). Newbury Park: Sage Publications.

PSI (2008). PSI Cambodia. Retrieved February 17, 2008, from www.psi.org/where_we_work/cambodia.html

Pulerwitz J., Barker G., Segundo M. & Nascimento M. (2006a). Promoting more gender-equitable norms and behaviours among young men as an HIV/AIDS prevention strategy. *Horizons Final Report*. Washington, DC: Population Council.

Pulerwitz J., Barker G., Segundo M. & Nascimento M. (2006b). Promoting gender equity among young Brazilian men as an HIV prevention strategy. *Horizons Research Summary*. Washington, DC: Population Council.

Rivers, K. & Aggleton, P. (2002). Working with young men to promote sexual and reproductive health. Thomas Coram Research Unit. Institute of Education, University of London.

Tarr, C. M. & Aggleton, P. (1999). Young people and HIV in Cambodia: Meanings, contexts and sexual cultures. *AIDS Care*, 11, 375-384.

Temple, B. (2002). Crossed wires: Interpreters, translators, and bilingual sorkers in cross-language research. *Qualitative Health Research*, 12, 844-854.

UNAIDS (2006). 2006 AIDS epidemic update. UNAIDS. Retrieved July 20, 2007, from <http://data.unaids.org/pub/EpiReport/2006>

UNAIDS (2007). 07 AIDS epidemic update. UNAIDS. Retrieved November 12, 2007, from http://data.unaids.org/pub/EPISlides/2007/2007_epiupdate_en.pdf

United Nations Development Program (2007). UNDP - Cambodia. Retrieved November 20, 2007, from http://www.un.org.kh/undp/content/index.php?option=com_content&task=blogcategoryEn&id=6&Itemid=45

Verma R., Pulerwitz J., Vaishali M., Khandekar S., Barker G., Fulpagare P. & Singh S.K. (2006). Shifting support for inequitable gender norms among young Indian men to reduce HIV risk and partner violence. *Horizons Research Summary*. New Delhi: Population Council.

World Health Organization (2003). The right to know: New approaches to HIV testing and counselling. Retrieved July 15, 2006, from http://www.who.int/hiv/pub/vct/en/Right_know_a4E.pdf

World Health Organization (2005). Scaling-up HIV testing and counselling services: A toolkit for programme managers. Retrieved from October 30, 2007, from <http://www.who.int/hiv/pub/vct/counsellingtestingtoolkit.pdf>

World Health Organization & UNAIDS (2007). *Guidance on provider-initiated HIV testing and counselling in health facilities* Geneva: World Health Organization.