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**FACULTY OF GRADUATE AND
POSTDOCTORAL STUDIES**

Denise Laplante

AUTEUR DE LA THÈSE / AUTHOR OF THESIS

Ph.D. (Population Health)

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FACULTÉ, ÉCOLE, DÉPARTEMENT / FACULTY, SCHOOL, DEPARTMENT

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TITRE DE LA THÈSE / TITLE OF THESIS

George Wells

DIRECTEUR (DIRECTRICE) DE LA THÈSE / THESIS SUPERVISOR

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

**Jennifer O'Loughlin (Université de
Montreal)**

Caroline Andrew

Dougloous Angus

Elizabeth Krisjansson

Gary W. Slater

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

**THE DESIGN OF A CULTURALLY SENSITIVE SMOKING CESSATION
PROGRAMME FOR LOW-INCOME FRANCO-ONTARIAN WOMEN.**

DENISE M. LAPLANTE

Thesis submitted to the Faculty of Graduate and Postdoctoral Studies in partial fulfillment of
the requirements for the degree of PhD in Population Health

Population Health Programme
Faculty of Graduate and Postdoctoral Studies
University of Ottawa

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ABSTRACT

Low-income Franco-Ontarian women have a higher prevalence of smoking than the general population. Smoking cessation programmes specifically designed for low-income women and in the French language are not offered in the Champlain region of Eastern Ontario. In order to redress inequities in delivery of French language services, a culturally sensitive smoking cessation programme for low income Franco-Ontarian women was designed. The following three studies were conducted: 1) a systematic review of the effects of smoking cessation interventions for low-income women; 2) an exploration study on the meaning of smoking to disadvantaged Franco-Ontarian women and their programme needs; 3) a narrative synthesis that informed the development of a logic model for a culturally sensitive smoking cessation programme for the population of interest.

The first study, the systematic review, no evidence was found to support that smoking cessation interventions were effective in a population of low-income pregnant women. In addition, there was limited evidence that smoking cessation interventions were effective in low-income non-pregnant women. Overall, this systematic review was inconclusive: there were few studies included in this review, and several studies had limitations. This review has important implications for future research, suggesting that further attention should be given to the design of smoking cessation interventions by including outcome measures of cessation at 6-month and 12-month as well as biochemical validation of self-reported cessation. In addition, interventions should be tailored to meet the specific needs of low-income women and target the underlying causes of smoking.

The second study provided new and important contextual information surrounding a population of low-income and Franco-Ontarian female smokers that are living in the community of Vanier.

The third study involved a narrative synthesis which integrated several forms of knowledge and informed the development of a logic model. The logic model explains the pathways for a culturally sensitive smoking cessation program for low-income Franco-Ontarian women. The main levers of the intervention are to improve coping strategies/mechanisms, improve self-esteem while providing social support within a working group. Potential programme components were recommended: a gender-centered, holistic and culturally competent approach; the inclusion of empowerment, skill building and self-care; as well as community involvement.

CONTRIBUTION OF THE AUTHORS

Three manuscripts have been prepared for publications as part of this doctoral dissertation. All manuscripts are co-authored by the student (Denise Laplante), her supervisor, Dr. George Wells, and thesis committee members, Mr. Douglas Angus, Dr. Carolyn Andrew, and Dr. Elizabeth Kristjansson. The student is the first author of all papers, having been primarily responsible for data collection, analysis, and writing of the manuscripts. Drs Wells, Andrew, Kristjansson, and Mr. Angus provided valuable feedback throughout the process.

Thesis Supervisory Committee:

Dr. George A. Wells (Supervisor)
Department of Epidemiology and community Medicine
Faculty of Medicine, University of Ottawa

Dr. Carolyn Andrew (Committee member)
School of Political Studies
Faculty of Social Sciences, University of Ottawa

Dr. Elizabeth Kristjansson (Committee member)
School of Psychology
Faculty of Social Sciences, University of Ottawa

Mr. Doug Angus, M.A.
Telfer School of Management, University of Ottawa

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ABBREVIATIONS

Ave	average (mean)
CDC	Center for Disease Control
cnt.	control (group)
CO	carbon monoxide
cpd	cigarette per day
int.	intervention (group)
ITT	intention to treat analysis
LICOs	Low Income Cut-Offs
ml	milliliter
ng	nanogram
NRT	Nicotine Replacement Therapy
NS	non significant
OTRU	Ontario Tobacco Research Unit
PICO	Population Intervention Comparison Outcomes
PNCC	Prenatal Care Coordinator Program
PP	point prevalence
ppm	particles per million
sec	second (time)
SES	Socio-economic Status
TTM	Transtheoretical Model
VCRC	Vanier Community Resource Center
WIC	Women Infant Child program

ABBREVIATIONS – *(continued)*

y.o. year old (age)

*"If you plan for one year grow rice. If you plan for ten years grow trees,
if you plan for 100 years educate women." (Chinese Proverb)*

CHAPTER ONE

THE STUDY PROBLEM

Introduction

Many countries have experienced gains in health status over the past 50 years, but when measures are disaggregated they reveal a picture of increased disparities between the rich and the poor (Black, Morris, Smith, & Townsend, 1992; Whitehead, 1992; Acheson, Barker, Chambers, Graham, Marmot, & Whitehead, 1998; Evans, 2002; Federal/Territorial/Provincial Advisory Committee on Population Health: Second report on the health of Canadians). These inequalities in wealth and health have been the focus of attention across multiple disciplines, government sectors and societies. (Black, Morris, Smith, & Townsend, 1992; Evans, Whitehead, Diderichsen, Bhuiya, & Wirth, 2001; Federal/Territorial/Provincial Advisory Committee on Population Health. Second report on the health of Canadians, 1999).

Several decades of research have documented the impact of socio-economic inequalities on health (Black, Morris, Smith, Townsend, 1992; Whitehead, 1992; Wilkinson, 1996; Evans, Barer, Marmor, 1994). Health disparities refer to the gaps in the quality of health and health care across gender, cultures, ethnicity, races, religions, sexual orientation and socio-economic groups, and are evidenced by population-specific differences in the presence of disease, health outcomes or access to healthcare (USDHHS, 1998; USDHHS, 2000). This

profound gradient in health disparities that is closely related to a socio-economic gradient, has been extensively researched in the United Kingdom since the inception of the Whitehall study I in 1967 (Marmot & Wilkinson, 1999). There is a gradient in mortality and morbidity corresponding to the socio-economic gradient. This trend is also pervasive among most risk factors underlying disease, including smoking (Stansfeld & Marmot, 2002; Marmot & Wilkinson, 1999).

These findings challenge policy makers and public health leaders to reconsider their approach and reconsider priorities for intervention to eliminate and alleviate health disparities across the different segments of the population (Marmot & Wilkinson, 1999; Smedley, Stith & Nelson, 2003; USDHHS, 2000).

The Burden of Smoking. Smoking is the most preventable cause of morbidity and premature mortality in the U.S. adult population (CDC - MMWR, 2008). The health consequences of smoking in women continue to rise: cancer, cardiovascular disease, and chronic lung disease are the leading causes of morbidity and mortality (Fiore, Bailey, Cohen, Dorfman et al, 2000; USDHHS, 2001; CDC- MMWR 2005). It is estimated that approximately 178,000 women in the United States die annually as a result of cigarette smoking (CDC – MMWR 2005).

Similarly, smoking is also the most preventable cause of morbidity and premature mortality in Canada. More than 45,000 Canadians will die prematurely each year due to tobacco use and at least 1,000 non-smokers will die as a result of second hand smoke (Health Canada,

2005). The average smoker will die about eight years earlier, after years of suffering and a reduced quality of life. Smoking is related to more than two dozen diseases and conditions and most of these diseases start to reverse after quitting smoking (Health Canada, 2007).

The Prevalence of Smoking. Smoking prevalence is approximately 18.1% among adult US women (21.4% in women aged 25-44 years). It ranges between 29.0 and 38.8% in those with a high school diploma or less, and may be as high as 34.7% among divorced, widowed or separated women (CDC: Women and Tobacco; CDC-MMWR 2008, CDC-MMWR 2006). While the overall prevalence of smoking has declined in recent decades there has been a slower rate of decline in the prevalence of smoking among low-income women. Smoking prevalence remains substantially higher, and can reach 40-60% among low-income women aged 20-44 years (USDHHS, 2001).

Similarly, there has also been a decline in smoking rates among Canadians 15 years and older from 25% in 1999 to 18% in 2008. Young adults aged 20-24 years reported the highest prevalence of smoking at 27%, not statistically different from the 25% of young adults who reported smoking in the previous year. In the same age group, young adult males (33%) continue to have a higher prevalence of smoking compared to females (22%) (CTUMS, 2009).

Smoking, Pregnancy, and Impact on Children. In addition to the health risks to women, smoking during childbearing age is also associated with adverse pregnancy outcomes, increased risk of illness in newborns as a result of prepartum and postpartum exposure to

tobacco smoke, and increased illness in children from repeated exposure to environmental tobacco smoke (CDC- MMWR, 2008, CDC- MMWR, 2004).

It is estimated that the highest rates of smoking during pregnancy are found in low-income, single and less educated women (Lu, 2001). An estimated 26% of women who did not complete high school, smoked during their pregnancy (West, 2002). Similarly in Canada, 21% of women aged 15-24 smoked during their last pregnancy, and 14% vs. 11% of expectant mothers aged 20-44 years smoked during their last pregnancy in the past five years (Ontario Tobacco Research Unit, 2004).

Nevertheless, about one-third of female smokers quit spontaneously when they become pregnant, but spontaneous cessation is lower among low-income, women with less education, and heavier smokers (Zapka, 2000). Furthermore, women who smoked but quit during the course of their pregnancy have a 70% - 85% chance of relapsing during their pregnancy and in the postpartum period (Fang, 2004), and usually return to smoking within 6 months after the birth of their child (Fingerhut, 1990).

Smoking Prevalence (Franco-Ontario). A higher proportion of smoking is observed among the francophone minority population in Ontario. More Franco-Ontarian adults smoke daily (27%) than the Ontario average (21.3%). Based on the 2000-2001 Canadian Community Health survey, Francophones with low family income are twice as likely to smoke daily (43%) and represent the group with the highest smoking rate among all groups (Picard & Allaire, 2005). The poverty measure used is the Low Income Cut-Offs (LICOs) as

defined by Statistics Canada (Statistics Canada, 1997). Among female smokers, women in lower income groups are more likely to smoke and that 71.7% of single-parent women were smokers (Health Canada, 1999). In addition Francophone women have significantly higher rates of cardiovascular disease (7%) than Anglophone women (4.8%) (Picard & Allaire, 2005).

Socio-economic Gradient and Smoking. The *population health paradigm* postulates a possible pathway between proximal underpinnings of ill health and distal determinants such as the social, economical and physical contexts which limit an individual's choices and coping skills (Bobak, McCarthy, Perlman & Marmot, 2004; Choinère, Lafontaine & Edwards, 2000). Previous research suggests that there exists a social gradient in tobacco related uptake, dependence, amount of exposure, and quit rates. Death rates are 2-3 times higher among disadvantaged social groups than the more affluent, and poorer people are more likely to experience morbidity (Acheson, Barker, Chambers, Graham, Marmot, & Whitehead, 1998).

Overlapping Forms of Discrimination or Marginalization. Research shows that there is an increase in the utilization and uptake of smoking among young women and a strong association between smoking and socio-economic status. In addition, being female, Aboriginal, or Francophone poses an additional risk for higher smoking rates (Greaves & Barr, 1999). Examining social position and poverty more closely, one finds overlapping forms of discrimination or marginalization, which compounds the effects of poverty. For example being poor, female and a member of an ethnic group suffering discrimination

confers a magnified health risk as a result of heightened vulnerability (Evans, Whitehead, Diderichsen, Bhuiya & Wirth, 2001). An increasing socio-economic gradient and feminization of poverty, confers an increased vulnerability of women to poor health (Townson, 2000).

Gender Analysis and Policy Implications. The traditional tobacco control approach focuses on macro level measures to reduce smoking rates across the entire population. However, tobacco control policies and smoking cessation programs should target high-risk groups such as socio-economic disadvantaged populations, women, and Francophones in order to effectively reduce inequities (Kirkland, Greaves & Devichand, 2004). Smoking needs to be re-contextualized to include the social environment. A gender-based analysis is needed to understand the influence of poverty and the compounding effects of ethnicity/race/culture on health inequities and how they can be redressed. Analyses of factors associated with low socio-economic status such as low income, child care responsibilities and the nature of women's work are essential to understanding how gender differences are instrumental in understanding smoking initiation, uptake, maintenance, and smoking cessation within this population (Greaves & Barr, 1999).

Statement of Problem

There is a growing body of evidence on the effectiveness of several types of smoking cessation programs across a variety of settings. Several narrative reviews and systematic reviews have been published on the effectiveness of smoking cessation interventions in the

general population (Cochrane Database of Systematic Reviews, DARE Center for Reviews and Dissemination, Fiore, Bailey, Cohen, Dorfman et al, 2000). However, the evidence on the effectiveness of smoking cessation interventions across gender, socio-economic status, and racial/ethnic groups is relatively unknown (Piper, Fox, Welsch, Fiore, & Baker, 2001).

Since the prevalence of smoking is high among low-income Franco-Ontarian women (Picard & Allaire, 2005), a social assessment was undertaken to understand the scope of the problem and to document the smoking cessation resources available to this sub-population in their community. The assessment revealed that smoking among Franco-Ontarian women is a health priority and that a significant gap exists in the delivery of smoking cessation services to this Francophone minority population in Ontario (Appendix A). Despite high smoking prevalence among low-income Franco-Ontarian women, there are no smoking cessation programs in Eastern Ontario targeting this sub-population. Research shows that receiving health services in the French language is a preoccupation among Franco-Ontarians. The lack of services in the language of their choice poses additional health risks because of increased stress and inability to express themselves in the language of their choice and increased risk of not being understood by the health professionals delivering the health services (Picard & Allaire, 2005). The French spoken in Ontario is linguistically different from the French language spoken in the rest of Canada (de Robillard, Beniamino & Bavoux, 1993; Mougeon & Beniak, 1989; Guy, 1996; Valdman, 1997) and requires programme resources and toolkits that are culturally adapted (Services de la santé d'Ottawa-Carleton, 1995; Ottawa-Carleton Health Department, 1997; Price Waterhouse, 1997). The goal of the thesis is to develop a logic model for a culturally sensitive and tailored smoking cessation programme for Franco-

Ontarian women. Such a model will help focus health services on population health goals such as redressing inequities for this underserved population (McEwan, 1997). The research was undertaken in the community of Vanier which is a Franco-Ontarian community located in the heart of Ottawa and in the Champlain Region of Ontario. Vanier is also a community with high poverty rates and high smoking rates.

Research Objectives

- (1) To conduct a systematic review to determine if there is any evidence on the effects of smoking cessation interventions among low-income women;
- (2) To explore contextual and cultural factors that might explain why Franco-Ontarian women smoke; and the meaning of smoking to this population; why they smoke more; why they start smoking, and continue to smoke; why they want to quit; and what are the challenges they face as Francophones and living in disadvantaged circumstances; what are their programme preferences and language preferences; and
- (3) To develop a logic model/conceptual framework that postulates explanations and pathways for a tailored smoking cessation programme that is culturally sensitive to the linguistic, literacy needs and challenges of Franco-Ontarian women, that is informed by research evidence, theories, frameworks, and the data from the exploratory research.

Research Questions

Some of the key questions that will be addressed include: (1) What can we learn from the systematic literature search that can inform the design of a smoking cessation programme for disadvantaged Francophone women?; (2) What can we learn from Francophone women who are currently smoking that can inform or tailor the intervention?; (3) Why and what meaning does smoking have in the lives of young socio-economically disadvantaged Francophone women?; and (4) What role does the physical, social and cultural environment of socio-economic disadvantaged Francophone women play in the initiation, maintenance and cessation efforts?

Contribution to the Advancement of Knowledge and to Population Health Issues

Cardiovascular disease and cancer are the leading causes of morbidity and mortality in Canadian women, with a steep gradient present among low-income women (CASW, 2006). The thesis addresses an important problem related to these diseases. Smoking is also the leading cause of cardiovascular disease, cancer and chronic respiratory illnesses. A systematic review of the effects of smoking cessation interventions aimed at low-income women has never been conducted. Smoking rates of Franco-Ontarian women are higher than average. Exploratory research of the contextual and cultural factors affecting smoking and the meaning of smoking to Franco-Ontarian women, as well as their programme and language preferences has never been conducted. This original work will inform a logic model for a tailored and culturally sensitive intervention for low-income Franco-Ontarian

women, and could potentially redress a gap in the delivery of smoking cessation services for this sub-population.

The highest smoking prevalence is among low-income Francophone women between the ages of 20 and 44 years. To date there are no programmes offered in the French language for socio-economically disadvantaged females within any of the communities in the Champlain Region. Developing a logic model could provide meaningful information on how to successfully target and tailor efforts toward this under-serviced population in other Franco-Ontarian communities such as Hawkesbury and Cornwall.

Smoking cessation in this disadvantaged population also has potential impacts in terms of improving pregnancy outcomes, as well as reducing illness in newborns and children, by reducing direct or indirect exposure to tobacco smoke. Other population health benefits may also include: personal changes such as increased self-esteem, improved coping mechanisms and affect.

Outline of PhD Dissertation

The dissertation has been formatted as a manuscript-based thesis. An introduction (Chapter One), a literature review (Chapter Two), and a general discussion and recommendations (Chapter Six) are included. Chapter 3, 4, and 5 will address research objectives as stated in the above section and are outlined in the following manuscripts:

Chapter Three: The Effects of Smoking Cessation Interventions in a Population of Low-income Women: A Systematic Review;

Chapter Four: Exploring the Meaning of Smoking to Disadvantaged Franco-Ontarian women;

Chapter Five: A Logic Model Explaining the Pathways for a Culturally Sensitive Smoking Cessation Programme for Low-income Franco-Ontarian Women.

CHAPTER TWO

LITERATURE REVIEW

Conceptual frameworks

Transdisciplinary (Albrecht, Freeman, & Higginbotham, 1998) frameworks informed by theories and evidence from population health (Health Canada: The population health template: Key elements and actions that define a population health approach; Evans, Barer, & Marmor, 1994; Young, 1998; Hertzman, 1990) guided analysis of pathways that explain the relationship between inequalities in wealth and health, and inequities in access to social and health care services by women living in poverty and members of a Francophone minority group. This analysis of pathways suggests we take the position that socioeconomic inequality creates inequities in health that are concentrated in neighborhoods. What follows is a discussion of the implications this position may have for the design of a culturally sensitive smoking cessation programme for low-income Franco-Ontarian women, particularly in Vanier, a disadvantaged suburb of Ottawa.

Methods

An evaluation and planning framework (Green & Kreuter, 1991) guided the problem analysis and examined pathways while integrating a multi-level/ecological approach, looking at the intersectoral, interdisciplinary, and interorganizational forces operating at

different levels (see **Appendix B**). Several other frameworks and theories on gender inequity (Moss, 2002), health equity (Diderichsen, & Hallqvist, 1998), access to health care, lifecourse determinants of health (Hertzman, 1990) and health policy (Lomas, 2000) supplemented this analysis.

Community Involvement and Social Assessment. A community consultation/social assessment (Appendix A) was done in order to determine if high smoking prevalence among low-income francophone women was a health priority in the community of Vanier, as well as do an inventory of smoking cessation resources available to this population within their community. Smoking cessation among Francophone women living in low-socio-economic conditions was identified as a priority in the community of Vanier (Appendix B). Input from the director of services and counseling at the Vanier Community Resource Center (VCRC) and his coalition committee members was solicited at the initial meeting, subsequent meetings and throughout the research process (Stringer, 1999). Indigenous knowledge from the community concerning the high risk population of low-income Francophone women has proven to be invaluable. The Vanier Community Resource Center is a non-profit organization that houses 13 service providers who are employed by community agencies. The mission of the VCRC is to provide services in French; to improve the quality of life of its residents through social action services, information, or education and action programs; to develop tools that promote awareness of social problems, and that aim to protect and enhance the rights of Francophones; and to promote empowerment and facilitate community cooperation. These service providers have extensive experience working with low-income Francophone women and are well positioned to provide input for the design of a smoking

cessation programme. The VCRC has also offered resources to conduct the research; both staff support and infrastructure. Information was regularly exchanged between researcher and community, through regular reporting and discussion of the project at sector meetings at Vanier Community Resource Center (VCRC). Finally disseminating the results of research will enhance the community's capacity to respond and redress the inequities in service delivery (Dressendorfer, 2005).

A combination of indigenous knowledge from the community, theories and conceptual frameworks, as well data collection will inform the problem analysis. This data collection, to be covered in the next section, will be in the form of surveys, statistical reports and key informant interviews with population and public health experts, and multi-sectoral stakeholders. The literature was reviewed for evidence pertaining to social policy, poverty, contextual and life course effects, as mediating pathways between socioeconomic inequalities (SEI) and inequities in access to health and social services and inequities in health outcomes. Possible interventions components were identified through search of the published and grey literature, environmental scan of relevant electronic clearinghouses and other jurisdictions, and key informant interviews. Evidence was appraised according to principles for evidence-based decision-making in population health (Dickerson, 2002; Thompson, 1994).

In addition, research evidence from a systematic review on the effects of smoking cessation intervention for low-income women (to be covered in Chapter Three), and a qualitative/exploratory research with low-income Francophone women (to be covered in

Chapter Four) will provide valuable information to develop the logic model for a tailored intervention targeting low-income Franco-Ontarian women.

Definitions

Health is a positive concept rather than merely the absence of disease (World Health Organization. Ottawa Charter for Health Promotion). *Population health* extends beyond individual health, and examines the interrelated conditions and factors that influence the health of populations over the life course. *Inequality* is an empirical concept that describes a lack of evenness, or a difference of scores among individuals or groups (Chang, 2002; Kawachi, Subramanian, & Almeida-Filho, 2002). *Equity* is a normative concept, that requires to judge fairness based on one's theory of justice (de Jong, & Ruttens, 1983; Rawls, 1999), one's theory of society and the reasoning behind how the inequality was created (Kawachi, Subramanian, & Almeida-Filho, 2002; Chang, 2002). Equity definitions are based on equality of expenditures, distribution of needs, equal access, and equal health outcomes. *Horizontal equity* implies that people with equal needs should be treated the same and *vertical equity* entails treating people with greater needs more favorably than those with lesser needs (Culyer, & Wagstaff, 1993). Inequities must also be avoidable and remediable through public intervention (Anand, 2002; Macinko, & Starfield, 2002). *Absolute poverty* is defined by a monetary threshold or a poverty line that is necessary to meet basic human needs such as the LICO used by Statistics Canada. *Relative poverty* defines poverty in relation to a standard within society such as less than half of the country's average per capital income. (Kawachi, Subramanian, & Almeida-Filho, 2002). The term socioeconomic

status (SES) integrates the concept of wealth with the notion of inequality, implying a gradient according to prestige and lifestyles based largely on educational and occupational achievements (Young, 1998). The concept of *environment* is central to the analysis of inequities in health and includes physical, social, and policy dimensions influencing health (Connor, & Brink, 1999; Putnam, 2001). Environmental influences on health can occur in *places or contexts*, at the household, neighborhood, workplaces, organizations, community, regional, provincial, national and international levels (Boyle, & Lipman, 1998). From this socio-ecological perspective (Stokols, 1996), inequities are aspects of the environment that can be controlled by society and that have contributed to variations in access to the determinants of health between individuals or groups in a population (Macinko, & Starfield, 2002; International Society for Equity in Health. The Toronto declaration on equity in health).

Franco-Ontarian Identity, Culture, and Language. Franco-Ontarians are French Canadian residents of the province of Ontario whose mother tongue is French. There are 510,240 Francophone residents making up 4.2% of the Ontario population (Canadian Census, 2006). Franco-Ontarians make up the largest Francophone community outside Quebec and the largest minority language group within Ontario. Forty-one percent of Franco-Ontarians live in the Champlain Region and in the municipalities of Ottawa, Hawkesbury, and Cornwall. Ottawa is the province's largest Franco-Ontarian community with 128,620 Francophones. Vanier and Orleans are the areas of Ottawa that have a rich Franco-Ontarian heritage. The Ontario government and the French Language Service Act designated 25 areas in the province where provincial ministries are required to provide local French language services.

Franco-Ontarian Culture. As a culture, Franco-Ontarians have a clear identity that makes them distinct from Francophones in Quebec. They have a Franco-Ontarian flag, and a primary cultural organization which coordinates political and cultural activities of the Franco-Ontarian community (L'Assemblée de la francophonie de l'Ontario). They enjoy many cultural traditions from their French ancestry, however they are culturally difference with their own traits, characteristics and behaviors (French Canada and Tobacco: A social marketing Challenge).

Franco-Ontarian Language. The dialect spoken in Ontario is a derivative of Quebec French. It has similarities with the French spoken in Quebec but is also linguistically different. Separated by geography, time and events, language can evolve in different directions. With a large English majority in Ontario, Francophones frequently borrow English words in the informal French slang. This is a trend with many Francophones in Canada and in Europe, but excludes Quebec Francophones who have made great strides to eliminate all anglicisms from their language: their conservatism differentiates them from other Francophones. The French language spoken in Quebec is a result of government legislation to improve the social and legal status of the French Language, by massive terminological work, the Charter of the French Language, and the Office Québécois de la langue française. Being a minority Francophone in Ontario, forces Franco-Ontarians to be functionally or fluently bilingual which encourages further borrowing of English words. This impacts quite heavily on how health messages are communicated in social marketing and the use of culturally appropriate terms that would be understood by the intended

audience (Ottawa-Carleton Health Department, 1997; Services de la santé d'Ottawa-Carleton, 1995). The Franco-Ontarian will frequently borrow words, nouns, verbs and idiomatic expressions from English. Another example is that they also tend to pronounce several words with a diphthong (two sounds or two tones). Franco-Ontarian French tends to share similarities with other minority French groups such as the Acadian French, more so than with Quebec French. Sociolinguistic research has found many variations in French spoken in Ontario, and has looked at external and internal factors which influence these linguistic variations in French, as well as the differential effect that these factors have on variation in languages spoken in minority communities. Morpho-syntactic differences, the use of the negative particle “ne”, socio-phonetic variations, linguistic use of dual scaling, the quasi-disappearance of the subjunctive tense, differential use of the auxiliary “être” and “avoir” are only a few of the variations in Franco-Ontarian French (Sociolinguistic Research on Variation in Ontario French)

Assumptions

Six main assumptions underlie this analysis. First, a population health perspective guides the analysis (Albrecht, Freeman, & Higginbotham, 1998). Second, principles of complexity theory (Glouberman, Zimmerman, 2002; Capra, 1996), policy analysis (Lomas, 2000) and community development (Rothman, 1995) underpin this analysis. Third, globalization and the market economy (Evans, Whitehead, Diderichsen, Bhuiya, & Wirth, 2001; Labonté, & Torgerson, 2003) are primary determinants of the growing inequalities in wealth and health in Canada (Kerstetter, 2002). Strategies are needed to build resilience, and coping

mechanisms to buffer the negative effects of living in difficult circumstances. Fourth, economic development that increases wealth for some groups, but worsens the health of other groups is deemed unjust and inequitable. Fifth, social and gender inequities in labor market structures must be acknowledged as a contributing factor to the feminization of poverty (Wiegers, 2002). Finally the sixth assumption is that health and social services that are exclusionary to women living in poverty and francophone minorities are unfair and are inequitable (Anand, 2002).

Analysis of the Issue: Data, Pathways, Policies, and Values

Data. Income inequality has been on the increase in Canada. Median net worth for the bottom three deciles fell, while it rose by at least 30% in the top three deciles (Kerstetter, 2002; Statistics Canada. The evolution of wealth inequality in Canada 1984-1999). More recent data show the existence of a similar pattern for the period of 2000 to 2005. While the earnings increased by 6.2 % for the top two deciles, earnings fell by 3.1 % for the bottom two deciles (Statistics Canada, 2008). In addition, the gradient in health mirrors the pattern of income distribution in Canada, and is apparent across a number of health measures (Federal/Territorial/Provincial Advisory Committee on Population Health. Second report on the health of Canadians).

Compared to other Canadian cities, Ottawa's socioeconomic indicators are positive, including: population growth, university education, growth in Gross Domestic Product, and employment growth rates. However, *within* Ottawa, analysis of socio-economic inequality

(SEI) in neighborhoods is mostly limited to citywide indicators (The Quality of Life in Ottawa Baseline Report). In 2005, people living on low income before taxes was 15.2% and after tax 12.3% (Social Planning Council of Ottawa, 2009). However, poverty is concentrated in certain neighbourhoods, namely Rideau-Vanier which had the highest poverty rate - 39.8% (The Social Planning Council of Ottawa, 2002).

Severity of poverty is determined by examining the incidence, depth and duration of poverty (Finnie, 2000). Some of the highest poverty rates in Canada were concentrated among high risk groups: women, lone parents, aboriginal population, visible minority groups and people living with disabilities. The concentration of poverty is in urban settings (Ross, Scott, & Smith, 2000) and increasingly in neighborhoods such as Vanier.

There is also a growing concern about services accessible to women. Key Informant interview and focus groups conducted with Ottawa women identified barriers to accessing municipal services. Findings revealed that women were unable to access information about services. Language, attitudes of service providers, location of facilities, lack of short term day-care, and waiting lists were additional barriers to accessing services. Likewise the cost of public transit and daycare were also barriers to access (Making the New City of Ottawa Work for Women: The results from focus groups on women's experiences accessing municipal services in Ottawa, 2001). Incidental fees were also limiting factors: transit costs, parking, and daycare. Difficulties getting time off work because of inflexible employment policies and loss wages were also barriers to access (Community Inventory and Gap Analysis Study, 2000).

Presently, low-income Franco-Ontarian women experience barriers in accessing smoking cessation programmes within their community and in the French language. Financial, structural, and personal barriers linked to poverty have limited their access to these programmes. Financial barriers include not having health insurance, not having enough health insurance to cover needed services, or not having the financial capacity to cover services outside a health plan or insurance program. Structural barriers include the lack of primary care providers, medical specialists, or other health care professionals to deliver the programme or services to meet their needs, or the lack of infrastructure and facilities. Personal barriers include: cultural or spiritual differences; language barriers; not knowing what to do, when, or how to seek care/services; or concerns about confidentiality or discrimination. Despite higher prevalence of low-income Francophone smokers in Vanier compared to other communities, smoking cessation programmes are non-existent in this community which would suggest both horizontal and vertical inequities.

Pathways and Evidence. Three particular pathways that explain how SEI influences health are discussed here: material deprivation, context and life course pathways.

The Material Deprivation Pathway. Material deprivation means that poorer people are likely to have greater stresses (income and housing insecurity), less financial resources for basic necessities, and less personal coping skills (e.g. literacy skills, problem solving skills) available to deal with stresses (Marmot, Wilkinson, 1999). The poorest people in Canada were more likely to be renters, to have less education, higher unemployment, and less likely to be in a professional occupation (Wilkins, Berthelet & Ng, 2002).

The Context Pathway. Contextual influences on health are a result of the goodness-of-fit between people and their environment or context (Bronfenbrenner, 1979). Studies have confirmed the impact of socioeconomic characteristics of environments on health, across several health measures (Pickett & Pearl, 2001; Kawachi, Kennedy & Glass, 1999). In Canada, contextual influences on health suggest they are related to neighborhood rather than regional level characteristics. Socioeconomic inequality has a strong influence on context by concentrating material deprivation of individuals and families into neighborhoods and increasing social exclusion. Concentration of material deprivation by neighborhood increased significantly between 1971-1996 in Canada (Wilkins, Berthelet & Ng, 2002). The consequences of social exclusion include feelings of rejection, powerlessness, voicelessness, economic vulnerability, and marginalization (Marmot, Wilkinson, 1999). SEI influences health through its effect on neighborhood characteristics (Conner & Brinks, 1999; Putnam, 2001), therefore remedial policies to divert or buffer concentration of material deprivation and social exclusion are needed.

The Life Course Pathway. Life course research has helped to explain how SEI inequalities are transmitted between generations and over the lifetime to individuals by influencing biological makeup, education, and literacy (Hertzman, 2001; Graham, 2002). Research on early brain development has demonstrated that the quality of physical, emotional and social environments can affect life long health by fundamentally altering the neurobiological capacity during critical periods in life (McCain & Mustard, 1999). Family environment, poverty and neighborhood disadvantage can negatively affect child development, while

maternal educational attainment can significantly buffer these negative effects (Tremblay, Ross, & Betrtholet, 2000). Interventions can improve early childhood development (Connor & Brinks, 1999), life course effects of SEI can be diverted through programs that are: comprehensive; available to all at the neighborhood level, community driven and relevant to local culture needs and priorities; have strong local participation; involve the resources of multiple sectors; and that are adequately funded (Hertzman, 2001; Graham, 2002).

Putting it all Together... Frameworks Explaining the Interface between Gender, Social Position, and Smoking. A population health paradigm and equity lens can help us understand the bio-psycho-social pathways and mechanisms of interaction between human biology and social organization (Kunst, Gisskes & Mackenback, 2004). A life course perspective, and co-evolution hypothesis of health differentiation and social differentiation are the underpinning of this process (Vagero, 1998). Two models explain the interface between social position, social context and health: (1) the Diderichsen & Hallqvist (1998) model explains the pathways between social position and health which are mediated by differential exposure and differential susceptibility (**Appendix D**); and (2) the Wamala & Orth-Gomer (1998) model which posits the mutual influence of environmental factors, personality factors and lifestyle patterns such as smoking (**Appendix E**). Although changing macro and micro economic conditions is beyond the scope of this project, other environmental and personality factors are of interest as potential levers of intervention that can be deployed to reduce susceptibility to exposure (smoking and disease) and increase coping mechanism to buffer the effects of exposure. They would appear to be important distal determinants to be considered when designing a smoking cessation program.

Policy Threats and Opportunities

Fiscal policy is under the jurisdiction of both a provincial and a federal responsibility, and can significantly increase or decrease SEI (Hertzman, 2001; Graham, 2002). While the province has maintained responsibility for education and health care services, social policy has been downloaded to municipalities without any additional funding. These responsibilities include: urban transportation and communication infrastructure, housing, as well as social and public health (Bradford, 2002).

Ottawa 20/20: Charting the Course exposes the vision for the amalgamated city emphasizes creating a healthy and livable city. However, overall the plan fails to address the needs of the *whole* population for education, employment, social development and physical development. This weakness may reflect the resource gap faced by municipal level governments, and a vision for the city that excludes the characteristics and needs of people living in poverty.

Furthermore, under the Ontario Public Health Standards of the Ontario Ministry of Health and Long Term Care Health, public health units must provide services to priority populations to adopt tobacco-free living, and keeping with the French Language Service Act, services in French should be made available to French-speaking Ontarians living in designated areas (Ontario Public Health Association, 2006; Ontario Public Health Standards, 2008). However this Service Act applies to services offered by the provincial government

of Ontario (Commissariat aux services en français) and excludes many community and social services (Bouchard, 1999; Fédération des communautés francophones et acadienne du Canada; Femmes pour la santé; On peut savoir et agir).

Values and Ideology

Canadian values show strong support for healthy public policy to equalize opportunity to access the determinants of health (Ross, Scott, & Smith, 2000). However, the Ontario government rules by principles of liberty, believing in a strong market economy. Hence, policy proposals that are not aligned with these values and ideologies may not be endorsed.

Promising Interventions and Recommendations

In light of the absence of services to a population in greater need, these horizontal and vertical inequities in the delivery of services to be redressed which in turn led to the development of this project. Under Municipal fiscal restraints, the community of Vanier must develop a community-based smoking cessation programme for low-income Francophone women. The objective of this dissertation was to develop a logic model for such a programme.

The results of several community-based projects have showed promising results and should be considered in the design of the logic model. Namely the *Action on Health (ASH) Scotland, Women, low-income and Smoking Project* (Amos, 1999; Barlow, 1999; Gaunt-

Richardson, 1998; Gaunt-Richardson, 1999; McKie, 1999) is a project that clearly integrated research evidence, theory and practice. This project built upon previous work in the UK examining the prevalence of smoking among low-income families, low-income lone families and disadvantaged women (Dorsett & Marsh, 1998; Graham, 1993; Marsh & McKay, 1994) and a national strategy “Smoking Kills” (Smoking Kills, 1998; Whitehead, 1999). The “Women, low-income and smoking project”, funded by the Health Education Board for Scotland (HEBS), was specifically developed in response to findings from another project “Under a Cloud” (Crossan, 1994) that demonstrated an association between smoking prevalence and consumption with material disadvantage. Women were found to be over-represented in this group. Prior to this project, lack of funding, training, appropriate support and resources prevented the development of community based initiatives. The *Women, low-income and smoking project* operated between April 1996 and March 1999 and provided 2 waves of one-year funding to 20 community-based projects. The Project sought to fund community based initiatives and reframe the issues around smoking that are more sensitive to women's needs and the challenges of their day to day lives. The main objectives of the *Women, low-income and smoking project* were: to explore new ways of working to address smoking reduction among women living on low income by funding and supporting community based initiatives; to develop communication and networks to support work at the local level; and to disseminate the findings throughout Scotland. The interventions remained flexible and evolved over time. Some initiatives used direct methods to address smoking cessation, however most used indirect methods. Indirect methods engaged participants in activities that developed new skills, raising their confidence and self-esteem. Some of these activities include poetry, video work, and exercise. During the course of the interventions

other issues were also raised such as fitness, healthy eating, and dependency on other drugs. In general outcome variables were not clearly defined or measured, and outcome data were not well reported. None of the 20 studies reported any significant changes in quit rates or reduction in the amount of cigarettes smoked. For most of the studies, sample size, quit rates and amount smoked were not reported. Few changes were recorded in long-term smoking behaviour. Some of the reported benefits to the intervention were an increase in confidence, self-efficacy, and changes in attitude towards smoking. Some initiatives reported other benefits such as: making videos, producing a magazine or conducting a survey, or providing them with an opportunity for skill building. The involvement of low-income women in the evaluation of initiatives was also empowering and allowed them an opportunity to have their voices and experiences heard. Process data were also collected at the individual and organizational levels. The main themes that emerged from the data were: why women smoke, barriers preventing them to quit, and promoting sustainable programs. Feedback from participants confirmed research findings of the *Under the Cloud* project which identified stress, boredom, isolation and addiction as reasons why women smoke (Crossan, 1994). Many women recognized their addiction but felt helpless to change or to take control of their smoking behaviour. The prevalence of smoking within their family and their neighborhood made any behaviour changes challenging. Women expressed guilt about their smoking: they had concerns about the impact on their children health, as well as on financial resources. Previous failed attempts to stop smoking increased their feelings of guilt, had not actively supported them in making behavior changes, and had reduced their confidence and self-efficacy. Past materials and resources designed to support smoking cessation work were perceived by low-income women as inappropriate and not user-friendly. In addition, certain

barriers to the intervention were identified which are commonly encountered in community interventions with low-income women, namely: (1) difficulties in recruitment and retention of participants, hence the importance of group work and practical activities to establish group membership and rapport between participants; (2) poor compliance, attendance and participation by women because of personal issues concerning family, childcare, housing and financial problems; (3) difficulties in running an "open group" (attendance not mandatory) while trying to involve participants in planning the program and future sessions; (4) lack of funds for future and ongoing support; (5) unstable organizational setting due to funding or changes in staffing; (6) difficulties getting child care services; and (7) transportation difficulties. Finally, this initiative favored an increase in community and research capacity to respond to this important health concern among low-income women. There was also sustainability of the initiatives as several were able to continue work beyond the funding period. The sustainability was also partly a result of a bottom up approach whereby participants claimed ownership of the work and knowledge, and that the work was addressing the needs identified by low-income women. The lessons drawn from these 20 community-based projects are: that the *social* context in which low-income women live must be considered in the delivery of the programme; smoking cannot be addressed in isolation without considering the influence and support of family, peer networks and the culture in which they live; the approach must be culturally sensitive and user-friendly materials that are non-blaming; one must consider the barriers that participants must overcome before addressing their smoking: low self-confidence, previous experiences of cessation support, living within a smoking culture, and difficulties in accessing smoking cessation services; and community-based initiatives must also consider the costs involved in

participants' participation and attempt to remove barriers such as childcare and transportation costs.

Some community based interventions for low-income women have been implemented in Canada (Dafoe, 1995,; Dafoe, 1996; Refuse, 1994) however there has not been any formal evaluation of the project (personal communication CPHA, May 2008) and hence the effects of the intervention are not clearly discerned. Other work, exploring the meaning of smoking for low-income women (Greaves, 1996) and psychological factors associated with smoking (Stewart, 1996a; Stewart, 1996b), within a population of low-income Canadian women has corroborated with previous findings in other populations of low-income women. This qualitative research provided solid foundation on which to build programmes, however there was an identified need to extend this research to other groups of women namely of different race, ethnicity, and social class (Greaves, 1996). Such research has been done in the US looking at certain issues around culture, race and low-income women namely within the population of Latinas (Robert-Clarke, 2002; Sanders- Phillips, 1996) and also in the African American population (Ahijevych, 1993; Beech, 2003; Fisher, 1998; Lacey, 1993; Manning, 2005; McBride, 2001; Okuyemi, 2007; Pletsch, 2003).

There is a paucity of research on smoking among low-income women and even fewer studies have looked at smoking among Francophone minorities within Canada. There is a great need to look at such sub-populations as discussed in previous literature (Greaves, 1996; Piper, 2001) in order to look at the intersection between race culture and socio-economic status.

Summary

This transdisciplinary analysis of the relationship between SEI and population health identified key issues and priorities for intervention to reduce inequities in access to smoking cessation services for low-income Francophone women. Furthermore, francophone culture and language should be considered in the design of a programme logic model. One must consider the appropriate socio-linguistic variation of the French language, the literacy level of a population that is less educated, cultural differences, and their personal preferences.

In order to design a logic model for a culturally-sensitive smoking cessation programme for low-income Franco-Ontarian women, two studies were conducted. These studies will be reported in two manuscripts covered in the next two chapters. First, in Chapter three, we will report on the findings of a systematic review of interventions aimed at low-income women, in order to determine what are the most effective interventions in this population. In Chapter four, we will report on an exploratory study with a population of low-income Francophone women, looking at the meaning of smoking in their lives, issues surrounding why they started smoking, why they continue, barriers to cessation, in addition to specific issues regarding the offer of service in the French language and their specific needs. These two studies in addition to the theories, frameworks, evidence and promising interventions presented in this chapter will inform the design of a culturally appropriate programme for low-income francophone women, which will be presented in Chapter Five. Programme components and enabling factors will be covered in Chapter Five.

CHAPTER THREE

THE EFFECTS OF SMOKING CESSATION INTERVENTIONS IN A POPULATION OF LOW-INCOME WOMEN: A SYSTEMATIC REVIEW

In the previous chapter, a literature review was completed that examined: smoking among low-income women, access to smoking cessation services for low-income Franco-Ontarian women and issues of culturally appropriate programming for this Francophone minority population. No studies were found in the scientific literature that specifically addressed smoking cessation among low-income Franco-Ontarian women. Hence, in order to develop a culturally sensitive smoking cessation programme for this minority population, it is essential to systematically summarize the evidence on current programmes available for low-income women in general. Hence, the following manuscript was prepared for publication.

The primary objective of this systematic review was to summarize the literature on smoking cessation interventions aimed at low-income women, grade the strength of the evidence, determine which approach is the most effective, and make recommendations for the design of smoking cessation programmes tailored for low-income women. In turn, the results of this systematic review will specifically inform the design of smoking cessation program aimed at low-income Franco-Ontarian women.

Additional details about the methodology are found in **Appendix F** of the dissertation.

The manuscript was co-authored by the doctoral student (DL), her supervisor, Dr. George Wells, and thesis committee members, Mr. Douglas Angus, Dr. Carolyn Andrew, and Dr. Elizabeth Kristjansson. The student is the first author of this paper, having been primarily responsible for data collection, analysis, and writing of the manuscript. Drs Wells, Andrew, Kristjansson, and Mr. Angus provided valuable feedback throughout the process.

The effects of Smoking Cessation Interventions in a Population of Low-income Women: A Systematic Review

Denise Laplante^{1*,2}, Douglas Angus^{2,3}, Carolyn Andrew^{2,4}, Elizabeth Kristjansson^{2,5}, George Wells^{2,6}

¹ PhD Candidate in Population Health, University of Ottawa, Canada.

² Institute of Population Health, University of Ottawa, Canada.

³ Telfer School of Management, University of Ottawa, Canada.

⁴ School of Political Studies, Faculty of Social Sciences, University of Ottawa, Canada.

⁵ School of Psychology, Faculty of Social Sciences, University of Ottawa, Canada.

⁶ Department of Epidemiology and community Medicine, Faculty of Medicine, University of Ottawa, Canada.

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This manuscript includes: one (1) figure and five (5) appendices

Abstract

Low-income women have a higher prevalence of smoking than the general population. A systematic review was conducted to determine the effects of smoking cessation programmes aimed at low-income women. *Methods:* A comprehensive search was performed in Medline, EMBASE, HealthStar, CINAHL, PsychInfo, Sociological Abstracts, Cochrane Central Register of Controlled Trials, and Digital Dissertations. *Results:* Seven randomized studies and non-randomized studies with controls were included in the review. Information was extracted from the selected studies on the population, intervention and outcomes.

Heterogeneity of the studies prevented us from combining them in a meta-analysis to obtain a pooled effect. There is no evidence to support that smoking cessation interventions are effective in a population of low-income pregnant women. There is limited evidence that smoking cessation interventions are effective in low-income non-pregnant women. A non-randomized intervention combining educational counseling, empowerment education and Nicotine Replacement Therapy (NRT) was effective for smoking cessation. Low-income women in the intervention group were 6 times ($OR=6.2$) more likely to be non-smokers at the 6-month follow-up. A randomized study of a brief intervention and telephone follow-up in a pediatric clinic with low-income women was effective in promoting abstinence ($OR=3.1$) at the 12-month follow-up. *Conclusions:* This systematic review is inconclusive. There are few studies included in this review, and several studies have limitations. Further attention should be given to the design of smoking cessation interventions by including outcome measures of cessation at 6-month and 12-month as well as biochemical validation of self-reported cessation. In addition, these interventions should be tailored to meet the specific needs of low-income women and target the underlying causes of smoking.

Keywords

smoking cessation, low-income women, systematic review, interventions

Introduction

Smoking is the most preventable cause of morbidity and premature mortality in the adult population (CDC - MMWR, 2008). The health consequences of smoking in women continue to rise: cancer, cardiovascular disease, and chronic lung disease are the leading causes of morbidity and mortality (Fiore, Bailey, Cohen, Dorfman et al, 2000; USDHHS, 2001; CDC-MMWR 2005). It is estimated that approximately 178,000 women in the United States die annually as a result of cigarette smoking (CDC – MMWR 2005). Smoking prevalence is approximately 18.1% among adult US women (21.4% in women aged 25-44 years). It ranges between 29.0% and 38.8% in those with a high school diploma or less, and may be as high as 34.7% among divorced, widowed or separated women (CDC-MMWR 2008, CDC-MMWR 2006). While the overall prevalence of smoking has declined in recent decades there has been a slower rate of decline in the prevalence of smoking among low-income women. Smoking prevalence remains substantially higher, and can reach 40-60% among low-income women aged 20-44 years (USDHHS, 2001).

In addition to the health risks to women, smoking during childbearing age is associated with adverse pregnancy outcomes, increased risk of illness in newborns as a result of prepartum and postpartum exposure to tobacco smoke, and increased illness in children from repeated exposure to environmental tobacco smoke (CDC- MMWR, 2008, CDC- MMWR, 2004). It is estimated that the highest rates of smoking during pregnancy are found in low-income, single and less educated women (Lu, 2001). An estimated 26% of women who did not complete high school, smoked during their pregnancy (West, 2002). Nevertheless, about

one-third of female smokers quit spontaneously when they become pregnant, but spontaneous cessation is lower among low-income, women with less education, and heavier smokers (Zapka, 2000). Furthermore, women who smoked but quit during the course of their pregnancy have a 70% - 85% chance of relapsing during their pregnancy and in the postpartum period (Fang, 2004). Many return to smoking within 6 months after the birth of their child (Fingerhut, 1990).

Low-income women are aware of the negative health effects of smoking and while they are willing to quit, they are often unable to do so. There is a growing body of evidence on the effectiveness of several types of smoking cessation programmes across a variety of settings. Several narrative reviews, systematic reviews, and meta-analyses have been published on the effectiveness of smoking cessation interventions in the general population (Cochrane Database of Systematic Reviews, Issue 4, 2009; DARE Center for Reviews and Dissemination, Medline); however these programmes may not be effective in a population of low-income women. The interpersonal and socioeconomic contexts in which low-income women live make them particularly challenging to treat. Smoking cessation interventions designed for the general population may lack the intensity, dose and context necessary to address the complex array of psychological and environmental stressors facing low-income pregnant smokers (Pletsch, 2003; Secker-Walker, 1994). In addition social and environmental factors may impede implementation of such interventions. Hence low-income women are in need of interventions that are specifically designed to meet their needs.

Research objectives. Despite higher smoking prevalence among low-income women, there is no published systematic review of smoking cessation interventions aimed at this population. It is our objective to conduct a review of smoking cessation interventions aimed at low-income women, and to formulate recommendations that will inform the design and tailoring of future smoking cessation efforts that will meet the specific needs of this high-risk population.

Methodology

The methodology was based on the one published by the Cochrane Collaboration (Higgins & Green, 2008). The following sections describe the systematic identification, appraisal and synthesis of all relevant studies according to our inclusion/exclusion criteria.

Search strategy. An exhaustive search of the literature was conducted which included a comprehensive search of bibliographic databases of scientific literature as well a search of the grey/unpublished literature. The strategy minimized sampling bias by including both positive and negative results, and provides an overall unbiased assessment of the effects of the interventions (Jadad, Moher & Klassen, 1998; Felson 1992). The following bibliographic databases were searched using an OVID interface: Medline, EMBASE, HealthStar, PsychInfo. Other searched databases included: CINHALL, the Cochrane Central Register of Clinical Trials, and Sociological Abstracts.

Other searches were also conducted to minimize sampling bias and include: Digital Dissertations; internet Google searches of cessation programmes aimed low-income populations; bibliography or reference lists searches of retrieved articles; proceedings from key conferences for possible abstracts of unpublished data; and electronic or manual journal searches for publications which were not indexed in the above databases (Jadad, Moher & Klassen, 1998). Investigators and content experts were contacted regarding the possibility of other published or unpublished literature (Cook, Guyatt, Ryan, Clifton, Buckingham, Willan, McIlroy & Oxman, 1993; McCauley, Pham, Tugwell & Moher, 2000).

The following MEDLINE search strategy included common text words and subject headings (Haynes, McKibbin, Walker & Sinclair, 1994; Lowe & Barnett, 1994) and was developed with the assistance of an information specialist. The strategy was subsequently modified and adapted to the specific subject heading of each database. Since the effect of language restriction and its bias on estimates of intervention effectiveness is still a controversial question, the search strategy did not restrict language (Egger, Zellweger-Zahner, Schneider, Junker, Lengeler & Antes, 1997; Grégoire, Derderian & Le Lorier, 1995; Moher, Fortin, Jadad, Juni, Klassen, Le LJ, Liberati, Linde & Penna, 1996; Moher, Pham, Klassen, Schulz, Berlin, Jadad & Liberati, 2000).

MEDLINE SEARCH:

1. exp smoking cessation/
2. exp women/
3. 1 and 2

4. low adj1 income.mp.
5. exp poverty/
6. or/4-5
7. 3 and 6

Inclusion criteria. The choice of terms used above was coherent with the *PICO* statement that follows (Schardt, Adams, Owens, Keitz & Fontelo, 2007; Huang, Lin & Demmer-Fushman, 2006). The inclusion criteria of studies in this review were as follows: the *population* of interest is low-income women who smoke; the *interventions* of interest are all smoking cessation interventions; *comparisons* of interest are between those receiving the smoking cessation intervention and those in the control group who do not receive the intervention, and; the primary *outcome* of interest is smoking cessation at 6 months and/or 12 months post-intervention.

Exclusion criteria. Studies were excluded from the review if they were not specifically designed for low-income women, and if did not measure smoking cessation outcomes.

Data collection and analysis. References were entered into Reference Manager (Reference Manager V11.0) and the inclusion and exclusion criteria were applied. A paper copy of the studies was obtained for further review. For the intervention studies meeting the inclusion criteria the following data was collected: the characteristics of the population and participants; characteristics of the intervention and the research design; the comparisons between those receiving the intervention and the control group; and the primary outcome of

interest which is smoking cessation. Process indicators such as smoking reduction, movement in the stages of change, changes in dependency, self-efficacy and well-being were also collected but only as additional information. The data was extracted by two independent reviewers (DL, GW). A summary of each study was entered in *RefMan*. Because of dissimilarities among interventions studies in regards to study designs, intervention characteristics and outcomes, data could not be quantitatively combined into a meta-analysis to produce a pooled effect measure.

Methodological quality. Included studies were assessed for methodological quality using a validated assessment tool (Schultz, Chalmers, Hayes & Altman, 1995; SIGN 50: A Guideline developer's Handbook). SIGN 50 is an instrument that assesses threats to internal validity: the scale for randomized control trials (RCT) includes 10 items while the scale for cohort studies included 14 items. Methodological quality was independently assessed by two unblinded reviewers (DL and GW), and differences in the reviewers' grading were resolved by consensus.

Results

The search strategy produced a total of 237 citations which were entered in *Reference Manager*, and after removal of 65 duplicate publications, 172 citations remained. The abstracts were reviewed for relevance to the present research questions and after applying the inclusion criteria, 150 citations were excluded. A paper copy was obtained for further review of the remaining 22 citations. An additional three studies were found by searching the bibliographies of retrieved papers. A total of eight studies met the inclusion and

exclusion criteria. One publication (Curry 2003a) was a duplicate publication of another (Curry 2003b). Hence a total of seven studies were included in the review (Andrews, 2007; Curry 2003b, Dornelas, 2006; Gielen, 1997; Glasgow, 2000; Jehn, 2003; Ruger, 2008). A path diagram of how the studies were included and excluded is provided in **Figure 1** as suggested in the QUORUM statement (Moher, 1999). Searches of conference proceedings, and journals did not yield any additional studies.

Description of studies

The characteristics of the included studies are found in **Appendix 1**, and the characteristics of the excluded studies are found in **Appendix 2**.

Types of research design. There were five randomized controlled trials (Curry 2003b, Dornelas, 2006; Gielen, 1997; Glasgow, 2000; Ruger, 2008) and two quasi-experimental design (QED) studies (Andrews, 2007; Jehn, 2003) included in the review. One quasi-experimental design, randomized two communities to either the intervention community or the control community, however the level of analysis was at the individual level (Andrews, 2007), while another was a before-and-after study with controls (Jehn, 2003). All studies had control groups that received either no intervention or usual care. Usual care was defined as the interventions usually carried out in medical or clinical practice, which included routine clinic advice about smoking cessation and pamphlets.

Types of interventions and comparisons. There was a range of different types of therapies or combination of therapies for smoking cessation. Six studies combined behavioral,

educational and social support components (Curry, 2003b; Darnels, 2006; Gielen, 1997; Glasgow, 2000; Jehn, 2003; Ruger, 2008), while one study involved nicotine replacement therapy in addition to these therapies (Andrews, 2007). More specifically, the studies included the following intervention components: a combined behavioral counseling/education, empowerment education, telephone social support, and nicotine replacement therapy vs. control condition of general health education in a group format (Andrews, 2007); a motivational interviewing message, telephone support vs. usual care (Curry, 2003b); a psychotherapy counseling and telephone support vs. standard cessation advice (Dornelas, 2006); a brief counseling, self-help cessation guide, and social support in the form of letters of encouragement vs. routine clinic advice and pamphlets (Gielen, 1997); a brief social support and counseling intervention vs. usual care (Jehn, 2003); and a motivational interviewing intervention and self-help cessation guide vs. routine advice and self-help materials (Ruger, 2008).

Recruitment and intervention setting. The recruitment in one study took place in two low-income subsidized housing developments while the intervention group meetings took place in the community center in each community (Andrews, 2007). Recruitment and intervention setting were the same for the remaining studies, namely: pediatric clinics (Curry 2003b); pre-natal clinics (Dornelas, 2006; Gielen, 1997; Jehn, 2003); Planned Parenthood clinics (Glasgow, 2000); as well as hospitals and clinics that deliver obstetrical care (Ruger, 2008). All studies took place in the United States of America (USA). They were conducted in the 2000's with the exception of one study that was conducted in the 1990's (Gielen, 1997).

Population. Study participants were all low-income women, and the majority of them were receiving Medicaid. Low socio-economic status was not clearly defined in any of the studies; however income levels, educational attainment or both were reported in all studies. All study participants had to be at least 18 years of age with the exception of one study that included participants as young as 15 years old (Glasgow, 2000). Racial and ethnic diversity was represented in some studies (Curry, 2003b; Dornelas, 2006; Ruger, 2008), while others included mostly Caucasians (Glasgow, 2000; Jehn, 2003), mostly African-Americans (Gielen, 1997), or exclusively African-Americans (Andrews, 2007). Participants were either pregnant (Dornelas, 2006; Gielen, 1997; Jehn, 2003) or non-pregnant (Andrews, 2007; Curry, 2003b; Glasgow, 2000).

Intervention intensity, dose and reach. While some studies such as Curry (2003b) included a brief intervention of motivational interviewing lasting 10 minutes, others such as Ruger (2008), included three 1-hour sessions of motivational interviewing. Because low-income women can be difficult to reach because of their mobility, or simply not owning a phone, and in combination with limited staff and resources, several studies were not successful in delivering the intended dose and intensity of the intervention. More details of interventions' dose and intensity are found in **Appendix 1**. The reach of the interventions was similar for all studies since they took place in clinical settings: however one study, Andrews (2007), took place at a community centre. While brief interventions have lower intensity they may have greater potential to reach participants in a clinical setting: they require less time from the participant, and require less financial and human resources to deliver the intervention. However, they may also have limited reach for the following reasons: low-income women

may delay or not seek the necessary pre-natal and maternal health care they need, and have a tendency to frequently miss appointments.

Outcomes. All studies reported outcomes of smoking cessation, however there was a wide range of operational definitions used for identifying smokers: having smoked in the past 24 hours (Andrews, 2007); at least one puff in the past 7 days (Gielen, 1997), at least one puff in the past 30 days (Ruger, 2008), “smoking even sometimes” (Curry, 2003b), or simply identified themselves as smokers without a clear operational definition (Dornelas, 2006; Glasgow, 2000; Jehn, 2003).

Cessation outcomes for non-pregnant smokers were 7-day point prevalence at 6-months (Andrews, 2007), 6-month sustained abstinence at 6-months (Andrews, 2007), 7-day point prevalence at 12-months (Curry, 2003b), and 30-day point prevalence at 6 months (Glasgow, 2000). Outcomes for pregnant smokers included: 7-day point prevalence during the third trimester of pregnancy (Dornelas, 2006; Gielen, 1997; Jehn, 2003), 7-day point prevalence at 6 months post-partum (Dornelas, 2006; Gielen, 1997; Jehn, 2003), 7-day point prevalence at 12-months post partum (Jehn, 2003); and 30-day point prevalence at 6 months (Ruger, 2008).

Biochemical Validation. All studies reported biochemical validation of self-reported cessation with the exception of one study (Jehn, 2003). Validation of self-reports must be interpreted with caution for the following reasons: inappropriate validation measure for NRT (Andrews, 2007), inappropriate window of detection to corroborate self reported outcomes

of cessation (Curry, 2003b; Dornelas, 2006; Glasgow, 2000; Ruger, 2008); a liberal and non-standard cut-off point to determine smoking status that would favor the intervention (Gielen, 1997); a conservative cut-off point that would favor the control condition (Glasgow, 2000). For complete details see **Appendix 3**.

Quality of studies. Three studies were graded as (+) moderate (Andrews, 2007; Curry, 2003b; Dornelas, 2006). Four studies were graded as (-) poor (Gielen, 1997; Glasgow, 2000; Jehn, 2003; Ruger, 2008). Most studies graded as poor were done so because randomization, concealment and blinding procedures were either poorly addressed or not reported. In addition, studies had several threats to internal validity namely; small sample size, low statistical power, high dropout rates, participants lost to follow-up were not included in the analysis as intention to treat, no biochemical validation of self-reported smoking cessation, and high deception rates for biochemical validation. These threats favour the intervention and overestimate the effectiveness of the cessation programmes. Complete summaries of the SIGN50 quality assessments are found in **Appendix 4** (RCTs- randomized control trials) and **Appendix 5** (QEDs- quasi-experimental designs).

Effects of the Interventions.

For the following reasons, we were unable to conduct a meta-analysis and combine the results of the studies in the present systematic review in order to obtain a pooled effect size: different populations (pregnant vs. non-pregnant), different outcome measures (7-day point prevalence, 30-day point prevalence, and sustained abstinence), at different time

points (6-months and 12-months post-intervention or post-partum), different definitions of smokers and non-smokers, different interventions (behavioral interventions, NRT, or combinations of different types of intervention components), and different research designs (see **Appendix 1 and 3**). There were three studies with measures of 7-day point prevalence (PP) at 6 months post-partum (Dornelas, 2006; Gielen 1997; Jehn, 2003), however they were not combined because one study reported very high rates of deception for biochemical validation of self-reported smoking, 37% and 48% for intervention and control groups respectively (Gielen, 1997), and the self-reports in the other study were not biochemically validated which may severely overestimate the effect of the intervention (Jehn, 2003). Hence the effects of the individual interventions will be briefly discussed in the following section.

For the non-pregnant population the effects of the interventions were as follows. A non-randomized intervention combining educational counseling, empowerment education and NRT was effective for smoking cessation. Participants in the intervention group were 6 times ($OR=6.2$) more likely to have quit at the 6-month follow-up (Andrews, 2007). This effective intervention had a high dose and intensity, and its community based participatory approach may have enhanced its reach. A randomized study of a brief intervention and telephone follow-up in a pediatric clinic was effective in promoting abstinence ($OR=3.1$) at the 12-month follow-up (Curry, 2003b). Finally, a randomized study of a brief intervention in a Planned Parenthood clinic with follow-up telephone calls was not effective to promote smoking cessation at the 6-month follow-up, which can be partially explained by the large proportion of participants that refused the telephone support calls at the onset of the study

(26%) and another 31% of the remaining group that did not receive the intended calls during the course of the study. The dose and intensity may have been insufficient to have an effect on smoking cessation (Glasgow, 2000).

For the population of low-income pregnant women, the intervention effects were as follows. A randomized study combining psychotherapy and follow-up calls had no overall effect on smoking cessation at the 6-month post-partum follow-up (Dornelas, 2006). Possible explanations for the lack of effect are that the dose and intensity of the intervention were insufficient: only 68% of participants received the psychotherapy intervention and an average of 2.6 telephone support calls were done in lieu of seven calls. Another randomized study of a brief intervention, self-help material and support was also not effective in promoting smoking cessation at 6 months post partum (Gielen, 1997), possibly because low-income women do not have the literacy skills as well as sufficient support to make effective use of these written materials. As well, another randomized study of three 1-hour motivational interviews had no effect on smoking cessation at 6 months post-partum (Ruger, 2008). Finally, a non-randomized study of brief social support counseling was effective in producing a quit rate of 32.3% at 6 months post-partum vs. 17.3% in control group, and a quit rate of 34.4% at 12 months post-partum vs. 18.4% in controls (Jehn, 2003), however this study had no biochemical validation and did not report an intention to treat analysis for 21% of participants lost to follow-up.

Discussion

Although there are several narrative reviews, systematic reviews and meta-analyses of smoking cessation interventions, there are no existing reviews examining the effects of smoking cessation interventions among low-income women. This study was undertaken to look at the effectiveness of smoking cessation interventions specifically aimed at low-income women. Several studies conducted in this population did not meet the inclusion and exclusion criteria as suggested by the Cochrane Collaboration for systematic reviews standards, and hence could not be included in the systematic review. We considered only seven randomized or non-randomized studies with controls for inclusion in the review. Because of their heterogeneity, we were unable to combine them in a meta-analysis to obtain a pooled effect. However, a closer look at the individual studies leads us to believe that this systematic review is inconclusive. There is no evidence to support that smoking cessation interventions are effective in a population of low-income pregnant women. In addition, there is insufficient evidence to support that smoking cessation interventions are effective in a population of low-income non-pregnant women: only one intervention was effective for smoking cessation at 6-months, and one intervention was effective for smoking cessation at 12-months.

Several of the individual studies had limitations, namely: lack of compliance in attending prenatal or medical appointments; high numbers of drop-outs or participants loss to follow-up; the mobility of the women participating in the studies and their limited access to a telephone made it difficult for researchers to make follow-up calls. Furthermore low-income women may have limited literacy skills to make effective use of written materials such as

self-help and skill-based guides to help quit smoking, and may require more support to make effective use of them. Hence results must be interpreted with caution. There were also serious threats to the validity of the studies because of lack of compliance with the intervention dose, lack of biochemical validation, high levels of deception in self-reported cessation, high drop out rates, and small sample sizes.

Future consideration should be given to designing methodologically sound interventions that consider standard definitions of smoking, outcome measures at 6-months and 12-months, and biochemical validation. In addition, these interventions should be tailored to meet the specific needs of low-income women. The underlying causes of the disproportionate rates of smoking found in low-income women need to be targeted and tailored interventions need to be developed so that programmes are relevant to whom they serve and that appropriate channels are used to reach participants (Kreuter, 2003). Their difficulty in smoking cessation may be explained by the stress they experience in their daily lives and the lack of salience and priority given to smoking. Furthermore, they encounter barriers in access to cessation services and receive little social support for quitting. The studies included in this systematic review made limited use of theory and evidence linking poverty, stress and smoking in order to inform the design of the interventions. Hence theory and evidence can provide information that will help us determine which levers of intervention are the most effective. Consequently, the components of the intervention, its dose, intensity can be more appropriately chosen, as well as the setting that will maximize the reach of the intervention.

Competing Interest

The author(s) declare that they have no competing interests.

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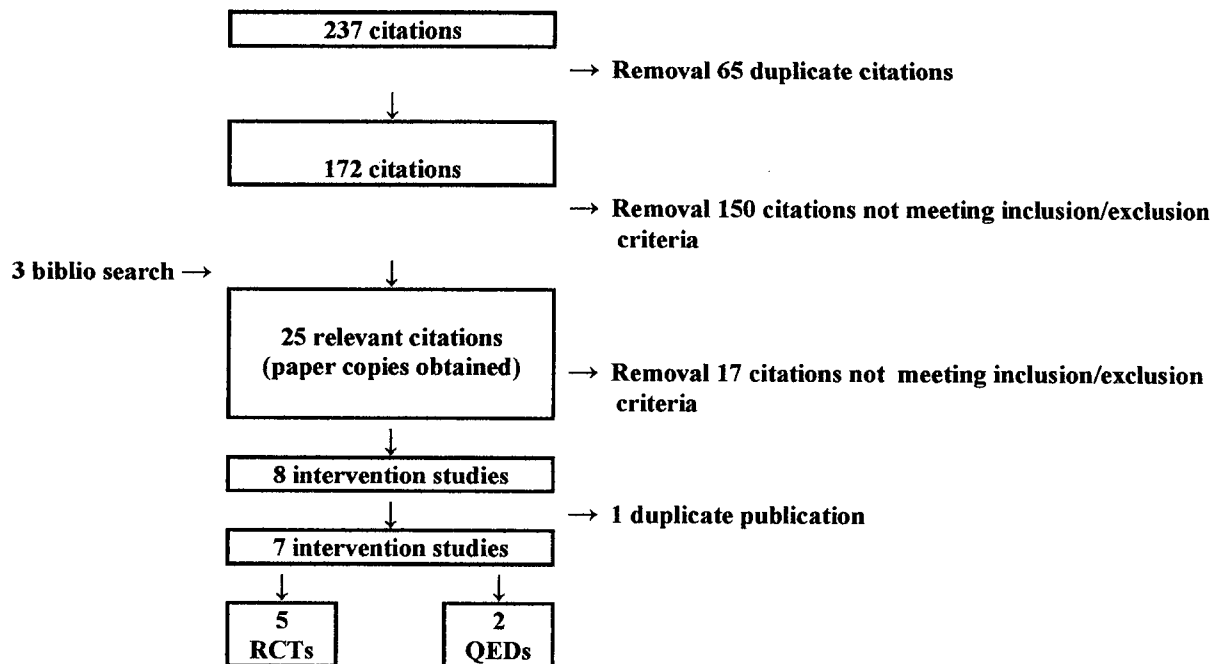
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Figure 1. Diagram of the selection of studies included in the systematic review



Appendix 1. Characteristics of included studies [alphabetically ordered]

Andrews (2007) – USA

Methods	Quasi-experimental, repeated measures design – 2 matched communities were randomized to either the intervention community or the control community.
Participants	Intervention community had n=51 participants, control community has n=52 participants. Non pregnant, non-breastfeeding African American women, >18 years age, current smoker (defined as having smoked in the past 24 hours), absence of mental illness or CVD, plan to quit smoking in the next 6 months. Mean age 40 y.o.
Interventions	Intervention: weekly cessation education/counseling/empowerment education, and nicotine replacement therapy for 6 weeks, + 1 education/counseling at week 12 and 24 to promote social support, self-efficacy, and spiritual well-being. Control condition general health education in a group format at week 1, 6, 12 and 24.
Outcomes	Smoking status: 7-day point prevalence at 6,12 and 24 weeks, and 6-month sustained abstinence without relapse over a 6 month period. Unreported reference point for PP beg/end int. <u>Validation:</u> exhaled CO $\leq$ 8ppm Stage of change, social support, spiritual well-being and self-efficacy.
Notes	<u>Results:</u> 7-day abstinence point prevalence : 6 wks int. 49% vs. 7.6% cnt., OR=11.53 (CI,3.62-36.75) 12 wks int. 39% vs. 15% cnt., OR=3.55 (CI,1.39-9.083) 24 wks int. 39% vs. 11.5% cnt., OR=4.95 (CI,1.78-13.71) 6-month abstinence rates : Int=27.5%, cnt=5.77% Int six times more likely to quit OR=6.180, CI=1.654-23.089 When controlling for baseline differences, int group was still six times more likely to quit, OR=6.247, CI=0.832-1.496. Int. -Nicotine patch was associated with cessation, OR=3.89, CI=1.2299-11.640. Int. group attending all group sessions were 15 times more likely to quit, OR=15.714, CI=3.441-71.758, and those attending 75% of the sessions were 6 times more likely to quit, OR=6.333, CI=1.241-32.320.

Andrews (2007) – continued

	<u>Theory and evidence:</u> Social determinants linked to intervention. Ecological framework, stages of change, and Paul Freire’s educational empowerment principles. Comprehensive model of care including the physical, psychological, social and spiritual.	
<i>Risk of Bias</i>		
Item	Author’s judgment	Description
Adequate sequence generation?	N/A	The 2 matched communities were randomized with a toss of a coin as the intervention or comparison community.
Allocation concealment?	No	
Blinding? All outcomes	No	
Incomplete outcome data addressed? All outcomes	Yes	After baseline assessment, 13 women were lost to follow-up (6 int.,7 cnt.) and did not complete the study to 6 months. Did not report how this was treated in the analysis.
Notes	<u>Potential biases:</u> Intervention group participants were significantly older, had higher incomes, and more likely to have completed high school and more likely to be in the preparation stage – analysis accounted for this. Unsure how dropout were analyzed – not reported if ITT. 7-day point prevalence was measured but was validated by exhaled CO which has a window of detection of 24hours.	

Curry (2003a); Curry (2003b) - USA

Methods	Randomized control trial Setting: Pediatric clinics serving an ethnically diverse population of low-income families.
Participants	N=303 low income women smokers ≥ 18 yrs, ave. age 34 yrs, whose children received care at participating clinics. 63% were African American, 2/3 of women reported an income less than \$10,000 No minimum level of smoking; women that smoked even just sometimes, ave. 12 cpd. Were able to provide a phone # to be reached.
Interventions	RCT - two-arm (n=156 intervention vs. n=147 usual care) Intervention: During the clinic visit, women received a motivational message from the child's clinician, a guide to quitting smoking, and a 10-minute motivational interview with a nurse or study interventionist. Women received as many as 3 outreach telephone counseling calls in the 3 months following the visit (1-2 weeks after their clinic visit, 4 weeks after the first call, and 4 weeks after the second call).
Outcomes	7-day PP at 3 months and 12 months after enrollment in the study. Incentive \$15 at 3-months, and \$25 at 12-months. Abstinence defined as not smoking, even a puff. <u>Validation:</u> CO ≤ 10 ppm .
Notes	<u>Results:</u> Abstinence rates at 3 and 12 months were twice as great in the intervention group as in the control group (7.7% vs. 3.4% and 13.5% vs. 6.9%, respectively). The 12-month difference was statistically significant. Because the odds ratio were similar for both 3-month and 12-month follow-ups a generalized estimate equation model was used to estimate a single odds ratio for treatment using data from both time points. For the intent-to-treat analyses, the single unadjusted and adjusted odds ratio from both time points were 2.10 (CI 1.10-4.36) and 2.58 (CI 1.29-5.20). For the complete cases analyses, the unadjusted and adjusted odds ratios were 2.42 (CI= 1.21-4.90) and 3.10 (CI, 1.54-6.30). A pediatric clinic smoking cessation intervention was effective and abstinence was maintained for a period of 12-months in a socioeconomically disadvantaged sample of women.

Curry (2003a); Curry (2003b) - continued

	<u>Theory and evidence:</u> Theory and evidence linking causes of smoking are not reported. Depressive symptoms, social support and perceived stress are measured at baseline and follow-up visits. Reported in comments that the intervention was theory-driven but there is no evidence of this.	
<i>Risk of Bias</i>		
Item	Author's judgment	Description
Adequate sequence generation?	No	Randomization process was done by choosing one of several ping pong balls in a bag. To balance the intervention and control groups the number of ping pong balls in the bag were changed so as to change the odds.
Allocation concealment?	Unclear	Not reported
Blinding? All outcomes	Unclear	Not reported
Incomplete outcome data addressed? All outcomes	Yes	At the 3-month follow-up 2 women did not complete the CO because of machine malfunction. At 12-months, 1 refused to complete the CO and 2 women did not complete the CO because of machine malfunction. Intention to treat and complete case analyses.
Notes	<u>Potential Bias:</u> There was a significant difference in participant characteristics at baseline: intervention group was more likely (50%) than control participants (38%) to smoke within 15 minutes of waking, $p=0.04$. There was also a significant difference at baseline for the number of previous abstinence of longer than 6 months, with controls 40% vs. intervention group 29%, $p=0.04$. Therefore the intervention participants were more dependent on nicotine and less likely to have made a quit attempt in the past for a period longer than 6 months. There was an adjustment for these baseline variables in the intent-to treat analysis.	

Dornelas (2006) – USA

Methods	Randomized control trial Setting: prenatal clinic located in non-profit, tertiary community hospital
Participants	N=105 low-income pregnant women, ≥ 18 yrs, ave. age 26.1 yrs, ≤ 30 wks gestation. Current smokers, ave. ≤ 10 cpd for 70% of participants. Predominantly Hispanic 66%, 17% Caucasian, 11% African American, 6% multi-racial. No abuse or dependence on alcohol or drugs, no psychiatric illness.
Interventions	N=105 randomized to int. n=53 or control (usual care) n=52. Usual care (standard cessation advice from the health care provider). Intervention - 1.5h of counseling (psychotherapy) plus telephone follow-up (bi-monthly calls during pregnancy and monthly calls postpartum). [68% received counseling session, and participants received a mean of 2.6 (SD=1.7) telephone calls per participant] Techniques of brief psychotherapy to assist women in recognizing the link between psychological distress and inability to quit smoking when pregnant.
Outcomes	7-day PP end of pregnancy (36 +/- 2 wks), and 6 months post-partum. <u>Validation:</u> CO < 8ppm. There were no discrepancies reported between the self-report and CO readings.
Notes	<u>Results:</u> At follow-up, 28.3% and 9.4% of participants in the experimental intervention and 9.6% and 3.8% of patients in usual care were abstinent at end of pregnancy ($p=.015$) and 6 months post-partum, respectively ($p=.251$). The intervention was more effective among women that were both younger (18-24 years) and early in pregnancy (0-17weeks) – quit rate 60%, $p<0.002$. The intervention was independent of moderators such as baseline smoking rate and self-efficacy. Reported that this model for an intensive intervention in a prenatal clinic was associated with significantly lower smoking rates at end of pregnancy. Virtually all participants identified environmental and relational stressors as barriers to quitting smoking.

Dornelas (2006) – continued

<u>Limitations:</u> Only 36 of the 53 participants received the face-to-face psychotherapy/counseling session (68%), therefore we cannot conclude that it is the counseling component of the intervention that was effective. The fact that they were contacted 3 times to reschedule counseling appointments may have raised their awareness of the importance of cessation. Only a mean of 2.6 (SD=1.7) telephone calls per participant were completed – it was virtually impossible to maintain telephone contact. <u>Theory and evidence:</u> Intervention linked to evidence of social and environmental stressors for low-income women that smoke.		
<i>Risk of Bias</i>		
Item	Author's judgment	Description
Adequate sequence generation?	Unclear	Not reported
Allocation concealment?	Unclear	Not reported
Blinding? All outcomes	Unclear	Not reported
Incomplete outcome data addressed? All outcomes	Yes	Smoking status obtained for 100% of the sample at the end of pregnancy, and 82% postpartum. Attrition NS between int. and cnt. groups: 19 lost to follow-up at 6 months postpartum (most unable to reach and 5 refusal) and were included in ITT analysis.
Notes	<u>Potential biases:</u> There may have been additional support given for usual care because of health professionals' involvement recruiting for the study	

Gielen (1997) – USA - Smoke Free Moms Project

Methods	Randomized Controlled trial setting: urban prenatal clinic serving predominantly low-income African-American women. Delivered by a peer counselor
Participants	Smoker defined as smoking a cigarette – even one puff- in the past 7 days. < 28 weeks gestation. White or African-American
Interventions	RCT N=467- 2 arms: int. (n=232) vs. cnt. (n=235) Intervention: prenatal and post-partum smoking cessation/relapse prevention + routine clinic advice A 15-minute 1:1 counseling and instruction by a peer health counselor on the use of a self-help cessation guide and routine clinic reinforcement. Control: routine clinic advice about smoking cessation/relapse prevention which included pamphlets.
Outcomes	7-day PP (not one puff), 3 rd trimester, 6 months post-partum. <u>Validation:</u> Saliva cotinine <30ng/ml. Interviewed - first prenatal visit, at 28 wks gestation, after delivery, by telephone at 3 and 6 months post-partum.
Notes	<u>Results:</u> Int. group (n = 193), 6.2% were cotinine-confirmed quitters at third trimester, cnt. group (n = 198) the quit rate was 5.6%.respectively. An additional 7 women in the int. group and an additional 10 women in the control group self reported cessation but cotinine values were above the cut-off rate revealing a deception rate of 37% and 48%. For the 6-months post partum outcomes there was data on only n=107, n=54 in int. group of whom 7 quit (15%), and n=46 in the cnt group of whom 2 quit (4%). However 13 of the 23 women who have quit at the third trimester of pregnancy and there was data at 6 months postpartum, 85% had relapsed. Of the N=467 participants randomized, 76 miscarried and were no longer eligible, of the 391 remaining smokers, n=193 were in the int. group and n=109 were in the cnt group. The intervention was not effective and the problem of postpartum relapse was substantial.

Gielen (1997) – continued

	<u>Limitations:</u> High relapse rates indicate that additional support is needed in the post-partum period. The dose and intensity may not have been sufficient Low-income women have a propensity to miss public prenatal care appointments, live in temporary residences, and are difficult to read by phone. Low-income women may not have sufficient literacy skills to make effective use of self-help manuals. Smoking cessation may not be a priority in the lives of low-income women for they face multiple hardships in their daily lives and neighborhoods such as poverty, unemployment, drug use, violence and crime. <u>Theory and evidence:</u> Prenatal guide was developed using the PRECEDE/PROCEED model and social learning theory. There is no evidence explaining why low-income women smoke.	
<i>Risk of Bias</i>		
Item	Author's judgment	Description
Adequate sequence generation?	Unclear	Not reported
Allocation concealment?	Unclear	Not reported
Blinding? All outcomes	Unclear	Not reported
Incomplete outcome data addressed? All outcomes	Yes	78 women in the int. group and 77 women in the cnt group did not provide saliva samples and were counted as smokers - Intention to treat analysis
Notes	<u>Potential Biases:</u> Baseline differences: quitters were light smokers at entry into prenatal care. Quitters were more likely to have reported three or more quit attempts (48%) than smokers (28%). Women in the experimental group smoked more cpd at baseline (p=0.01). High deception rate of 37% and 48% (int. and cnt.) at third trimester. Loss to follow-up, sample size small at 6 months post-partum.	

Glasgow (2000) - USA

Methods	RCT Setting low-income planned parenthood clinics
Participants	N=1154 ethnically diverse, low-income women, 15-35 y.o. They were: 89% white, ave. age 24 y.o., and relatively light smokers.
Interventions	Int. group – Brief intervention motivational interviewing and barrier-based counseling – 9 minute video, 12-15 minute behavioral counseling, 20-sec clinician advice to quit, and follow-up telephone calls, help to devise a cessation plan and quit date, written materials. Cnt group – Advice only condition received a generic stop smoking brochure and standard 20 sec. message.
Outcomes	7-day PP at 6 weeks 7-day PP and 30-day PP at 6 months. <u>Validation:</u> Saliva cotinine $\leq 10\text{ng/ml}$. For the 6 month follow-up 76% of int. and 62% cnt provided samples) – 17% of the participants exceeded the cut-off point (18% int. and 15% cnt disconfirmed)
Notes	<u>Results:</u> Using the ITT analysis, there was a short term effect at 6 weeks favoring the intervention, with a quit rate of 10.2% vs. 6.9% for controls, $p < 0.05$. OR=1.52, CI=1.01,2.32 The long-term effect at 6 months was NS. 7-day PP int.=18.3%, cnt=14.9% at 6 months, NS 30-day PP int.=10.2%, cnt=7.8% at 6 months, $p=.15$ <u>Limitations:</u> 26% of the participants did not want to receive telephone support call. Others were difficult to reach. Those that did agree receiving the call, 31% did not receive them. This may have had an effect of the long term follow-up at 6 months. Only 43% of participants received a call. Another limitation was high staff turnover. <u>Theory and Evidence:</u> Re-Aim planning and evaluation framework.

Glasgow (2000) - continued

Risk of Bias		
Item	Author's judgment	Description
Adequate sequence generation?	Yes	Bloc size of 4.
Allocation concealment?	No	Not reported
Blinding? All outcomes	Yes	Telephone interviewer at follow-ups was unaware of assignment.
Incomplete outcome data addressed? All outcomes	Yes	93% completed the 6 week follow-up and 90% completed the 6 month follow-up. Missing data were handled via complete cases, and intent to treat model assumed that subjects lost to follow-up were smokers. 7-day PP at 6-week – loss to follow-up is 7% in both groups. 7-day PP at 6 months – loss to follow-up is 13% for int. and 8% for cnt. 30-day PP for 6 months – loss to follow-up is 12% for int. and 8% for cnt. Those refusing to provide saliva sample for validation, and those not contacted by telephone are assumed to be smoking.
Notes	<u>Potential biases:</u> The saliva cotinine levels cut-off point for the 30-day PP at 6-months is very low, hence many false positives for smoking, and making it more difficult to detect a difference between intervention and controls.	

Jehn (2003) – USA - First Breath Prenatal Smoking Cessation
**Wisconsin Women's Health Foundation (unpublished literature)*

Methods	QED - before and after study with controls
Participants	Low-income pregnant women, smokers (no definition) Recruited in pre-natal setting, were WIC/PNCC participants. Mostly non-Hispanic whites – 69%, ave. age 23 y.o.
Interventions	Int. group received 5-10 minutes of social support and counseling. Cnt. group - usual care, community in a different geographical region.
Outcomes	7-day PP at 3 rd trimester, at delivery, 6 and 12 months post-partum. Validation: None, only self-reported cessation.
Notes	<u>Results:</u> Quit rate 43.8% in int. group at 1-month postpartum (Chi-square=6.97, df=1, p<.01). * 30-day post partum, int. n=101, cnt n=71, quit rates 35.6%, 25.4% * 6-months post-partum, int. n= 93, cnt n=53, quit rates 32.3%, 17,3% * 12-month post-partum, int. n= 93, cnt n=28, quit rates 34.4%, 18.4%. The First Breath pilot study was successful in helping pregnant women quit smoking and integrating smoking cessation services into prenatal health care services. <u>Limitations:</u> Many low-income women seek care late in pregnancy and delivered their babies before 3 months of the enrolment, so prenatal measurements-3rd trimester were missing. Low-income women frequently move locations, and are difficult to reach by telephone

Jehn (2003) - continued

<i>Risk of Bias</i>		
Item	Author's judgment	Description
Adequate sequence generation?	No	Not RCT
Allocation concealment?	No	Not RCT
Blinding? All outcomes	No	Not RCT
Incomplete outcome data addressed? All outcomes	No	88/422 lost to follow-up – 21%. No ITT analysis – not reported
Notes	<u>Potential Biases:</u> No randomization No biochemical validation Loss to follow-up – no report of ITT.	

Ruger (2008) – USA

Methods	Randomized Control Trial Setting: prenatal care facilities
Participants	N=210 low-income women smokers, pregnant < 28 weeks, and receiving prenatal care. Smoker defined as having at least one puff within the last 30 days.
Interventions	<u>Intervention</u> : motivational interviewing (MI), n=110 The MI intervention was tailored to each client's stage of readiness. There were three home visits lasting 1-hour in length. The length of time over which the three MI sessions took place was not reported. MI participants also received self-help smoking cessation materials. <u>Control</u> : usual care (UC), n=100. Participants in the control group received usual care, which included standard prenatal care from their provider as well as information on the harmful effects of smoking during and after pregnancy which lasted a maximum of five minutes. Self-help materials were also provided.
Outcomes	Follow-up at 1-month after the end of the intervention, and 6 months post-partum. <u>Validation</u> : Saliva Cotinine (non-smoker cut-off point not reported)
Notes	For smoking cessation, MI did not provide additional benefit compared to UC. At 6 months postpartum, there were no significant differences between the two groups: they had similar cessation rates 7/110 for the intervention group and 8/100 for the control group. <u>Limitations</u> : Small sample size, may not have had enough power to detect differences between the two groups. <u>Theory and Evidence</u> : No theory reported. Link to social and environmental factors

Ruger (2008) - continued

<i>Risk of Bias</i>		
Item	Author's judgment	Description
Adequate sequence generation?	Unclear	Not reported
Allocation concealment?	Unclear	Not reported
Blinding? All outcomes	Unclear	Not reported
Incomplete outcome data addressed? All outcomes	No	Did not report dropouts, not included in the analysis, not intention to treat.
Notes	<u>Potential Biases:</u> Dropouts not included in the analysis as ITT, therefore overestimate the effectiveness of the intervention.	

Table abbreviations:

ave average (mean)

cnt. control (group)

CO carbon monoxide

cpd cigarette per day

int. intervention (group)

ITT Intention to treat analysis

ml milliliter

ng nanogram

NS non significant

PNCC Prenatal Care Coordinator Program

PP Point prevalence (abstinent at defined period)

ppm particles per million

sec - second

WIC – Women Infant Child program

y.o. – years old

Appendix 2. Characteristics of studies excluded from the review.

Excluded Intervention Studies

Excluded RCTs	Characteristics of studies excluded from the review
Bullock (2009)	RCT, follow-up 6 weeks post-partum, follow-up < 6 months
Mayer (1990)	RCT with follow-up of 4.7 weeks, follow-up < 6 months
Ershoff (1989)	RCT, follow-up <20 weeks gestation and at delivery, < 6 months
Parker (2007)	RCT, 3 interventions with no controls
Solomon (2000)	RCT, 2 interventions and no control group
Solomon (2005a)	RCT, 2 interventions and no control group
Solomon (2005b)	
Stotts (2004)	RCT, follow-up after 8-week intervention, < 6 months

Excluded QED	Characteristics of studies excluded from the review
Dafoe (1995)	Programme with no control group
Dafoe (1996)	
Rafuse (1996)	
Jelley (1995)	QED, follow-up 4.5 months, follow-up < 6 months
Keintz (1994)	Programme with no control group
Lillington (1995)	Programme with no control group
McDaniel (2005)	No measure of smoking cessation

Other Studies:

Excluded Study	Characteristics of studies excluded from the review
Anonymous (2002)	No intervention
Eakin (1998)	No intervention
El Khorazaty (2007)	Both smokers and non-smokers at baseline, smoking cessation + relapse prevention intervention

Appendix 3. Biochemical Validation of studies included in the review

	Outcome	Validation Method	Cut-off point	Standard Cut-off point	Window of detection	Percentage tested/Loss
<i>Andrews (2007)</i>	7-day PP at 6, 12 and 24 wks	Exhaled CO	≤ 8ppm	8-10 ppm	24h	-Loss not reported -Preferred measure is anabisine and anatabine for NRT
<i>Curry (2003b)</i>	7-day PP at 3, 12 months	Exhaled CO	≤ 10ppm	8-10 ppm	24h	-Loss 2 at 3-m, 3 at 12-m -Discrepancy window of detection for validation
<i>Dornelas (2006)</i>	7-day PP at 36 wks pregnancy, 6-m post-partum	Exhaled CO	< 8ppm	8-10 ppm	24h	-No reported discrepancies -Discrepancy window of detection for validation
<i>Gielen (1997)</i>	7-day PP at 6-m post-partum	Saliva Cotinine	< 30ng/ml	< 15ng/ml	7-days	-High deception rates 37%(int.) and 48% (cnt) -Liberal cut-off point favors int.
<i>Glasgow (2000)</i>	30-day PP at 6-m	Saliva Cotinine	≤ 10ng/ml	< 15ng/ml	7-days	-75% of int. and 62% of cnt provided samples -Conservative cut-off point favors control
<i>Jehn (2003)</i>	7-day PP at 6-m and 12-m	None	N/A	N/A	N/A	-No validation
<i>Ruger (2008)</i>	30-day PP at 6-m	Saliva Cotinine	Not reported	< 15ng/ml	7-days	-Cut-off not reported -Discrepancy window of detection for validation

Appendix 4 - Quality assessment of the intervention studies included in the review (randomized controlled trials -RCTs)

Study	1. Clear question	2. Assignment randomized	3. Concealment Method	4. Blind to treatment allocation	5. Treatment and control groups similar at baseline	6. Only difference is the treatment	7. Outcomes measures valid and reliable	8. % dropouts	9. Intention to treat analysis	10. Different sites comparable	Overall Assessment
Curry 2003a Curry 2003b	Adequately addressed	Poorly addressed	Poorly addressed	Not addressed	Poorly addressed	Well covered	Poorly addressed	20% in both int. and cont. groups	Well addressed	Poorly addressed	Coded +
Direction of bias: Randomization process and self-reported outcomes with no validation favors intervention.											
Dornelas 2006	Well covered	Well covered	Not reported	Not reported	Well covered	Well covered	Well covered	18%	Well covered	Not applicable	Coded +
Direction of bias: low dose of intervention and control may have also received more than usual care, therefore favors controls.											
Gielen 1997	Adequately addressed	Well covered	Not reported	Not reported	Poorly addressed	Well covered	Well covered	16%	Well covered	Not applicable	Coded -
Direction of bias: very high deception rate, which favors intervention. High loss to follow-up and small sample size. Women in intervention group smoked more cpd at baseline-- favors controls. Missed prenatal appointments and difficulties reaching by phone -- favors controls.											
Glasgow 2000	Well covered	Adequately addressed	Not reported	Adequately addressed	Well covered	Well covered	Well covered	Int. 13% cnt 8%	Well covered	Not addressed	Coded -
Direction of bias: Favors control, cotinine cut-off stringent, no phone counted as smokers											
Ruger 2008	Well covered	Well covered	Not reported	Not reported	Well covered	Well covered	Well covered	Not reported	Not reported	Not applicable	Coded -
Direction of bias: dropouts not reported and if they were treated in the analysis, may favor the intervention if not ITT.											

**Appendix 5 - Quality assessment of the intervention studies included in the review
(quasi-experimental designs - QED)**

		Andrews (2007)	Jehn (2003)
1.	Clear question	Well covered	Well covered
2.	Similar source population	Well covered	Poorly addressed
3.	Reported no. asked to take part in study	Well covered	Well covered
4.	Likelihood of having the outcome at enrolment	Well covered	Well covered
5.	% dropouts	12,6%	Cnt. 68% Int. 20%
6.	Comparison of those lost to follow-up	Well covered	Not addressed
7.	Outcomes clearly defined	Well covered	Poorly addressed
8.	Assessment of outcomes blind to exposure status	Poorly addressed	Poorly addressed
9.	Recognition that not blinding affects outcomes	Not addressed	Not addressed
10.	Measure of exposure reliable	Well covered	Well covered
11.	Evidence that outcome valid and reliable	Poorly addressed	Poorly addressed
12.	Exposure measured more than once	Poorly addressed	Poorly addressed
13.	Confounders accounted for design & analysis	Well covered	Well covered
14.	CI provided	Yes	Yes
	Overall Assessment	Coded +	Coded -
	Confident effect due to exposure	No.	No

CHAPTER FOUR

EXPLORING THE MEANING OF SMOKING TO DISADVANTAGED FRANCO-ONTARIAN WOMEN AND THEIR PROGRAMME NEEDS

The manuscript in Chapter Three was a systematic review of smoking cessation interventions aimed at low-income women. There are few in-depth qualitative studies that have explored the meaning of smoking in the lives of low-income women, and no such studies have been conducted in a population of low-income Franco-Ontarian women. The following is a manuscript prepared for publication of an exploratory study with a population of low-income Francophone women, looking at the meaning of smoking in their lives, issues surrounding why they started smoking, why they continue to smoke, barriers to cessation, in addition to specific issues regarding the offer of service in the French language and their specific needs. The results of this study will inform the design of a logic model for a culturally sensitive smoking cessation programme for low-income Franco-Ontarian women, which will be covered in Chapter Five.

The letter of support from the community of Vanier is found in **Appendix B**. A copy of the University of Ottawa Research Ethics Board approval, recruitment pamphlet, informed consent form, interview guide, low income cut-offs chart, are found in **Appendix G**, **Appendix H**, **Appendix I**, **Appendix J**, and **Appendix K** respectively.

The manuscript was co-authored by the doctoral student (DL), her supervisor, Dr. George Wells, and thesis committee members, Mr. Douglas Angus, Dr. Carolyn Andrews, and Dr. Elizabeth Kristjansson. The student is the first author of the paper, having been primarily responsible for data collection, analysis, and writing of the manuscript. Drs Wells, Andrew, Kristjansson, and Mr. Angus provided valuable feedback throughout.

Exploring the Meaning of Smoking to Disadvantaged Franco-Ontarian Women and their Programme Needs.

Denise Laplante^{1*,2}, Douglas Angus^{2,3}, Carolyn Andrew^{2,4}, Elizabeth Kristjansson^{2,5}, George Wells^{2,6}

¹ PhD Candidate in Population Health, University of Ottawa, Canada.

² Institute of Population Health, University of Ottawa, Canada.

³ Telfer School of Management, University of Ottawa, Canada.

⁴ School of Political Studies, Faculty of Social Sciences, University of Ottawa, Canada.

⁵ School of Psychology, Faculty of Social Sciences, University of Ottawa, Canada.

⁶ Department of Epidemiology and community Medicine, Faculty of Medicine, University of Ottawa, Canada.

Abbreviated Title: Exploring the Meaning of Smoking to Disadvantaged Franco-Ontarian Women

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This manuscript includes: one (1) table.

Abstract

The objective of the current study was to explore the reasons why low-income Franco-Ontarian women smoke and to determine their programme needs. *Methods:* Semi-structured interviews were conducted with N=15 low-income Franco-Ontarian women and a grounded theory approach was used. *Results:* Content analysis revealed that low-income Francophone women smoke to cope with living in stressful and challenging circumstances, and to reduce boredom. They experienced poverty and adverse events in their childhood, lived in dysfunctional families, and one or both of their parents were dependent on drugs, alcohol or nicotine. Dysfunctional families, abuse and alcoholism are closely enmeshed and had a deleterious effect on the development of self-esteem and coping skills in these individuals. Difficult early life circumstances predisposed them to poor choices in early adulthood which perpetuates the intergenerational cycle of poverty. Their present life circumstances and levels of stress are a combination of latent effects, pathway effects and cumulative disadvantage. Results revealed important findings in terms of delivery of services. All participants had regular visits with their family physicians, but only one participant had received smoking cessation support from a health professional, which suggests that low-income women are not being targeted. These interviews were also an opportunity for their voices to be heard; to provide input in the design of a program that meets their needs. Participants also clearly voiced their preference for a program delivered in the French language. *Conclusion:* The present research has important implications for delivery of smoking cessation services to this sub-population. Programme components should include stress management, social support, promote coping skills, develop new skills, as well as

increase self-esteem and empowerment. Within the group of low-income women emerged other subgroups, namely lesbians, those experiencing mental illness and disabilities. Further research is needed to investigate the specific needs of these sub-populations of women.

Keywords

smoking, low-income women, Franco-Ontario, exploratory research, qualitative research

Introduction

Several decades of research have documented the impact of socio-economic inequalities on health (Evans, Whitehead, Diderichsen, Bhuiya, & Wirth, 2001;

Federal/Territorial/Provincial Advisory Committee on Population Health. Second report on the health of Canadians, 1999; Whitehead, 1992; Wilkinson, 1996). Disparities in health are observed as population-specific differences in the presence of risk factors, disease, health outcomes, quality and access to healthcare across different genders, cultures, ethnicity, races, religions, sexual orientation and the socio-economic gradient (Marmot & Wilkinson, 1999; Stansfeld & Marmot, 2002; USDHHS, 1998; USDHHS, 2000).

These disparities are also observed in smoking, with a slower rate of decline in prevalence among low-income women in comparison with the general population, as well as those with less education, and women who are either divorced, widowed or separated (CDC: Women and Tobacco; CDC-MMWR 2008, CDC-MMWR 2006; CTUMS, 2009). Smoking prevalence remains substantially higher, and can reach 40-60% among low-income women aged 20-44 years (USDHHS, 2001).

A higher proportion of smoking is observed among the francophone minority population in Ontario. More Franco-Ontarian adults smoke daily (27%) than the Ontario average (21.3%). Based on the 2000-2001 Canadian Health survey, Francophones with low family income are twice as likely to smoke daily (43%) and represent the highest smoking rate among all groups (Picard & Allaire, 2005). A breakdown of women smokers indicates that those in

lower income groups are more likely to smoke, and that 71.7% of lone parent women were smokers (Health Canada, 1999). In addition, Francophone women have significantly higher rates of cardiovascular disease (7%) than Anglophone women (4.8%) (Picard & Allaire, 2005).

High smoking rates in the UK in the late 1990's (Smoking Kills, 1998; Whitehead, 1999) led to several studies that looked at the prevalence of smoking among low-income families, low-income lone families and disadvantaged women (Crossan, 1994, Dorsett & Marsh, 1998; Graham, 1993; Marsh & McKay, 1994). Qualitative data has shown that their *social* context, experienced as stress, boredom, and isolation in relation to their gender roles as childcare givers and the experience of living in materially-disadvantaged circumstances, prevents them from quitting smoking. Other work, exploring the meaning of smoking among low-income women (Greaves, 1996) and psychological factors associated with smoking (Stewart, 1996a; Stewart, 1996b), within a population of low-income Canadian women has corroborated these findings. This qualitative research provided solid foundation on which to build programmes, however there was an identified need to extend this research to other groups of women namely of different race, ethnicity, and social class (Greaves, 1996). Such research has been done in the US looking at certain issues around culture, race and low-income women, namely within the population of Latinas (Robert-Clarke, 2002; Sanders- Phillips, 1996) and also in the African American population (Ahijevych, 1993; Beech, 2003; Fisher, 1998; Lacey, 1993; Manning, 2005; McBride, 2001; Okuyemi, 2007; Pletsch, 2003).

Some studies looking at smoking among francophone populations date back to the 1990's (Health Canada, 1996; Health and Welfare Canada, 1990) and although some qualitative research has been conducted within the francophone population (Gratton & Lalonde, 1993; Health and Welfare Canada, 1988), in-depth qualitative interviews have never been conducted with low-income Franco-Ontarian women. There is a great need to study such sub-populations as discussed in previous literature (Greaves, 1996; Piper, Fox, Welsch, Fiore, & Baker, 2001) in order to look at the intersection between race, culture, socio-economic status and smoking, and inform culturally-relevant programming for disadvantaged francophone women (Kinnon & Hart, 1994; Services de la santé d'Ottawa-Carleton, 1995; Ottawa-Carleton Health Department, 1997; Price Waterhouse, 1997). According to the Federation of French-Canadian Women, the double minority status of being a women and a francophone minority may confer an additional risk for ill health for Franco-Ontarian women (Greaves & Barr, 1999; Health Canada, 1996) because of overlapping forms of discrimination or marginalization which heightens their vulnerability (Evans, Whitehead, Diderichsen, Bhuiya & Wirth, 2001).

Research objectives. The goal of the present research was to conduct a qualitative study with low-income Franco-Ontarian to explore: smoking trajectories to understand contextual factors surrounding smoking initiation, maintenance, and attempts at quitting; the meaning of smoking in their daily lives; barriers and facilitators to quitting; and cultural, linguistic and literacy issues affecting Franco-Ontarian women who smoke.

Long term objectives were to develop a logic model for a culturally sensitive and tailored smoking cessation programme for Franco-Ontarian women. Such a model will help focus

health services on population health goals such as redressing inequities for this underserved population (Kirkland, Greaves & Devichand, 2004; McEwan, 1997).

Methodology

Population. The population of interest are low-income Franco-Ontarian women aged 19-44. The women in the study were either working in low-paying jobs or living on social assistance. They were single, married or living with a partner, and with or without children. They were all living below the Low-Income Cut-Off (LICO) and household income and number of persons living in the same dwelling were considered in this measure (Statistics Canada, 2008; Statistics Canada, 1997). The research was undertaken in the community of Vanier which is a Franco-Ontarian community located in the heart of Ottawa and in the Champlain Region of Ontario. Vanier is also a community with high poverty rates and high smoking rates.

Sampling/recruitment. Prior to recruitment, approval from the University of Ottawa Research Ethics Board was obtained. A priori the sample size was determined to be N=20 or until saturation was reached. Participants were recruited by poster and pamphlets left in several locations within the community. The director of services and counseling at the Vanier Community Resource Center (VCRC) and his coalition committee members from 13 service providers/agencies, which have extensive experience working with low-income Francophone women in Vanier, also provided input on strategic locations where the poster and pamphlets would reach the target population. The Vanier Community Resource Center

(VCRC), employment centers, the food bank and institutions for adult learning were some of the suggested locations. The poster/pamphlet included information concerning the study and the phone number of a call-in phone line. Participants were able to leave a message with the necessary information for the researcher to return calls.

Initial contact. Calls were answered or returned to the women who left a message on the call-in phone line. The initial contact with participants included an explanation of the purpose of the research and what is expected in terms of participation in the study. Concerns and questions were answered. If the inclusion criteria were met and interest was expressed in participating in the study, an interview time was scheduled to take place at the Vanier Community Resource Center (VCRC) or another place at their convenience. An amount of monies were allocated for daycare, parking, transportation and any other expenses associated with their participation in the study. Initially the estimated time for the semi-structured interview was approximately 30-45 minutes because it was thought that low-income women may have limited literacy and communication skills. There was no compensation for participation in the study, and no harm to participants was expected.

Informed consent. Informed consent was obtained from all participants with complete disclosure before participation in the interview. A copy of the consent and contact information was provided.

Design and procedures. A qualitative research design was used. After obtaining informed consent, semi-structured interviews were conducted with participants using an interview

guide. Interviews were recorded on audiotape and transcribed verbatim. Transcripts were returned to participants for member checks in order to validate the authenticity of the data collected. Short answer questions to collect data on sociodemographic variables were asked as well as open-ended questions that were more exploratory in nature. These questions covered topics ranging from their initiation to current smoking, barriers and enablers to quitting, the importance that smoking occupied in their daily lives, the social and physical context in which they smoked, the smoking status of their social support network, and their history of quitting. Preferences were also solicited for program content, context and language of choice.

Qualitative analysis. The data was entered into N-vivo software for analysis (NVivo 8, 2008). The analysis began as soon as data collection started through an iterative process and hence influenced further data collection. A grounded theory approach was used (Creswell, 1998), and transcripts were analyzed using open coding, axial coding and selective coding:

(1) *Open coding* forms the initial *categories* (represents a unit of information composed of events, happenings and instances) about the phenomena being studied by segmenting the information. Within each category are several *properties or subcategories* which can be *dimensionalized* on a continuum to show extreme possibilities of the properties.

(2) *Axial coding* involves assembling the data in new ways and is presented in a *coding or logic diagram* where a *central phenomena* is identified (central category), explores *causal conditions* (categories of conditions that influence the central phenomena), specifies

strategies (the actions or interactions that result from the central phenomena), identifies the *context* and the *intervening conditions* (the narrow and broad conditions that influence the strategies), and delineates the *consequences* (outcomes of strategies) for this phenomena. A visual portrayal of a *conditional matrix* that elucidates social, historical and economic conditions that influence the central phenomena may be developed.

(3) *Selective coding* tells a story that integrates the categories in the axial coding model. *Conditional propositions or hypotheses* are presented. The result of this qualitative research is to generate a *substantive-level theory* which can be subjected to further empirical testing because now we know the variables or categories.

Results

Participants were mainly recruited within the community of Vanier. The Vanier Community Resource Center has an established agreement with neighbouring communities to serve clients outside its boundaries requiring services in French that are not offered within their communities. Consequently some participants from the communities of Rideau-Overbrook and Lower-town Ottawa were included in the study.

The expected interview time was greatly underestimated. Participants openly shared their experiences and were allowed to ventilate their feelings concerning the difficult life circumstances in which they lived. The actual interview time was an hour or more.

Saturation was reached after 15 participants were interviewed.

Characteristics of participants. Participants, (N= 15), were all Franco-Ontarian women. They were either unilingual Francophone or bilingual with French being their primary language. Allophones or Francophones with a cultural background other than Canadian were excluded from the study. The average age of participants was 31 years. Levels of dependence was measured with the Fagerstrom Test for Nicotine Dependence, and scores ranged from very weak to very strong (Heatherton, 1991). The majority of the participants were in the contemplation phase of the transtheoretical model (TTM), where they are aware that a problem exists and are seriously thinking about overcoming it but have not yet made a commitment to take action (Prochaska, 1983). All but four women had finished high school, one had a college diploma and two had partially completed college. None of the participants had full time employment; they were either receiving welfare benefits or disability benefits. One participant was married, one was living with a common law husband, one had a common law husband in prison, and the remaining participants were single. Four participants had no children in their household, two had their children in foster care, and the remaining participants had children at home. All participants were living below the low income cut-off (LICO) when all household members were considered. The characteristics of participants namely age group, employment status, education and family composition, are summarized in the following table.

Insert Table 1 about here

Central phenomena: The data from the interviews were coded: categories representing meaningful units of information were established. They were further categorized into themes that are represented by a central phenomenon. The stress of daily living was the central phenomenon identified by the women as the root cause of their smoking. Several themes were identified namely early childhood and family conditions predisposing them to initiation to smoking; the stressful context of living in poverty as a reinforcing factor maintaining smoking; and the inability to stop because of their addiction to nicotine. The themes and subthemes are summarized as follows.

Themes. The main themes are: early childhood and family conditions; the context and meaning of smoking initiation; context and reasons for current smoking; smoking as an addiction; the meaning of smoking in women's lives, the experience of quitting; participants' preferences for a cessation programme; and language preferences. The themes explained in the following section, with the original French quotations from the interviews and an English translation provided in brackets.

(1). Early childhood and family conditions: The participants grew up in dysfunctional families. Parents often suffered from mental illness, alcoholism and drug abuse. There was little stability within the family.

« Mes parents étaient alcooliques, et mon père la battait tout le temps. » [My parents were alcoholics and my father use to beat her all the time.]

« Ma mère était sur la coke, elle était addict. » [My mother was on cocaine, she was an addict.]

« Ma mère a eu 7 enfants, de 6 pères différents. Mon frère et moi avons le même père et on a été pris par l'aide à l'enfance pour négligence. Mon père a laissé ma mère et nous a ensuite repris. On a resté avec lui et ma « stepmon ». À 49 ans, il l'a laissé et a eu un enfant avec une petite jeune. Aujourd'hui il est retourné vivre avec ma « stepmom » même si ce n'est plus sa blonde. » [My mom had 7 children from 6 different fathers. My brother and I have the same father and we were taken by children's aid because of negligence. My father left my mother and then took us in, he then left my stepmom at 49 and had a child with a young girl. Now he is living with my stepmom even though she is no longer his girlfriend.]

Most described a childhood of isolation, rejection and abandonment. Several lived a situation of neglect where they were left on their own, some were turned over to foster care, and some ran away from home or were expelled from the household. All participants described living in a stressful family environment, either witnessing or being victims of violence, ranging from moderate to very severe cases of physical, psychological and sexual abuse.

« Ma mère c'est une folle, une minute elle était de bonne humeur, l'autre minute elle pouvait casser une assiette sur la table. Elle était indienne ma mère et elle a été en résidence et ils ont fait des choses atroces aux indiens en ce temps là. Mais il y a pas d'excuse de faire vivre ça à tes enfants. Personne ne devrait vivre ça « man ». Elle était folle et violente, elle nous a battus. » [My mother she is crazy, one minute she was in a good mood, a minute later she could brake her plate on the table. My mother is a native Indian and she was in residence, and they did atrocious things to the Indians in those days. But there are no excuses to make your kids live through that. Nobody should have to live that man. She was crazy and violent, and she would beat us.]

« Mon père nous a abusé sexuellement moi et mon frère. Il a fait ça depuis que j'étais bébé jusqu'à 19 ans. A 14 ans je l'ai dit à ma mère mais elle a rien fait parce qu'elle ne voulait pas être seule. » [My father sexually abused my brother and I. He was doing this since I was a baby up until I was 19. At 14 I told my mom but she did nothing because she did not want to be alone.]

« On m'a mit dans une famille d'accueil dès la naissance. Mes parents ne me voulaient pas. Ma mère était une prostituée et mon père son pimp. Ma mère était alcoolique et mon père a tout essayer pour que je naisse pas. Il a essayé à plusieurs reprises de l'avorter en insérant un support à linge pour me tuer et il l'a tellement battu que je suis né à 1.5 livre et une fracture ouverte du crâne. À 11 ans on m'a retourné à mes parents biologiques et c'était l'enfer, j'ai été battu régulièrement. À 14 ans mon père m'a violé et par la suite il m'a « pawned » à ses amis bikers. A 15 ans je me suis sauvé de la maison. » [I was put in foster car at birth. My parents didn't want me. My mother was a prostitute and my dad her pimp. My mother was an alcoholic and my dad went to all means to make sure that I was not born. He tried to abort the pregnancy several times by inserting a clothes hanger and kill me and he beat her so badly kicking her that I was born at 1.5 pounds with an open fracture to my skull. At age 11 I was returned to my biological parents and it was hell, I was regularly beaten. At 14 my father raped me and after that he pawned me off to his biker friends. At 15 I ran away from home.]

Most admitted and expressed having very low self-esteem and extreme shyness as far back as early childhood.

« Ma mère n'était jamais là, on était toujours tout seul moi puis ma sœur, je prenais soins de ma sœur, j'ai toujours été gêné, je n'étais même pas capable de marcher dans les corridors de l'école sans avoir une amie avec moi. » [My mom was never there, we were always alone my sister and myself, I took care of my sister, I have always been shy, I couldn't even walk in the hallways of the school without having a friend with me.]

(2). Context and meaning of smoking initiation: For most smoking was the norm and a socially accepted behavior. Parents served as their role models so they emulated their parents' behavior. Often parents did not regard smoking as something that was harmful to their child's health, they smoked in the household and they often encouraged their children to smoke as well.

« À 12 ans, je roulais les cigarettes pour ma mère, et puis des fois elle me demandait d'en allumer une avec le toaster. » [At twelve years old, I was rolling my mom's cigarettes and she would ask me to light one up for her with the toaster.]

« À 12 ans mon père achetait un carton de cigarette pour ma mère, et un carton de cigarette pour moi et ma sœur. L'entente était qu'on avait le droit d'en fumer 7-8 par jour et pas plus. » [At 12 years old my dad would buy a carton for my mother and a carton for my sister and me. The understanding was that we were only allowed to smoke 7-8 cigarettes per day and no more.]

Most participants started smoking in late childhood or early adolescence. Most had their first cigarette with friends from their neighbourhood or from school. Several started smoking because they wanted to fit in and to be part of a group either at school or in their neighborhood. The participants expressed that it was important for them to belong somewhere since their family had not fulfilled this need. Smoking allowed them to belong and be accepted by their peer group.

« J'allais à l'école Cartier, c'était l'école où les jeunes avaient la misère d'apprendre, c'était vraiment tough cette école là, je n'avais pas le choix de fumer parce que si tu ne faisais pas partie de la gang tu te faisais battre. » [I went to Cartier school, it was the school where the student had learning problems, and I had no choice to smoke because if you are not part of the gang you would get beaten.]

« J'ai commencé à fumer parce que je voulais faire partie de la gang qui fumait. Ils étaient plus « cool » et populaire et je voulais faire partie de ça. C'était de faire comme les adultes. » [I started smoking because I wanted to be part of the gang that smoked. They were cool and popular and I wanted to be part of that group. It was doing like the adults.]

Smoking was also something that gave them a sense of control over their lives, something that belonged to them and made them feel all grown up. Smoking was also fun because they were doing something that could be perceived as forbidden and rebellious. It represented personal expression and making personal decisions. It was a time to get together with friends and an opportunity to socialize.

« J'avais 7 ou 8 ans et j'avais décidé de fumer parce que les plus vieux faisaient ça. On voulait être comme eux. On faisait ça à cachette dans le bois, on se rassemblait là entre amis. Une fois qu'on c'est fait prendre c'était plus le fun, on avait plus de secret. » [I was 7 or 8 years old and I decided that I wanted to try to smoke cigarettes because the older kids were doing so. We did this in hiding in the woods, we would get together a bunch of friends. Once we got caught it was no longer fun, we no longer had our secret.]

« Fumer c'était la seule chose dans ma vie qui était à moi, le seul contrôle que j'avais dans ma vie. Je me sauvais de la maison et j'allais fumer toute seule dans la grange, mes parents n'ont jamais su que je fumais, c'était mon secret. » [Smoking was the only thing I had in my life that I could call my own, the only control I had in my life. I would run away from the house and I would smoke alone in the barn, my parents never found out that I smoked, it was my secret.]

(3). Context and reasons for current smoking: Participants expressed opposing feelings about their current smoking. They outlined both positive aspects about smoking and negative aspects about smoking. All women mentioned that they smoked to relax, to take a break from the chores of daily living, to reduce boredom, and to socialize. Smoking helped them reduce their levels of stress because of their life circumstances of living in poverty, financial stress, being a single parent or living a difficult relationship with their partner.

« Les journées noirs je peux je peux fumer sans arrêt jusqu'à deux paquets par jour. Je ne suis pas capable d'arrêter. Ça me soulage, ça réduit mon stress. » [The black days I can smoke non stop up to two packs per day. It relieves me, it reduces my stress.]

« Je cherchais le petit moment de tranquillité, ma fille faisait sa crise, je la mettais dans sa chambre, j'allais prendre une couple de puffs, je n'aimais pas le goût et puis je la pitchais. C'est comme ça tranquillement pas vite que j'avais besoin de prendre la cigarette. » [I was looking for that quiet moment, my daughter was having a fit, I would put her in her room, I would go have a couple of puffs, I didn't like the taste and I would put it out. That is the way little by little that I came to need a cigarette.]

« Après une grosse journée, ça fait du bien d'aller dehors avec la voisine et de fumer une cigarette pour avoir le break. Au moins je ne suis pas encore dans la maison. De juste aller fumer une cigarette et je pense plus à ça. On va parler de d'autre chose. Ça fait moins stressant. » [After a big day, just to go outside and smoke with my neighbour to have a break. At least I am not in the house. Just to go out and smoke a cigarette I will no longer think about it. We will talk about something else. It makes it less stressful.]

Participants stated they smoked to compensate, to replace or to avoid certain circumstances.

Most women lived in isolation and had few or no friends therefore smoking was like a friend and broke the monotony of sitting at home all day.

« Des fois j'ai rien à faire, c'est plate et je vais fumer. Je peux fumer toute la journée une cigarette après l'autre. » [Sometimes I have nothing to do, it's boring and I'll smoke. I can smoke all day one cigarette after the other.]

Certain circumstances of contexts prompted women to smoke: when drinking coffee, when drinking alcohol, after meals, and early morning at breakfast.

« Moi c'est le matin avec mon café, la cigarette va bien avec un bon café. » [For me it's in the morning with my coffee, a cigarette goes hand in hand with a good coffee.]

« La cigarette ça va avec l'alcool, normalement je fume un paquet aux 2 ou 3 jours, mais quand je sors et je bois je fume sans arrêt, on dirait que l'alcool et la cigarette vont ensemble. » [A cigarette goes well with a drink, normally I smoke a pack of cigarettes every 2 to 3 days, but when I go out and I drink I smoke non stop, its likes if a drink and a cigarette go together.]

« Je prends une cigarette après mon repas, c'est une routine, ça c'est comme le dessert après mon repas. » [I have a cigarette after my meal, it's a routine thing, and it's like having dessert after my meal.]

For those that had some friends most or all of them smoked and smoking was part of socializing within their circle of friends.

« Quand tu es entouré de monde qui fument, c'est le fun pour socialiser, s'allumer une cigarette. Ça peut être le fun d'avoir une cigarette quand tu es avec un cercle d'amis. Tu es assis dehors puis il y en a une qui allume sa cigarette, puis ah toi aussi, c'est une habitude, ça vient automatiquement. » [When you are surrounded by people that smoke, it is fun to socialize, to light up a cigarette. It can be fun to have a cigarette when you are with a group of friends. You are sitting outside, and one of them will light up a cigarette, and then ah me too, it's a habit, its automatic.]

Those who were in a relationship, their partners smoked and smoking was a coping mechanism to avoid arguments by changing the subject or simply leaving the room to smoke a cigarette.

« J'ai rencontré un copain. Après ça il m'achetait mes cigarettes. Puis la je fumais un peu plus parce que, c'était une relation stressante. J'étais aussi dans une relation où l'on fumait plus de cigarettes. » [I met a boyfriend. After, he bought my cigarettes. And then I was smoking more because it was a stressful relationship. I was also in a relationship where we just smoked more.]

« Des fois je peux fumer pour éviter une chicane quand tu es en couple. Tu caches quelque chose. Fumer une cigarette, ah j'ai besoin d'une cigarette. On vient d'avoir une conversation et puis moi je vais changer le sujet. Je vais fumer une cigarette au lieu. Ça va faire penser à autre chose. » [Sometimes I can smoke to avoid an argument when I am in a relationship. You hide something. Smoke a cigarette, ah I need a cigarette. We just had a

conversation and I want to change the subject. I will smoke a cigarette instead. It will make you think about something else.]

Although smoking helped them cope with their daily lives, at the same time they said that they did not like cigarettes, mostly the smoke and the smell. They also expressed concerns about the negative impact of smoking on their health.

« Je n'aime pas que ça va me donner un mal de tête. Par après je n'aime pas la senteur. » [I don't like that it will give me a headache. And after, I don't like the smell.]

« Je n'aime pas que je fume, je tousse, j'ai des problèmes avec mes poumons et le docteur m'a dit que j'allais finir avec un tank d'oxygène comme ma mère. J'ai peur, je veux être là pour mes enfants. » [I don't like that I smoke, I cough, I have problems with my lungs and the doctor told me I would end up like my mom with an oxygen tank. I am scared I want to be there for my kids.]

(4). Smoking as an addiction: Participants expressed that they continued to smoke in part because they are unable to stop, they are addicted. They explained the uncontrollable urges and cravings experienced after not smoking for a lapse of time. They experienced side effects to smoking and abstaining from smoking.

« Là je ne les inhalais pas encore puis là c'était quasiment rendu une habitude là, dans même pas un an. » [I wasn't inhaling it yet and it was almost a habit in less than one year.]

« La cigarette peut t'affecter. Tu peux avoir des sauts d'humeurs, tu peux avoir des maux de tête. Tu peux devenir impatiente. Tu peux avoir besoin d'une cigarette, mais dans le fond ce n'est pas toi qui en a de besoin, c'est plus que tu penses que tu en as de besoin. Et puis la tu perds patience pour rien. Je vais aller fumer une cigarette. » [Cigarettes can affect you. You can have mood swings, you can have headaches. You can become impatient. You can need a cigarette, but the truth is you don't really need it; it's more like you think you need it. And you lose patience for nothing. I will go smoke a cigarette.]

« Quand j'ai besoin de fumer j'ai un picotement dans la gorge. J'ai vraiment besoin de fumer. J'aime la sensation de brullement dans la gorge quand je prends la première puff. » [When I need to smoke I have an itch in my throat. I really need to smoke. I love the burning sensation in my throat when I take the first puff.]

« C'est une mauvaise habitude de la prendre la maudite cigarette, l'allumer et la fumer. On pourrait parler sans fumer. » [It's such a bad habit to smoke those dam cigarettes, to light up and smoke. We should be able to talk without smoking.]

« Des fois je me réveille durant la nuit et je ne suis pas capable de dormir parce qu'il faut que je fume une cigarette. J'en fume une et puis après ça je me rendors. » [Sometimes I wake up during the night and I can't sleep because I have to smoke a cigarette. I smoke one and after I fall asleep again.]

« Je me lève le matin et c'est la première chose que je fais, même en m'en allant à la salle de bain j'en allume une. » [I get up in the morning and it's the first thing I do on my way to the bathroom, I light one up.]

(5). The meaning of smoking in women's lives: Participants have mixed feelings about smoking and what it represents for them. Cigarettes are at the same time a friend and an enemy as stated below:

« La cigarette ne m'amène pas à rien. Je n'ai pas vraiment de lien avec une cigarette ou une valeur à une cigarette. Non je ne l'aime pas. D'une manière elle est bonne, mais je n'ai pas vraiment un bon lien avec la cigarette. J'ai arrêté de fumer quand j'étais enceinte de mon fils, après ça quand j'ai allaité presque 10 mois. Puis après ça quand j'ai fini d'allaiter, j'ai recommencé. Pourquoi j'ai recommencé, je n'étais pas obligé. Je n'avais pas besoin. C'est comme si c'était mon ennemi. Oui je pense qu'en ce moment la cigarette c'est mon ennemi. » [The cigarette leads you to nowhere. I don't really have a bond with a cigarette or any value for it. No I don't like it. In a way it is good, but I don't really have a good relationship with the cigarette. I stopped smoking when I was pregnant with my son, and then I breastfed for almost 10 months. And then after I was finished breastfeeding, I started again. Why did I start again, I didn't have to. I didn't need that. It's like my enemy. Yes I think now the cigarette is my enemy.]

For some the cigarette represented the only thing they had control over in their lives while with time they realized that the cigarette had taken control over them and that they weren't able to stop smoking.

« Avant la cigarette c'était le seul contrôle que j'avais sur ma vie mais maintenant c'est elle qui contrôle ma vie. » [Before the cigarette was the only thing I could control in my life, but now the cigarette controls my life.]

For some it is part of their identity, it is part of who they were. They are a smoker. They cannot imagine themselves not being a smoker because a part of them would be missing.

« Je ne peux pas m'imaginer de ne pas fumer. Ça fait partie de mon identité et de qui je suis. Je fume, c'est moi. » [I can't imagine not smoking. It is part of my identity, of who I am. I smoke, that's me.]

(6). The experience of quitting: Most women were able to quit smoking during their pregnancy because it was for their baby, but they are unable to quit for themselves. Soon after their delivery or breastfeeding they start smoking again. The only method use was the quitting “cold turkey”.

« Aussitôt que j'ai appris que j'étais enceinte de mon fils, j'ai arrêté de fumer. Donc j'étais capable. Je me suis donné une raison. Mais pour moi toute seule on dirait que c'est plus difficile. Mais je pourrais m'imaginer sans fumer. Moi je voulais arrêter pour ma grossesse, je voulais arrêter pour lui et puis là je ne fume pas dans la maison, je pense à ma fille. Après ça pour moi, ce n'est pas important pour moi, je suis assez vieille. J'ai déjà les poumons pourrit « I guess ». J'ai déjà les poumons noirs. » [As soon as I found out that I was pregnant with my son, I stopped smoking. So I am able to quit. I gave myself a reason. But if it's only for me, it seems more difficult. But I could imagine myself not smoking. I wanted to stop for my pregnancy, I wanted to stop for him, and now I don't smoke in the house, I am thinking about my daughter. After, for me it's not important, I am old enough. I guess my lungs are already rotten. My lungs are already black.]

For three former drug addicts, they did not see themselves quitting for now. After years of addiction to cocaine or crack, they had to overcome insurmountable obstacles to remain drug free. Smoking cessation was not a priority in their lives. They saw smoking cigarettes as a strategy for preventing them to relapse into drug abuse, and expressed fear of falling back into drugs if they stopped smoking. They felt that smoking helped them stay drug-free and was the lesser of two evils.

« J'ai 29 ans, j'ai fait de la cocaïne pendant 10 ans, j'ai perdu la garde de mes quatre premiers enfants et je veux garder ma cinquième. Je suis allé en detox et je suis clean depuis trois mois seulement. Je ne suis pas prête d'arrêter de fumer tout de suite, j'ai peur de

retomber dans la drogue. Je me sens fragile. Arrêter de fumer ce n'est pas une priorité pour tout de suite, mais peut être plus tard j'arrêterai.» [I'm 29, I did cocaine for 10 years, I lost the custody of my first four children and I want to keep my fifth one. I went into detox and it's only been three months that I am clean. I am not ready to stop smoking yet, I'm afraid to fall back into the drugs. I feel fragile. To stop smoking is not a priority for me right now, but maybe later I will stop.]

When asked what kind of methods could be use to stop, the majority stated that they just need to have the will power to stop, and no assistance is needed. Very few women tried the nicotine patch or the nicotine gum.

«Mais pour avoir pensé d'arrêter de fumer « I guess » je figure achète pas de cigarettes et puis tu ne fumeras pas. Donc moi je figure que si tu es décidé, tu es décidé. Tu serais supposé d'être plus fort que ça.» [I guess to have though to stop smoking, I figure just don't buy any cigarettes and you just won't smoke. So I figure if you are decided, you are decided. You should be stronger than that.]

All participants saw a physician at least once a year. When asked if their physician had encouraged them to stop smoking, the majority stated that their physician never asked them if they smoked. A few suggested to their patients to stop smoking, but no support or methods were provided to do so. Only two participants were given instructions, advice and methods to stop smoking.

« Il m'a demandé si je fumais et j'ai répondu oui à l'occasion. J'ai nommé combien j'en fumais et il m'a pas vraiment rien dit de vraiment arrêter.» [He asked me if I smoked and I answered yes occasionally. I told him how many I smoked and he didn't really tell me to really stop.]

When the participants were asked if they knew of any resources in the community to help them to stop smoking all but one participant said that there were no resources available in the community. One participant said that she had once seen a pamphlet at a community centre which was located in another community.

« Je ne connais pas de programme dans la communauté, je n'ai jamais vu rien qui pourrait m'aider à arrêter de fumer. » [I am not aware of any programs in the community, I've never seen anything that could help me stop smoking.]

(7) Input into program: All but one participant voiced their interest in a women's group to assist them to stop smoking. The main idea was to have women come together to discuss and exchange ideas on how to stop smoking. They want an open subject group with weekly attendance, preferably during the day. They would like assistance in dealing with the stresses of daily living and develop new hobbies and activities to get their mind off of smoking and keep their hands busy. Some suggested a walking club, knitting club, cooking club, or a combination of several activities. One participant suggested a call in line to get support when they could not resist the urge to smoke. Another participant suggested a buddy system whereby somebody who had already quit could provide advice and support to help them resist smoking.

« Le monde serait autour d'une table avec leur café ou leur thé et ça discute puis ça se trouve des idées. Elles pourraient réaliser que pendant tout ce temps là elles ont participé, elles n'ont pas pensé de fumer la cigarette. Ça peut durer une demi-heure comme ça peut avoir duré une heure, où elles n'ont pas fumé la cigarette. Donc peut être en se donnant des idées à l'intérieur du groupe, aller à l'extérieur ils vont peut être passé à l'action. C'est comme ça que je vois ça, un groupe à sujet ouvert. » [People would be around a table drinking their coffee or tea, discussing and finding ideas. They could realize during this time that they didn't smoke, they didn't think of smoking. It could last a half hour or an hour where they didn't smoke a cigarette. So maybe by exchanging ideas within the group, outside the group maybe they will take action. That is the way I see it, an open subject group.]

« Je pense qu'il faut se trouver des passe-temps se tenir occupé, tenir nos mains occupées, comme tricoter. Si on est stressé au lieu de fumer on pourrait tricoter. On pourrait peut être aussi faire un groupe de marche. » [I think we need to find ourselves some hobbies, keep our hands busy, like knitting. If we are stressed out instead of smoking we could knit. We could also start a walking club.]

(8) Language preferences: All participants thought it was essential to have a program in French. Two participants expressed being equally at ease receiving their services in English, which possibly reflects the context of living in a province and community where the majority are Anglophones. These two participants had moved from a Francophone community to a predominantly anglophone community before returning to their original community. For all of the other participants, they expressed having more success in treatment when receiving services in their own language. It was easier for them to express themselves and particularly their feelings in their mother tongue. They also stated that it was easier to discuss ideas in a group if it was done in French. They could not express their thoughts in English with the same ease since they would be translating and some of the meaning would be lost. They were also shy to speak in French and feared being laughed at or ridiculed. Hence if they were in an English group they probably wouldn't speak up and eventually there would be no point in attending such a group. Some expressed that Francophone culture is different and people are more sociable in a group.

« C'est essentiel d'avoir un programme en français. J'ai toujours eu plus de succès dans ma vie quand j'ai eu des services en français. » [It's essential to have a programme in French. In my life, I have always had more success when I have received services in French.]

« C'est plus facile d'exprimer tes sentiments dans ta langue. Quand ce n'est pas ta langue, ça ne sort pas de la même façon. C'est plus facile d'échanger des idées. » [It's easier to express your feelings in your mother tongue. When it's not your mother tongue, it doesn't come out the same way. It's just easier to exchange ideas.]

« Quand c'est en anglais il faut que je pense à chaque mot que je traduise dans ma tête. Et puis là ça sort tout croche et j'ai l'impression de ne pas être bien comprise et que les gens vont rire de moi. Donc quand c'est un groupe en anglais j'ai tendance à ne pas parler. » [When it's in English I have to think of every word and translate it in my head. And then when I speak it comes out all wrong, I have the impression that I am not understood and that people will laugh at me. So in an English group I tend not to speak up.]

« Un groupe en anglais je perdrais intérêt parce que je ne participerais pas gros. » [A group in English, I would lose interest because I wouldn't participate very much.]

« J'aime mieux un groupe en français, je me sens plus à l'aise, les gens sont plus chaleureux. Ce n'est pas la même atmosphère. » [I prefer a French group, I am more comfortable, and people are more welcoming. It's not the same atmosphere.]

Discussion

Qualitative interviews with low-income Francophone women revealed that the stress of living in challenging circumstances is the main reason why they smoke. Content analysis revealed important information and the following main themes emerged from the interviews: difficult early childhood and family conditions; the context and meaning of smoking initiation; context and reasons for current smoking; smoking as an addiction; the meaning of smoking in women's lives; the experience of quitting; participants' input into the program; and language their preferences.

These women living in poverty have experienced poverty in their childhood, lived in dysfunctional families, experiencing neglect, abandonment, violence and abuse within their families, and often one or both parents experienced some form of dependence with drugs, alcohol or nicotine. Dysfunctional families, abuse and alcoholism are closely enmeshed and have a deleterious effect on the development of self-esteem and coping skills in these individual (Whitfield, 1987). Difficult early life circumstances predisposed them to poor educational outcomes, and to making choices that have an adverse effect on their lives. Early pregnancies, multiple pregnancies, poor choice of a life partner, dysfunctional relationships, being a single parent are all life experiences that perpetuate the intergenerational cycle of poverty. Their present life circumstances and levels of stress are a

combination of latent effects, pathway effects and cumulative disadvantage (Hertzman, 1995).

While low-income Francophone women identified stress and boredom as the main reason for smoking, few identified stress management and social support as potential programme components. While these women conceptualize the locus of control of the underlying cause as being external to the self (stress and boredom), the locus of control for quitting was internal (willpower). This discordance may reflect a lifetime of experiences where they lacked any sense of control over life circumstances and also the lack of external motivation and support extended to them. While stress and its locus of control can be perceived as external, the capacity of adaptation is internal. Similarly, willpower or motivation can be both internal and external. While an internal locus of control is preferable for adaptation, the following research suggests that low-income women perceive control as external to themselves. This finding suggests that an intervention that would promote coping skills would benefit these women so that they can adapt to the stresses of daily living. The difficult early life circumstances of low-income women did not promote a sense of control, coherence, and self-esteem. Interventions or programs must focus on developing skills, to increase self-esteem and promote empowerment.

Almost all participants in this study grew up in families where one or both parents smoke, siblings smoked and surrounded themselves with a network of friends that smoke. Their physical and social environment imposes an important barrier to them quitting. All but one participant in this study had a partner that smoked which decreases their likelihood of

quitting and remaining smoke free. These findings suggest the importance of a family intervention approach to improve the outcomes of quitting and preventing relapse.

While the first six themes of the present research are similar to those found in previous research (Greaves, 1996), no previous study has looked at smoking in low-income Francophone women. The present research has important implications for delivery of smoking cessation services to this sub-population. Interviews revealed that no French language cessation services are available in the community of Vanier and surrounding areas that address the needs of low income women. Furthermore when asked about advice or support provided at medical clinics, all participants had regular visits with their family physicians, but only one participant had received smoking cessation support from a health professional. Several had never been asked by their family physician if they smoked, and those who were asked about their smoking were not provided with any advice or support to quit. Several studies suggests that medical clinics are an ideal setting for the delivery of smoking cessation interventions but other studies suggest that physicians may be selective in who they chose to give advice. The present research suggests that low-income women are not being targeted.

Participants in this research experience great depths of poverty and social exclusion. These interviews were an opportunity for their voices to be heard, for them to feel empowered, and to provide important information for designing a program that meets their needs.

The limitation of this research is the sample size of 15 low-income Francophone women. This sample size is a typical point of saturation in qualitative research, and findings were consistent despite a heterogeneous sample. The women experienced different life circumstances, and subgroups of women emerged such as lesbians, those experiencing mental illness and disabilities. Further research is needed to further investigate the specific needs of these sub-populations of women and the content of the interviews may suggest that providing targeted programming may lead to greater communication, cohesion and possibly increased chances of quitting within a group process.

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Table 1. Characteristics of the participants

	Number of Participants (N= 15)
Age (19-44yrs)	
19-24	3
25-34	5
35-44	7
Franco-Ontarian	
Unilingual	0
Bilingual	15
Education	
Less than high school	7
High school	3
Some College/Trade/University	3
College Completed	2
University Completed	0
Employment	
Full Time	1
Part-time	1
Unemployed	
No social assistance	1
Welfare	7
Disability	5
Family dwelling	
With children	9
Without children	6
Marital Status	
Married	1
Common Law	3
Divorced	1
Separated	1
Widowed	0
Single	9
Fagerstrom Test of Nicotine Dependance	
Very weak	2
Weak	5
Moderate	1
Strong	5
Very Strong	2
Transtheoretical Model (TTM) – Stages of Change	
Pre-contemplation	2
Contemplation	11
Preparation	2
Action	0
Maintenance and Relapse Prevention	0

CHAPTER FIVE

A LOGIC MODEL EXPLAINING THE PATHWAYS FOR A CULTURALLY SENSITIVE SMOKING CESSATION PROGRAMME FOR LOW-INCOME FRANCO-ONTARIAN WOMEN

Chapter 1 referred to a social assessment that revealed that there were inequities in the delivery of smoking cessation service to low-income Franco-Ontarian women. In order to develop a tailored intervention for this subpopulation, a systematic review was conducted in Chapter 3 to determine what type of interventions were the most effective, and a qualitative study was conducted and presented in Chapter 4 in order to solicit the voices of Franco-Ontarian women. The following is a manuscript prepared for publication. The objective of this study was to construct a logic model explaining the pathways for a tailored intervention aimed at low-income Franco-Ontarian women who wish to quit smoking.

Detailed descriptions of the underlying evidence and principles of the programme components of the logic model are found in **Appendix L**.

The manuscript was co-authored by the doctoral student (DL), her supervisor, Dr. George Wells, and thesis committee members, Mr. Douglas Angus, Dr. Carolyn Andrews, and Dr. Elizabeth Kristjansson. The student is the first author of all papers, having been primarily responsible for data collection, analysis, and writing of the manuscripts. Drs Wells, Andrew, Kristjansson, and Mr. Angus provided valuable feedback throughout the process.

A Logic Model Explaining the Pathways for a Culturally Sensitive Smoking Cessation Programme for Low-income Franco-Ontarian Women

Denise Laplante^{1*,2}, Douglas Angus^{2,3}, Carolyn Andrew^{2,4}, Elizabeth Kristjansson^{2,5}, George Wells^{2,6}

¹PhD Candidate in Population Health, University of Ottawa, Canada.

²Institute of Population Health, University of Ottawa, Canada.

³Telfer School of Management, University of Ottawa, Canada.

⁴School of Political Studies, Faculty of Social Sciences, University of Ottawa, Canada.

⁵School of Psychology, Faculty of Social Sciences, University of Ottawa, Canada.

⁶Department of Epidemiology and community Medicine, Faculty of Medicine, University of Ottawa, Canada.

Abbreviated Title: A Logic Model for a Smoking Cessation Programme aimed at low-income Franco-Ontarian Women

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Abstract

The objective of the study was to develop a logic model explaining the pathways for a culturally sensitive smoking cessation programme for low-income Franco-Ontarian women.

Methods: A narrative synthesis was conducted which summarized scientific evidence of smoking cessation interventions for low-income women, explanatory theories and frameworks, change theories, and theories of addiction and co-dependence. *Results:*

Explanatory theories looked at the interface between poverty, gender, psychosocial stress, maladaptive stress responses, compulsive and addictive behaviours. The linkages were made between the scientific literature, theories, frameworks and exploratory research with low-income Franco-Ontarian women. Finding common ground between the scientific literature, the preferences expressed by the population of interest, and community resources available to promote and sustain the programme, allowed us to identify the most appropriate levers of intervention. Personal factors such as coping skills and stress management, as well as social support were identified as levers of intervention to buffer the effects of poverty and psychosocial stress on smoking. *Conclusion:* A robust synthesis of findings pertaining to smoking cessation in low-income women was presented which has important application for the sub-population of low-income Franco-Ontarian women. The proposed framework has important implications for designing a culturally relevant smoking cessation programme that could meet the needs of low-income Franco-Ontarian women. Future research is needed to clearly establish the outcome and process evaluation and toolkits for the evaluation and delivery of such a programme. The following synthesis has implications for future intervention research in smoking cessation which should be theory-driven and address the underlying psychosocial determinants of smoking in low-income women. Finally,

prevalence statistics indicate that the majority of smokers are living in disadvantaged circumstances albeit the majority of research in smoking cessation is done within the general population and fails to look at sub-group analyses to determine the effectiveness of interventions in this sub-population.

Keywords

smoking cessation, low-income women, Franco-Ontarian, logic model, conceptual framework

Introduction

Smoking is the most preventable cause of morbidity and premature mortality in the U.S. adult population (CDC - MMWR, 2008). The health consequences of smoking in women continue to rise: cancer, cardiovascular disease, and chronic lung disease are the leading causes of morbidity and mortality (Fiore, Bailey, Cohen, Dorfman et al, 2000; USDHHS, 2001; CDC- MMWR 2005). It is estimated that approximately 178,000 women in the United States die annually as a result of cigarette smoking (CDC – MMWR 2005). Similarly, smoking is also the most preventable cause of morbidity and premature mortality in Canada. More than 45,000 Canadians will die prematurely each year due to tobacco use and at least 1,000 non-smokers will die as a result of second hand smoke (Health Canada, 2005). The average smoker will die about eight years earlier, after years of suffering and a reduced quality of life. Smoking is related to more than two dozen diseases and conditions and most of these diseases start to reverse after quitting smoking (Health Canada, 2007).

The Prevalence of Smoking. Smoking prevalence is approximately 18.1% among adult US women (21.4% in women aged 25-44 years). It ranges between 29.0% and 38.8% in those with a high school diploma or less, and may be as high as 34.7% among divorced, widowed or separated women (CDC: Women and Tobacco; CDC-MMWR 2008, CDC-MMWR 2006). While the overall prevalence of smoking has declined in recent decades there has been a slower rate of decline in the prevalence of smoking among low-income women. Smoking prevalence remains substantially higher, and can reach 40-60% among low-income women aged 20-44 years (USDHHS, 2001). Similarly, there has also been a decline in

smoking rates among Canadians 15 years and older from 25% in 1999 to 18% in 2008.

Young adults aged 20-24 years reported the highest prevalence of smoking at 27%, not statistically different from the 25% of young adults who reported smoking in the previous year. In the same age group, young adult males (33%) continue to have a higher prevalence of smoking compared to females (22%) (CTUMS, 2009).

Smoking, Pregnancy and Impact on Children. In addition to the health risks to women, smoking during childbearing age is also associated with adverse pregnancy outcomes, increased risk of illness in newborns as a result of prepartum and postpartum exposure to tobacco smoke, and increased illness in children from repeated exposure to environmental tobacco smoke (CDC- MMWR, 2008, CDC- MMWR, 2004). It is estimated that the highest rates of smoking during pregnancy are found in low-income, single and less educated women (Lu, 2001). An estimated 26% of women who did not complete high school, smoked during their pregnancy (West, 2002). Similarly in Canada, 21% of women aged 15-24 smoked during their last pregnancy, and 14% vs. 11% of expectant mothers aged 20-44 years smoked during their last pregnancy in the past five years (Ontario Tobacco Research Unit, 2004).

Smoking Prevalence (Franco-Ontario). A higher proportion of smoking is observed among the francophone minority population in Ontario. More Franco-Ontarian adults smoke daily (27%) than the Ontario average (21.3%). Based on the 2000-2001 Canadian community Health survey, Francophones with low family income are twice as likely to smoke daily (43%) and represent the group with the highest smoking rate among all groups

(Picard & Allaire, 2005). The poverty measure used is the Low Income Cut-Offs (LICOs) as defined by Statistics Canada (Statistics Canada, 1997). Among female smokers, women in lower income groups are more likely to smoke and that 71.7% of single-parent women were smokers (Health Canada, 1999). In addition Francophone women have significantly higher rates of cardiovascular disease (7%) than Anglophone women (4.8%) (Picard & Allaire, 2005).

Access to Community and Health Services. Receiving health services implies communicating and receiving care from a health professional. Receive care in the language of choice is essential for effective delivery of healthcare. Language barriers can reduce the uptake of preventive care; increase consultation time and diagnostic tests; increase the probability of an erroneous diagnosis; influences the quality of services especially in mental health services; reduces compliance to treatment and decreases satisfaction with the quality of services. There is a gap in the availability of services in French: the accessibility of services in English are three to seven times greater than in French. Services in the language of choice is of greater importance especially when communication is essential such as in the delivery of primary health care and psychological counseling (Improving access to French-Language Health Service, 2001).

Under the Ontario Public Health Standards (OPHS) of the Ontario Ministry of Health and Long Term Care Health, public health units must provide services to priority populations to adopt tobacco-free living (Ontario Public Health Association, 2006; Ontario Public Health Standards, 2008). In addition, to comply with the French Language Service Act, services in

French should be made available to French-speaking Ontarians living in designated Francophone areas (Commissariat aux services en français, 2008). The absence of smoking cessation services to low-income Franco-Ontarian women is inequitable.

Statement of problem. High rates of smoking are found in low-income Franco-Ontarian women (Picard & Allaire, 2005). Smoking among Franco-Ontarian women is a health concern and smoking cessation is a health priority. There exists a significant gap in the delivery of smoking cessation services to this Francophone minority population in Ontario. Despite high smoking rates particularly among low-income Franco-Ontarians, there are no smoking cessation programmes in Eastern Ontario targeting this population. Research showed that receiving health services in the French language is a preoccupation among Franco-Ontarians and the lack of services in the language of their choice poses additional health risks due to increased stress on account of their inability to express themselves in the language of their choice and increased risk of not being understood by the health professionals delivering the health services (Picard & Allaire, 2005). The French spoken in Ontario is linguistically different from the language spoken in other parts of Canada (de Robillard, Beniamino & Bavoux, 1993; Mougeon & Beniak, 1989; Guy, 1996; Valdman, 1997) and requires programme resources and toolkits that are culturally adapted (Services de la santé d'Ottawa-Carleton, 1995; Ottawa-Carleton Health Department, 1997; Price Waterhouse, 1997).

As suggested in the 2008 Clinical Practice guidelines on Treating Tobacco Use and Dependence, interventions for vulnerable population should be culturally tailored.

Culturally tailored interventions have been shown to be more effective for smoking cessation in the African-American population (Strecher, 2008). Therefore a culturally sensitive smoking cessation intervention aimed at low-income Franco-Ontarian women is essential. Culturally sensitive tailoring involves: the delivery of programs and materials that appear culturally appropriate; cultural evidence to enhance the perceived relevance of a health issue for a particular group; linguistic strategies such as providing programming in the native language of the group; to draw directly on the experiences of the target group by hiring staff who are indigenous to the population being served; and to discuss health related issues in the broader socio-cultural context (Kreuter, 2003).

Research objectives. The primary objective is to develop a logic model explaining the pathways for a culturally sensitive smoking cessation programme for Franco-Ontarian women. Such a model will help focus health services on population health goals such as redressing inequities for this underserved population (McEwan & Bigalow, 1997).

Methodology

In order to develop a logic model for a culturally sensitive and tailored smoking cessation programme for Franco-Ontarian women that is potentially effective and sustainable, the actual needs as indicated by the scientific data, the perceived needs of the sub-population as well as the availability of community resources were considered (**Figure 1**). This overarching framework finds common ground between all three key actors which can potentially increase the programme's effectiveness and sustainability (Green & Kreuter,

1999). The methodology involved a *narrative synthesis* and the construction of a *logic model*, which is described as follows.

Narrative synthesis. The general framework for a *narrative synthesis* was used to integrate best available knowledge from different sources: research evidence, theories, frameworks and indigenous knowledge (Glanz, Rimer & Lewis, 2002a). The steps of the synthesis involved: a preliminary synthesis of research findings; exploring the relationships in the data; assessing the robustness and trustworthiness of the synthesis; and developing a hypothesis/theory of how the intervention works, why and for whom. These *are fully* described as follows.

A preliminary synthesis of research findings. The preliminary synthesis of research findings involved: textual descriptions of studies; organization of the data/studies in *groupings and clusters* of studies based on type of intervention, population, research design, setting, target population, and the nature of the results being reported; representation of data in tables; and translation of data by thematic analysis and its presentation in terms of themes and concepts.

Exploring the relationships in the data. Relationships between the characteristics of individual studies and their findings, and between the findings of different studies were explored. Factors explaining the effectiveness across studies were examined as well as barriers and facilitators to successful implementation. How and why interventions work or do not work will be examined, as well as how barriers and enablers affect implementation. The representation of the data (descriptive synthesis) and the description of the emerging

patterns (interpretive synthesis) were both critical to the quality of the narrative synthesis. A conceptual model/logic model visually represents the relationships between variables and programme components (McEwan & Bigalow, 1997).

The construction of the *logic model* serves three basic functions: effective communication, to clarify the logical connections between factors, guide health promotion programming, and to identify performance measures. It also reduces an overwhelming body of information to critical elements/building blocks of an intervention. It is a systematic way of presenting the proximal to distal factors, their synergies, and their logical connections to short-term and long-term outcomes. While the pictorial representation provides a synopsis of the current state of knowledge, it also allows us to focus and direct our attention to the factors that we can control, and the outcomes that we can achieve and measure. This inclusive approach provides guidance for improving program design and performance reviews. Graphic modeling techniques facilitate overall governance, by providing a clear picture of a performance-monitoring framework by means of linking outcomes with efficacy and efficacious program components (McEwan & Bigalow, 1997).

The robustness and trustworthiness of the synthesis. The robustness and trustworthiness of the synthesis will be assessed on both the quality and quantity of the evidence or studies included in the review. After exploring the relationship in the data, an overall assessment of the overall strength of the evidence available to draw conclusions should be made (Agency for Healthcare Research and Quality, 2002; Weightman, Ellis, Cullum, Sander & Turley, 2005)

Developing a theory of how the intervention works ,why and for whom. Change theory explained how contextual or temporal variables moderated outcomes. Theory of change described the causal chain linking programme resources, activities intermediate and final outcomes. Theoretical assumptions made a priori guided the interpretation of the research findings. Through an iterative process, the narrative synthesis contributed to hypothesis/theory building.

Results

The narrative synthesis in the form of text summarized and explained the current state of knowledge concerning smoking among low-income Franco-Ontarian women. In turn, these became the building blocks for a logic model explaining the pathways for a culturally sensitive smoking cessation programme for low-income women. The present research involved the juxtaposition of findings/information from different sources as well as an integration and interpretation of this knowledge (Popay, Roberts, Sowden, Pettigrew, Arai, Rodgers, Britten, Roen & Duffy, 2006). The *synthesis* will included: (i) a summary of research findings of smoking cessation interventions, the association between smoking and low income women and the underlying reasons why they smoke; and an outline of relevant explanatory theories, frameworks and theories of change; (ii) the exploration of the relationships between these findings, and its representation in a *logic model*; (iii) the development a hypothesis/theory of how the proposed intervention works, why and for

whom; and (iv) the assessment of the robustness of the synthesis. The following steps are presented as follows.

(i) A summary of research finding, theories and frameworks:

a. General research evidence of smoking cessation interventions

Several reviews of interventions demonstrate the efficacy of individual level and community level interventions with adult populations. Several effective behavioral interventions at the individual level exist namely: telephone counseling (Stead, Perera & Lancaster, 2008), self-help interventions (Lancaster & Stead, 2008c), physician advise (Stead, Bergson & Lancaster, 2008), and individual counseling (Lancaster & Stead, 2008a). Behavioral group interventions are also effective because of the support and skills training that are usually included (Stead & Lancaster, 2008). Pharmaceutical interventions are also effective: nicotine replacement therapy (Stead, Perera, Bullen, Mant & Lancaster, 2008), nicotine receptor partial agonists (Cahill, Stead & Lancaster, 2008), mecamylamine (Lancaster & Stead, 2008b), and Cannaboid type I receptor antagonists (Cahill & Ussher, 2008). A review of both behavioral and pharmaceutical interventions for smoking cessation aimed at pregnant women reduced the proportion of women who continue to smoke, as well as reduced low birthweight and preterm birth (Lumley, Oliver, Chamberlain & Oakley, 2008). Although low-income women have a higher prevalence of smoking than the general population no subgroup analyses were performed in these reviews.

b. Specific research evidence of smoking cessation interventions for low-income women

A systematic review of interventions aimed at low-income women is discussed extensively elsewhere (Laplane, Angus, Andrew, Kristjansson, Wells, 2009a). Efficacy was demonstrated in seven studies for a period of abstinence of 6 months or less. Types of interventions and outcomes were heterogeneous, although these results need to be interpreted with caution since abstinence was not biochemically validated and there were high rates of deception in self-reported cessation. Eighteen community interventions found almost exclusively in the grey literature show promising results since some studies were able to sustain programming beyond the funding period for up to two years. This systematic review demonstrates that interventions of smoking cessation aimed at low-income women have short-term effects on abstinence for a period of 6 months. Further long-term abstinence needs to be investigated. Only three studies included in the review referred to a theory that guided the design of the intervention and none of the interventions targeted the underlying causes of smoking in this disadvantaged group of women.

c. The association between smoking and low-income in women

Smoking was formerly associated with high socio-economic class, but since 1990 it has been increasingly been associated with social and economic disadvantage (Marsh & McKay, 1994). A socio-economic status gradient is present in women's smoking in tobacco related uptake, dependency, amount of exposure, and quit rates. Death rates are 2-3 times higher among the disadvantaged social groups than the more affluent, and poorer people are more likely to experience smoking-related morbidity (Acheson, 1998). The prevalence rates among the lowest socio-economic group of unskilled manual households are twice that

found among women in the highest socio-economic group of professionals (Graham, 1993). Smoking before pregnancy is also three times higher (47%) in the lowest social class than the highest social class (Graham, 1993). Fewer in higher SES take-up smoking and more that do smoke are able to quit (Graham, 1993). Lone mothers in the UK have the highest prevalence rate of smoking (62%) and have the lowest cessation rate (1:6 or 16%) during pregnancy (Dorsett & Marsh, 1998; Graham, 1993). A breakdown of women smokers in Canada indicates that women in lower income groups are more likely to smoke and that 71.7% of lone parent women were smokers (Health Canada, 1999). The lowest social strata captures nine out of 10 lone parent families most of which are women who hold jobs that are offered lower wages (Marsh & McKay, 1994).

d. The meaning of smoking or reasons for smoking among low-income women

There is some evidence that women, much like individuals suffering from mental illness, smoke as a form of self medication to relieve social stress and to cope with difficult feelings associated with material deprivation and its disadvantaged circumstances (Brown 2004; Graham, 1993). Some of the difficult circumstances experienced include marital breakdowns, financial hardship, assuming multiple caring roles while experiencing poor physical and emotional health (Graham, 1993). Prevalence rates are higher among women in traditional caring roles: women in caring roles such as nursing and those with dependent children are more likely to smoke. Young women (16-24) and with dependent children are more likely to smoke (40%) probably because young mothers are more at risk to be living in poorer circumstances (Graham, 1993). Cigarettes enhance and help control these women's mood: helping them relax, calm their nerves and combat boredom. For mothers, cigarettes

are able to delimit a time out or break from their caring responsibilities. It is a structured time where they are able to rest and recharge their batteries. It is also used to control their mood, coping with stress and anger of dealing with children and taking the necessary time out when energy and patience is short. It is a symbolic and concrete way of structuring time and to create a space between them and their children and to replace it with the self-directed activity of smoking (Graham, 1993).

The meaning associated with smoking can be expressed “as the only thing they have got left”, “the only time they have for themselves”: “it provides them with a way of keeping going when they have little going for them” (Graham, 1993). Women verbalize that it is their only pleasure they have left, the only stable thing in their lives, and their best friend (Graham, 1993; Marsh & McKay, 1994). They also perceive smoking as the only luxury they have left (Dorsett & Marsh, 1998). Exploratory research with low-income women in Canada, as well as with in a population of low-income Franco-Ontarian women showed similar finding in regards to the reasons why women smoke and the meaning it represents in their lives (Greaves, 1996; Laplante, Angus, Andrew, Kristjansson & Wells, 2009b).

e. Inequities, overlapping forms of discrimination or marginalization

Research shows that there is an increase in the utilization and uptake of smoking among young women and a strong association between smoking and socio-economic status. In addition, women who were Aboriginal, Francophone or of low income are at additional risk and have higher smoking rates (Greaves & Barr, 1999). Examining social position and poverty more closely, one finds overlapping forms of discrimination or marginalization

which compounds the effects of poverty. For example being poor, female and a member of an ethnic group suffering discrimination conferred a magnified health risk as a result of heightened vulnerability (Evans, Whitehead, Diderichsen, Bhuiya & Wirth, 2001). Being a Francophone minority group living in Ontario may confer an additional risk to living in disadvantaged circumstances because of the absence of services offered in the language of their choice (Laplane, Angus, Andre, Kristjansson & Wells, 2009b). An increasing socio-economic gradient and the feminization of poverty, conferred an increased vulnerability of women to poor health (Townson, 2000). Analyses of factors associated with low socio-economic status such as low income, child care responsibilities and the nature of women's work were essential in understanding the gendered effects of policy and were also instrumental in understanding smoking initiation, uptake, maintenance, and smoking cessation within this population (Greaves & Barr, 1999).

f. Theories and conceptual models/ theoretical frameworks

A theory "is a set of interrelated concepts, definitions, and propositions that presents a systematic view of events or situations by specifying relations among variables in order to explain and predict the events or situations" (Kerlinger, 1986). Theory informs research and practice: they are interlinked. When theory is applied to programme development, the result is a more coherent, effective, and usually favors a more positive evaluation of the intervention. Theory and research helps us understand the *why*: helping us design a well crafted and tailored intervention. Theories help us understand the *why*, *what*, and *how*. *Why* do people engage in unhealthy life styles; *what* do we need to know to plan an intervention, *what* needs to be monitored, measured or compared in programme evaluation; and *how* to

develop programme strategies to reach the target population and organizations to impact on them. Theories and models explain behavior and how it can be changed.

Frameworks/models draw upon several theories to explain a specific problem in a specific context or setting (Glanz, Rimer & Lewis, 2002b). Both theories and models/frameworks are merely broadly conceived perspectives used to organize ideas. *Explanatory theories* are theories about the problem and describe why the problem exists. *Change theory or theories of action* guide the development of interventions forming the basis for programme evaluation and making explicit assumptions about how a programme should work (Rimer & Glanz, 2005).

Previous research had demonstrated the underuse of theory to guide the design of interventions and scope of practice (Ammerman, 2001). Fewer than 50% of studies reported the use of a theory of framework in the design of the intervention. Because many funding application guidelines requiring the application of theory, studies published after 1995 often mention theory either in the introduction or methods more so than studies prior to this period. Furthermore one must evaluate the extent to which research makes use of theory that is either theory-driven versus theory-informed, the latter making mention their awareness of theory while the former involves constructs being measured in the research/intervention.

g. Explanatory frameworks: the interface between gender, social position, and smoking

Operating within a *population health paradigm* may help us explain the pathway between proximal risk factors for ill health such as an individual's adoption of an unhealthy lifestyle such as smoking and more distal determinant such as the social, economical and physical

contexts which limits an individual's choices and coping skills (Bobak, McCarthy, Perlman & Marmot, 2004; Choinière, Lafontaine, Edwards, 2000). An equity lens can also help us understand the bio-psycho-social pathways and mechanisms of interaction between human biology and social organization (Kunst, Gisskes & Mackenback, 2004). A life course perspective, and co-evolution hypothesis of health differentiation and social differentiation are the underpinnings of this process (Vagero, 1998). A conceptual framework developed by Diderichsen & Hallqvist (1998) outlines the interface between social position, social context and health. This framework demonstrates the mechanisms linking social inequality in health and health behaviours such as smoking. The pathways between social position and health are mediated by differential exposure and differential susceptibility. The framework demonstrates how social position influences the individual's level of exposure to smoking and increased susceptibility to smoking, hence creating a synergy that may cause an increased risk of disease. Increased susceptibility to smoking among individuals from low socio-economic positions can take shape in the form of genetic or immunological susceptibility, psycho-social context such as lack of control or coherence, or a lack of buffering to the effect of the exposure (Diderichsen & Hallqvist, 1998). An explanatory model of socioeconomic differences in health developed by Wamala & Orth-Gomer (1998) shows the interactions among and between environmental factors, personality factors and lifestyle patterns including smoking. Environmental factors include: micro or macro economic conditions, health care utilization, social networks or support, and working conditions. Personality factors include: self-esteem, coping mechanisms, sense of coherence or control, hopelessness, hostility/anger, and depression (Wamala & Orth-Gomer, 1998). The latter are possible levers of intervention that can be deployed to reduce susceptibility to

exposure (smoking and disease) and increase coping mechanism to buffer the effects of exposure. They would appear to be important determinants to be considered when designing and implementing a smoking cessation program.

h. Explanatory theories and models of addictions and dependence

Smoking cigarettes is first and foremost an addiction to nicotine. General theories of dependence and models of treating other forms of addiction can help us understand the etiology, the genesis of addictions and subsequently learn about potentially successful treatment modalities for smoking cessation. The 12-step programme of Alcoholics Anonymous and a theory of codependence are two such models that are presented as follows:

Alcohol Anonymous: The 12-step programme (Kurtz, 1979). Alcoholics Anonymous dates back as far as 1935 in its early beginnings. It has a long and proven record for treating alcohol addiction. The *twelve-step program* is a set of guiding principles outlining a course of action for recovery from addiction, compulsion, or other behavioral problems. Originally proposed by Alcoholics Anonymous (AA) as a method of recovery from alcoholism, the method was then adapted and became the foundation of other twelve-step programs to address a wide range of substance abuse and dependency problems (VandenBos, 2007). The process involves the following principles: (1) admitting that one cannot control one's addiction or compulsion; (2) recognizing a greater power that can give strength; (3) examining past errors with the help of a sponsor (experienced member); (4) making amends

for these errors; (5) learning to live a new life with a new code of behavior; (6) helping others that suffer from the same addictions or compulsions (VandenBos, 2007).

The original Twelve Steps are directly quoted (Alcoholics Anonymous, June 2001):

1. We admitted we were *powerless* over alcohol—that our lives had become unmanageable.
2. Came to believe that a Power greater than ourselves could restore us to sanity.
3. Made a decision to turn our will and our lives over to the care of *God as we understood Him*.
4. Made a searching and fearless *moral inventory* of ourselves.
5. Admitted to God, to ourselves, and to another human being the exact nature of our wrongs.
6. Were entirely ready to have God remove all these defects of *character*.
7. Humbly asked Him to remove our shortcomings.
8. Made a list of all persons we had harmed, and became willing to make *amends* to them all.
9. Made direct amends to such people wherever possible, except when to do so would injure them or others.
10. Continued to take personal inventory and when we were wrong promptly admitted it.
11. Sought through *prayer* and *meditation* to improve our conscious contact with God *as we understood Him*, praying only for knowledge of His Will for us and the power to carry that out.
12. Having had a *spiritual awakening* as the result of these steps, we tried to carry this message to alcoholics, and to practice these principles in all our affairs.

Underlying principles. The twelve-step programs respond to human needs in three dimensions: physical, mental, and spiritual. The addictions, disorders and diseases are understood to manifest themselves in each dimension (Alcoholics Anonymous, June 2001):

(1) Physical: For the addicted the physical dimension is described as a bodily reaction resulting in the compulsion to continue using substances after the initial use. The "powerlessness" over the substance or behavior outlined in the first step refers to the lack of control over this compulsion despite any resulting negative consequences.

(2) Mental: The mental obsession is the cognitive processes causing the individual to repeat the compulsive behavior after some period of abstinence, despite knowing that the result will be an inability to stop or operating under the delusion that the result will be different. The "unmanageable life" of the addict outlined in the First Step refers to the lack of choice of the addict's mind to use again.

(3) Spiritual: The underlying cause of the addiction is self-centeredness. Working through the twelve steps is intended to replace self-centeredness with moral consciousness, self-sacrifice and unselfish action. A spiritual awakening or religious experience develops slowly over time.

Process. Members regularly attend a support group. Self-admission by members of the problem they are recovering from is emphasized to overcome denial and distraction. Some meetings are known as dual-identity groups, which targets certain sub-groups such as women, men, gay, lesbian, transgendered groups, beginner's groups as well as "old-timer"

groups. This limit who can share, or speak during the meeting, by the length of time the members have been in that fellowship, and commonly shared experiences.

Sponsorship. A sponsor is a more experienced person in recovery who guides the less-experienced aspirant through the program emphasizing a "one on one" relationship of shared experiences. Sponsors and aspirant participate in activities such as literature discussion and study, meditation, and writing that lead to spiritual growth. Completing the Twelve Steps implies being competent to sponsor to newcomers in recovery.

Theory of co-dependence (Whitfield, 1987). There are many forms of dependence, some of which relate to illicit drugs, pharmacotherapies, compulsive gambling and shopping, food, sex, cigarette smoking and alcohol. Alcoholism and its recovery have the longest history with the founding of Alcoholic Anonymous which began in 1935. Most of those suffering from alcoholism were either adult children of alcoholics, or were mistreated or abused as children. More attention was given to the 12-step recovery program (Kurtz, 1979), than to the children of alcoholics. Likewise, many seeking psychotherapy are children of alcoholics. Hence there is convergence between the two disciplines of alcoholic treatment and psychotherapy that merits a closer examination of its etiology namely the co-dependent self. The co-dependent self is in juxtaposition to the true self. The true self is often referred to the real self, the inner core, the deepest self, the higher self, the divine child, the inner child or the child within. It is the part of us that is ultimately alive, energetic, creative and fulfilled. In dysfunctional families, parents and authoritative figures stifle the child within and when this vital part of us is not fulfilled or is not nurtured and allowed freedom of expression, a

false co-dependent self emerges. The co-dependent self or false self is an unauthentic or public self that is inhibited, contracting and fearful focused mainly on what others want them to be. The false self may be inappropriately passive or aggressive. The co-dependent self tends to be a critical parent, to withdraw, to strive for control, and tends to repeatedly act out unconscious and often painful patterns of behavior. Its sense of self does not feel real complete, whole or sane.

Development of co-dependence starts by the repression of what we see, what we feel and how we react. As we deny those feelings we become tolerant to emotional pain or can even experience emotional numbness. The latter blocks our mental, emotional and spiritual growth. The desire to be in contact and to know our true self still remains and quick fixes such as compulsive behaviors allows a release of tension and a glimpse of the true self and the possibility to momentarily experience its joy, aliveness and creativity. Compulsions range from use of alcohol, tobacco, drugs, short-term intense relationships, to compulsive control of people. It may evolve to excesses such as overeating, oversexing, overworking, and overspending. There is a temporary relief of tension, of suffering and numbness but progressively shame, guilt and further loss of self-esteem, is compounded by feelings of loss of control which further increases the desire to control the compulsive behavior in a cycle of co-dependence.

Spirituality is also an underlying principle of this model. It is part of the recovery process of healing the child within: that is discovering and nurturing our true sense of self. Spirituality involves knowing a higher sense of self, meeting a progressive level of needs and attaining

the highest level of consciousness ranging from survival, passion, power, acceptance, understanding, compassion and unity. Healing implies surviving, awakening, dealing with core issues, transforming, integrating and use of spirituality.

i. Explanatory theory of cultural competence

Providing culturally sensitive and culturally competent approach may have profound impact on the success of a programmes and sustainability within the community. Culturally competent care demonstrates the understanding of the values of racially and culturally diverse populations and acculturation patterns. Culture is an important determinant of health and may have a powerful impact on the way an individual interprets, consumes and responds to health care. Cultural competence involves principles of: self awareness without imposing on others; demonstrating knowledge and understanding of other cultures; respecting cultural differences; not assuming that beliefs and values are shared in the caring relationship; refraining from judgmental attitudes; creating openness to cultural encounters; and adapting care to the client's culture. The Purnell Model for Cultural Competence is an ecological model that outlines 12 domains of culture: localities and topography, communication, family roles and organizations, workforce issues, biocultural ecology, high-risk behaviors, nutrition, pregnancy and childbearing practices, death rituals, spirituality, healthcare practices and healthcare practitioners (Purnell & Paulanka, 2003).

j. Change theory or theories of action for smoking cessation

Marshaling the appropriate theories best suited for interventions are based on the health problem, health and research goals, and consequently the unit of analysis and practice. Over

51 distinct theories exist, at the individual, group or community level. The theories that have gained the most recognition and have shaped the discipline of smoking cessation are: The Transtheoretical Model (TTM) or Stages of Change Model (Prochaska & DiClemente, 1983; Prochaska & DiClemente, 1982); Social Cognitive Theory (Bandura, 1997); Health Belief Model (Janz, Champion & Strecher, 2002); and the Theory of Reasoned Action (Montano & Kasprzyk, 2002) which are summarized in **Table 1**.

(ii) A logic Model explaining the pathways for a Culturally Sensitive Smoking Cessation Programme for low-income Franco-Ontarian Women:

In the following section, we will explore the relationships between these findings in the above section (i), represent the pathways for a culturally sensitive smoking cessation programme for low-income Franco-Ontarian women in a logic model, and develop a hypothesis/theory of how the proposed intervention works and why.

a. Exploring the relationships in the data

The previous section outlined the scientific evidence on the effectiveness of smoking cessation programmes for low-income women. Program components of these studies focus mostly on pharmaceutical therapies with some provision of social support, albeit these studies show a disconnect in terms of addressing the social determinants of smoking. A full range of determinants of health (income and social status; social support networks; education; employment and working conditions; social environments; physical environments; personal health practices and coping skills; healthy child development; biology and genetic endowment; health services; gender; culture) should be considered for

understanding the mechanisms of action, linkages and in determining the best levers of intervention (Health Canada, 2001; Meadows, 1999; Syndemics Prevention Network). Few linkages have also been made between explanatory theory of how poverty affects smoking behaviors and change theory to inform the design of the interventions.

Macro-level policies such as income redistribution, employment, welfare and gender policies could have a profound impact on redressing inequities and improving the lives of low-income women, but they are not addressed in any of the interventions reviewed. However psychosocial stress is an important mediating factor that was not considered in the interventions. Exploratory research with low-income Franco-Ontarian women showed similar results with previous research showing that these women smoke as a result of high levels of psychosocial stress (Greaves, 1996; Laplante, August, Andrew, Kristjansson & Wells, 1999b). They live in challenging and disadvantaged circumstances which are the combination of latent effects, pathway effects and cumulative disadvantage (Hertzman, 1995). A life of disadvantaged circumstances can severely affect an individual's capacity for adaptation and also their sense of control and coherence in their lives. Women who had never smoked were more likely to feel that they had choices and control in their lives. Smokers on the contrary may be limited in their choices because of financial reasons. There are no differences in health beliefs between smokers and non-smokers. The challenge is that these women know the health damaging effects of smoking, they are willing quit or have tried to quit in the past but were not able to do so. Gender roles and socio-economic circumstances are also important barriers to behavior change. Being in a working class or unemployed household with children is associated with women's smoking. Caring for more

and living on less is part of the cluster of experiences that sustain smoking in women. The multiple disadvantages that these women experience suggests that their capacity to adapt has already been taxed to the limit. In this light they have few resources left and the capacity for health behaviour changes may be limited (Graham, 1993). Personal characteristics play an important role and low-income people smoke in response to anxiety, depression, and lack of optimism or self-esteem. This negative effect is more commonly found in the lowest income families with small children. These feelings arise as a result of living in difficult circumstances and smoking is a form of self-medication for their anxiety (Marsh & McKay, 1994). Hence coping skills and stress management should be an important lever for intervention.

Previous intervention research also failed to implicitly or explicitly refer to a model or theory of addiction. Such models or interventions have proven successes and transfer of knowledge from other domains should be strongly considered. Disrupted stress response referred to as stress responsivity and altered physiological responses are the underpinnings of addiction. The literature has shown that sources of stress such as negative early child experiences, work stress, marital stress, and caregiver burden alter endocrine responses (Steptoe & Marmott, 2002). Intrusive thoughts and rumination about past events also have the same physiological responses (Baum, 1993). Hence interventions that focus on reducing intrusive and negative thoughts such as meditation should have beneficial effects on reducing activation (Baer, 2006)

Low-income women who smoke are more likely to be caring for multiple kids or living in a household with children and partners in poor health. Changing address frequently, having no access to a car or telephone, and living in precarious and dangerous neighborhoods limits the development of social networks (Graham, 1993). Hence social support is an important component of an intervention for smoking cessation.

b. Logic model: pathways and levers of intervention

In the logical model explaining the pathways for a culturally sensitive smoking cessation program for low income Franco-Ontarian women the focus is on the levers of intervention. The outcome and process evaluation will be explicitly outlined in further research. The first and main lever of intervention are the personal factors which include: defining the boundaries of the self, self-esteem, coping mechanisms/strategies, sense of coherence or control, hopelessness, hostility/anger, and mental illness (**Figure 2**).

(iii) How the intervention works:

The latter are possible levers of intervention that can be deployed to reduce susceptibility to exposure (smoking and disease) and increase coping mechanism to buffer the effects of exposure (Whitfield, 1987). The objective is to reduce stress responsivity and consequently compulsive and addictive behaviours such as smoking. Theory and research evidence indicates that they would be important determinants to be considered when designing and implementing a smoking cessation program. Other components of the programme include skill building, empowerment, social support, which are couched in a gender-centered,

holistic, culturally competent, and community approach. Components are outlined as follows:

Holistic approach: Intervention refers to the biological, psychological, social and spiritual domains.

Gender-centered: The traditional tobacco control approach focuses on macro level measures to reduce smoking rates across the entire population. Smoking should be re-contextualized to in a gender-based analysis of psychosocial stress and reasons for smoking: women don't smoke for the same reasons as men, and do not experience the same challenges in life (Kirkland, Greaves & Devichand, 2004)

Culturally competent: Understanding Franco-Ontarian culture and language as being distinct. Franco-Ontarian culture is an evolving culture in assimilation. Its language is distinctly different from other forms of French in Canada. The English language permeates communication and makes it distinct and sometimes difficult to understand. This has an impact on Franco-Ontarian women as consumers of information for smoking cessation programs and in their communication with the facilitator of the programme (Document de travail sur la situation de la communauté francophone adulte d'Ottawa-Carleton; Services de la santé d'Ottawa-Carleton, 1995; Social Planning Council of Ottawa-Carleton, 2000, Statistical Profile: Francophones in Ontario, 2005; Statistical Profile: Francophone Women in Ontario, 2005)

Community involvement: Involving the community at the onset of the research project helps us further understand their health concerns and priorities. They provided helpful insights of how to gain trust within the community, and how to overcome certain barriers to

participation that women face. Community assets and contributions will allow the programme to take place and to sustain itself in the long-term (Dressendorfer, 2005; Macaulay, 1999)

Coping/stress management: Stress is the main reason why women smoke. Learning new skill of stress management mainly relaxation techniques and meditation will be included. Promoting body awareness and awareness of hypervigilance, grounding/centering the self, increase awareness of intrusive thoughts and its activation at the physical level will allow them to enter a healing vortex and to heal the child within (Whitfield, 1987; Levine1997).

Social support: Low-income women live in isolation, have few friends, and are the main caregivers to their children. They are often single parents or living in a dysfunctional relationship with a partner. The group intervention program will increase social support and also increase social networks to access different social and health services. Social support has a beneficial effect on the some of the biological markers of stress responsivity.

Empowering: Women will be involved in the decision processes from establish group rules for participation, the focus of discussion, and group dynamics. They must claim control and ownership of the group and in order to sustain the programme. A member of the support group will be trained to eventually take over the leadership of the group.

Skill building: Women have voiced their desire to learn certain skills: health practices, self-care, relaxation techniques, communication in relationships, financial planning.

Self and self-care: These include: defining the self; inventory of assets and skills to be acquired; spiritual awareness of our purpose in life and lifecourse; sense of coherence and control over one's life; establishing balance between giving care and receiving care; learning self-care practices (Whitfield, 1987).

Self esteem and self-efficacy: Self-esteem and self-efficacy will be enhanced through all the above exercises.

(iv) Robustness of the synthesis

The review of evidence of smoking cessation interventions for low-income women was done with methodological rigour. The results point to weaknesses in the design, measures and interpretation of the results. Some of the limitations are the lack of coherence between theory and levers of intervention in the published interventions. The results must also be interpreted with caution because of self-reported smoking cessation which has a high level of deception. The cultural heritage of participants in the scientific literature was mostly from American and European backgrounds which was different from the sub-population of interest. Therefore the exploratory study with Franco-Ontarian women complements these findings. The juxtaposition of these findings with explanatory theory and theory of change makes a stronger case for a potentially culturally appropriate and sustainable intervention.

Discussion

A synthesis of the literature of interventions for low-income women was performed in previous research (Laplanche et al., 2009a) and was succinctly summarized. Scientific research, explanatory theories pertaining to the pathways between poverty, psychosocial stress and smoking were also summarized. Theories of addiction and co-dependence were outlined explaining the interface between psychosocial stress, maladaptive stress responses and compulsive behaviours. Theories of change that were pertinent to smoking cessation

were included so that the researcher can establish the readiness for participants to engage in the process of change, and their health beliefs. The linkages between the scientific literature, theories, frameworks and exploratory research with the sub-population of interest (Laplanche et al., 2009b) allowed us to identify the most appropriate levers of intervention. Macro-level interventions are not the goal of the present research. Our objectives were to intervene at the community and individual level and to buffer the effects of poverty and psychosocial stress on smoking. The choice of intervention was a common ground between research evidence, perceived needs of Franco-Ontarian women (Laplanche et al., 2009b) and community assets that were stated in the initial social assessment. The most important levels of intervention that were identified were personal factors such as coping skills and stress management, as well as social support. Currently, there is a paucity of intervention research looking at coping skills and stress management in smoking cessation. Future research is needed to clearly establish the outcome and process evaluation and toolkits for the evaluation and delivery of such a programme.

The synthesis has implications for future research in that much of the scientific literature fails to address the underlying causes of smoking. Future studies must be theory-driven and outcome measures should be appropriate to the constructs of the theory. There is also a need for measuring outcomes beyond the 6-month mark. There are no studies looking at the long-term effectiveness of smoking cessation programmes for low-income women. Finally, prevalence statistics indicate that the majority of smokers are living in disadvantaged circumstances albeit the majority of research in smoking cessation is done within the general

population and for the most part fails look at sub-group analyses to determine the effectiveness of interventions in this sub-population.

The present research also has important implications for policy. At present there are no programmes being offered to Franco-Ontarian women in the French language and implementing such a programme would redress this inequity in the delivery of cessation services. Exploring the pathways and establishing the most effective levers of intervention, and soliciting the input of the community and participants have important implications for the delivery and sustainability of an intervention in the community context.

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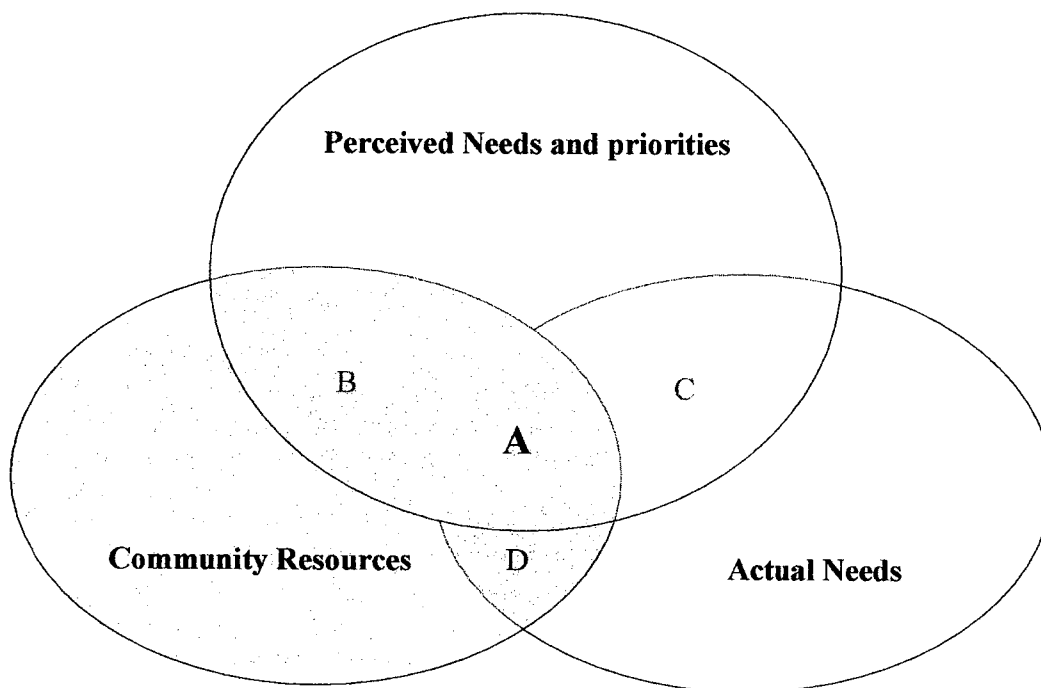
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Figure 1- Common ground in decision making: intersection of actual needs, perceived needs, and availability of community resources.



Notes:

In order to develop a programme that is potentially effective and sustainable, the actual needs of three key actors as indicated by the scientific data, the perceived needs of the sub-population as well as the availability of community resources need to be considered. Finding the common ground between all three key players will potentially increase the programme's effectiveness and sustainability (Green & Kreuter, 1999). Common ground is represented by "A", the intersection of all needs.

Figure 2- Logic model: levers of intervention for smoking cessation in low-income Franco-Ontarian women.

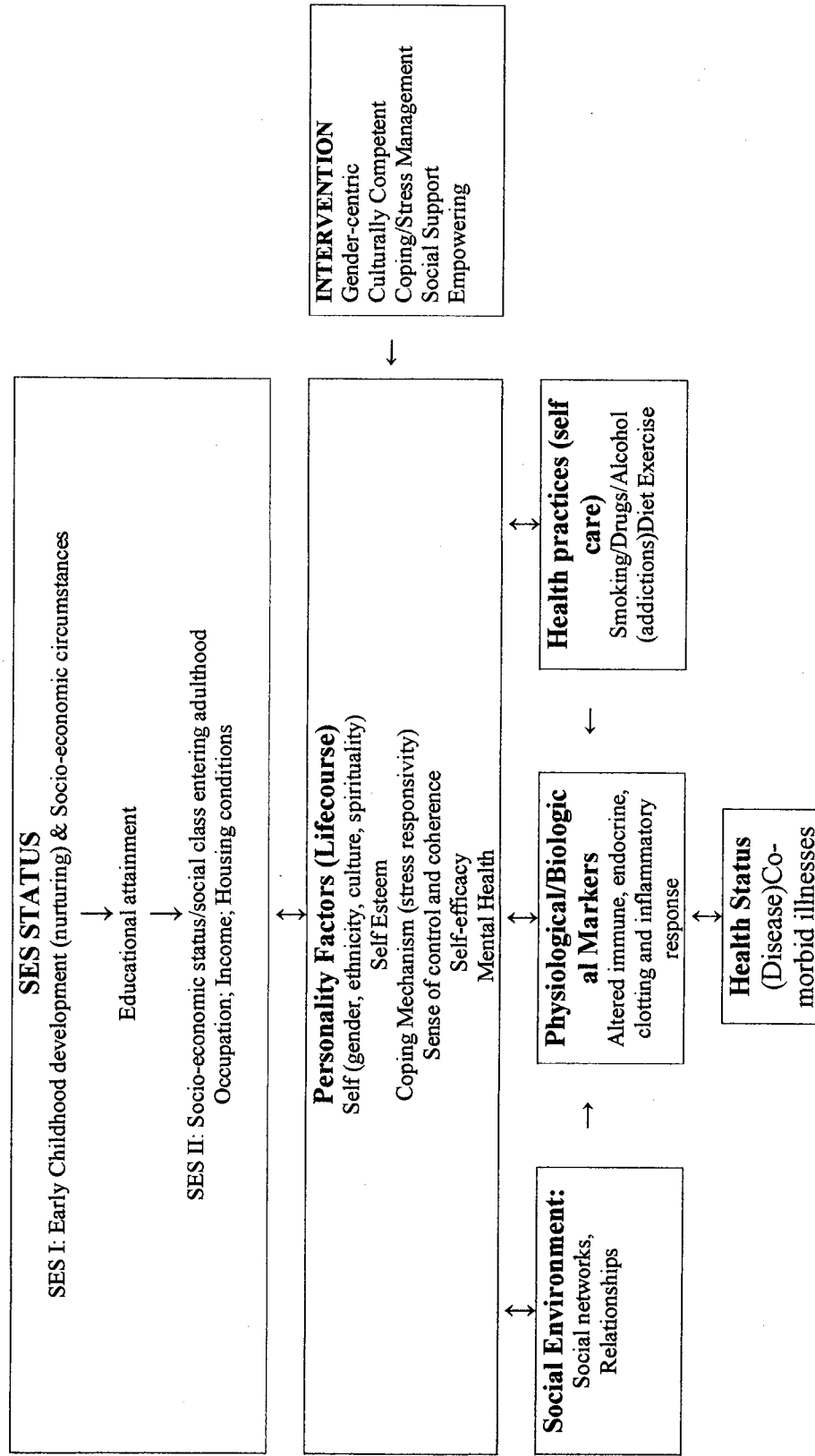


Table 1. Theories and Models to Guide Tobacco Cessation Programme

Theory	Summary	Key Concepts
Individual Level		
Health Belief model	Perceived threat of disease and its severity as a result of smoking, benefits of cessation must outweigh the perceived barriers to action	Perceptions of susceptibility, severity, benefits to action, barriers to action, cues to action and self-efficacy
Stages of Change Prochaska, J.O., & DiClemente, C.C. (1982).	Five stages of readiness to adopting healthy behaviors (smoking prevention) or eliminating unhealthy ones (smoking cessation) whereby different intervention strategies address different needs to progress from a lower to a higher level stage and to prevent relapses.	Pre-contemplation, contemplation, preparation, action, and maintenance stages.
Information-processing Theory/Consumer Information Processing Model	Impact of communication messages such as those of a social marketing campaign for smoking prevention and cessation includes information processing concepts such as attention (on the message), comprehension and acceptability (of content). Consumer acquires new information and uses it for decision-making.	Skill acquisition Memory storage capacity, Search, comparison and retrieval Decision rules and heuristics Behavior Reinforcement Consolidation
Interpersonal Level		
Social Learning/Social Cognitive Theory Velicer, W.F., DiClemente, C.C., Rossi, J.S., & Prochaska, J.O. (1990).	Health behavior change as a result of reciprocal relationships between personal factors, environment, and attributes of the behavior itself. Self-efficacy is the key determinant of behavioral change	Self-efficacy, reciprocal determinism, behavioral capability, expectations of outcomes, observational learning (modeling)
Theory of Reasoned Action	Behaviors within personal control can be predicted from intentions which include attitudes towards the behavior and beliefs about other peoples (peers and family) support of the behavior (smoking).	Attitudes towards behavior – outcome expectations and its value. Subjective norms – beliefs of others and desire to comply.

Social Support	Incorporated into intervention to promote healthy lifestyles by providing feedback and reinforcing new behavior (smoking cessation)	Instrumental, informational, emotional and appraisal support.
Community Level		
Community Organization Model	Public health -help community identify health and social problem, plan and implement strategies. Involves active community participation and development.	Social planning, locality development, social action. Empowerment, community competence, participation and relevance, issue selection and critical consciousness.
Ecological Approaches	Effective intervention exercise influence at multiple levels.	Intrapersonal, interpersonal, institutional, community, public policy.
Organizational Change Theory	Processes and strategies increase the adoption of healthy policy and programs and their maintenance in formal organizations (schools)	Awareness - problem definition Adoption – initiation to action Implementation Institutionalization
Diffusion of Innovations theory	Predictable factors affect rate of adoption of new ideas, products (mass media products developed by youth) and social practices (non-smoking norms) by people, organizations or societies. Addresses how it is spread within a society and from a society to another.	Relative advantage, compatibility, complexity, fiability, observability.

CHAPTER SIX

DISCUSSION AND RECOMMENDATIONS

The political context in which French Language services must be provided is complex. The *French Language Services Act* (FLSA) came into effect in Ontario in 1989, and guarantees an individual's right to receive services in French from Government of Ontario ministries and agencies in 25 designated areas. Ottawa is one of these 25 designated areas, but under the definition of government agency in the FLSA it does not include municipalities, or local boards as defined in the *Municipal Affairs Act*, and therefore does not apply to boards of health (MHLTC, 2008).

However, under section 14 of the French Language Services Act, a council of a municipality that is in an area designated in the FLSA may pass a by-law providing that the administration of the municipality shall be conducted in both English and French and that all or specified municipal services to the public shall be made available in both languages. On May 9, 2001, City Council of the City of Ottawa adopted a policy on bilingualism, hereinafter referred to as the "bilingualism policy" (City of Ottawa, 2001; MHLTC, 2008)

Furthermore, under the Ontario Public Health Standards (OPHS) of the Ontario Ministry of Health and Long Term Care Health, public health units must provide services to priority populations to adopt tobacco-free living (*Ontario Public Health Association*, 2006; *Ontario Public Health Standards*, 2008). In the planning and delivery of their public health services,

boards of health should understand how the French-Language Service Act relates to OPHS, and operate by the guiding principles of need, impact, capacity, partnership, and collaboration which are part of the foundational standards for the delivery of all public health programs and services. In implementing the Ontario Public Health Standards (OPHS), boards of health are expected to tailor programs and services to meet local needs and work towards the achievement of population health outcomes and goals as specified in the OPHS. Determination of local needs is informed by the assessment of the determinants of health, the demographic and health status profiles of the population, the incidence of disease and patterns of injury, and language (MHLTC, 2008).

There is substantial debate on the extent and effects of language barriers in health and social services and the role of health care providers, institutions and government have in providing access to services to its clients in the language of their choice. Minority populations that speak other languages are less likely to receive health preventive services and health care. Culturally appropriate programmes given in the language of choice are essential to remedy the unequal treatment and disparities confronting minority populations (Jacobs, 2003; Woloshin, 1997).

Purpose of the dissertation

This project was initiated by the doctoral student (DL). After conducting a social assessment and inventory of smoking cessation services in the Ottawa region, it was apparent that

Francophone smoking cessation services were not available to low-income women in the Francophone community of Vanier (located in the Ottawa region).

Several smoking cessation programs are offered by the public health unit in Ottawa, but the only existing francophone programme is offered in Orléans which is located in an affluent area of the Ottawa region. In the absence of culturally appropriate smoking cessation programmes for a low-income Francophone population in greater need, the horizontal and vertical inequities in the delivery of services led to the development of this project in collaboration with the Vanier Community Resource Center. After discussion with another Chief Medical Officer of two other communities, namely Hawkesbury and Cornwall, it was apparent that French services were also lacking in other Francophone communities located in the Champlain region.

The purpose of this dissertation was to develop a logic model to guide the development of a culturally sensitive smoking cessation program for low-income Franco-Ontarian women in absence of any such program in the three francophone communities of the Champlain region of Eastern Ontario. This final chapter will bring together the results of systematic review of smoking intervention for low-income women (Chapter 3), the qualitative research exploring the meaning of smoking to Franco-Ontarian women and their programme needs (Chapter 4), and the narrative synthesis and proposed logic model explaining the pathways for such a programme (Chapter 5).

Summary of findings and discussion

Smoking cessation interventions aimed at low-income women. After determining that there were no programmes in the communities for this population of interest, an internet search and a scientific literature search were conducted; and no literature was found specifically addressing the needs of low-income Franco-Ontarian women. There are several systematic reviews of smoking cessation interventions but there are no reviews in the sub-population of low-income women. The systematic review of the effects of smoking cessation interventions for low-income women was conducted which answered a need that had never been addressed in the literature, and also served to inform the design of a tailored intervention for the population of interest.

There was a paucity literature on smoking cessation interventions for low-income women. Intervention studies included in the review were mostly interventions at the individual level and were mostly conducted in controlled clinical settings. Only two of seven studies had an effect on cessation, one showed abstinence at 6-months, while another showed abstinence at 12-months. In general, methodological quality was weak: there were threats to internal and external validity. Data was left unreported for drop-out rates and intention to treat analysis, in addition there were high levels of deception in biochemical validation, and small sample size. Studies were not theory-driven: low-income women smoke because of psychosocial stress, and interventions such as nicotine replacement therapy (NRT), and brief interventions may not address the root of the problem. Similarly, an intervention providing intense social support does not reflect the reality in which these women live, and once the intensity of the

dose is removed it is highly unlikely that women will remain smoke-free. All studies took place in the United States which limits the applicability of some findings; with different population demographic, ethnic minorities, socio-economic conditions and delivery of healthcare.

Some of the excluded studies were group therapies that were mostly done in the community setting and retrieved from the grey literature. Consequently the data were poorly reported: intervention dose and outcomes were not clearly stated nor measured, and programme evaluation was not done. These studies were more explicit in identifying and targeting the psychosocial factors underlying smoking, were able to empower women towards making changes to their smoking behaviors, and were able to sustain programming after funding had ended. Lessons learned from the community interventions were that there are inherent difficulties when undertaking research with low-income women: participants are difficult to recruit and retain, and compliance is poor because of family issues, childcare, housing and financial problems. Finally community projects are also challenging because they lack long-term funding which can affect their sustainability. Barrier to women's participation also include the costs of daycare, parking, and transportation. Community interventions are potentially more effective but more challenging to deliver.

The high prevalence of smoking in low-income women persists because of higher levels of addiction, persistent social norms that favour smoking, and a general lack of interest in cessation because of more immediate social and economic problems. There are also fewer effective resources such as group programs available in low-income communities or the

programs that do exist may not be accessible. In addition to common barriers to access such as inconvenient scheduling and locations, group programs may be inaccessible to low-income women in community because of costs, low literacy, language and cultural barriers.

None of the studies in the review made reference to a conceptual framework linking poverty, stress and smoking to guide their research design. Consequently the interventions were either not effective, or effective in the short-term. Underlying causes of smoking in low-income women, and the proper levers of intervention were not targeted. Low-income women have poor self-esteem, few personal resources and coping skills to face the daily stresses of life and their addiction. Some community interventions did show some promise as they address issues of poverty and stress low-income women: the social context in which these women live remained unchanged, but they were able to develop the skills to cope with these difficult circumstances and reduce their stress.

Exploratory research with low-income Franco-Ontarian smokers. Such a study had never been conducted with this sub-population and therefore responded to a need in the literature. Women's voices were heard and their testimonies confirm what is found in other populations of low-income women. Cumulative disadvantage since childhood predisposed them to chronic stress. The lives of these women and especially their early childhood experiences were permeated with abuse, violence, alcohol, drugs and also dysfunctional relationships. The intensity of their experiences and distress leaves no doubt their need to develop better coping skills to reduce their levels of stress. Because of the isolation and boredom that they experience, a cigarette also had a positive meaning in their lives. Low-

income Franco-Ontarian women expressed their preferences for a smoking cessation group for women only, that they wanted to learn new skills in the context of this programme as well as receiving social support, and that the programme must be delivered in the French language. Delivery of the programme in French was deemed necessary in order to express their feelings, their needs as well as seek the social support they need to quit. These women also shared their experiences of having no difficulties quitting when they were pregnant-for the health of their baby but were unable to care and quit for themselves despite knowing its harmful effects. Several women provided ideas for the content of the programme, including skills and leisure activities.

A logic model of the pathways for intervention. The last study is an integration of the first two in addition to literature on addictions and co-dependence. The addition of this literature helps us understand why interventions in the scientific literature have little or no effect on smoking cessation. The logic model explained the pathways between poverty, personal factors such as disruptive coping strategies, stress reactivity and addiction. The main levels of intervention are to enhance coping mechanisms to buffers the effects of psychosocial stress, and to provide social support through a group intervention. As a result of integrating different kind of literature, from different stakeholders, and across different domains into a narrative synthesis, the following ten building blocks support the intervention: a holistic approach, gender-centered, culturally competent, community involvement, coping and stress management, social support, empowerment, skill building, self and self-care, and self-esteem. The building blocks of the intervention were also based on women's preferences and available resources in the community. The community has already committed to

providing resources for the infrastructure of the programme and to reduce barriers to participation by providing transportation, parking and childcare. The next steps are to clearly outline outcome and process measures: as well as develop and test the resources and toolkits for participants.

Recommendations for research and policy

As a result of this study several research and policy recommendations are outlined as follows.

- More high-quality smoking cessation interventions studies are needed; linking theory, research and practice. The design of interventions should be theory-driven and address psychosocial stress.
- There should be a common definition of smoking and smoking cessation. Different studies make use of different operational definitions making it impossible to cluster results.
- There should be a gold standard for outcomes of smoking cessation that is clearly defined and clearly measured. This would allow data from different studies to be compared
- Validated measures of abstinence should be used to minimize deception of self-reports, and windows of detection should be respected.
- There is a need for studies measuring the long-term effectiveness of programmes at 12-months.

- Reporting of objectives, methods (selection of subjects, dropouts, analyses) and results should be improved.
- The approach must be culturally sensitive and materials user-friendly while taking into account the role of that tobacco plays in the people's lives.
- The approach should not be “blaming” but supportive.
- Community-based initiatives must address the costs involved in participants' participation and remove such barriers associated with childcare and transportation costs.
- Low-income women are difficult to recruit and researchers must build trust and have a strong presence in the community
- Program planning and evaluation models/frameworks are essential for the design implementation and evaluation of community interventions.
- Soliciting the opinions and preferences of participants helps to tailor an intervention and may have increased chances of sustainability
- Clusters of conditions can be present in an intervention group which can impede the group process. Women of different ages experience different sources of stress in their lives; mental illness, physical disabilities, poverty and family responsibilities. Special care should be given to creating a homogenous group to favour good communication and exchange of ideas.

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APPENDICES

APPENDIX A- Summary of Social Assessment

Community: Ottawa (Vanier and surrounding area)

Social assessment: Social assessment includes the collection of data on the quality of life of the population.

Demographically, 17.7% of the population in Ottawa-Carleton (135,210) are francophone[**The francophones of Ottawa: Statistical profile of the Francophone Community based on the 2001 census of Statistics Canada, and Catalogue of Community Assets. The assemblée francophone & comité interagences of the social planning council of Ottawa. October 2004**], and the highest concentration of francophones is in Vanier with well over a population of 5,000 followed lower town which has between 2,000 and 5,000 francophones. According to a survey by Nadeau, Beaulieu and Associates (1995), culturally the Franco-Ontarian considers himself as part of a distinct culture being neither Québécois nor Anglophone. This has implications on how to reach community members and how one conducts culturally relevant research. [**Document de travail sur la situation de la communauté francophone adulte d'Ottawa-Carleton. Préparé par le Programme de santé communautaire pour les francophones d'Ottawa-Carleton. Mai 1996.**]

Socio-economically, the average income of a Francophone-Canadian family is \$7,800 less than the average income an Anglophone-Canadian family. Vanier which is predominantly francophone is the poorest community in Ottawa-Carleton. In regions where there is a high concentration of francophones, there is also an important percentage of the population living below the poverty line. Between 40% and 60% of the population of Vanier live below the poverty line, and 60% of the population of lower town lives below the poverty line. [**Document de travail sur la situation de la communauté francophone adulte d'Ottawa-Carleton. Préparé par le Programme de santé communautaire pour les francophones d'Ottawa-Carleton. Mai 1996.**]

Twenty five per cent of families in Vanier are led by a one parent which explains the high poverty rates in this community. In Ottawa-Carleton 47.2% of single mothers living in poverty are located in Vanier. Fifty one per cent of low income families led by a single parent spend more than 30% of their income on housing. Vanier is the community with the highest percentage of rented housing in Ottawa-Carleton (72.2%). [**The francophones of Ottawa: Statistical profile of the Francophone Community based on the 2001 census of Statistics Canada, and Catalogue of Community Assets. The assemblée francophone & comité interagences of the social planning council of Ottawa. October 2004**]

For the level of education, 42.5% of Vanier residents ages 15 and over did not complete grade 9. For the surrounding areas of Overbrook and Basse-ville (lower town) the figures are 45.2% and 40.9% respectively. It is clear that the francophone community of Ottawa-Carleton is under educated which has serious implications for literacy. According to the human development index, the rate of illiteracy among Franco-Ontarians is as high as 31%

compared to 16% in Anglophones. The rate of illiteracy among Franco-Ontarians is close to UNESCO's standards for rates of illiteracy found in under-developed countries which is 35%. **[Document de travail sur la situation de la communauté francophone adulte d'Ottawa-Carleton. Préparé par le Programme de santé communautaire pour les francophones d'Ottawa-Carleton. Mai 1996.]** Less than grade 9 education is a factor used in the analysis of illiteracy of a population. Francophones in general have lower high school graduation rates and post secondary education. **[Statistical Profile: Francophones in Ontario. Office of Francophones Affairs. Government of Ontario, Queen's park, Toronto, Ontario, October 1999.]**

Young francophones are slightly more educated than the general population, albeit their unemployment rate is nearly twice as high as the general population aged 15 and over and holds true for both genders of Ontario's francophones. The highest percentage of individuals living below the low income cut off (LICO) is found in the age group 20-24: 26.9% for this age group compared with 16.8% in the general francophone population. Women in this group are increasingly more disadvantaged than their male counterparts; 30.7% of francophone women ages 20-24 are below the LICO, compared to 22.7% of francophone men in the same age group; and in the general population 26.9% of women aged 20-24 and 21.2% of men are living below the LICO. **[Statistical Profile: Francophone youth in Ontario. Office of francophone Affairs. Government of Ontario, Queen's park, Toronto, Ontario, October 1999.]**

The average employment income of Francophone women is substantially lower (68%) than that of Francophone men. In Ontario in general women's average employment income is 64% of men's. **[Statistical Profile: Francophones in Ontario. Office of Francophones Affairs. Government of Ontario, Queen's park, Toronto, Ontario, October 1999.]**

Socialization patterns of Franco-Ontarians may give us insight on how research can be culturally relevant. Franco-Ontarians preferred method of communication to hear the information and not to read the information. This may be related to the high illiteracy rates found in this community. Word of mouth is the preferred method. Franco-Ontarians preferred channel of communication for media is the television, followed by the Vanier community paper *l'Express*. Franco-Ontarians also have a preference for recreational activities, and community and recreational centre are ideal locations to reach this population.

The most important problem concerning nutrition is that that the population is consuming diets high in fat, low in carbohydrates and fiber, and that women of child bearing years are consuming diets poor in iron.

To summarize Vanier is a socio-economically disadvantaged community with high poverty rate. The francophone population has lower income, lower levels of education, and high illiteracy rates. This community experiences income insecurity, housing insecurity and food insecurity which are shown to be associated with high levels of psychosocial stress. The situation of francophone women is also precarious because of the high rates of single parent families led by women. **[Document de travail sur la situation de la communauté**

francophone adulte d'Ottawa-Carleton. Préparé par le Programme de santé communautaire pour les francophones d'Ottawa-Carleton. Mai 1996.]

Epidemiological assessment: Epidemiological assessment includes the collection of mortality rates, morbidity rates and other factors affecting the health of the francophone population of Vanier.

The causes of mortality in the general population of Ottawa-Carleton are similar than in other municipalities, namely cardio-vascular disease followed by cancer and respiratory illnesses. Causes of death in Vanier was as follows: 49% of males and 40% of females from cardiovascular disease, 29% of male and 32% of females from cancer, and 6% of males and 7% of females from respiratory illnesses.

Smoking is more prevalent among low-income individuals. Francophone males have similar smoking rates to their Anglophone counterparts at 24%. Francophone females have higher smoking rates than Anglophone females, 30% and 19% respectively.

Twenty-one per cent of Rideau-Vanier ward residents are daily smokers in comparison to city of Ottawa average of 15.9%/ In addition 17.3 per cent of births within Rideau-Vanier ward were to women who smoked during pregnancy which is three times the average for the City of Ottawa (5.7%). In addition 5.5 % of live births in the Rideau-Vanier ward were to teenage mothers which are more than the double for the City of Ottawa. Low-weight births in Rideau-Vanier ward represented 7.4% of live births compared to 5.8% in the City of Ottawa.

Franco-Ontarians face the reality of assimilation which is a complex process that devalues the individual and the collectivity. Language and culture creates barriers in their attempt to access health and social services. Women experienced obtaining services that responded to their needs: services are mainly available in English and they were hesitant to use services in French for fear of being ridiculised for the quality of their French. **[Document de travail sur la situation de la communauté francophone adulte d'Ottawa-Carleton. Préparé par le Programme de santé communautaire pour les francophones d'Ottawa-Carleton. Mai 1996.]**

Health Priorities:

Smoking is identified among the top three priorities based on key points of the social and epidemiological assessments. The goals of the public health, impact on mortality and morbidity, as well as the quality of life of the community are also considered. Francophone are identified as a group at risk, and smoking although a challenging problem can be addressed by prevention and health promotion programs that are tailored to the population at risk. The strategic directions of the community health program for the francophones of Ottawa –Carleton are: that the needs of this population be considered in the development of programs; the strategies developed have a global approach in partnership with the target population and the community; to collaborate with other sectors offering services in French.

Accessibility to health services:

There is also a growing concern about services accessible to women. Key Informant interview and focus groups conducted with Ottawa Women identified barriers to accessing municipal services. Findings revealed that women were unable to access information about services. Language, attitudes of service providers, location of facilities, lack of short term day-care, and waiting list were additional barriers to accessing services. Likewise the cost of public transit and daycare were also barriers to access (Making the New City of Ottawa Work for Women: The results from focus groups on women's experiences accessing municipal services in Ottawa, 2001). Incidental fees were also limiting factors: transit costs, parking, and daycare. Difficulties getting time off work because of inflexible employment policies and loss wages were also barriers to access (Community Inventory and Gap Analysis Study, 2000).

Access to quality, affordable, licensed and flexible childcare was also identified by survey respondents as the most important unmet need of families with respect to early childhood development services. It was the biggest issue facing families and a significant factor impacting the ability of families to access existing programs. Only 6.5% of children living in Ottawa have access to quality subsidized daycare. There is also lack of childcare for francophone communities such as Vanier. Analysis reveals that more family support programs and early childhood programs are found in Kanata than in Vanier, yet need and density in Vanier would suggest their greater need. The latter would suggest both horizontal and vertical inequities. Low-income families are underserved by existing programs. Provincial government and community organizations difficulties securing funding undermine the growing needs of low-income individuals (Community Inventory and Gap Analysis Study, 2000).

Inventory of current smoking cessation and prevention initiatives within the community;**ACCESS smoking cessation programs:**

- 8-week program, 6 support groups either during the day or evening groups, and 1 day/evening drop-in program.
- Target groups (adults in general; women only; for pregnant and parenting youth; gay, bisexual and transgender people)
- One francophone group in Orleans-Cumberland
- Intervention is a support group program, provide tips to help quit, and to stay quit.
- Potential accessibility for low-income women:
 - Programs are free
 - NRT is subsidized (instead of paying \$30/week) the client pays \$10/week.
 - They are provided with bus tickets and childcare while attending the program.
- Potential barriers:
 - Not designed for a marginalized population of low-income women
 - Intervention does not address environmental and personal factors.
 - No skill building component to the intervention.

Smoke Free Youth Project (Expose):

- Goal to decrease the percentage of youth that smoke.
- Comprehensive tobacco cessation program in 48 schools in Ottawa
- In last year of funding
- Youth-to-youth campaign involves: a mass media contest; curriculum and school activities; youth mobilization and leadership development; smoking cessation for youth; promotion and enforcement of Ontario's Tobacco Control Act; and evaluation. Includes a capacity building component: participants get training and get hired as a facilitator to deliver the program

Potential areas of intervention as proposed by community members:

- Intervention in high school setting: beacon schools in francophone community of Vanier to reach youth (15-19 y.o.)
- Intervention within community setting, community, recreation or cultural centre in order to reach young women (20-24 y.o.).
- Potential for new program for the population of socio-economically disadvantaged females or continuing the initiatives introduced by the exposé program but with an emphasis on socio-economically disadvantaged youth in francophone schools. There is an identified need to form a youth alliance for francophone and rural populations.
- There may be an opportunity to form an alliance with the Monfort Hospital which serves the socio-economically challenged population of Vanier in delivering smoking cessation programs within the healthcare setting.
- Explore potential within the primary healthcare setting.
- Explore the potential of providing smoking cessation program for youth and young women seeking contraception and other services at the City of Ottawa Sexual Health Clinic. Potential impact in reducing teenage pregnancy and reducing smoking during pregnancy.

Policy Implications:

The city of Ottawa implemented a smoke-free bylaw in both workplace and public place on August 1st 2001. It was one of the first cities to do so.

There is presently a gap in services. There is no culturally appropriate programming for smoking cessation program or prevention targeting socio-economically disadvantaged female youth and women in the francophone communities. Environmental and personal factors need to be considered when designing an intervention: skill building and capacity building must be included as components of the program. We must first increase the awareness of the problem within the francophone community of Vanier, getting the problem on the agenda, obtain buy-in into the goals in order to reach this target population. Successful role models are also needed as agents of change. Culture and language must be taken into consideration when attempting to reach this population. There is also a need for increased awareness of how to reach a marginalized population and reduce social stigmatization. Lastly there is a socio-economic gradient in smoking, but the pharmacotherapy and in particular NRT is expensive and not accessible to the population in need. Presently NRT is fully covered in Quebec. There is a need for policy change regarding the full coverage of NRT in Ontario.

Communities of Cornwall and Hawkesbury:

Similarly, the following documents revealed high smoking rates among Franco-Ontarian women and the absence of programmes to address the needs of this population.

EOHU Statistical report on Health (2000a), Part 1: Socio-demographic profile. January 2000. Eastern Ontario Health Unit, Cornwall Ontario. Fourth edition.

EOHU Statistical report on Health (2000b), Part 2: Mortality Status. February 2000. Eastern Ontario Health Unit, Cornwall Ontario. Fourth edition.

EOHU Statistical report on Health (2000c), Part 5: Health Risk Behaviors. May 2002. Eastern Ontario Health Unit, Cornwall Ontario. Fourth edition.

EOHU Statistical report on Health (2000d), Part 6: Supplement Report. March 2003. Eastern Ontario Health Unit, Cornwall Ontario.

APPENDIX B- Letter of Support from the Community of Vanier



Centre des services communautaires Vanier Vanier Community Service Centre

290, rue Dupuis, Ottawa (Ontario) K1L 1A2 Tél: (613)744-2892 Télécopieur/Fax: (613) 749-2902

Ottawa, 20 septembre 2006,

Mme Laplante,

C'est avec plaisir que le Centre des services communautaires Vanier accueille Denise Laplante (Étudiante de l'Université d'Ottawa) et s'engage à l'aider dans l'accomplissement de son projet de thèse de doctorat qui consiste d'un programme de cessation de fumer pour jeunes femmes francophones.

L'engagement du CSCV comprendra le recrutement de participantes par le biais de ses divers services et programmes; l'utilisation de salles requises pour les rencontres de groupes; le recrutement de gardiennes (si requis) ainsi que le déboursement des frais de gardiennage et de billets d'autobus si nécessaire. Le Directeur du secteur sera disponible pour fins de consultation au besoin afin d'assurer la bonne marche du projet au sein du Centre.

De plus, le CSCV s'engage à fournir :

- ✓ Accès à un ordinateur si nécessaire
- ✓ Accès à une boîte téléphonique
- ✓ Accès à un espace de travail

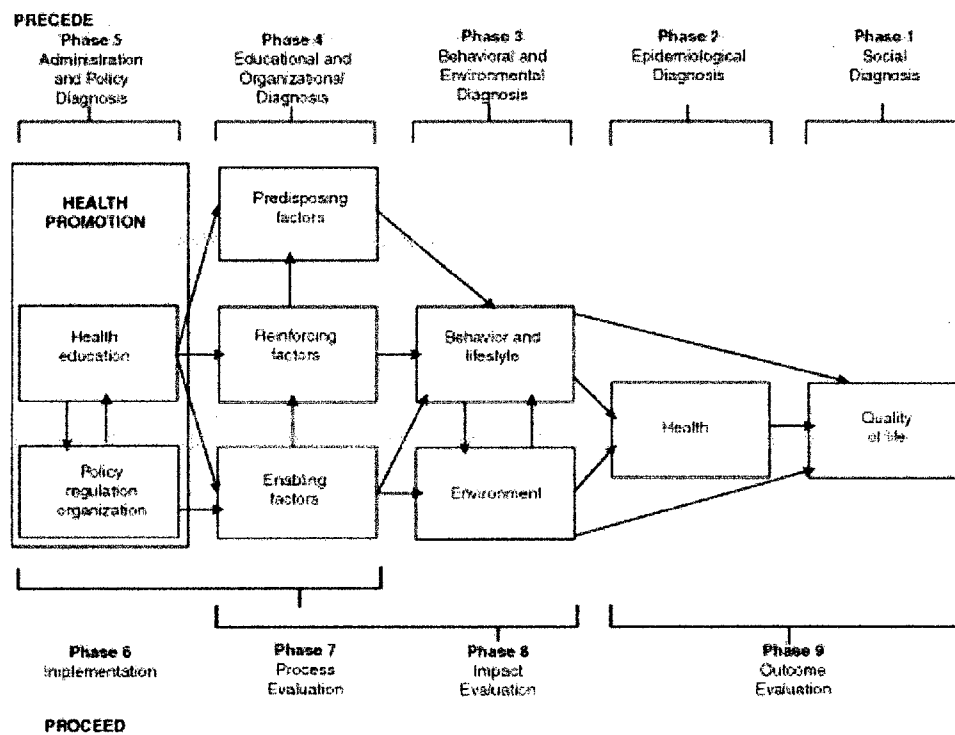
L'entente mutuelle entre les deux partis consiste à laisser dans la communauté les connaissances acquises et les outils développés dans le cadre du projet. De plus Mme Laplante s'engage d'informer le Directeur du secteur du progrès du projet ainsi que de tout changements au projet initial.

Bien à vous,

Andrew Rhéaume
Directeur services de counseling

Appendix C. PRECEDE-PROCEED planning and evaluation model

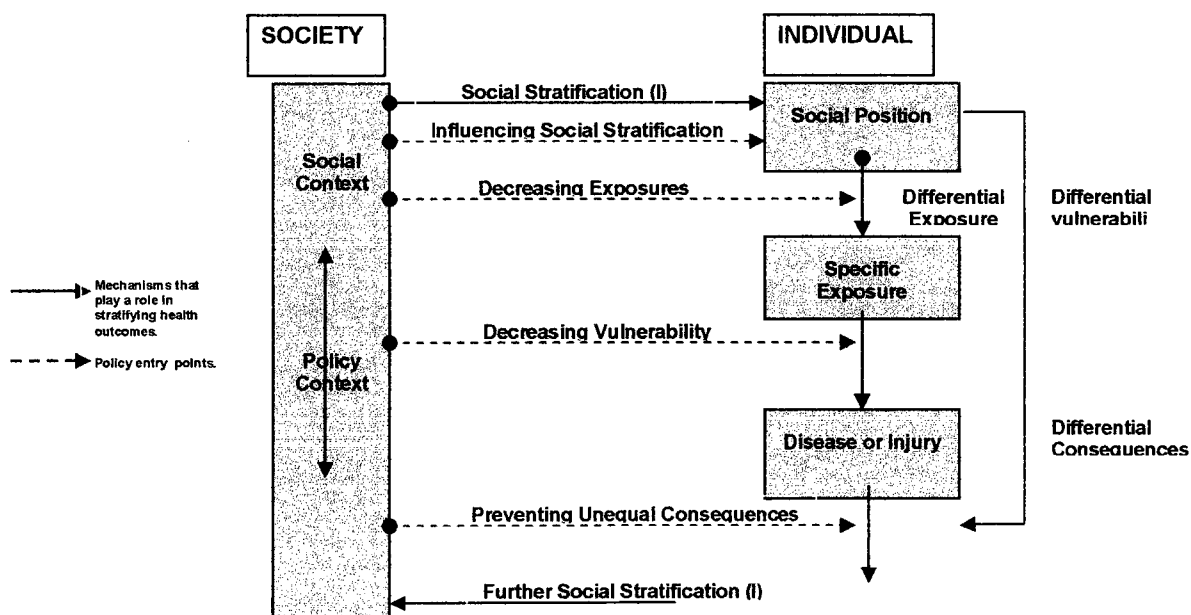
PRECEDE-PROCEED*



* Source: Green and Kreuter, 1991.

Appendix D. Conceptual framework: pathways from social context (gender and poverty) to inequalities in health

This model explains the interface between social position, social context and health and provides an important framework for understanding the mechanisms of social inequality in health and health behaviours such as smoking. The pathways between social position and health are mediated by differential exposure and differential susceptibility. The framework explains how social position influences the individual's amount of exposure to smoking and increased susceptibility to smoking, hence creating a synergy that causes increased risk of disease. Increased susceptibility to smoking among individuals from low socio-economic positions can take shape in the form of genetic or immunological susceptibility, psycho-social context such as lack of control or coherence, or a lack of buffering to the effect of the exposure (Diderichsen & Hallqvist, 1998).

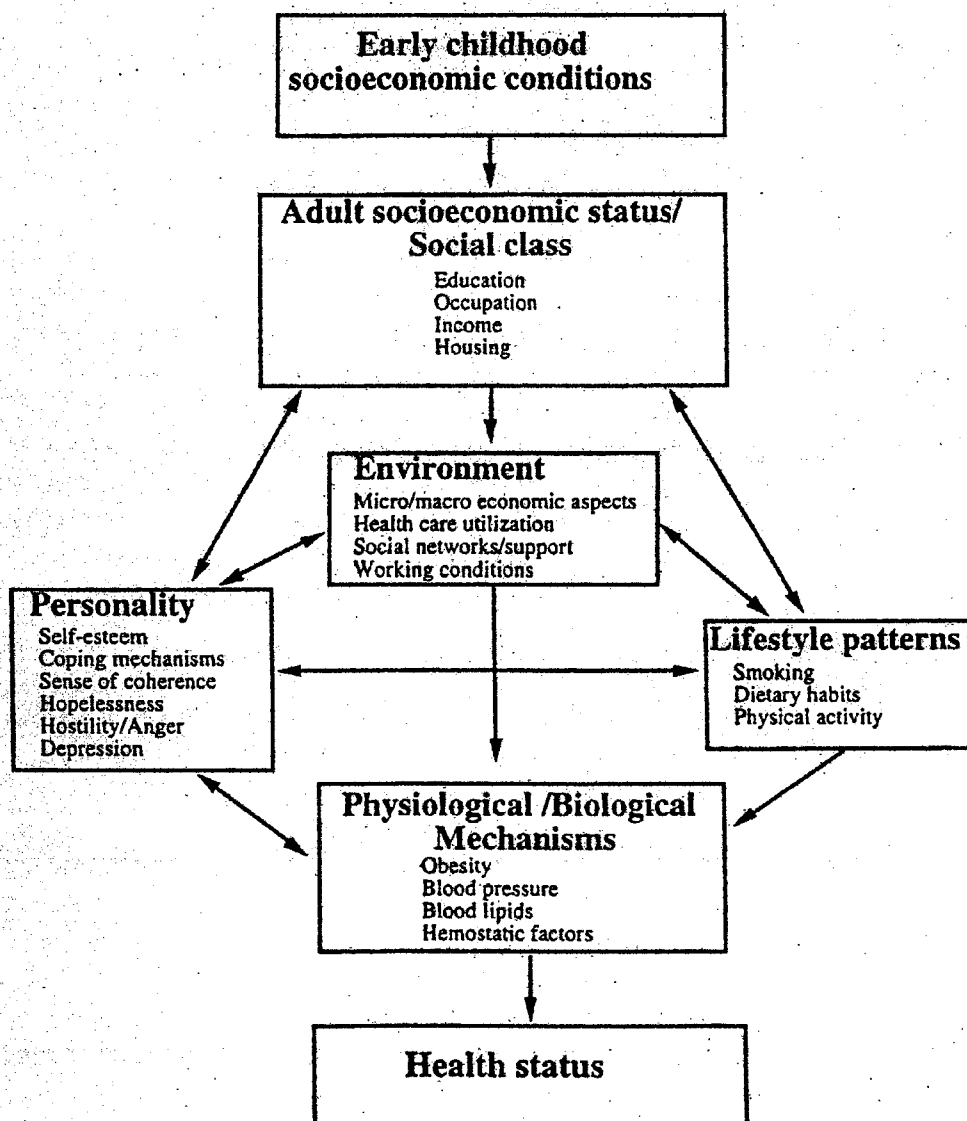


Source: Diderichsen and Hallqvist 1998

Appendix E. Explanatory model of socioeconomic differences in health

An Explanatory Model of Socioeconomic Differences in health posits the mutual influence of environmental factors, personality factors and lifestyle patterns such as smoking (Wamala & Orth-Gomer, 1998).

Hypothetical Explanatory Model of Socioeconomic Differences in Health



APPENDIX F - Systematic Review Methodology

Definitions

Reviews are essential tools to help researchers and policy makers summarize the abundance of evidence in their respective fields. Systematic reviews, in comparison to traditional narrative reviews, use more objective and systematic methods to select, summarize and appraise evidence, and are able to resolve uncertainty regarding a particular research question while minimizing biases. A systematic review may or may not include a meta-analysis. It is always desirable to systematically review a body of literature but it may be inappropriate or misleading to statistically pool the results of different studies. When there are similar studies with the same outcomes of interest, a meta-analysis can be performed: a statistical analysis of the results of independent studies that produce a single or pooled estimate of the treatment effect. The pooled estimate includes a larger sample size and enhances the precision of estimates of the treatment effects.

General Methodology

The methodology used for the thesis manuscript is the one published by the Cochrane Collaboration (Higgins & Green, 2008). This methodology is a comprehensive approach to include all possible literature, both positive and negative results, and provides an overall unbiased assessment of what interventions are effective. In comparison, the sampling bias inherent in a narrative review which does not summarize all the published literature,

introduces biases by merely excluding certain types of studies in favor of others and hence introduces biases in the conclusion of which interventions are effective. The structure of the manuscript is identical to the format used for the systematic reviews and meta-analysis by the *Tobacco Addiction Group*.

Inclusion/Exclusion Criteria

The criteria for selecting which studies were to be included in the review were based on a PICO statement which includes the population, intervention, comparison and outcomes.

The population of interest was exclusively low-income women; hence the intervention had to be designed exclusively for this population. All types of interventions were included both at the individual level and group level. All types of research designs were considered from randomized controlled trials to before-and-after studies.

Outcomes

The primary outcome of interest was smoking cessation and this objective had to be clearly stated within the publications included in the review. Secondary outcomes were also reported and provided valuable information on processes. If the primary outcome of interest was smoking reduction, the intervention was excluded from the review.

Measurement of smoking Cessation:

There were several measurement issues with smoking cessation. First and foremost the length of abstinence from smoking differs within the literature ranging from 3 months to several years. In 2005, Health Canada adopted abstinence for 12-month as an indicator of cessation (Copley, 2007), however all the systematic reviews published by the Cochrane collaboration used the time point of 6-months of abstinence as the minimum standard.

Cochrane is an international collaboration of researchers that conducts and publishes systematic reviews and meta-analyses of studies that were conducted in many parts of the World. In 2002, the Society for Research on Nicotine and Tobacco (SRNT) and its subcommittee published recommendations with regards biochemical verification of tobacco use and cessation stated that the prolonged abstinence period should be a minimum of 6 months. The SRNT has over 1000 members including top experts from 20 countries in the field of nicotine and tobacco. For the purpose of this review the standard of the Cochrane Collaboration and the SRNT was used, but as recommended in the literature when longer outcomes were used, this data was reported in our summary tables (Higgins, 2008; Hughes, 2003; SRNT Subcommittee on Biochemical Verification, 2002). For the purpose of this systematic review we will refer to the follow-ups as short-term as 1-3 months, long-term as 6-12 months and very-long-term as more than 12 months (Hughes, 2003).

There are also different definitions of cessation in terms to the quit date and measurement of abstinence, namely: continuous abstinence, prolonged abstinence, point prevalence, and repeated point prevalence. Using these terms interchangeably or not specifying which measure is used can lead to confusion when interpreting the efficacy of a treatment in a

clinical trial. For this purpose they will be reported in the present systematic review and clearly defined as follows. *Continuous abstinence* is defined as cessation from the quit date and a follow-up time. *Point prevalence* refers to smoking status during a window of time immediately before follow-up, and *prolonged abstinence* refers to sustained abstinence between two follow-up and repeated point prevalence refers to measurement of two of these time point in between which smoking may occur (Hughes, 2003; Velicer, 1992). It is also important to consider the measure in reference to what point in time, namely a quit date, the beginning of an intervention or the end of an intervention (Hughes, 2003). Earlier studies had a tendency to report point prevalence while more recent studies have reported continuous abstinence or prolonged abstinence. There are several arguments in favor or against using one measure versus another. The longer period of abstinence required in continuous abstinence may be more likely to represent long-term abstinence. However it is difficult to justify since there are substantial relapse rates occurring within the first year. In addition, the absence of a grace period before becoming abstinent may classify participants as smokers, while they may have been classified as life-long quitters had they been using a measure of prolonged abstinence. The rationale is that most treatments have delayed effects and one cannot expect a participant to abstain from smoking immediately after declaring a quit date (Hughes, 2003). Hence, point prevalence may capture more delayed effects of an intervention while still having concurrent validity with prolonged and continuous abstinence (Fiore, 2003). Traditionally meta-analyses of smoking interventions reported point prevalence with a 7-day window because self-reports can be validated by saliva, urine or plasma cotinine. However more recent meta-analyses are reporting prolonged abstinence or continuous abstinence (Fiore, 2000). There is inclusive evidence that effect size may be

smaller as the length of follow-up increases. As more meta-analyses are done with multiple measures, some of these methodological issues may be clarified. Because of the lack of consensus, this review we will report both 7-day point prevalence as well as continuous or prolonged abstinence.

Validation of Self-Reported Cessation:

Self-reported smoking cessation can be validated by various methods that include carbon monoxide (CO), cotinine levels (urine, saliva, plasma), and thiocyanate levels (urine, saliva, and plasma), anabesine and anatabine. *Carbon monoxide (CO)* can be measured either in the blood of the expired air. CO is mostly recommended for use for heavy smokers and is reasonably specific. It has a marginal utility for detecting light smokers with low levels of CO, because its specificity is limited by other environmental sources of CO and hence may not distinguish light smokers from non-smokers. It is useful in determining *smoking status* since CO is rapidly eliminated after one day of not smoking. Cotinine is the major proximate metabolite of nicotine and can be measured in urine, saliva and plasma. It has a high level of specificity and sensitivity to detect tobacco use and is considered the best biomarker for *smoking cessation*. The exception to the later is when persons are using nicotine replacement therapy (NRT). When taking NRT, the best option is to measure *anabesine* and *anatabine*. These two nicotine-related alkaloids are present in tobacco but not in nicotine-containing medications, and can be measured in the urine. Their urine concentrations correlate well with nicotine intake from smoking tobacco. Finally thiocyanate (SCN) is a metabolite of the combustion product hydrogen cyanide. It can be measure in the plasma,

urine and saliva. However, it is not recommended as a biomarker since it lacks both sensitivity and specificity (SRNT Subcommittee on Biochemical Verification, 2002).

It is also important to consider the window of detection so that the biomarker has the ability to validate the self-report of when the tobacco was last smoked. The window of detection will vary depending on the biomarker, the level of exposure and the cut-off point. The following cut-off point for the biomarker are the values that can detect tobacco use vs. no tobacco use in the general population: plasma or saliva cotinine 15ng/ml, urinary cotinine 50 ng/ml, expired air CO 8-10 ppm, and plasma SCN 78-84 μ mol/l. For some populations such as African Americans and pregnant women, the cut-off point may differ because of differences in metabolizing nicotine. For instance pregnant women metabolize nicotine more quickly than non pregnant women. Knowing the half-life of a chemical substance, which is the time required for a 50% decline of the substance in the body, a window of detection can be determined. Typically cotinine has the ability to assess compliance with non-smoking within the past 7 days. Twenty-four hours is the window within which CO levels can detect compliance in a regular smoker, and SCN can detect compliance within a window of 1-4 weeks. (SRNT Subcommittee on Biochemical Verification, 2002).

Finally, there has been some discussion if biochemical validation is necessary. It is not recommended for large clinic based trial or population based trials with minimal contact, the former increases burden on the participants and attrition, while the later produce selection bias into the study. However biochemical validation is recommended for clinic-based randomized trial to evaluate the efficacy of an intervention. Biochemical verification may

affect outcomes in such trials. Evidence shows outcome evaluation is affected by biochemical validation in certain special populations such as pregnant women as well as those with a history of alcohol abuse and depression. Therefore for the purpose of this review, biochemical validation will be reported. (SRNT Subcommittee on Biochemical Verification, 2002).

Reporting of Results

The results of this systematic review were reported using the standards of the ***QUORUM statement*** (Moher, 1999). These standards promote the quality of reporting for systematic reviews and the aim of the corresponding checklist and flow diagram is to minimize biased results.

Detailed search strategy:

The following bibliographic databases were searched using an OVID interface:

Medline (1966 to Nov week 3 2009);

Medline in process + Other non-indexed citations (1950 to present Dec 14 2009);

EMBASE CLASSIC + EMBASE (1947 to 2009 week 50);

HealthStar (1966 to 1998);

HealthStar (1999 to Nov 2009);

PsychInfo (1906 to Dec week 2 2009).

Other searched databases included:

CINHAL (1982 to present Dec 14 2009);

The Cochrane Central Register of Clinical Trials (Issue 4, 2009);

Sociological Abstracts (1952 to present Dec 14 2009).

Assessment of the Methodological Quality of the Systematic Review

The AMSTAR was used to assess the methodological quality of the systematic review (Shea, Grimshaw, Wells, Boers, Andersson, Hamel, Porter, Tugwell, Moher, Bouter, 2007). The assessment can be found in **Table 1**.

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- Shea et al. *BMC Medical Research Methodology* 2007 7:10 doi:10.1186/1471-2288-7-10

SRNT Subcommittee on Biochemical Verification (2002). Biochemical verification of tobacco use and cessation. *Nicotine and Tobacco Research*, 4, 149-159.

Velicer, W. F., Prochaska, J.O., Rossi, J.S., & Snow, M.G. (1992). Assessing outcome in smoking cessation studies. *Psychological Bulletin*, 111, 23-41.

Table 1. AMSTAR – assessment of the methodological quality of systematic reviews.

1. Was an 'a priori' design provided? The research question and inclusion criteria should be established before the conduct of the review.	☒ Yes ☐ No ☐ Can't answer ☐ Not applicable
2. Was there duplicate study selection and data extraction? There should be at least two independent data extractors and a consensus procedure for disagreements should be in place.	☒ Yes ☐ No ☐ Can't answer ☐ Not applicable
3. Was a comprehensive literature search performed? At least two electronic sources should be searched. The report must include years and databases used (e.g. Central, EMBASE, and MEDLINE). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found.	☒ Yes ☐ No ☐ Can't answer ☐ Not applicable
4. Was the status of publication (i.e. grey literature) used as an inclusion criterion? The authors should state that they searched for reports regardless of their publication type. The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status, language etc.	☒ Yes ☐ No ☐ Can't answer ☐ Not applicable
5. Was a list of studies (included and excluded) provided? A list of included and excluded studies should be provided.	☒ Yes ☐ No ☐ Can't answer ☐ Not applicable
6. Were the characteristics of the included studies provided? In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g. age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported.	☒ Yes ☐ No ☐ Can't answer ☐ Not applicable

Table 1. AMSTAR – assessment of the methodological quality of systematic reviews.
(continued)

7. Was the scientific quality of the included studies assessed and documented? 'A priori' methods of assessment should be provided (e.g., for effectiveness studies if the author(s) chose to include only randomized, double-blind, placebo controlled studies, or allocation concealment as inclusion criteria); for other types of studies alternative items will be relevant.	☒ Yes ☐ No ☐ Can't answer ☐ Not applicable
8. Was the scientific quality of the included studies used appropriately in formulating conclusions? The results of the methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations.	☒ Yes ☐ No ☐ Can't answer ☐ Not applicable
9. Were the methods used to combine the findings of studies appropriate? For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e. Chi-squared test for homogeneity, I^2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e. is it sensible to combine?).	☐ Yes ☐ No ☐ Can't answer ☒ Not applicable
10. Was the likelihood of publication bias assessed? An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test).	☐ Yes ☐ No ☐ Can't answer ☒ Not applicable
11. Was the conflict of interest stated? Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.	☒ Yes ☐ No ☐ Can't answer ☐ Not applicable

Appendix G – University of Ottawa Research Ethics Board Approval



Université d'Ottawa University of Ottawa

Université d'Ottawa / University of Ottawa

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 Design of a Culturally Sensitive Smoking Cessation Programme for Franco-Ontarian Women (H 12-07-03)** submitted by doctoral student Ms. Denise Laplante and her thesis supervisor Pr. George Wells of Epidemiology and Community Medicine at the University of Ottawa.

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.

Germain Zongo
Protocol Officer for Ethics in Research
For Dr. Daniel Lagarec, Chair of the
Health Sciences and Science REB

February 22, 2008
Date



Université d'Ottawa University of Ottawa

Université d'Ottawa / University of Ottawa

February 22, 2008

George Wells
Epidemiology and Community Medicine
Faculty of Medicine
University of Ottawa

Denise Laplante

Object: The Design of a Culturally Sensitive Smoking Cessation Programme for Franco-Ontarian Women (H 12-07-03)

Dear Pr. Wells and Ms. Laplante,

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 February 22, 2009. Please submit an annual status report to the Protocol Officer in February 2009 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 (613) 562-5387.

Sincerely yours,

Germain Zongo
Protocol Officer for Ethics in Research
For Dr. Daniel Lagarec, Chair of the Health Sciences and Science REB

Recrutement de femmes francophones pour des entrevues

- Durée de l'entrevue est de 45-60 minutes.
- Remboursement pour garde d'enfants, stationnement et transport.

Vous pouvez participer si vous êtes:

- Francophone
- Une femme âgée de 19 à 44 ans
- Vous fumez

Pourquoi ?

- Pour comprendre pourquoi les femmes francophones fument.
- Vos idées aideront à mettre sur pied un programme pour les femmes francophones qui veulent cesser de fumer.

Contactez:

Denise Laplante



Université d'Ottawa
Faculté des études
supérieures et
postdoctorales

Doctorat en santé des
populations
Diplôme en recherche sur
les services et les politiques
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PhD in Population Health
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and Management

1 rue Stewart, pièce 300
Ottawa, ON K1N 6N5 Canada

Tél.: 613.562.5691
Téléc.: 613.562.5659
Courriel: pop@uOttawa.ca

1 Stewart Street, Room 300,
Ottawa, ON
K1N 6N5 Canada

Tel.: 613.562.5691
Fax: 613.562.5659
E-mail: pop@uOttawa.ca

Appendix I Formulaire de consentement

Titre du projet: « Explorer ce que représente le tabagisme pour les femmes Franco-Ontarienne à faible revenu » [English title of Study: Exploring the Meaning of Smoking for Disadvantaged Franco-Ontarian Women]

Nom de la chercheuse : Denise Laplante, étudiante au programme de doctorat en santé des populations, Université d'Ottawa, Faculté des études supérieures et postdoctorales.

Numéro de téléphone

Adresse courriel

Superviseur: Dr. George A. Wells, Professeur, Université d'Ottawa, Faculté de médecine, Département d'épidémiologie et médecine communautaire.

Numéro de téléphone

Adresse courriel

Invitation à participer: Je suis invité(e) à participer à la recherche « Explorer ce que représente le tabagisme pour les femmes Franco-Ontarienne à faible revenu » menée par Denise Laplante sous la supervision du Dr. George Wells. Il n'y a aucun commanditaire pour ce projet de recherche.

But de l'étude:

- (1) D'expliquer pourquoi les femmes Franco-Ontarienne fument plus que la moyenne et quelle importance la cigarette occupe dans la vie de tous les jours;
- (2) Identifier l'âge qu'elles commencent à fumer; les raisons qui les poussent à commencer de fumer; et le nombre d'occasions qu'elles ont tenté de cesser de fumer;
- (3) Identifier les personnes ou services de l'entourage qui peuvent aider ou empêcher de cesser de fumer;
- (4) Les résultats de cette recherche aideront à développer un programme pour les femmes Franco-Ontarienne qui veulent cesser de fumer. En ce moment, il n'y a aucun programme du genre dans la langue française pour les femmes Franco-Ontarienne de l'est de l'Ontario. Notre but est de planifier un tel programme pour la communauté de Vanier.

Participation: Ma participation prendra la forme d'une entrevue d'une durée de 30 à 45 minutes. Durant cette entrevue, on me posera des questions en français sur l'âge à laquelle j'ai commencé à fumer, le nombre d'année que je fume, ce que représente la cigarette dans ma vie, et ce qui pourrait m'aider ou m'empêcher de cesser de fumer. Je peux choisir l'heure et la date de l'entrevue. La rencontre aura lieu au Centre des ressources communautaires de Vanier situé au 290, rue Dupuis, Ottawa (Vanier) Ontario K1L 1A2 (Tel: (613) 744-2892 poste: 1204) ou à un autre emplacement communautaire de mon choix.

Formulaire de consentement p2/3.

Risques: Ma participation à cette recherche implique que je fournisse de l'information personnelle. Il est donc possible que je vive un inconfort émotionnel ou psychologique. Je recevrai l'assurance de la chercheuse que tout se fera en vue de minimiser ces risques. Il n'y a pas de bonnes ou de mauvaises réponses aux questions. On cherche tout simplement à connaître mes opinions et à partager mes expériences. Aucuns jugements ne seront portés sur moi.

Bienfaits: Ma participation à cette recherche aura pour effet de mieux comprendre la place du tabagisme chez les femmes Franco-Ontarienne et d'aider à planifier un programme pour cesser de fumer spécialement conçu pour les femmes Franco-Ontarienne de la communauté de Vanier.

Confidentialité: J'ai l'assurance de la chercheuse que l'information que je partagerai lors de l'entrevue restera strictement confidentielle. Je m'attends à ce que le contenu soit utilisé que pour des fins de recherche pour la thèse de doctorat de la chercheuse et pour planifier un programme pour cesser de fumer pour les femmes Franco-Ontarienne de Vanier. L'accès aux données sera restreint à la chercheuse, son superviseur et les membres du comité de thèse de doctorat.

L'anonymat: Mon nom ne sera pas associé aux données; les données seront identifiées par un code. Seulement la chercheuse, son superviseur et les membres de son comité de thèse en connaîtront la source. Mon identité ne sera pas révélée dans aucunes des publications. Les données publiées seront présentées de façon agrégée et mon nom ne sera pas associé avec les données brutes, ni mentionné dans les rapports ou publications. J'aurai le droit de recevoir une copie des résultats agrégés tels que présenté dans les publications.

Conservation des données: Les données recueillies lors de l'entrevue seront enregistrées sur bandes magnétiques (magnétophone). Elles seront ensuite transcrites électroniquement sur ordinateur et conservées de façon sécuritaire sur le serveur de l'Université d'Ottawa. La transcription me sera envoyée pour vérifier l'authenticité des données. J'aurai le choix à ce moment de faire des modifications au manuscrit. Toutes copies papiers, électroniques ainsi que les bandes magnétiques seront conservées de façon sécuritaire sous clé dans un bureau à l'Institut de santé des populations de l'Université d'Ottawa, au 1 Stewart. Après une période d'un an les bandes magnétiques ainsi que les données électroniques seront détruites.

Compensation: Aucune compensation n'est offerte pour ma participation. Toutefois, la chercheuse m'offrira un léger goûter lors de l'entrevue, et remboursera mes frais de stationnement/ transport publique. Des services de garde d'enfants au Centre de ressources communautaires de Vanier seront également disponibles.

Participation volontaire: Ma participation à la recherche est volontaire et je suis libre de me retirer en tout temps, et/ou refuser de répondre à certaines questions, sans subir de conséquences négatives. Si je choisis de me retirer de l'étude, les données recueillies jusqu'à ce moment seront détruites.

Formulaire de consentement p3/3.

Acceptation: Je, _____ (*nom de la participante*), accepte de participer à cette recherche menée par Denise Laplante du *Programme de doctorat en santé des populations de l'Université d'Ottawa*, laquelle recherche est supervisée par Dr. George Wells.

Pour tout renseignement additionnel concernant cette étude, je peux communiquer avec la chercheure ou son superviseur.

Pour tout renseignement sur les aspects éthiques de cette recherche, je peux m'adresser au Responsable de l'éthique en recherche, Université d'Ottawa, Pavillon Tabaret, 550, rue Cumberland, salle 159, Ottawa, ON K1N 6N5
Tél.: (613) 562-5841
Courriel : ethics@uottawa.ca

Il y a deux copies du formulaire de consentement, dont une copie que je peux garder.

Signature de la participante: _____ Date: _____

Signature du Témoin (*nécessaire dans le cas où la participante serait illettrée, aveugle, etc.*):

_____ (*Signature*) Date: _____

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APPENDIX J - Guide d'entrevue

Titre du projet: « Explorer ce que représente le tabagisme pour les femmes franco-ontariennes à faible revenu » [English title of Study: Exploring the Meaning of Smoking for Disadvantaged Franco-Ontarian Women]

Notes explicatives/Préambule:

Des politiques et services de l'abandon du tabac sont souvent mis en place sans considérer et impliquer la population visée. La population cible de cette étude est celle des femmes Franco-Ontarienne vivant dans une communauté à faible revenu.

Des études sur le tabagisme ont été effectuées chez différents groupes marginalisés selon l'ethnie, la culture, les femmes, et selon son orientation sexuelle. Le tabagisme et la place qu'elle occupe chez les femmes Franco-Ontarienne n'a jamais été étudié. Cette étude a le potentiel de révéler l'impact/effet cumulatif de plusieurs niveaux de marginalisation : être une femme, à faible revenu, et provenant d'un milieu francophone minoritaire.

On peut assumer que ces femmes fument à cause de leurs circonstances de la vie quotidienne et du système patriarcal dans lequel elles vivent. Une approche féministe où l'on donne une voix aux femmes marginalisées de s'exprimer et partager leurs expériences donne une signification et une validité à la discussion sur le sujet des femmes et le tabagisme. Entendre les histoires de ces femmes pourrait nous faire découvrir des données inconnus jusqu'à présent mais aussi donner à ces femmes marginalisées et sans voix une opportunité rare de verbaliser comment le tabagisme est une activité fondamentale de leur vie.

L'interprétation de ce que représente le tabagisme pour les femmes est un point de départ pour développer une théorie du tabagisme chez les femmes. Ces femmes sont consultées dans le but d'établir une politique, et de planifier une intervention pour cesser de fumer.

La question centrale est quelle est la représentation et signification du tabagisme dans la vie de la femme Franco-Ontarienne à faible revenu? Se voit-elle comme victime où le tabac représente le pouvoir et le contrôle sur sa vie? Son comportement est-il une réaction passive à une situation sociale et culturelle oppressante? Ou est-ce que son comportement est une réaction active de résistance aux inégalités issues du système patriarcal? Donc ce groupe de femmes sont-elles victimes et fument passivement, fument-elles activement pour combattre l'oppression du patriarcat, ou est-ce une combinaison des deux? Est-ce une dépendance, un contrôle, ou les deux?

Guide d'entrevue p2/3.

Le présent guide d'entrevue comprend des questions ouvertes qui nécessitent un approfondissement des réponses. Aucun cadre conceptuel guide le choix des questions sauf des principes: (1) du soi intra-personnel tels que l'image personnelle, l'identité personnel et la vie émotionnelle; et (2) intra-personnels tels que nos liens sociaux avec autrui. Le tabagisme est avant tout une dépendance et souvent suite à des difficultés de définir son soi et ses limites dans les relations interpersonnels. Par contre il faut reconnaître que certains de ces concepts ont déjà fait l'objet d'études: le concept d'image de soi est présent dans le marketing des produits de tabac et une préoccupation en politique de tabac pour contrecarrer les efforts des manufacturiers de tabac, l'étude de la dépendance comme réponse au stress nous révèle que les femmes fument pour gérer leur vie quotidienne. L'identité fumeur, une forme de cristallisation de l'image de soi, ne fait pas l'objet de plusieurs études. Ce thème fera sûrement mention dans l'étude que nous entreprenons lors de l'introspection de ces femmes feront sur la place qu'occupe le tabagisme dans leur vie et comment leur identité et image se définit autour de cette pratique.

Les questions sont de nature multi-niveaux: questions 1-4 sont au niveau collectif (macro) et les questions 5-15 sont au niveau individuel (micro).

Introduction aux participantes:

Les femmes Franco-Ontarienne fument plus que la moyenne générale. Plusieurs femmes désirent arrêter de fumer mais ont de la difficulté à le faire. Elles ont besoin de support et les services nécessaires pour le faire. Souvent des programmes sont mis en place sans consulter les femmes. Aucune étude n'a été faite avec les femmes Franco-Ontarienne pour comprendre leurs expériences, leurs besoins et comment on peut les soutenir lorsqu'elles veulent cesser de fumer. Le point de départ est de comprendre la place qu'occupe la cigarette dans la vie de ces femmes.

Objectifs:

- De comprendre la place et l'importance du tabac chez les femmes franco-Ontarienne qui vivent dans une communauté à faible revenu.
- De donner une voix aux femmes d'exprimer et de partager leurs expériences, de définir leurs besoins, et de les impliquer dans la conception de programmes pour cesser de fumer.
- Les questions ont comme objectif de comprendre: (1) Ce que fumer représente pour vous; (2) De quelle façon fumer contribue à la formation de votre identité et gestion de vos émotions; (3) Comment fumer reflète et dirige vos expériences.

Questions:

- Q1. Comment le tabac affecte-il votre environnement ?
Q2. Quel est le rôle du tabac dans votre économie ?

Guide d'entrevue p3/3.

- Q3. Comment le tabac est-il représenté aux femmes dans votre culture (Franco-Ontarienne) ?
- Q4. Comment le tabac affecte-il la santé des femmes et des enfants ?
- Q5. Comment le tabac affecte-il votre vie ?
- Q6. Pouvez-vous me raconter l'histoire de quand vous avez fumé votre première cigarette ?
- Q7. Quand vous fumez, c'est quoi que vous aimez ?
- Q8. Quand vous fumez, c'est quoi que vous n'aimez pas ?
- Q9. Quand et où fumez-vous ?
- Q10. Quelles sont les changements dans vos habitudes de fumer qui ont pris place depuis que vous avez commencé ?
- Q11. Est-ce que vous fumez pour remplacer quelque chose que vous évitez de faire ou dire ?
- Q12. Avez-vous déjà pensé d'arrêter de fumer ?
- Q13. Avez-vous déjà arrêté de fumer ? Dans quelle circonstance ?
- Q14. Quelles sont vos sentiments à propos de fumer ? Qu'est-ce que cela représente pour vous ?
- Q15. Êtes-vous capable de vous imaginer comme non-fumeur ? Comment votre vie serait ?

Titre du projet:

« Explorer ce que représente le tabagisme pour les femmes franco-ontariennes à faible revenu »

[English title of Study: Exploring the Meaning of Smoking for Disadvantaged Franco-Ontarian Women.

Introduction aux participantes:

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-

ILIGIBILITÉ (screening)

Nom: _____

Code: _____

Âge : _____

Fume présentement: _____

S'identifie comme Franco-Ontarienne: _____

Lieu de résidence (Vanier; Lower-town Ottawa): _____

S'identifie à faible revenu/pauvre: _____

INTERVIEW

1.0 DONNÉES SOCIO-DÉMOGRAPHIQUES
Âge : _____ [Ethics population aged 19-34] [childbearing years 20-44yrs] Regroupement : 20-24: _____ 25-34: _____ 35-44: _____
Identité culturelle/ ethnicité - (s'identifie comme): ☐ Francophone ☐ Francophone unilingue ☐ Francophone bilingue ☐ Franco-Ontarienne ☐ Autre: (nombre d'années vécu dans quelle communauté: _____
Éducation : ☐ École primaire ☐ École secondaire partielle – non terminée ☐ École secondaire ☐ Partiellement études collégiale/ école de métiers/ université ☐ Collège/ École de métiers complétée ☐ Université ☐ Autre : _____
Emploi: ☐ Emploi ☐ Temps plein ☐ Temps partiel ☐ Sans emploi ☐ Assurance chômage (unemployment insurance) ☐ Bien être social (Welfare) ☐ Prestations d'invalidité (Disability) ☐ Autre : _____

Situation au foyer / arrangement domestique (living arrangements)

- ☐ Location/ louer (rent)
- ☐ Propriétaire (own)
- ☐ Autre : _____

Pour établir le niveau (seuil) de pauvreté - LICOs:

_____ Nombre de personnes vivant dans la maison
_____ Nombre d'adultes
_____ Nombres d'enfants
_____ Revenu avant les taxes; ou
_____ Revenu après les taxes.

Tableau. Seuil de pauvreté (LICOs), avant taxe (Statistics Canada, 2007)

2006	Number of children					
	0	1	2	3	4	5
1 adult	17,437	24,412	29,643	34,874	40,105	45,336
2 adults	24,412	29,643	34,874	40,105	45,336	50,567
3 adults	31,387	36,618	41,849	47,080	52,311	57,542
4 adults	38,361	43,593	48,824	54,055	59,286	64,517

Statut Civil (marital status):

- ☐ Marié
- ☐ Divorcé
- ☐ Veuve (widowed)
- ☐ Séparé
- ☐ Conjoint de fait (Common Law)
- ☐ Célibataire (single)
- ☐ Autre: _____

Croyances religion et spiritualité

- ☐ Catholique
- ☐ Protestant
- ☐ Athée
- ☐ Autre: _____

Quelle place occupe la religion dans votre vie?

Quelle place occupe la spiritualité dans votre vie?

2.0 DONNÉES HISTORIQUES DE LA CIGARETTE:

Initiation:

Q6. Pouvez-vous me raconter l'histoire de quand vous avez fumé votre première cigarette ?

[Can you recall your first cigarette]

Âge d'initiation: _____

Évolution :

Q10. Quelles sont les changements dans vos habitudes de fumer qui ont pris place depuis que vous avez commencé?

[What changes in your smoking patterns have taken place over the years]

Nombre d'années que vous fumez:

Nombre de cigarettes/jour:

Inhale, depth, etc...

État actuel :

SVP décrire votre expérience actuelle avec la cigarette. Comment est-ce que ca se passe?

Q7. Quand vous fumez, c'est quoi que vous aimez ?

[What do you like about smoking]

Quels sont les aspects positifs de fumer?

[What are the positive aspects of smoking (coping, break, image, social, positive affect)]

Q8. Quand vous fumez, c'est quoi que vous n'aimez pas ?

[What do you dislike about smoking]

Quels sont les aspects négatifs de fumer?

[What are the negative aspects of smoking ex: smell, guilt, children's health, my health, expensive]

Q9. Quand et où fumez-vous ? Pour quelles raisons ?

[When, where and why do you smoke]

Q11. Est-ce que vous fumez pour remplacer quelque chose que vous évitez de faire ou dire ?

[Do you smoke in place of doing (or saying) something else]

Que représente la cigarette pour vous? Quelle valeur vous y accordez? [What meaning/place does smoking have in your life. What value does it hold in your life]

Q4. Comment le tabac affecte-il la santé des femmes et des enfants ?

Q5. Comment le tabac affecte-il votre vie ?

Q14. Quelles sont vos sentiments à propos de fumer ? Qu'est ce que cela représente pour vous ?

[How do you feel about smoking. What does it mean to you]

Q15. Êtes-vous capable de vous imaginer comme non-fumeur ? Comment votre vie serait?

[Can you visualize yourself as a non-smoker. What would your life have to be like]

Test de Fagerstrom d'évaluation de la dépendance à la nicotine

Instructions : Répondez aux questions suivantes. L'évaluation de la dépendance à la nicotine est fondée sur le score total.

1. Combien de temps après votre réveil fumez-vous votre première cigarette?
☐ Plus de 60 minutes (0)
☐ De 31 à 60 minutes (1)
☐ De 6 à 30 minutes (2)
☐ Moins de 5 minutes (3)
2. Trouvez-vous difficile de vous abstenir de fumer dans les endroits où c'est interdit?
☐ Non (0)
☐ Oui (1)
3. À quelle cigarette de la journée vous serait-il le plus difficile de renoncer?
☐ La première (1)
☐ N'importe quelle autre (0)
4. Combien de cigarettes fumez-vous par jour?
☐ 10 ou moins (0)
☐ De 11 à 20 (1)
☐ De 21 à 30 (2)
☐ 31 ou plus (3)
5. Fumez-vous à un rythme plus soutenu le matin que le reste de la journée?
☐ Non (0)
☐ Oui (1)
6. Fumez-vous même quand vous êtes si malade que vous devez rester au lit presque toute la journée?
☐ Non (0)
☐ Oui (1)

Total

Degré de dépendance à la nicotine :

- ☐ 0 – 2 = très faible dépendance
- ☐ 3 – 4 = faible dépendance
- ☐ 5 = dépendance moyenne
- ☐ 6 – 7 = forte dépendance
- ☐ 8 – 10 = très forte dépendance

Celles qui ont un faible niveau de dépendance peuvent arrêter de fumer sans médicaments. Tous ceux et celles qui veulent arrêter de fumer tireront profit d'une aide, d'une information et de ressources appropriées. (Source : Heatherton, TF, Kozlowski, LT, Frecke, r RC, Fagerstrom, KO.

The Fagerstrom Test For Nicotine Dependence) Site Web :

http://www.alv-abbara.com/echographie/biometrie/scores/test_Fagerstrom.html

3.0 Intentions de cesser de fumer/ Stades de changement

Q12. Avez-vous déjà pensé d'arrêter de fumer ?

[Have you ever thought of quitting]

Q13. Avez-vous déjà arrêté de fumer dans le passé? Dans quelle circonstance ?

[Have you ever quit. In what circumstances]

Nombre de fois: _____

Quand : _____

Et Comment (méthodes) : _____

Quels services sont disponibles dans votre communauté?

(Connaissez-vous des programmes, sont-ils accessibles, êtes-vous capable de vous inscrire?)

Votre médecin vous a-t-il déjà parler/recommander de cesser de fumer?

Comment souvent vous voyez votre médecin, avez-vous des visites régulières à tous les ans?

Q. Pensez-vous présentement d'arrêter de fumer?

Stages of Change (TTM):

_____ **Pré-contemplation** – ne considère pas changer. Ne crois pas que leur comportement est un problème. (Health Belief Model – ne crois pas que fumer pose un risque)

On souvent abandonné après plusieurs échecs.

_____ **Contemplation** – sont ambivalents à changer (pèse le pour et le contre)

Évalue les obstacles.

_____ **Préparation** – Se prépare à faire un changement. Ex- changer de sorte de cigarettes.

_____ **Action** – Actions prise qui démontrent le désir de changer les habitudes de vie.

_____ **Maintien et prévention de rechute -**

Q. Avez-vous un plan pour cessez de fumer (si oui le décrire)?

Q. Quels sont les facteurs qui aident ou qui vous empêchent de cesser de fumer?

[enablers and barriers]

Décrire votre environnement et les gens autour de vous – ceux qui fument et ceux qui ne fument pas (partenaire de vie, famille immédiate, famille en grandissant –parents, amis les plus proches, perception de la communauté - %) **Faire un dessein du réseau (network).**

Q3. Comment le tabac est –il représenté aux femmes dans votre culture (Franco-Ontarienne) ?

Q1. Comment le tabac affecte-il votre environnement ?

Q2. Quel est le rôle du tabac dans votre économie ?

Santé et habitudes de vie :

- Avez-vous des problèmes de santé en ce moment?
- Avez-vous déjà eu des problèmes de santé mentale dans le passé ex : dépression ou autre?
- Avez-vous d'autres problèmes d'accoutumance (addiction) tels que l'alcool, drogue, médicaments, gambling, bingo, shopping etc...
- Y-a-t-il d'autres habitudes de vie que vous aimeriez changer (diète exercice etc....)

Avez-vous d'autre chose qui vous préoccupe plus que la cigarette?

4.0 Programme potentiel

Si on formait un groupe pour aider les femmes dans leur démarche pour cesser de fumer, quelle façon devrait-on le faire? (Pour qu'elles puissent discuter entre elles les défis/stress du quotidien auxquels elles font face pour cesser de fumer)

Est-ce que vous voudriez participer à former un tel groupe?

Quels sont les choses à faire et à ne pas faire pour former ce groupe?

Est-ce que vous aimeriez nous aider (en nous donnant des idées) à faire un poster/pamphlet/feuillet pour faire démarrer/partir le programme?

(Elles peuvent prendre quelques minutes ou faire à la maison – peut-on vous appeler?)

(Ex : Quelles sont les choses à faire et à ne pas faire pour recruter des participantes à un tel groupe?)

Aimeriez-vous participer à une session d'échange d'idée sur le « design » avec l'aide d'un artiste graphique qui pourrait mettre vos idées sur papier?

On peut vous contacter?

MERCI!

Appendix K – Low-income cut-offs chart (LICOs)

2006 *	Number of children					
	0	1	2	3	4	5
1 adult	17,437	24,412	29,643	34,874	40,105	45,336
2 adults	24,412	29,643	34,874	40,105	45,336	50,567
3 adults	31,387	36,618	41,849	47,080	52,311	57,542
4 adults	38,361	43,593	48,824	54,055	59,286	64,517

*** before taxes (Statistics Canada, 2007)**

Appendix L – Underlying evidence and principles of the programme components of the logic model

- L1 - Systematic reviews of smoking cessation in the adult population
- L2 - Stress and addiction - working model (Al' Absi, 2008)
Stress and maintenance of the addiction: working model (Al' Absi, 2008)
- L3 - Underlying principles of Whitfield's theory of co-dependence (1987)
- L4 - Purnell's model for cultural competence
- L5 - Holistic approach: a biopsychosocial-spiritual model of care.
- L6 - Empowerment

Appendix L1 – Systematic reviews of smoking cessation in the adult population

INDIVIDUAL- Behavioral interventions

Author	Level	Intervention type	Intervention	Effectiveness
Effective				
Stead LF 2008	Ind	Behavioural	Telephone counseling for smoking cessation	Three or more calls increases the odds of quitting compared to a minimal intervention such as providing standard self-help materials, brief advice, or compared to pharmacotherapy alone.
Lancaster T, 2008	Ind	Behavioural	Self-help interventions for smoking cessation	Standard self-help materials may increase quit rates compared to no intervention, but the effect is likely to be small
Stead LF 2008	Ind	Behavioural	Physician advice for smoking cessation	Simple advice has a small effect on cessation rates. Assuming an unassisted quit rate of 2 to 3%, a brief advice intervention can increase quitting by a further 1 to 3%.
Lancaster T 2008	Ind	Behavioural	Individual behavioural counseling for smoking cessation	Individual counseling was more effective than control. The relative risk (RR) for smoking cessation at long-term follow up was 1.39. We failed to detect a greater effect of intensive counseling compared to brief counseling.
Not effective				
Abbot NC 2008	Ind	Behavioural	Hypnotherapy for smoking cessation	We have not shown that hypnotherapy has a greater effect on six month quit rates than other interventions or no treatment. The effects of hypnotherapy on smoking cessation claimed by uncontrolled studies were not confirmed by analysis of randomized controlled trials
Park EW, 2008	Ind	Behavioural	Enhancing partner support to improve smoking cessation	Failed to detect an increase in quit rates
Cahill K 2008	Ind	Behavioural	Competitions and incentives for smoking cessation	Incentives and competitions have not been shown to enhance long-term cessation rates, with early success tending to dissipate when the rewards are no longer offered
Hajek P 2008	Ind	Behavioural	Aversive smoking for smoking cessation (rapid smoking)	Rapid smoking is an unproven method.
White AR 2008	Ind	Alternative Therapy:	Acupuncture and related interventions	There is no consistent evidence that acupuncture, acupressure, laser therapy or electrostimulation are effective.

GROUP- Behavioral interventions

Author	Level	Intervention type	Intervention	Effectiveness
Effective				
Stead LF 2008	Group	Behavioural	Group behaviour therapy programmes for smoking cessation	Group therapy is better for helping people stop smoking than self help, and other less intensive interventions. There is not enough evidence to evaluate whether groups are more effective than intensive individual counseling. There is not enough evidence to support the use of particular psychological components in a programme beyond the support and skills training normally included
Rice VH 2008	Ind/Group	Behavioural	Nursing interventions for smoking cessation	The results indicate the potential benefits of smoking cessation advice and/or counseling given by nurses to patients, with reasonable evidence that intervention is effective.
Ussher MH 2008	Ind/Group	Behavioural	Exercise interventions for smoking cessation	Only one of the 13 trials offered evidence for exercise aiding smoking cessation at a 12-month follow up.

INDIVIDUAL- Behavioral and Pharmaceutical interventions

Author	Level	Intervention type	Intervention	Effectiveness
Effective				
Sinclair HK 2008	Ind	Pharmaceutical and behavioural Setting: Pharmacy	Community pharmacy personnel interventions for smoking cessation	The strength of evidence is limited because only one of the trials showed a statistically significant effect
Lumley J 2008	Ind	Pharmaceutical and behavioural Population: Pregnancy	Interventions for promoting smoking cessation during pregnancy	Smoking cessation programs in pregnancy reduce the proportion of women who continue to smoke, and reduce low birth weight and preterm birth. The pooled trials have inadequate power to detect reductions in perinatal mortality or very low birth weight

INDIVIDUAL- Pharmaceutical interventions

Author	Level	Intervention type	Intervention	Effectiveness
Effective				
Stead LF	Ind	Pharmaceutical	Nicotine replacement therapy for smoking cessation	All forms of NRT (gum, transdermal patch, nasal spray, inhaler and sublingual tablets/lozenges) increases the rate of quitting by 50-70%, regardless of setting. The effectiveness of NRT appears to be largely independent of the intensity of additional support provided to the individual.
Cahill K 2008	Ind	Pharmaceutical	Nicotine receptor partial agonists for smoking cessation	Varenicline increased the chances of successful long-term smoking cessation between two- and threefold compared with pharmacologically unassisted quit attempts. More participants quit successfully with varenicline than with bupropion. (varenicline or cytisine or Tabex)
Cahill K 2008	Ind	Pharmaceuticals	Cannabinoid type 1 receptor antagonists (rimonabant) for smoking cessation.	Rimonabant 20 mg may increase the chances of quitting approximately 11/2-fold
Hughes JR 2008	Ind	Pharmaceuticals	Antidepressants for smoking cessation (bupropion; doxepin; fluoxetine; imipramine; moclobemide; nortriptyline; paroxetine; sertraline, tryptophan and venlafaxine)	The antidepressants bupropion and nortriptyline aid long-term smoking cessation but selective serotonin reuptake inhibitors (e.g. fluoxetine) do not
Not effective/Inconclusive				
Lancaster T 2008	Ind	Pharmaceutical	Silver acetate for smoking cessation	Existing trials show little evidence for a specific effect of silver acetate in promoting smoking cessation
David S 2008	Ind	Pharmaceutical	Opioid antagonists for smoking cessation (naloxone, naltrexone and other opioid antagonists)	No significant effect of naltrexone on long-term abstinence
Stead LF 2008	Ind	Pharmaceutical	Nicobrevin for smoking cessation. Nicobrevin is a proprietary product marketed as an aid to smoking cessation. It contains quinine, menthyl valerate, camphor and eucalyptus oil.	No trials

INDIVIDUAL- Pharmaceutical interventions (continued)

Author	Level	Intervention type	Intervention	Effectiveness
Not effective/Inconclusive				
Lancaster T 2008	Ind	Pharmaceutical	Mecamylamine (a nicotine antagonist) for smoking cessation	Data from two small studies suggest that the combination of NRT and mecamylamine may be superior to nicotine alone in promoting smoking cessation. However, these results require confirmation in larger studies before the treatment can be recommended clinically
Stead LF 2008	Ind	Pharmaceutical	Lobeline for smoking cessation	No trials
Gourlay SG, 2008	Ind	Pharmaceutical	Clonidine for smoking cessation	Based on 6 trials, in which there are potential sources of bias, clonidine is effective in promoting smoking cessation
Hughes JR 2008	Ind	Pharmaceuticals	Anxiolytics for smoking cessation buspirone; diazepam; doxepin; meprobamate; ondansetron; and the beta-blockers metoprolol, oxprenolol and propranolol)	None of the trials showed strong evidence of an effect for any of these drugs in helping smokers to quit. Confidence intervals were wide, and an effect of anxiolytics cannot be ruled out on current evidence.

COMMUNITY - Behavioral interventions

Author	Level	Intervention type	Intervention	Effectiveness
Not effective/Inconclusive				
Cahill K 2008	Community		Behavioral: Quit and W in contests for smoking cessation	The population impact measure suggests that the effect of contests on community prevalence of smoking is small, with fewer than one in 500 smokers quitting because of the contest. Levels of deception, where they could be quantified, were high and the lack of controlled studies precludes any firm conclusions from this review
Secker-Walker R 2008	Community		Behavioural: Community interventions for reducing smoking among adults	Failure of the largest and best conducted studies to detect an effect on prevalence of smoking
Bala M 2008	Community		Behavioural: Mass media interventions for smoking cessation in adults	There is evidence that comprehensive tobacco control programmes which include mass media campaigns can be effective in changing smoking behaviour in adults, but the evidence comes from a heterogeneous group of studies of variable methodological quality. One state-wide tobacco control programme (Massachusetts) showed positive results up to eight years after the campaign, while another (California) showed positive results only during the period of adequate funding and implementation. Six of nine studies carried out in communities or regions showed some positive effects on smoking behaviour and at least one significant change in smoking prevalence (Sydney). The intensity and duration of mass media campaigns may influence effectiveness, but length of follow up and concurrent secular trends and events can make this difficult to quantify.

HARM REDUCTION

All interventions

Author	Level	Intervention type	Intervention	Effectiveness
Not effective/Inconclusive				
Stead LF 2008	Ind		HARM REDUCTION: Pharmaceutical: Interventions to reduce harm from continued tobacco use	There is insufficient evidence about long-term benefit to give firm support the use of interventions intended to help smokers reduce but not quit tobacco use. Some people who do not wish to quit can be helped to cut down the number of cigarettes smoked and reduce their carbon monoxide levels by using nicotine gum or nicotine inhaler.

Appendix L2 - Stress and addiction - working model (Al'Absi, 2008)

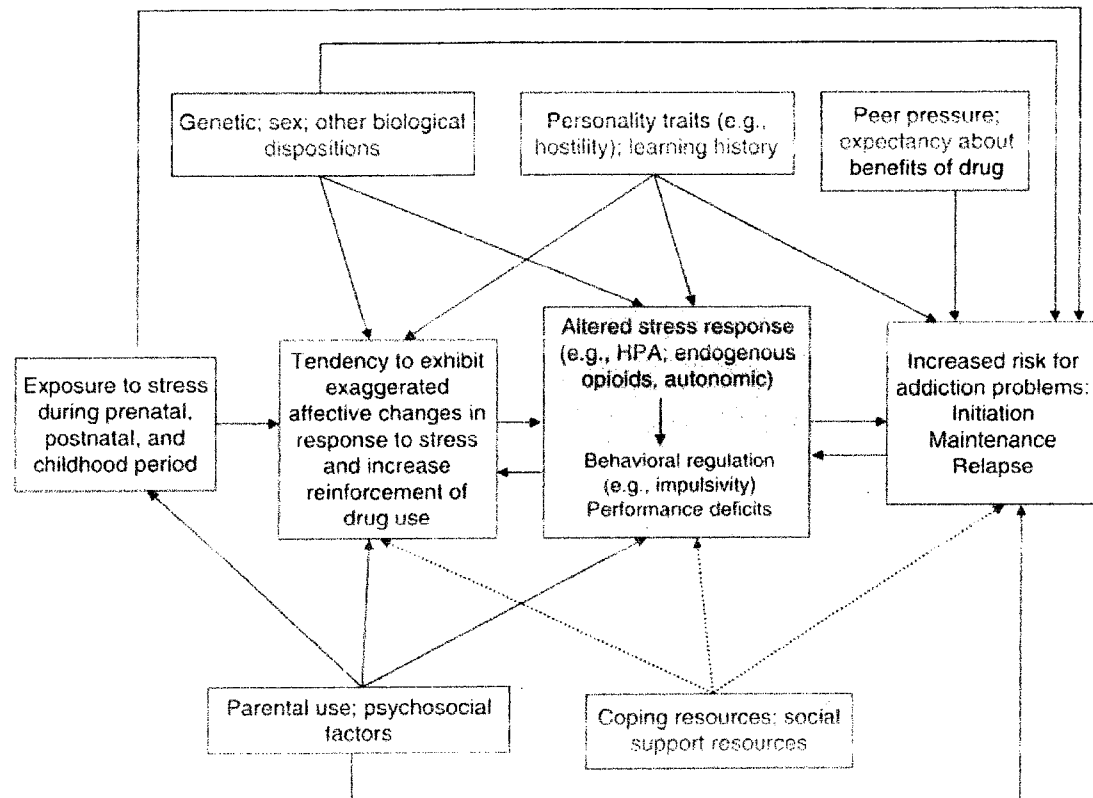


FIGURE 18-1 A diagram illustrating the relationship between stress and addictive processes. The model indicates that childhood exposure to adverse experiences may cause hypersensitivity to stress and contribute to experiences of negative affective states when confronting stress later in life. This hypersensitivity may increase vulnerability for drug use and contribute to the maintenance of drug-taking behavior. Influence of stress on these addictive behaviors is mediated by exaggerated affective changes and perturbations of the stress response systems.

Appendix L2 (continued)- Stress and maintenance of the addiction: working model (Al'Absi, 2008)

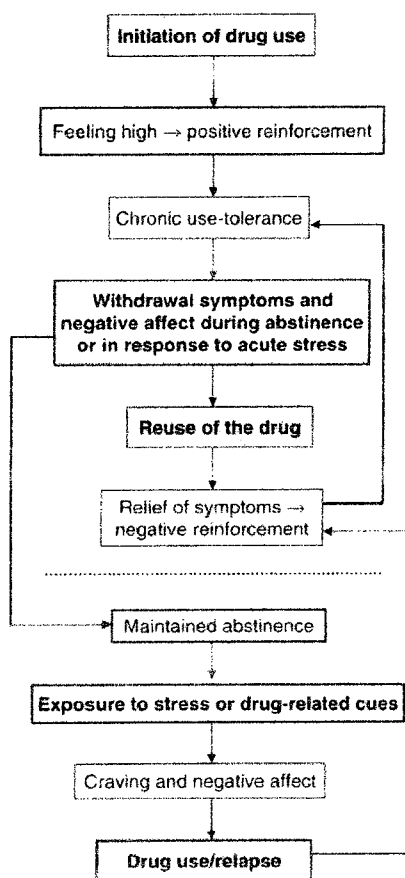


FIGURE 18-2 Illustration of how stress and negative affect contribute to maintenance of drug use and to relapse. Initial drug use may be associated with euphoric effects, but with continued use tolerance develops. During abstinence or under conditions of high stress, negative affect and craving increase leading to drug use and to subsequent relief of these symptoms. Exposure to acute stress or to drug-related cues may also increase craving, contributing to relapse in individuals who are abstinent.

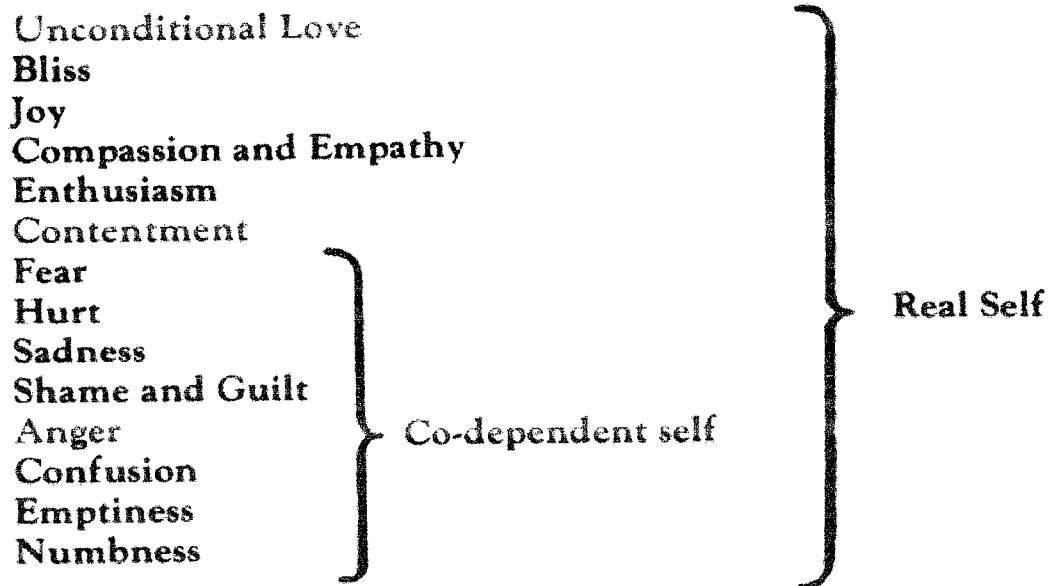
Appendix L3- Underlying principles of Whitfield's theory of co-dependence (1987)

TABLE 1. Some Characteristics of the Real Self and the Co-dependent Self.

Real Self	Co-Dependent Self
Authentic Self	Unauthentic Self, mask
True Self	False Self, persona
Genuine	Ungenuine, "as-if" personality
Spontaneous	Plans and plods
Expansive, loving	Contracting, fearful
Giving, communicating	Withholding
Accepting of self and others	Envious, critical, idealized, perfectionistic
Compassionate	Other-oriented, overly conforming
Loves Unconditionally	Loves conditionally
Feels feelings, including appropriate, spontaneous, current anger	Denies or hides feelings, including long-held anger (resentment)
Assertive	Aggressive and/or passive
Intuitive	Rational, logical
Child Within, Inner Child	Over-developed parent/adult
Ability to be child like	scripts; may be childish
Needs to play and have fun	Avoids play and fun
Vulnerable	Pretends always to be strong
Powerful in true sense	Limited power
Trusting	Distrusting
Enjoys being nurtured	Avoids being nurtured
Surrenders	Controls, withdraws
Self-indulgent	Self-righteous
Open to the unconscious	Blocks unconscious material
Remembers our Oneness	Forgets our Oneness; feels separate
Free to grow	Tends to act out unconscious often painful patterns repeatedly
Private self	Public self

Appendix L3- Underlying principles of Whitfield's theory of co-dependence (1987)
(Continued)

Spectrum of feelings experience by the co-dependent self and real self



Appendix L3- Underlying principles of Whitfield's theory of co-dependence (1987)
(Continued)

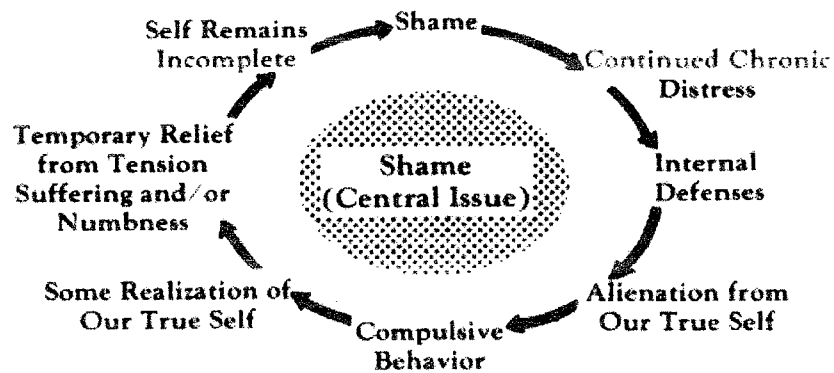


FIGURE 1. Cycle of Shame and Compulsive Behavior (Modified from Fischer, 1985, with permission)

Appendix L3- Underlying principles of Whitfield's theory of co-dependence (1987)
(Continued)

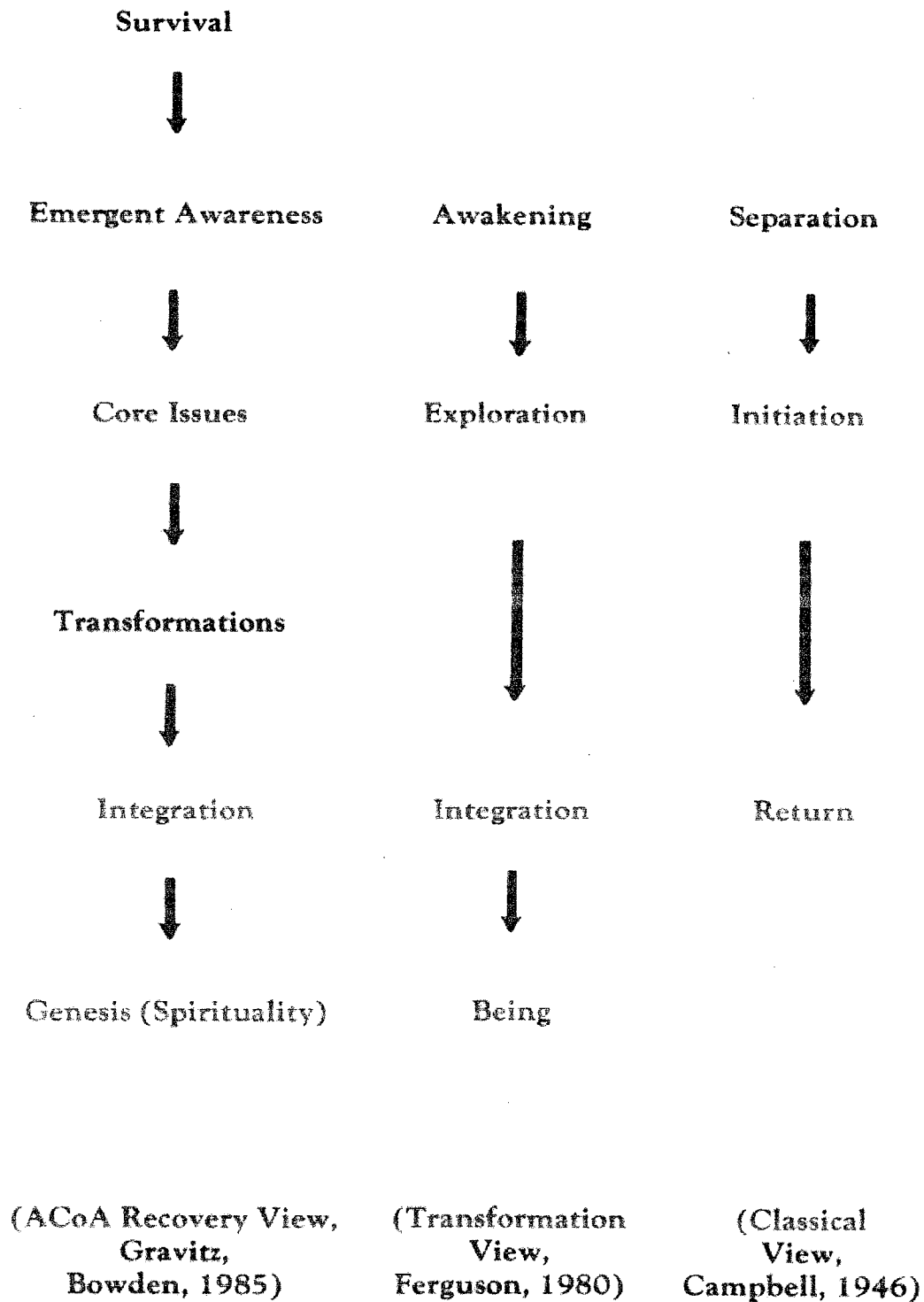
Spiritual growth and levels of consciousness

TABLE 14. Similar Hierarchies of Human Needs, Development and Consciousness

Maslow's Needs	Healing Child Within	Level of Consciousness
		Unity
	Using Spirituality	Compassion
Transcendence	Integrating	Understanding (creativity, natural knowing)
Self-actualization	Transforming	Acceptance thru Conflict (Heart)
	Dealing with core issues (Exploring)	"Power" (mind, ego, "identity")
Belonging and love	Awakening (emergent awareness)	
Safety		Passion (emotions, basic sexuality)
Physiological	Surviving	Survival (food, shelter, illness)

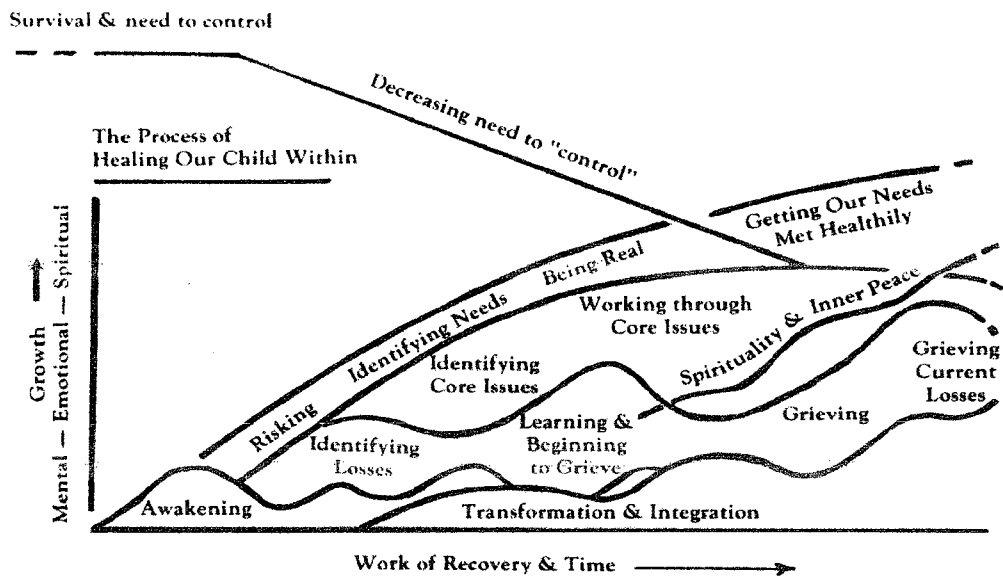
Appendix L3- Underlying principles of Whitfield's theory of co-dependence (1987)
(Continued)

Stages of recovery



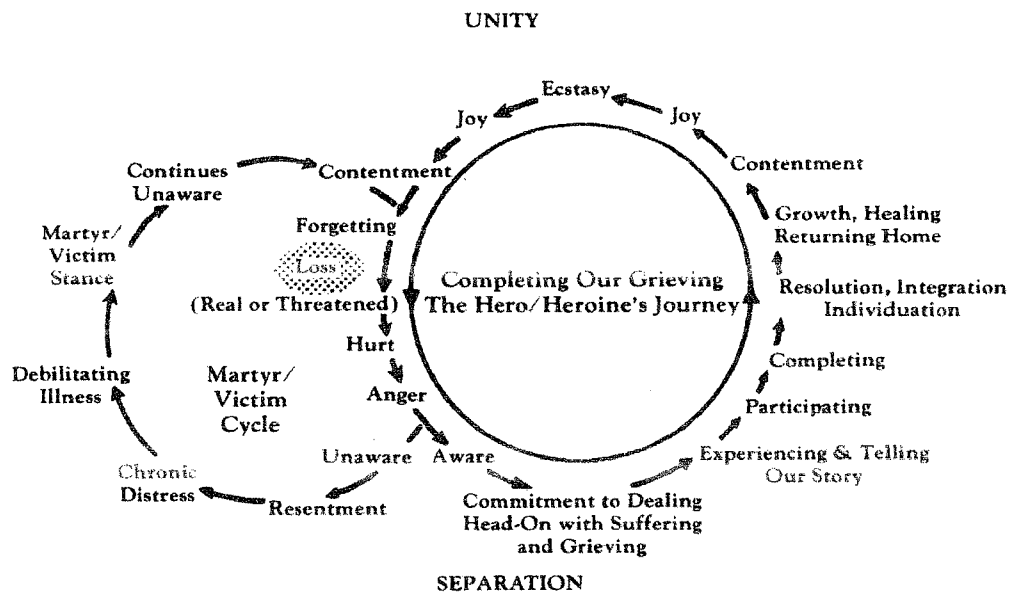
Appendix L3- Underlying principles of Whitfield's theory of co-dependence (1987)
(Continued)

The Healing Framework



Appendix L3- Underlying principles of Whitfield's theory of co-dependence (1987)
 (Continued)

The healing process and corresponding emotions.



Appendix L4 - Purnell's model for cultural competence

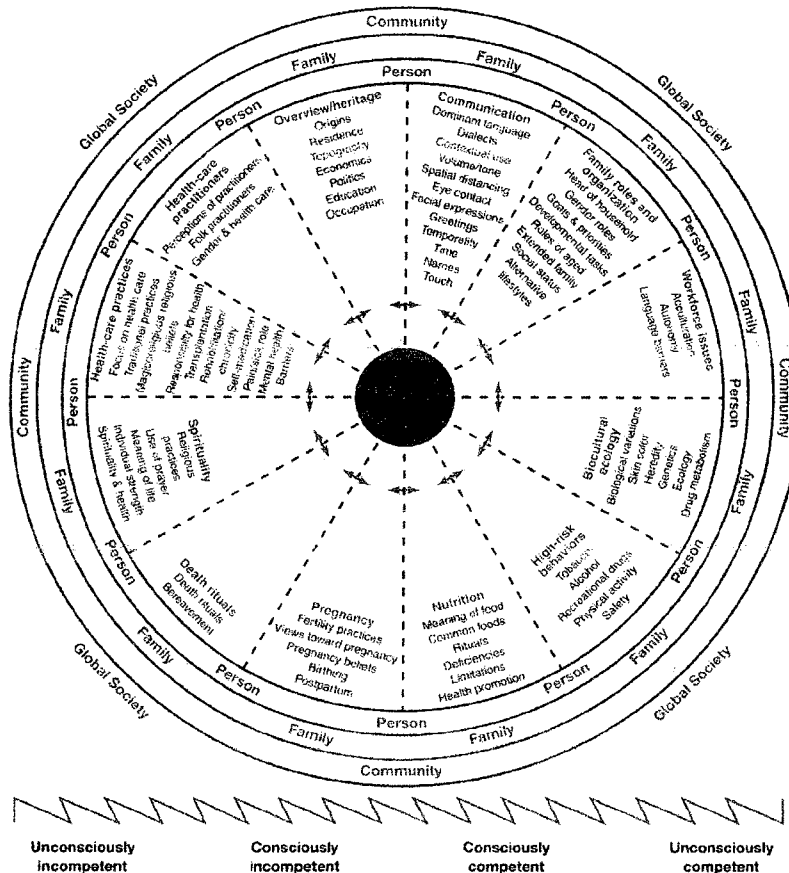


FIGURE 2-1 Purnell's Model for Cultural Competence. Adapted with permission from Larry Purnell, Newark, Del.

The domain most affected in the proposed intervention is the domain of communication. Some of the major factors to consider in Francophone culture are their lower levels of literacy and postsecondary education (Coutu-Wakulczyk, 2003). One must also consider regional differences in the dominant language and dialect spoken by Franco-Ontarians. Francophones have different cultural communication patterns with a strong emphasis on conversations where thoughts and feelings are shared. There are also important non-verbal cues that should be observed such as hand gestures, facial expressions, and physical proximity and that are not shared in a predominantly Anglophone culture. As consumers of health information and healthcare Francophones need tailored messages which should be delivered in the French language and preferably by someone that speaks the same dialect (Coutu-Wakulczyk, 2003).

Reference:

Coutu-Wakulczyk, G., Moreau, D., Beckingham, A.C. (2003) People of French Canadian heritage. In Larry D. Purnell and Betty J. Paulanka (Eds). *Transcultural Health care: A Culturally Competent Approach*. F.A. Davis Company, Philadelphia, USA.

Appendix L5 – Holistic approach: a biopsychosocial-spiritual model of care.

In 1995, the World Health Organization (WHO) declared that spirituality is an important dimension of quality of life whereby person with a sense of spiritually well-being had positive impacts in other domains of life mainly the physical, psychological, and social.

A biopsychosocial-spiritual model of care and research views the wholeness of the person and includes spirituality. Spirituality is defined as an individual's or a group's relationship or search for ultimate or transcendent meaning which is grounded in the discipline of philosophical anthropology. Philosophical anthropology views the human persons as intrinsically spiritual and as a being in relationship. In our culture we tend to consider spiritual needs at end of life care, but spirituality is part of ancient civilizations' ways of conceptualizing health, wellness and life in general. Ancient civilizations conceptualized illness as a disturbance in relationships, including the relationship between human beings and the cosmos. The shaman's or medicine man's role was to heal by restoring this relationship. Hence healing was viewed as spiritual in nature. This is still evidenced today in aboriginal cultures where the medicine wheel includes the physical, mental, social and spiritual domains (Sulmasy, 2002; 4 Worlds International Institute)

Illness disturbs relationships both inside and outside the body of the human person. Inside the body: the physical, physiological processes are disturbed; and the body-mind relationship is disturbed. Outside the body: the relationship between the individual and the environment at the meso and macro levels are disturbed; as well as the relationship between the individual and the transcendent.

Transcendence per se can't be measured: however we can measure a person's religiosity, spiritual/religious coping, spiritual well-being, and spiritual needs. For the purpose of this project it is the measures of spiritual/religious coping and support that are of interest. Spiritual coping is defined as how a person's "spiritual or religious beliefs, attitudes, and practices affect one's reaction to stressful life events". The suggested tools for measurement are: the RCOPE and the INSPIRIT. The former is a measure of religious coping while the latter a measure of more general spiritual coping. They have been mostly applied to look at the inner resources the patient has for dealing with the stress of terminal illness (Sulmasy, 2002). Within the project, such measures are of interest to look at women's coping to the stresses living in poverty.

The biopsychosocial-spiritual model can provide a foundation for providing holistic care for women. It addresses the entire person and relationships at the physical, psychological, social, and spiritual levels.

References:

Sulmasy, D.P. (2002). A biopsychosocial-spiritual model for the care of patients at the end of life. *The Gerontologist*, Vol. 42, 24-33

4 Worlds International Institute, [<http://www.4worlds.org/>].

Appendix L6 - Empowerment

Empowerment can be defined as “*a construct that links individual strengths and competencies, natural helping systems, and proactive behaviors to social policy and social change*” (Perkins, 1995). This construct compels us to think in positive terms: focusing on wellness, competence, strengths. Many theories of empowerment exist focusing on both processes, outcomes, and different contexts (Perkins, 1995).

Zimmerman (1995) defines empowerment as a multi-level construct: psychological, organizational and community levels. Psychological empowerment is an open-ended construct whereby the empowerment differs across time, context and population. The different levels of empowerment influence one another, but for the purpose of the proposed logic model, we are primarily interested in psychological empowerment. Psychological empowerment is defined as empowerment at the individual level and implies perceptions of self control, engaging in a proactive approach to living, and increasing one's understanding of the social and political context in which one lives (Zimmerman, 1995). It includes belief in their ability to achieve their goals, to be aware of enabling factors and barriers to achieve their goals, and the efforts required to achieve their goals.

Zimmerman, 1995 distinguishes between empowering processes and empowering outcomes: the first being how to become empowered and the second the consequences of empowerment. Some examples of empowering processes involving control and access to resources include: shared leadership, group identity and participation in organizational tasks.

Important considerations for the intervention program and involvement as a researcher are to involve individuals in the development, implementation and evaluation of the intervention. Hence the participants expressed their personal preferences within another study (Laplane, 2009), and their input would also be solicited throughout the programme and research. Eco-identity has already been established since the researcher (Laplane) is already a member of this cultural group, as a participant at community organizations and events (Partage Vanier Food Bank, parenting skills group at the Vanier Community Resource Center, community clothing day). Input was and will continue to be solicited throughout the process of developing the intervention and its evaluation by involving the input of leaders of the 13 programmes offered at the Vanier Community Resource Center.

Some potential tasks for the tailored intervention which would be empowering would be the following:

- Encourage group members to establish personal goals.
- Encourage group members to do an inventory of individual level capacities and community resources.
- Encourage members of the smoking cessation group to establish their own rules/regulations for how the group will function.
- Facilitate the process whereby members of the cessation group would generate their own poster that would promote the cessation program within their community.

- Encourage and facilitate the engaging of group members within the community to that they can offer their skills/competencies to promote a positive change. (Example a former drug-user willing to be engaged in the community as peer support for a current user).
- Prepare and promote the self-control and self-determination of the group by engaging one of the individual members to take over the leadership/facilitation of the group.
- Involve participants in the programme evaluation by collecting data in the form of personal diaries.
- Involving participants in the dissemination of the intervention and research findings within other Franco-Ontarian communities.

A universal measurement of empowerment is not possible because it is not a static personality trait but a dynamic and context-specific construct, therefore its measurement must be connected to the individuals' experiences and context. Both qualitative and quantitative measures can be used and the main themes to be measured are mastery and control, resource mobilization and sociopolitical context and participation. Because it is an open-ended construct, a general framework of outcomes must be broad enough to capture different populations, settings, and time frames. Associations have been found between the following variables and are consistent with empowerment theory: perceived control variables, skill development and measures of participation and community involvement. Zimmerman (1995) proposed a general evaluation framework of psychological empowerment that includes components that are intrapersonal, interactional, and behavioral. Intrapersonal refers to what people think about themselves, interactional refers to one's understanding about their community and the options they have to engage change and reach their goals, and behavioral refers to the actual actions that are taken.

References

- Perkins, D.D., Zimmerman, M.A. (1995). Empowerment theory, research, and application. *American Journal of Community Psychology*, 23(5), 569-579.
- Zimmerman, M.A. (1995). Psychological empowerment: issues and illustrations. *American Journal of Community Psychology*, 23(5), 581-599.

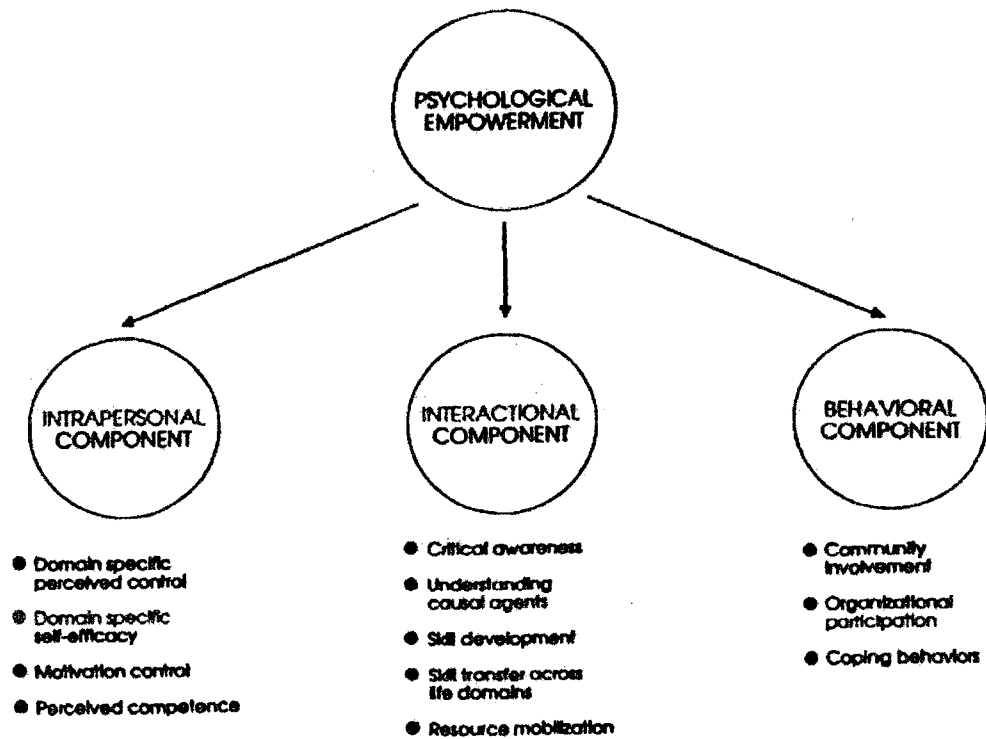


Figure. Zimmerman's framework for measuring individual level psychological empowerment