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FACULTY OF GRADUATE AND
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SMOKERS WITH CARDIAC DISEASE: A QUALITATIVE STUDY

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THESIS ABSTRACT

The purpose of this thesis is to describe the experiences of individuals who continue to smoke following a myocardial infarction. This manuscript-based thesis consists of three distinct papers to be submitted to nursing journals for publication. The first manuscript provides a critique of the research literature pertaining to predictors and perceptions of continued smoking for individuals with coronary artery disease. The second manuscript reports the findings of a qualitative study that was conducted to describe the meaning of smoking within the context of a myocardial infarction, and to determine factors that influence continued smoking. The third manuscript explores ethical implications that emerged from the first two manuscripts. This thesis illustrates how addictive behaviours often have underlying meanings, how continued smoking becomes more understandable when viewed in the context of people's lives, and how possibilities for change can be derived from the ways that clients view their heart disease and smoking.

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CHAPTER I

General Introduction

This chapter introduces the thesis and explains the reasons the study was conducted. It also outlines the purpose and objectives for the thesis.

Participant Quote:

“You should be afraid, but I said, I’m not. And I said, I’m still smoking, I said, I don’t get it”.

Introduction

Smoking, which costs the Canadian health care system in excess of \$3 billion every year, is the single most serious public health problem in Canada, and every year more than 45,000 Canadians die as a result of disease and illness caused by tobacco use (Health Canada, 2004). In the past decade, Statistics Canada (2004) has reported that daily smoking has declined from 29% to 22%. However, these declines occurred primarily among teenagers and young adults. To reduce disease and death due to tobacco use, the Federal Tobacco Control Strategy has been set forth and endorsed by all Ministers of Health. This framework involves a comprehensive, multi-faceted approach to tobacco control to provide extra impetus for health professionals to develop programs to reduce smoking (Health Canada, 2004). This 10-year plan focuses on four components: protection, prevention, cessation and harm reduction. Given this mandate, further investigation of the factors underlying persistent smoking is warranted.

Smokers with Cardiac Disease

Researchers have reported that 50-75% of smokers continue to use tobacco after a diagnosis of coronary artery disease (CAD) (Brummett et al., 2002; Deckers et al., 1994; Herlitz, Bengtson, Hjalmarson, & Karlson, 1995; Rigotti, Singer, Mulley, & Thibault, 1991; van Berkel, Boersma, De Baquer, Deckers, & Wood, 1999). CAD is a condition in which reduced flow of oxygen and nutrients to the cardiac muscle (myocardium) may result in angina pectoris, or substernal pain radiating to the left arm, neck, or shoulder (Anderson, Anderson, & Glanze, 1998). A myocardial infarction (MI) or heart attack, defined as the necrosis of a portion of the myocardium caused by obstruction in a coronary artery, may be related to a thrombus or spasm, but is most often related to CAD (Anderson et al., 1998). Depending on the location and severity of the CAD, the occlusion may require revascularization using one of the following treatment options: the administration of thrombolytic medication to break up the clot,

angioplasty, or coronary artery bypass surgery. These patients are at increased risk for recurrent MI and death, and secondary prevention refers to the implementation of strategies to minimize these risks (Blazing & O'Connor, 1999). Interventions to prevent the progression of CAD may include medications regimens, recommendations for a healthy diet, smoking cessation, and gradually increasing physical exercise. The process by which a patient follows advice for secondary prevention of an MI may be referred to as compliance or adherence to recommendations. The term adherence has been increasingly used in place of the term compliance, reflecting a shift of emphasis toward respectful, patient-centred care (Edwards, 1999). Many health care professionals have observed situations in which colleagues have made value judgements about clients who have not followed recommendations to promote health. Clinicians may not be effective patient advocates if they blame patients for their illness (Walsh, 1995).

An MI is most often caused by atherosclerosis, which is the most common type of CAD (Anderson et al., 1998). Among individuals with CAD, smoking is the most important modifiable risk factor (Daly, Mulcahy, Graham, & Hickey, 1983; Deckers et al., 1994), and there is extensive evidence that the use of tobacco contributes to CAD (Critchley & Capewell, 2003; Makomaski Illing & Kaiserman, 2004; Menotti et al., 2001). Although the exact pathophysiology linking tobacco to CAD is largely undetermined, cigarette smoking leads to cardiovascular morbidity and mortality by increasing inflammation, thrombosis, and oxidation of low-density lipoprotein cholesterol (Ambrose & Barua, 2004). For individuals who have survived an MI, smoking may be the greatest predictor of mortality, and smoking cessation can reduce the risk of recurrent MI and cardiovascular death by 50% or more (Deckers et al., 1994; Greenwood, Muir, Packham, & Madeley, 1995; Rea et al., 2002). A review of research studies relevant to smoking in this sub-population can be found in Chapter II of this thesis.

Background

My interest in this topic began when I was employed as a registered nurse in various cardiology centres in which patients were admitted with a diagnosis of an MI or CAD. Smoke-free policies in the hospital may result in temporary smoking cessation, however, some patients resume using tobacco following discharge. Although clinicians aim to provide care that is non-judgemental, I have heard many of them express that they have difficulty understanding why their patients would ignore advice to modify dangerous lifestyle behaviours such as smoking following a diagnosis of an MI or CAD. A literature search revealed that further in-depth research regarding this phenomenon was indicated, specifically from the perspective of those patients who were not motivated to quit smoking. Knowledge resulting from the type of inquiry in this thesis may enhance the manner in which clinicians communicate with clients, and lead to interventions that are more thoughtful and effective (van der Zalm & Bergum, 2000). According to McKibbin and Wilson (2001), the telling of the story is an essential first step for individuals to make sense of their MI, as possibilities for change can be derived from the way that they construct the MI.

Health Promotion Models and Theories Related to Smoking

Health promotion is a key aspect for encouraging smoking cessation. However, the prospect of trying to persuade someone to make lifestyle changes that they do not wish to make may at times seem incongruous with a relationship in which the nurse participates with clients in ways that are meaningful and respectful. If health promotion is considered to play a key role in facilitating healthy lifestyles, health care professionals must be informed regarding the most effective and ethical approaches.

Several models and theories have been developed in an attempt to guide health promotion in areas such as smoking cessation. Traditional approaches have focused on

strategies to alter perceptions of risk. For example, the Protection Motivation Theory suggested that if harmful consequences of maladaptive behaviour were communicated to the patient, healthy choices would result (Rogers, 1975). However, in a study by Avis, Smith, and McKinlay (1989), no relationship was demonstrated between perceived risk and behaviour change. They found that while some individuals do use established epidemiological risk factors in estimating likelihood of an MI, several other factors influence risk perception. Findings that illustrated this approach were often inconsistent, and involved measuring self-reported intentions to change after participants were made to read literature that was designed to induce fear (Wertele & Maddux, 1987). Concepts from the Protection Motivation Theory have been further developed in the Health Belief Model, which states that health-related action depends on the threat to health, the relevance to the individual, and the perceived value of the benefits of taking action (Maiman & Becker, 1974).

The Theory of Reasoned Action states that behavioural intentions, attitudes towards the behaviour, and norms associated with the behaviour are important determinants in a person's intention to adopt healthy behaviour (Ajzen & Fishbein, 1980). An extension of this theory is the Theory of Planned Behaviour, which states that individuals will attempt to perform a behaviour if they perceive that the benefits of success are outweighed by the benefits of failure, and that successful change will occur if individuals perceive sufficient control over internal and external influences (Ajzen, 1985). However, Godin and Kok (1996) pointed out that this model predicted intention to change rather than actual behaviour change.

In the 1980s, an educational approach became a central component of health promotion, however, research has demonstrated that providing information to individuals as a single intervention has minimal effect on the adoption of healthy behaviour (King & Mosca, 2000). Some health models assume that individuals act rationally, and are motivated to act on all

information that is received. They do not account for other circumstances that may influence health action, such as maintaining routines, and environmental factors that affect an individual's course of action. Furthermore, while a wide body of literature exists to support these approaches, they provide limited concrete interventions for assisting individuals who are resistant to change or do not place a high value on healthy lifestyle choices.

The Theory of Self Efficacy was developed by Bandura (1977), which postulated that the two most powerful influences on behaviour were outcome expectancy and self-efficacy. Bandura (1997) agrees that awareness of the potential dangers of smoking is a precondition for change; however, he argues that confidence in the ability to quit smoking plays a pivotal role in overriding cravings and breaking the habit. Currently, most conceptual models include self-efficacy as a component of successful adherence to healthy behaviours. Some clinicians have based interventions on the Social Learning Theory, which uses Self Efficacy Theory and focuses on the interactions between environmental, cognitive, and behavioural factors (Bandura & Schrenk, 1981). While these theoretical approaches have added to our understanding of factors that contribute to healthy choices, they provide little guidance for clinicians to assist individuals who are resistant to change.

More recently, Prochaska and Velicer (1997) have developed the Transtheoretical Model, which asserts that the effectiveness of various approaches in promoting smoking cessation depends on which stage of change the individual is at. While studies have validated these stages and processes of change for smokers with cardiac disease (Kristeller, Rossi, Ockene, Goldberg & Prochaska, 1992), Prochaska and Velicer (1997) propose that stage of change is a variable and not a theory, and that the core constructs of their model would be mutually enhanced when integrated with an alternative model. This stage-based approach has been shown to be effective for facilitating motivation in a broad range of situations such as

AIDS prevention and alcohol abuse. However, further evidence is required to demonstrate its effectiveness in changing smoking behaviour (Riemsma et al., 2003).

Purpose and Objectives

The purpose of this thesis is to provide an in-depth description and discussion of why some individuals continue to smoke following an MI. The first manuscript provides a critique of the research literature pertaining to predictors and perceptions of continued smoking for individuals who have cardiac disease. The second manuscript reports the findings of a qualitative, phenomenological study that was conducted to gain insight into the experiences of these individuals. Objectives for this study were to describe the meaning of smoking within the context of coronary artery disease, and to determine the factors that influence continued smoking. Several ethical implications emerged from the analysis of the narrative descriptions provided by participants. Thus, the third manuscript explores three opposing ethical principles as they relate to adherence issues that were identified in the study. Implications for practice and research are discussed in each manuscript. This thesis addresses the question, “why do individuals continue to smoke following an MI?”

Ethics

To answer the research question, a qualitative research study was conducted, as described in Chapter III of this thesis. Participants in the study were recruited from a local cardiac centre. This facility provides care for individuals who have been diagnosed with various cardiovascular disorders, including CAD or MI. A routine follow-up phone call from the Prevention and Rehabilitation Centre to all patients referred for smoking cessation presented an opportunity to access the group of smokers who had continued to smoke following their MI. Following ethics approval, patients who stated that they were currently smoking were asked if a graduate student could contact them regarding participation in the study. It was

emphasized to these patients that they would be telephoned only if they qualified for the study, and that the investigator would not try to persuade them to quit smoking. Individuals who had experienced an MI were then contacted by a registered nurse to determine whether they met the remaining criteria. Patients were assured that their choice to participate was voluntary, would not affect their care, and that they could withdraw at any time.

The design for this study was naturalistic, and thus there was no intended intervention during the interview. Kerr and Fothergill-Bourbonnais (2002) have reported that engaging in detailed discussion and retelling stories provides opportunities for reflection that may allow individuals to make sense of their MI. On a few occasions, the dialogue stimulated increased awareness of personal beliefs regarding smoking and CAD, resulting in requests for specific information. In these situations no emotional distress was experienced, and with the patient's permission, information regarding how to contact a registered nurse at the rehabilitation centre was provided.

Using Phenomenology

Qualitative investigation using a rigorous, systematic, design is a legitimate approach to knowledge development (Young & Jillings, 2000), and permits the deep understanding gained by case descriptions that are rich in information (Sandelowski, 1995). The present study used a phenomenological approach, which aims to understand the meaning of a person's experiences by having the participant reconstruct them (Seidman, 1998; Van der Zalm & Bergum, 2000). To synthesize the participants' experiences into an overall story, narrative analysis was based on procedures as described by Georgi (1985). These guidelines consist of the following four steps: 1) read the data to get a sense of the whole, 2) discriminate meaning units (categories) from participants' descriptions of the phenomenon being studied, 3) articulate the psychological insight in each of the meaning units, and 4) synthesize all of the transformed

meaning units in a consistent statement regarding the participants' experiences. Once the researcher has identified the meaning units that relate to the phenomenon being studied, the essential structure of the concrete, lived experience from the perspective of the researcher's discipline can be expressed (Georgi, 1997).

According to Georgi (1997), phenomenology is a rigorous process that offers a method for accessing a phenomenon of human experience as presented by the participant's description. Data that truly reflect the participants' experiences can only be obtained by an approach that has no preconceptions of what the data analysis may yield (Clark, Curzio, Lindsay, Fleming & McIntosh, 1998). In phenomenological research, previous knowledge is acknowledged or "bracketed," in order to encounter a phenomenon freshly, and describe it precisely (Georgi, 1997). Accordingly, reflections identifying possible bias associated with the researcher's personal views were also recorded. In addition, a journal of observations and self-reflections further assisted in identifying and clarifying recurring categories or themes.

Interview questions in a phenomenological study are designed to draw a vivid picture of the participants' experiences, including the context that shapes their perceptions (Sorell & Redmond, 1995). A concrete, detailed description is sought that is as faithful as possible to what was experienced by the participant (Georgi, 1997). In the study outlined in Chapter III, the interviewer encouraged participants to direct the conversation so that it flowed naturally, in an unstructured manner. Probes and follow-up questions were used to facilitate clarification or depth, and to indicate to the participant what type of information the interviewer was seeking (Rubin & Rubin, 1995). When issues arose that required elaboration, the interviewer invited the participant to discuss an example, or asked questions such as, "Could you share more about what that was like for you?" or "How were you feeling at that time?". When the participant's

experiences had been fully articulated, the following question was asked: “Is there anything else that you would like to add that we have not discussed?”.

To allow the analysis to guide subsequent interviews, and to avoid collecting unnecessary data, the meaning units were established concurrently as interviews were being conducted, as recommended by Morse (1994). Consecutive interviews were shaped by previous responses, and new lines of inquiry were pursued based on these findings as outlined by Clark et al. (1998). Consistent with qualitative research methods, this process provided an opportunity for hunches and emerging categories to be clarified and validated, and specific aspects to be further explored.

Thesis Outline

This is a manuscript-based thesis consisting of three distinct papers to be submitted to peer-reviewed journals for publication. The first manuscript provides a review of the research literature pertaining to smoking following an MI. The second manuscript reports the findings of a qualitative study that explores the perspective of these individuals. The third manuscript contains an exploration of three opposing ethical principles as they relate to the data that emerged from the study in the second manuscript. Implications for practice, research and policy are discussed in each manuscript. The final chapter provides a conclusion, and a discussion to integrate the information in Chapters II, III, and IV.

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CHAPTER II

Predictors and Patients' Perceptions and of Smoking Following an MI:

A Review of the Research Literature

This manuscript is to be submitted to the Canadian Journal of Cardiovascular Nursing.

Participant Quote:

"I said at least I know my cigarettes, they're there for me but
that's the reason I've been keeping smoking, and
it's being alone I think that really... the loneliness and you feel empty and it's hard, it's hard."

Abstract

Among individuals who have been diagnosed with coronary artery disease (CAD), smoking is the most important modifiable risk factor. Although smoking cessation can reduce the risk of recurrent myocardial infarction (MI) and cardiovascular death by 50% or more, 50-75% of cardiac patients who smoke continue to use tobacco after a diagnosis of CAD. This paper will present a review of the research literature to outline the predictors and perceptions of smoking following an MI, and reveal how these individuals view the risks of smoking associated with CAD. Studies reveal that long-term maintenance of behaviour changes is strongly influenced by the patient's causal explanation of the MI. While smokers recognize tobacco as a risk factor for CAD, they are less likely to relate it to their own MI. Denial of the value of adopting behaviour change may be perpetuated by health care professionals who communicate an over-optimistic outlook on recovery. An understanding of the patient's perspective is essential for determining how motivation can best be stimulated.

Introduction

In Canada, health care costs attributed to smoking have been estimated at \$2.5 billion yearly, and these costs are rising each year (Kaiserman, 1997). There is extensive evidence that the use of tobacco contributes to coronary artery disease [CAD] (Critchley & Capewell, 2003; Makomaski Illing & Kaiserman, 2004; Menotti et al., 2001). Among individuals who have been diagnosed with CAD, smoking is the most important modifiable risk factor (Daly, Mulcahy, Graham, & Hickey, 1983; Deckers et al., 1994). For those who have survived a myocardial infarction [MI], smoking may be the greatest predictor of mortality, and smoking cessation can reduce the risk of recurrent MI and cardiovascular death by 50% or more (Deckers et al., 1994; Greenwood, Muir, Packham, & Madeley, 1995; Rea et al., 2002). Despite this evidence, it has been reported that 50-75% of smokers continue to use tobacco after a diagnosis of CAD (Brummett et al., 2002; Deckers et al., 1994; Herlitz, Bengtson, Hjalmarson, & Karlson, 1995; Rigotti, Singer, Mulley, & Thibault, 1991; van Berkel, Boersma, Roos-Hesselink, Erdman, & Simoons, 1999).

The occurrence of a life-threatening event frequently serves as a cue to action that prompts behaviour change (Meillier, Lund, & Kok, 1997). Diagnosis of an MI, smoke-free policies in the hospital, as well as the hospitalization itself, all provide an impetus for patients to evaluate their risk-prone behaviours and attempt smoking cessation (Greenwood et al., 1995; Rigotti, et al., 1991). However, smoking cessation has been found to be the most challenging lifestyle recommendation to adhere to after an MI (Campbell et al., 1998; Miller, Wikoff, Garrett, McMahon, & Smith, 1990). Existing health care interventions do not seem to be addressing the needs of individuals who continue to smoke (Andersen, Keller, & McGowan, 1999; Goldstein et al., 1997). An exploration of this phenomenon of non-adherence is essential for understanding how motivation can best be stimulated (Cameron, 1996; McClure, 2001).

Why do some individuals continue to smoke in the face of an MI? The purpose of this paper is to summarize the research literature describing the predictors and perceptions of the risks of continued smoking and relapse for individuals who smoke tobacco following an MI. Knowledge resulting from this type of inquiry may enhance the manner in which clinicians communicate with these clients and guide appropriate interventions.

Literature Review

For this literature review, the databases MEDLINE, CINAHL, psychLIT, and Cochrane Systematic Reviews were searched. The terms 'coronary artery disease' and 'myocardial infarction' were each combined with the terms "smoking", "perceptions", "predictors" and "lifestyle" to obtain research studies written in English that examined smoking or lifestyle changes following an MI. Reference lists of articles retrieved were checked for additional research studies. Smoking behaviour and interventions have changed significantly in the past decade (Gentz, 2000; Rigotti et al., 1991). Accordingly, the literature search encompassed a time span from January 1989 to December 2003 so that the results would be relevant to current practice. Abstracts and articles were screened for eligibility according to the following criteria. Articles were included if study subjects had been diagnosed with a MI or CAD, but had not had coronary artery bypass grafts [CABG]. Research exploring changes following CABG, or focusing on individuals who were only 'at risk' for developing CAD were not included, as it is possible that these individuals have a unique set of predictors and beliefs regarding smoking (Sutherland & Jensen, 2000). Clinical trials evaluating interventions for smoking cessation were not retrieved, as the purpose of the review was to examine predictors and perceptions of smoking and smoking relapse.

Thirty-six research studies examining lifestyle changes and smoking following an MI, angioplasty, or diagnosis of CAD formed the basis for this review, and are outlined in

Appendix A. Only five of the 36 studies were conducted in Canada. In order to describe the perspective of this population, issues were presented by incorporating the findings from both qualitative and quantitative studies under appropriate subheadings. Ten articles focused on smoking behaviour and CAD or MI, while 26 articles described smoking together with other lifestyle changes. Of the ten studies that specifically examined smoking behaviour, all used quantitative methods, and one of these ten used mixed methods and incorporated qualitative methods. Of the 15 studies that examined adherence to general lifestyle recommendations post-MI, seven were quantitative and seven were qualitative. Nine studies that explored the lived experience after an MI (5) or a diagnosis of CAD (4) were chosen for this review because they elicited specific information regarding lifestyle changes and smoking. A large proportion of MI patients go on to have angioplasty. One study (not included in this review) revealed that 62% of women and 79% of men had undergone a revascularization procedure, and 82% of these procedures were angioplasty as opposed to CABG (Woodend, Stewart, Rodin, & Devins, 2001). Therefore, two studies and one systematic review focusing on lifestyle changes following angioplasty were referred to in this paper, as the findings were relevant to continued smoking for individuals with CAD.

Five additional 'classic' studies published between 1985 and 1989 have also been referred to in this paper, since they reported key findings that were foundational for more recent research. While most meta-analyses or systematic reviews pertaining to this topic demonstrated the physiological effects of smoking, or the efficacy of clinical interventions, the only article describing predictors and perceptions that reviewed studies exclusively on cardiac patients was written in 1984 by Burling, Singleton, Bigelow, Baile, and Gottlieb. As well, van Berkel et al. (1999) included predictors of successful smoking cessation in their article evaluating various

interventions for CAD. The participants in most of the studies reviewed by Rigotti and Pasternak (1996) and McKenna and Higgins (1997) had not in fact been diagnosed with CAD.

Predictors of Smoking Following an MI

The decision to make a health-related change is complex and multidimensional. Several researchers have investigated factors that predict successful smoking cessation after an MI. Sustained cessation has been associated with lighter smoking, longer hospital stay, increased severity of disease, and revascularization procedures (Brummett et al., 2002; Ockene et al., 1992, Rigotti et al., 1991; van Berkel, van der Vlugt, & Boersma, 2000). A study of patients who had undergone angioplasty revealed that smokers were more likely to continue smoking if they were younger, heavier smokers, and had a greater number of additional cardiac risk factors (Hasdai et al., 1998). Decreased cessation rates for heavier smokers may be explained by the fact that the severity of nicotine withdrawal is related to the intensity of prior smoking (Rigotti & Pasternak, 1996). Initial avoidance of smoking is more common when symptoms are present; consequently, for those who do not experience further chest pain, the risk of relapse remains high (Ockene et al., 1992).

Psychosocial variables have also been shown to differentiate between those who sustain smoking cessation after an MI. Predictors of successful quitting include perceived self-confidence in the ability to quit, being internally motivated (Bolman & de Vries, 1998), a greater readiness to change, and perception of self-control (Ockene et al., 1992). Furthermore, difficulty sustaining smoking cessation in the face of CAD has been correlated to psychological disorders, such as depression and anxiety (van Berkel et al., 2000; Ziegelstien et al., 2000). In one study of MI survivors, younger smokers tended to have a high level of depression, while elderly smokers were often highly anxious and used tobacco for stress reduction (Huijbechts et al., 1996).

Smoking has been associated with stressful environmental situations, and for some individuals, smoking represents a coping mechanism. Seen from this perspective, lifestyle choices that were previously considered to be voluntary may be strongly influenced by broader contextual factors (Evans & Stoddart, 1990). Smoking status is more readily altered by MI survivors who have more education (Brummett et al., 2002; Rosal, et al., 1998), come from a higher social class, and are married (Greenwood et al., 1995). Smokers were less likely to quit if they were sharing a household with someone who smoked (Hevey, Slack, Cahill, Newton, & Horgan, 2002), and experienced social isolation (van Berkel et al., 2000). However, results from research studies examining the role of social support in predicting post-MI smoking are contradictory (e.g., Conn, Taylor & Hayes, 1992; Fleury, 1993; Greenwood et al., 1995). Participants in one study felt that social support was a barrier to sustaining lifestyle changes because it decreased their sense of autonomy and responsibility (Fleury, 1991).

The way that health messages are framed, as well as the type of health care professional who delivers advice, also has an impact on smoking cessation (Lancaster & Stead, 2003; McClure, 2001). MI survivors who receive support and consistent messages have greater success in quitting smoking (van Berkel et al, 2000). Ockene et al. (1992) suggest that individuals who receive interventions to assist with quitting may have greater success in quitting because they are less able to maintain denial of the harmful effects of smoking. Furthermore, interventions may be more effective when they involve an approach that is individualized according to the patient's beliefs and culture. For example, some people feel that being told what to do is paternalistic, while others prefer a forceful message from their health care provider (Al-Hassan & Sagr, 2002).

Patient Perceptions Following an MI

Research to elicit the perspective of MI survivors regarding adherence to recommendations by health care professionals has yielded important insights into the effects of personal beliefs and attitudes. An individual's perceptions in adjusting to an MI may have a significant impact on the rehabilitation process (Johnson & Morse, 1990).

Effect of Personal Construction of Cardiac Event

According to McKibbin and Wilson (2001), lifestyle choices can be explained by eliciting the individual's construction of their cardiac event. They argue that by evoking personal meanings, persistent smoking can be understood as more than simply lack of motivation. Several researchers have found that long-term maintenance of behaviour changes is strongly influenced by patients' causal explanations of their MIs, and that these understandings fluctuate over time (Ford, 1989; McSweeney, 1993a; Wiles & Kinmonth, 2001). For example, Rosenfeld and Gilkeson (2000) found that if women had not explored causality of their MIs, they were not ready to incorporate lifestyle changes. This phenomenon is not new; Cowie (1976) reported that patients frequently perceived an MI as the obvious outcome of recent stressors, which were viewed as warnings. It was revealed that individuals often normalized an MI through a process of retrospective reconstruction, in which they had rewritten the past to fit the present. However, most studies prior to 1990 were primarily focused on factors affecting delay in seeking medical assistance rather than lifestyle changes.

Patients who believe that their MI is controllable and caused by modifiable risks are more likely to take action to change behaviour (Cooper, Lloyd, Weinman & Jackson, 1999; McSweeney, 1993b). Several researchers found that patients viewed specific stressful events and perfectionism as the main contributors to MI; consequently motivation to make changes pertained to stress reduction rather than alterations in diet or smoking (e.g., McKibbin &

Wilson, 2001; Weinman, Petrie, Sharpe, & Walker, 2000). In a study examining patients' perceived causes of their MIs, McSweeney (1993b) demonstrated a direct relationship between personal explanatory models and behaviour changes for several months after the MI. Patients who identified heredity as the cause of their MI often viewed themselves as victims of circumstance, and thus experienced greater difficulty adopting healthy behaviours (Bergman & Berterö, 2001). One participant in a study by Thomas (1994) was told by her clinician that her CAD was 95% hereditary and that her risk could only be decreased by 3-4% by quitting smoking. In situations where there seemed to be no official explanation for their MI, patients often drew on lay conceptions, blaming fate or bad luck (Wiles, 1998). Cultural constructions of risk may also affect motivation to change (Murray, Manktelow, & Clifford, 2000). Researchers noted that patients who believed that illness and wellness were reliant on God's will felt less compelled to comply with medical advice (Fleury, 1996; Al-Hassan & Sagr, 2002).

A common coping strategy used by patients is to play down the seriousness of the MI by employing the defence mechanism of denial (Jackson et al., 2000; Thompson, Ersser, & Webster, 1995). This denial can be perpetuated by health care professionals who communicate an over-optimistic outlook on recovery, thus diminishing the value of adopting behaviour change. Patients may receive conflicting messages from health care professionals when their MI is explained as an acute, self-limiting event (Bradley, 1999). Wiles (1998) reported that patients who had received reassurance that they would be 'back to normal' within three months after their MI constructed their heart attack as "mild", and concluded that long term lifestyle changes were unnecessary. Consequently, they lacked motivation to maintain smoking cessation, since they believed that they had fully recovered from their heart attack.

Motivators to Quit Smoking

For many individuals who have had an MI, it is clear that the illness experience itself is a prime motivator for smoking cessation (Marshall 1990; Miller et al., 1989). Johnson and Morse (1990) found that the diagnosis of an MI forced participants to contemplate the possibility of their own death, resulting in either a new appreciation for life, or pessimism about the possibility of recovering. The MI may increase perceived susceptibility to disease, thereby providing an impetus for change (Ashton, 1997; Meillier et al. 1997). For some individuals, however, a life-threatening event such as an MI is insufficient to influence behaviour, and they may not perceive that the benefits of quitting will outweigh the negative aspects (Conn, 1994). Kerr and Fothergill-Bourbonnais (2002) noted that women who had fewer symptoms had more difficulty accepting their diagnosis, and were more likely to “cheat” when attempting lifestyle changes, in order to gain a sense of control.

Barriers to Smoking Cessation

Hajek, Taylor and Mills (2002) found that some patients were too distraught or anxious to absorb information when brief interventions were implemented in the hospital setting. Underlying issues such as loss, or fears about dying may need to be addressed first. When they return home from hospital, patients often set limits on the number of changes they are able to make at one time, and may be too overwhelmed to sustain smoking cessation (Sutherland & Jensen, 2000). Lack of time or energy has also been cited as a barrier to quitting smoking after an MI (Bergman & Berterö, 2001; van Berkel et al., 2000). The freedom to address lifestyle concerns may not be possible until stability and self-determination are achieved (Fleury, 1991; Johnson & Morse, 1990).

A possible explanation for relapse and resistance after a diagnosis of CAD is that clients may have rushed into premature behaviour change on the advice of health professionals. Rosal

et al. (1998) speculate that patients who have experienced a sudden MI may continue to smoke if they have not contemplated cessation prior to their MI. In a study of post angioplasty patients, Kimble (1998) reported that many patients expressed that reducing cardiac risks was more difficult than they thought it would be. For these clients who may be unprepared, not fully motivated, or have not dealt with underlying issues, quit attempts are often short-lived (Bandura, 1997). Rollnik, Mason, & Butler (1999) contend that persuading these individuals to enter a skills-based program when they have not been assisted in movement along the change continuum could do more harm than good. The resulting relapse may lead to demoralization and further diminished sense of confidence, making future attempts even more challenging (Owen & Brown, 1991). However, no studies were found that explored this specific process of self efficacy for MI survivors.

Perceptions of Risk

Despite the importance of perceived vulnerability in early stages of change, smokers may not see the connection between smoking and their health, or may not view their illness in the same way as their health providers (McCoy et al., 1992). Arteriography has been shown to promote smoking cessation, possibly by heightening awareness of the seriousness of CAD, thus minimizing the denial of risk (Ockene et al., 1992). Although Brummett et al. (2002) found that those who expressed greater health concerns tended to persist in smoking, most studies revealed that smokers who perceived greater susceptibility to ill health and were convinced of a relationship between symptoms and smoking were more likely to quit smoking (Bolman & de Vries, 1998; Marshall, 1990). Murray (1989) found that smokers consistently recognized tobacco as a risk factor for CAD, but they were less likely to relate it to their own MI. This optimistic bias, in which individuals fail to acknowledge that they are personally vulnerable to negative effects, has been described for several illnesses (Weinstein, 1987).

Persistent smokers who believe that tobacco is dangerous may simply not place cardiovascular health at the top of their scale of values (Maiani, Callegari & Sanavio, 1990). For example, Aish, Lindgren, Costello and Brown (1991) reported that at four to six weeks after an MI, several patients expressed that they were willing to consider trading off years of life expectancy in order to resume smoking. The perceived benefits of smoking, such as the reduction in anxiety, may take precedence over concern regarding future health. Smokers have even stated that they believed that the positive effects of tobacco in relieving stress outweighed its negative effects (Murray et al., 2000). Additional advantages that may be perceived for continued smoking include psychological addiction, boredom, pleasure, and force of habit (Marshall, 1990). Jenks (1992) contends that because health warnings from the media have become impossible to avoid, individuals may attribute their continued smoking to the addictive nature of tobacco rather than deny the health effects.

Kimble (1998) and Xu (2001) argue that the availability of invasive procedures to open stenotic lesions has improved survival to the extent that patients may underestimate the need for smoking cessation. A review by van Berkel et al. (1999) found that several patients who had undergone PTCA or CABG continued to smoke, believing that they had been cured. Other smokers presumed that the damage to their heart was so extensive that lifestyle changes were pointless (Wiles, 1998). Interestingly, some studies clearly indicate that people would rather use cardio-protective medications than change their lifestyles (Klein, 2001).

Gender Differences

The evidence suggests that important differences between men and women should also be taken into consideration. Kerr and Fotheringill-Bourbonnais (2002) found that an MI elicited feelings of disbelief and surprise from women, because they presumed that CAD was associated with male gender and therefore had underestimated their susceptibility to an MI. It

has been reported that requests from women for assistance with lifestyle changes are not taken seriously by health care providers (Thomas, 1994), and that women prefer a less structured approach to smoking cessation programs (Jackson et al., 2000; Sutherland & Jensen, 2000). Men often viewed lifestyle changes as a joint venture with spouse, while women tended to pursue lifestyle changes independently (Johnson & Morse, 1990). Women were more likely to view family responsibilities as being more important than pursuing personal lifestyle changes, which resulted in difficulty in quitting smoking (Thomas, 1994).

In summary, this paper has presented a review of the predictors and perceptions of continued smoking. Patients often attribute smoking cessation to smoke-free policies in the hospital, and effective measures to promote permanent change would capitalize on this “teachable moment” (Rosen, McCarthy & Moskowitz, 1995). Individuals may be more receptive to intervention in this setting, and clinicians have a unique opportunity to prepare patients for coping with challenges to quit smoking when they are discharged.

Limitations of the Current Literature

A methodological limitation of some of these studies was that they were conducted within the first few weeks following the MI, and therefore were based on intention to quit smoking rather than actual cessation (e.g., Bolman & de Vries, 1998; Murray et al., 1989; Murray 2000). Attitudes may have been elicited before patients had made an actual decision to quit, or had attempted to incorporate adherence into daily habits (Conn et al., 1992). For example, in a study of smokers who indicated that they were seriously considering quitting in the next six months, less than 50% actually made a 24-hour quit attempt (DiClemente et al., 1991). Similarly, Miller et al. (1989) reported little correlation between intention to modify lifestyle during hospitalization and actual regimen adherence at 30 days. Patients may have

been less willing to quit smoking once their symptoms and fears were alleviated, or they were not prepared for the challenges of smoking cessation.

Another limitation of the research was that few studies targeted smokers with low readiness to change. According to Coleman, Stevenson and Wilson (2000), smokers who are not motivated to quit smoking may behave differently than those who are interested in smoking cessation. Several researchers have identified predictors for successful smoking cessation for patients who were already attending a cardiac rehabilitation program (e.g., Fleury, 1991; McSweeney, 1993a; Miller et al., 1989). These participants may have been more motivated to adopt healthy lifestyles than those who did not attend a program (Marshall, 1990). In addition, most studies examining smoking behaviour following an MI were based on questionnaires with fixed responses. In considering the experience of health, less easily quantifiable variables such as values, meanings, and moral orientations are important (Crossley, 2000). An in-depth, qualitative examination of this complex issue is indicated.

Discussion

Table 2.1 outlines key variables from the literature associated with continued smoking following an MI. Persistent smokers are more likely to live under stressful social conditions, be younger, have less education, live with another smoker, have been a heavier smoker, and have low confidence in the ability to quit. Clinically, they are more likely to have had a shorter hospital stay, less severe CAD, fewer cardiac symptoms such as angina, and not undergone an invasive procedure to relieve blockages. By identifying smokers who are more likely to experience difficulty quitting, they can be referred for interventions that are relevant to their needs. For patients with conditions such as depression or anxiety, treatment to alleviate these underlying factors may improve the likelihood of quitting smoking.

This review has demonstrated how understandings of health are formed by an individual's culture, history, and beliefs. Offering simple behavioural advice to smokers fails to acknowledge that addictive behaviours have underlying meanings, such as an attempt to maintain control (Crossley, 2000). Individuals who receive consistent, individualized and empathetic support may be more likely to succeed in smoking cessation. Patients who continue to smoke place less value on health maintenance, and may not be convinced of the benefits of quitting smoking. They are more externally than internally motivated, and perceive that they lack the required energy to overcome the addiction and make lifestyle changes. They often believe that their MI was mild. Many smokers view heredity as the cause of their MI, and may not attribute negative effects of smoking to their own MI. For persistent smokers, smoking relieves stress, decreases boredom, and provides pleasure. The ways that individuals accept the risks of smoking may be understood more fully by exploring the experiences from their perspective.

Nursing Implications

This literature review has demonstrated how behaviour becomes more understandable when viewed in the context of peoples' lives (Seidman, 1998). Targeting interventions to those who are at highest risk for persistent smoking would be cost-effective, and would benefit those who are in greatest need of measures to assist with cessation (Hasdai et al., 1998). According to this literature review, health professionals must elicit each patient's perceptions of their smoking choices and their heart disease. There is a need for greater skill in eliciting the patient's perceived costs and benefits of smoking, so that relevant information can be presented. Gaining insight into the patient's explanations for their MI or CAD may allow the clinician and the patient a deeper understanding of the decisional processes that guide patient lifestyle choices. However, the benefits of seeking causal explanations must be balanced with

the risk of inducing feelings of guilt, stress or shame (Johnson & Morse, 1990). The most effective approach for patients who are not ready to quit smoking is to provide individualized feedback using an empathetic style (Goldstein & Niaura, 2000). Lack of motivation to quit may be the consequence of conflicting messages, but by carefully listening for cues, clinicians may begin to intervene at the patient's reference point, challenging misconceptions when necessary. Establishing trust and open communication will allow patients to address their general fears or concerns so that smoking cessation can be subsequently addressed.

Individuals who are ambivalent regarding the costs and benefits of quitting smoking can remain in a state of contemplation for long periods (Cole, 2001). Given that 80% of smokers seeking medical care are not yet committed to making a quit attempt, clinicians who cannot assist these smokers may be missing opportunities to improve the prognosis for the majority of their clients (Velicer et al., 1995). While progress is being made in understanding motivators for lifestyle choices in general, little is known regarding how Canadian MI survivors not committed to quitting view smoking cessation. Further studies to clarify the process by which motivation is initiated and sustained may lead to more effective interventions (Fleury, 1991). Research to evaluate successful approaches should be measured by sustained smoking cessation rather than intention to quit (Farkas, Pierce, Gilpin, & Zhu, 1996). Future research should further explore the critical factors that influence smoking behaviour, such as perceived causation of CAD, environmental determinants, and cultural or gender-specific aspects of smoking. Longitudinal studies would identify additional factors that correlate with continued smoking or sustained cessation after participants have adjusted to their diagnoses of MI or CAD. Research should also attempt to determine whether misconceptions are, in fact, amenable to intervention.

Conclusions

Surgical and angioplasty procedures are successful in eliminating high-risk lesions, but sustained smoking cessation would improve the underlying disease process (Smith, 1998). Unfortunately, the progress that has been made in risk reduction strategies for CAD has not been as promising as technical advances (Smith, 1998). According to Baskett, Buth, Colicott, Ross and Hirsh (2002), if innovative and expensive revascularization procedures are to improve long-term outcomes, more research needs to be conducted to identify effective approaches to promoting healthy lifestyle choices. Although human experience may be difficult to understand by an outside observer, it does make sense to those who live it (Dukes, 1984). An awareness of the predictors of smoking cessation, and of the smoker's perceptions of smoking in the context of an MI, may lead to interventions that are more effective. While broad, community efforts would reduce barriers to adopting healthy lifestyle changes, individuals with CAD still require assistance to quit smoking from health professionals.

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Table 2.1

Key Points: Predictors of Continued Smoking for Individuals with CAD

Factors that Correlate with Continued Smoking
Stressful environmental conditions Lower level of education Younger patients with CAD Lack of social support (although one study did not support this) Living with a smoker Greater number of cardiac risks Greater tobacco use prior to cardiac event or CAD diagnosis Psychological disorders (e.g., depression, anxiety) Decreased severity of disease, shorter hospital stay Fewer ongoing symptoms post-MI (e.g., angina) No revascularization procedure performed (although some individuals continue to smoke because they believe they have been cured) Decreased confidence in ability to quit Decreased perception of self control
Health-Provider Related Factors Associated with Continued Smoking
Clients Who: Receive advice that does not correspond to social and economic realities Receive inconsistent messages and lack of support Are given advice that is incongruent with culture and client perceptions Receive over-optimistic prognosis on recovery, minimizing the need for smoking cessation Are rushed into change when they had not contemplated quitting, and were not prepared with strategies to quit Feel overwhelmed by the number of changes they are expected to make at one time
Client Perceptions Associated with Continued Smoking
Clients who: Are less likely to place a greater value on health maintenance Have a lower sense of self control, are externally motivated Perceive that their MI was "mild" Do not relate negative effects of smoking to their own MI; little sense of personal vulnerability Do not believe their MI is caused by modifiable risk factors View heredity as cause of their CAD Perceive lack of time or energy to make changes Are not convinced of benefits of quitting smoking View family responsibilities as more important than pursuing lifestyle changes (occurs more often with women than men) Attribute smoking to the addictive nature of tobacco Believe smoking relieves stress, decreases boredom, provides pleasure, is a force of habit

CHAPTER III

Experiences of Smokers with Cardiac Disease: A Qualitative Study

Unpublished Manuscript

This chapter describes a qualitative study conducted to answer the research question,

“Why do some individuals continue to smoke following a myocardial infarction?”

This paper will be submitted to the Canadian Journal of Nursing Research.

Participant Quote:

“I would see no difference if I was a heroin addict, just wanting and needing.

And I think that’s an important thing that people have to understand.

It isn’t just a dirty person with a dirty habit you know; it isn’t as easy as black and white as that.

And it isn’t easy to smoke. And maybe a combination of stuff,

Maybe a physical addiction as well as the benefits that you at least imagine you perceive.”

Abstract

Among individuals who have survived a myocardial infarction (MI), smoking may be the greatest predictor of mortality, and smoking cessation can reduce the risk of recurrent MI and cardiovascular death by 50% or more. Despite this evidence, 50-75% of cardiac patients continue to smoke after a diagnosis of coronary artery disease. This paper reports the findings of a study conducted to examine the experiences of individuals who continue to smoke following an MI. Objectives for the study, which uses a phenomenological approach, were to describe the meaning of smoking within the context of MI, and determine the factors that influence continued smoking. Nine individuals participated, and were recruited at a centre for the treatment of cardiac illness. From interview transcripts, codes and significant statements were derived and analysed for patterns, which were then clustered into four categories or transformed meaning units.

Analysis of the data led to the identification of four meaning units: 1) self-definition as a smoker, 2) ambivalence surrounding quitting, 3) perceived attributions of MI, and 4) consequences related to smoking. Participants perceived the major cause of an MI to be stress and cholesterol, and not necessarily smoking. Some patients believed that the calming effects of smoking were beneficial in preventing further heart attacks. Patients who were told that their heart attacks were mild did not perceive MI as a major threat and thus may not have been as motivated to make lifestyle changes. The majority of participants were misinformed regarding nicotine replacement therapy. The findings of this study demonstrate how tobacco cessation interventions would be more meaningful after a patient's views have been explored, and incongruent perceptions have been addressed. Personal explanations of illness are embedded in people's belief systems, and concrete interventions aimed at patient views will allow discussions about smoking to begin from the basis of patients' concerns.

Introduction

Despite advances in pharmacology and cardiac interventions, cardiovascular disease is the leading cause of death for over one-third of Canadians, and is the third leading cause of premature death under age 75 (Canadian Institute for Health Information [CIHI], 2000). Coronary artery disease (CAD) may lead to chronic pain or discomfort, activity restriction, disability, and unemployment (CIHI, 2000). Among individuals who have been diagnosed with CAD, smoking is the most important modifiable risk factor (Daly, Mulcahy, Graham, & Hickey, 1983; Deckers et al., 1994). Extensive studies have demonstrated the clear connection between cigarettes and mortality from CAD (Makomaski Illing & Kaiserman, 2004; Menotti et al., 2001). For those who have survived a myocardial infarction (MI), smoking may be the greatest predictor of mortality, and smoking cessation can reduce the risk of recurrent MI and cardiovascular death by 50% or more (Deckers et al., 1994; Greenwood et al., 1995; Rea et al., 2002). Despite these health advantages, approximately 50-75% of cardiac patients continue to smoke after a diagnosis of CAD (Brummett et al., 2002; Deckers et al., 1994; Herlitz, Bengtson, Hjalmarson, & Karlson, 1995; Rigotti, Singer, Mulley & Thibault, 1991; van Berkel, Boersma, De Baquer, Deckers & Wood, 1999).

The occurrence of a life-threatening event often heightens health concerns, frequently serving as a cue to action that prompts behaviour change (Meillier, Lund & Kok, 1997). A diagnosis of MI, as well as the hospitalization itself, provides an impetus for patients to evaluate their risk-prone behaviour and attempt smoking cessation (Greenwood et al., 1995; Rigotti, Singer, Mulley, & Thibault, 1991). However, quitting smoking has been found to be the most challenging lifestyle recommendation to adhere to after an MI (Campbell et al., 1998; Miller, Wikoff, Garrett, McMahon, & Smith, 1990).

Strategies to promote smoking cessation could make a profound difference in patient outcomes by preventing subsequent MIs and prolonging life. Existing literature has provided some insight into the factors that predict which post-MI patients are most likely to sustain smoking cessation. However, this research has not yielded in-depth information about the subpopulation that is most in need of intervention: those who continue to smoke. Few in-depth studies from the perspective of persistent smokers explore the complex determinants of smoking, or the process of becoming motivated to quit (Bolman & de Vries, 1998; Corrigan, Cupples, & Stevenson, 2002). Moreover, little is known regarding how these individuals perceive their interactions with health care professionals, and the impact of these interactions on smoking. A comprehensive description of this phenomenon of non-adherence is essential for understanding how motivation can best be stimulated (Cameron, 1996; McClure, 2001). To address these gaps in current literature, the following research question was posed: Why do some individuals continue to smoke despite having experienced an MI?

Purpose and Objectives

The purpose of this qualitative study was to examine the experiences of individuals who continue to smoke following an MI. Objectives for this study were to: 1) describe the meaning of smoking within the context of an MI, and 2) determine the factors that influence continued smoking.

Research Methods

Design

The present study used a phenomenological approach, which aims to understand the meaning of a person's experiences by having the participant reconstruct them (Seidman, 1998; Van der Zalm & Bergum, 2000). This study was approved by the Human Research Ethics

Board of the institution in which the participants were recruited. The Patient Information Sheet and Consent Form are located in Appendices B and C.

Sample and Setting

Nine individuals participated in this study, all of whom were recruited at a centre for the treatment of cardiac illness. In this teaching hospital, smokers were routinely provided with a brief intervention for cessation by an advanced practice nurse during their stay. Participants were deemed eligible for the study if they were proficient in the English language, lived within a 90 minute drive of the referral centre, were willing to share personal information, were not currently using strategies to quit smoking, and had been diagnosed with an MI within the past twelve months but had not had heart surgery. The rationale for choosing the period between six and twelve months post-MI was that it included patients who may have quit smoking post-MI and then relapsed. For example, in one study 75% of patients reported having quit smoking three weeks after their MI, but only 45% reported sustaining cessation after one year (Greenwood et al., 1995). In addition, this time frame ensured that opinions reflected the long-term effects of the MI rather than the convalescence, and that participants would still be able to recall their MI experience (Ford, 1989).

Sandelowski (1995) contends that a smaller sample size may yield a deep understanding of participants' experiences, and that exploring a specific phenomenon using a homogeneous sample can produce credible and clinically significant findings with a minimum number of sampling units. While Morse (1994) states that approximately six to ten participants are adequate to achieve this informational redundancy, Boyd (2001) suggests that two to ten may be adequate. In the present study, category redundancy had been reached and no new findings were being identified after nine satisfactory interviews were conducted.

Procedures

To find suitable volunteers for study, the help of a cardiac rehabilitation centre was sought. Patients were asked to participate in this study via a specific question inserted into a routine follow-up phone call six months after their hospitalization. A list of patients who had agreed to participate was sent to the investigator, a registered nurse with cardiology experience, each month. Individuals who met the inclusion criteria were then contacted to request an interview. To encourage open dialogue, the non-judgemental nature of the research was emphasized. The investigator stated that the intention of the study was to assist health care professionals to understand what a smoker's experience was like from the perspective of the participants. All interviews were conducted in participants' homes, and written consent was obtained before beginning. Although permission was granted by all participants to request additional clarification, no further contact with any of the participants was necessary.

Data Collection

Data was collected from August 2003 to March 2004, by which time the research question had been answered. The source of data for this study consisted of in-depth dialogue, in which the interviewer interacted with the participants to facilitate a description of the phenomenon being explored without leading the discussion. Interviews lasted approximately 45 minutes to one hour. Open-ended questions and probes provided context, and elicited novel, unanticipated responses, as noted by Erikson and Caplan (2000). The dialogue was audio-taped, and the interviewer only made notes to record key points that required follow-up questions. Table 3.1 outlines the interview questions and probes, which were used as a guide. Questions focused on participants' experiences with both smoking and smoking cessation, as well as relevant events that occurred from the time of the MI. In a similar study, McKibbin and Wilson (2001) found that participants were more likely to discuss lifestyle change after they

have adequately described the MI experience. Accordingly, participants were initially invited to reflect on their general experiences related to their MI. Subsequent questions progressed to the topic of smoking, often after the participants themselves had mentioned it. Interviews were conducted until repetition of information in each category was obtained, to ensure saturation and confirmation of the data (Morse, 1994). An outline of potential study participants can be found in Table 3.2.

Data Analysis

Interviews were listened to, and conversations were examined to get a global sense of the data (Georgi, 1997). Audio tapes were transcribed verbatim for accuracy, and imported to NVivo software. This qualitative data analysis tool was used to assist with management of codes and categories, search text for recurring words, and explore patterns and relationships (Bazeley & Richards, 2002). To synthesize the participants' experiences into an overall story, narrative analysis was based on phenomenological procedures as described by Georgi (1997).

Meaning units, or categories, were discriminated by coding identifying significant phrases and statements associated with specific topics, and organizing them into separate, labeled files (Morse & Richards, 2002). Initially, codes were selected using the participant's own language, and then defined according to the data supporting them. Relevant codes were then analysed for unique meanings, and clustered into units that captured the participants' experience. Regular discussions among the researchers were held to achieve consensus on emerging categories. Patterns, as well as similarities and differences between interviewees were identified. As the process of analysis progressed, categories were refined by merging them into fewer, more abstract categories or meaning units. Four transformed meaning units were then mapped out in a visual diagram to communicate the relationships between them, as recommended by Ryan and Bernard (2000). Key quotes that exemplified salient points were

entered into tables. Finally, results were synthesized, and formulated into a descriptive narrative in an attempt to obtain the essential meaning of the participants' experiences. See figure 3.1 for the diagram displaying the structure of the experience.

Rigour and Validation

Reflective and summary statements were posed during the interview to enable the participants to confirm or refute the interpretations that were drawn by the interviewer. Follow-up questions in reference to the participants' responses were used to explore emergent patterns and categories, as suggested by Rubin and Rubin (1995). Credibility was facilitated by having an experienced cardiac nurse conduct all of the interviews. As suggested by Morse and Richards (2002), trustworthiness of this study was ensured by auditability and by peer debriefing to examine the validity and saturation of codes and categories. Auditability involved making documents such as raw data, drafts, journals and memos available to explain the decision-making process that was followed. Ongoing discussions provided a forum for sharing ideas and insights that emerged from the data, and allowed for continued refinement of concepts. Codes and categories were defined, and hunches, ideas, or changes were recorded to provide documentation outlining how links were made from the data, as described by Morse and Richards (2002). According to Young and Jillings (2000), these processes allow researchers to evaluate the logic with which the study is conducted.

Confirmability of findings, as outlined by Clarke, Curzio, Lindsay and McIntosh (1998), is demonstrated in this paper by including quotes to concretely express the categories, and by explaining how these quotes correspond with interpretations of the data. Morse and Richards (2002) state that the final step to ensure that a study is relevant and useful entails a comparison of the findings with the literature.

Results

Description of Participants

Ninety-five smokers were asked for permission to be telephoned by a registered nurse if they met the study criteria. Sixty-three (66%) agreed initially, however, forty-one of these patients did not meet the inclusion criteria and therefore were not contacted. A detailed profile of those who met and did not meet the study criteria can be found in Table 3.2. Interviews took place with nine participants between the ages of 41 and 69 years of age, from 7 to 12 months after their MI. The sample consisted of six males and three females, and three of the participants were employed in full-time positions. All participants had undergone an angioplasty at some time in the past, but not necessarily following their most recent MI. Six of the participants lived in a household with other smokers, and for four of these participants, it was a spouse. Two participants spoke French as their first language, but were also fluent in English. Four participants expressed a desire to quit smoking, three did not want to quit, and two were uncertain. Only two participants had stopped smoking for a few weeks post-hospitalization. Characteristics of the study sample can be found in Table 3.3.

Participant's Perceptions

The data were clustered into four broad categories that described the underlying meaning of smoking within the context of an MI, and factors that influence smoking: 1) self definition as a smoker, 2) ambivalence toward quitting, including how advice from health care professionals affected these attitudes, 3) attributions and perceived risk factors linked to the MI, and 4) thoughts regarding the consequences of smoking. When these categories were mapped out visually, they consisted of a pattern in which "self definition as a smoker" was the central category, and participants moved back and forth among the categories, revealing inner conflict (Figure 3.1).

Self Definition as a Smoker: "It's the way I am"

A prominent feature of the responses was that the participants felt that smoking was an integral part of their identity as a person. Accordingly, the first category relates to the way that participants define themselves as a smoker. Sub-categories include participants' justifications for smoking: it's my routine, I'm addicted, I'm stressed, or I've had a hard life. As one man said: "I'm not self-conscious about it or, hey, I'm a smoker!" Another commented: "Well it's certainly two different worlds when you're a nonsmoker and... But when you're a smoker then you associate yourself with them, the smokers." Smoking was perceived as necessary for coping with stressful life circumstances such as chronic pain, abusive spouses, and financial difficulties. The following sub-categories relate to the participants' self-definition.

Habit: "It's my routine."

A major barrier to quitting was that smoking was a life-long habit that had clearly become part of the participants' daily routine. Participants commonly referred to smoking in terms of "one of those things I do" or "an everyday thing." One participant described smoking as a natural activity, "it just comes natural, you just think... and light it up and that's it." Another participant explained, "Now, even if I quit smoking I'm still gonna enjoy myself one day at a time, right? It's just, not ah... it's just the way I am. That's the way I've done it for long time."

Participants acknowledged patterns in their daily smoking habits. They stated that they experienced more intense cravings at certain times of the day, for example, some respondents described the cigarette after dinner or work as the most satisfying. After discharge from the hospital, many participants stated that they thought they could just smoke one cigarette, "I thought, oh well what would one do each meal, you know. That's the way I started it again after each meal." They stated that they could go for longer periods without smoking when occupied:

"I don't need it, it's just because they're there." Smoking was described as "something to do" and even a "pastime." Participants believed that keeping active might assist them to quit smoking, but activity was often restricted due to angina or other health problems. Two women stated that they smoked fewer cigarettes when they used to crotchet, but that arthritis prevented them from doing needlework now. Another participant was afraid to do housework or go for a walk to distract her from smoking because she feared falling. One man stated that eating filled "the gap between cigarettes."

Cravings: "I'm addicted."

Participants stated that "physical and mental addiction" and lack of willpower prevented them from quitting smoking. Cravings were described as powerful, and participants experienced disconcerting moods when they were trying to quit. When one participant described how he would go outdoors to smoke despite how unwell he felt, he stated, "So it's clear that now, it wasn't rational thought involved here, ah, that it was definitely a physical addiction here that surfaced. I was gonna be in worse shape [if I didn't smoke]." A few participants believed that quitting was difficult because they felt that cigarettes are stronger today: "so we've decided we do want to quit... are they putting more stuff in the darn things or, like we say they're full of drugs, you know?" Three individuals believed that addiction is manifested differently in some people, and therefore other people are able to quit more easily than they are.

Participants cited financial expense as a major drawback to smoking. Nevertheless, they adopted conscious strategies to maintain their addiction, such as adjusting household expenditure or reducing consumption. The following quote was typical: "When I think twice about buying something that I would like to have, I'll do without first if I think I'm not gonna have enough cigarettes. Buy the cigarettes instead." Several participants compared addiction to

tobacco to being hooked on heroin: "My drug is that cigarette. And ah, no it's just ah, it relaxes me, it's soothing." Another stated, "I suppose it's like a wino or an alcoholic. They always seem to be able to manage to find the money."

Despite alluding to the addictive nature of tobacco, only two participants reported experiencing cravings while staying in the hospital. However, almost all of the participants smoked a cigarette on the day of discharge. Describing his experience while waiting for his ride home from the hospital, one man stated, "But the stupid thing was as soon as I got out that door, my brother was going to pick me up, I said to a woman have you got a smoke? You know, and ah, she says, you're not a heart patient are you? I said no. I bummed a smoke off of her, and I'm sitting there waiting for my brother just having a couple of puffs. And I thought oh, you know, what am I doing?"

Anxious: "It calms me down."

Participants believed that smoking helped them cope with pressure and stress. Sources of stress included daily challenges, chronic pain, and the MI itself. As one participant said, "It's just the idea that when I do get stressed out, I have to grab for something." The quote, "Even if it's just the smell of it, seems to... it calms me down. In other words, it's my pill," portrays the extent to which smoking is linked to coping with stressful situations. Some participants stated that they actually felt less stressed in the hospital: "I said as soon as I'm home a couple of days, well I guess I start thinking about the family thing. Where maybe at the hospital I'm just thinking I got get myself better, or I've got to get out of here... Like I listen to more conversations eh, from the other patients. That interests me." However, participants could not recall being offered alternatives to alleviate stress.

Stressful events perpetuated heavier smoking and precipitated relapse, and participants spoke about how they smoked to control their reactions to crises. Participants cited examples of

how smoking was the first thing they did after they had received bad news: "It was just like everything is going to fall on you, and I went, 'that's it!' And that's when I went outside and I took a cigarette." For others, smoking was an integral part of relaxation that was associated with calmness and a temporary time out, as one participant put it, "Okay, I'm not gonna think about anything. I'm going to think about puffing on my cigarette." However, participants did not seem informed that the physiological effects of smoking can increase anxiety, "Because cigarettes do calm me down, they do. I'm sure if you do a blood pressure check and then see... it would be interesting to do." Later the same person acknowledged, "Well in fact maybe it doesn't really calm you down, but in my mind it does, you know."

Personal circumstances: "I've had a hard life."

Many participants identified themselves as having lived a "hard life", and these difficult circumstances were often linked to smoking. One woman stated, "...that's when I say I can relate to people that can't quit, or smoke. To me it has a lot to do with their lives; how they were treated." The women spoke about isolation, and for all of them, having had abusive partners had contributed to their loneliness. These challenging situations in which it was difficult to quit were pervasive, and in times of loneliness cigarettes played a comforting role, especially among the older women. Participants reported that social isolation made it more difficult for them to quit smoking, "At least I know my cigarettes, they're there for me but that's the reason I keep smoking and... It's being alone I think that really, the loneliness and you feel empty and it's hard, it's hard." Although male participants did not use the term "hard life," they verbalized financial difficulties, unemployment, or family situations that made it challenging to quit. One man stated, "It's my only vice. You know, but I'm very serious about that, you know? I like some enjoyment in life, you know [laughs]." Almost all of the participants considered smoking an important source of pleasure.

Ambivalence Surrounding Quitting: "I want to quit but I don't"

A significant pattern that emerged from the data surrounded the participants' thoughts about quitting smoking. Only a few participants had made serious attempts to stop in the past, and those who wanted to quit expressed frustration. Subcategories reflected participants' understanding of factors related to quitting smoking, and included self efficacy, strategies to quit, advice and resentment. Most participants had mixed feeling regarding quitting: "I want to quit, and yet I don't want to quit and I, you know, really... I know what I should do but, but I don't seem to have the ah, get up and go to do it." Ambivalence was expressed repeatedly. One man ruminated, "When I smoke, I say gee, what am I doing, I hate this stuff.... well of course you're being stupid you know? I didn't want this, but here it is. I'm smoking it.... I just wanted to try one to see what it was like."

Reasons to stop smoking: "There isn't even a balance yet."

Several of the respondents expressed that nonsmokers made them "feel bad" about smoking, and that smoking was viewed as socially unacceptable. Taxes on tobacco contributed to this view, and participants stated that smoking made them feel like a "leper" or "social pariah," and that non-smokers were "shifting their values on them." One man stated, "...but just the social aspect where you have the ultra group that looks at you as if you're something less than human because you smoke... that look at for example a smoker, and you know, look at them askance or degrade them. If they could, without looking at their own negative aspects." Participants recognized that the reasons they continued to smoke were convenient "excuses," yet they were still not able to quit smoking: "I mean there are so many reasons to stop smoking. But ah, they are... seem to be overcome by this love I have for smoking, you know?"

It appeared that most participants had undertaken a cost-benefit analysis of the advantages and disadvantages of smoking, as reflected by the following quote: "I have to

somehow rationalize it. I'm an engineer; so everything's gotta be you know, in its order and everything else. And yes, for me to make a decision yes, it has to have certain criteria, it has to be you know, and ah, whether it's a true criteria or not, you know..." Incentives for participants to quit smoking included financial savings, and regaining their sense of smell and taste. A few individuals indicated that they would like to quit smoking to live a long life so that they could see their grandchildren, and that they wanted to set a good example. As well, some mentioned that they experienced decreased concentration when they were smoking and that it "fogged up" their brain. Nevertheless, participants were willing to tolerate the inconveniences of smoking. One man reflected on quitting, "...monetary reasons is the major upside but I see a lot of downside to it, you know? That's the problem, there isn't even a balance yet."

Self efficacy: "I don't think I can do it. So... I don't try too hard now."

Overall, participants had little confidence that they could quit smoking: "... in another way I don't think I can do it. So... I don't try too hard now." Participants who were motivated to quit believed that they would fail, but would quit if it were easier, "If there was a magic pill out there that I could take and say OK, this is it, and I would never want a cigarette again then I would do it." Interestingly, the two participants who stated they did not want to quit were the only individuals who stated that they could easily quit if they wanted to.

Advice: "It's not like it's rocket science, eh?"

Participants reported that on several occasions, health care professionals had asked whether or not they smoked. Some individuals wanted to be able to tell their physicians that they had quit, "I want him to say, "Oh I'm proud of you." They appreciated the fact that health care professionals appeared concerned regarding smoking. Most participants did feel that it was helpful to be advised to quit: "...but you think of all these things they tell you and it does go in, it does go in, you know." One man recalled how a conversation with a registered nurse was

effective in getting him to think about quitting: "It was the way she said it I guess. Maybe it was just her personality or something, but ah, she just walked me down the hall, and I don't know if she did it on purpose, but on the wall there was a little ad there with the little stickers on it on smoking cessation programs... or at least to start thinking about it, so I did." While this interaction demonstrated how this individual appreciated a subtle approach, later in the interview he indicated that a more direct approach may be more effective, such as being convinced that smoking would result in a stroke. One participant became frustrated when she was repeatedly asked if she smoked because these questions were not followed by in-depth conversation: "They just asked me if I smoked. That's all they asked me." She interpreted this response as either indifference regarding the dangers of smoking, or a lack of concern for her well-being.

Few participants recalled being offered explicit approaches to smoking cessation by their health care provider. However, some participants indicated that such information would not have made much difference, as they felt they could have come up with strategies themselves, as they were merely a matter of "common sense". Moreover, most participants believed that the most effective way to quit smoking would be on their own. When asked whether there would be anything that would be helpful, one individual replied, "No. Just, I wake up and say I quit, I quit. I don't need any encouragement or nothing. I just – I've got to decide myself.... I'll know." Only one participant expressed the opinion that she would never be able to quit on her own. Another participant perceived that for him, the only thing that would be helpful would have been a support group, but stated that he was having difficulty accessing this service in his community. Overall, participants perceived that the main focus of the pamphlets provided in the hospital was related to diet, and they did not believe that written materials regarding smoking were very useful, as they did not contain anything that they did

not know. A few participants stated that some of the literature regarding changes following their MI was too simplistic or “childish.” One participant would have preferred receiving more explicit information: “Well, it would remove some of the doubts you know.... I’ve never seen it in black and white. I’ve seen all this kind of propaganda stuff you know.” Conversely, some participants believed that quoting statistics to convince them to stop smoking was a “narrow approach” that they did not trust: “So a health professional says ‘well, statistics show...’ Well again, statistics lie, and you are drawing a set of statistics, which are highly fallible or are designed strictly to give you the end that you are looking for. So I discount that anytime someone mentions statistics.”

Resentment: “I’m not hurting you any.”

Some participants mentioned that they became “aggravated” when they were repeatedly told to quit: “When people keep picking at me to stop smoking you know, all the time I guess I get angry about it. But they say it’s me that’s doing it, I’m not hurting you any, so...” Repeated advice to quit made some of them want to smoke more: “Don’t ever tell me to quit, because I said, I’ll do the opposite.... But you know it also depends on who tells me, and how they tell me?” Another participant stated, “And another thing I find with quit smoking, when people are after you, you intend to be worse.... It’s like, you feel like they’re nagging you.” One woman stated, “That’s mainly what they say, ‘when you going to quit’. Well the more they tell you, I don’t know it’s like saying, when you going to quit. Okay leave me alone, leave me alone.” Another participant found the pictures on cigarette packages “...more irritating than anything... Yeah, because it’s scare tactics.” While resentment was often provoked by comments from others, for some participants it was generated internally. One man referred to it as “self-denial,” but stated, “I resent myself for, you know I’m stupid when I smoke.”

Aids to assist with quitting: "If I wake up and say I'm quitting, I quit."

Regarding perceived strategies for quitting, participants mentioned the use of the following approaches: Nicotine Replacement Therapy (NRT, or "the patch"), quitting "cold turkey", and cutting down. Few participants could identify strategies that they believed might be useful for quitting, and most declared that they would "just quit," or quit "cold turkey," since that is what worked for them in the past. However, none of them had planned a quit date: "I can't say I, that I'm going to quit or like, I've got a plan next week, I'm gonna quit. That don't work for me. If I wake up and say I'm quitting, I quit." Participants could identify motivating factors to quit, but they knew they would have to want to quit, and that it would have to be initiated from a "desire from within." Only one participant stated that she was told by her doctor that "cold turkey" was her only option for quitting, and she had little confidence that it would work: "I've tried, I can't." Some participants had reduced the number of cigarettes they were smoking. One man discussed quitting, "I've cut down some days, it's just not right today. That's the best I can do I guess." One participant slept only a few hours each night. From his point of view, smoking was justified because of the long number of hours over which he was able to stretch his cigarettes: "I'm not smoking as much as I use to, so I did lower it down. But if I went like say your regular eight hours, well then, if I went by that I'm not even smoking three quarters. But I'm taking it on from two to 12 so you know it's a big difference." Another participant expressed a desire to be a "social smoker," but admitted that this approach would probably be unsuccessful.

It was evident that several of the participants had received inadequate information to prepare them for quitting smoking. For example, they were not willing to try NRT, citing reasons such as fear of overdosing or getting hooked, or that it would be a waste of money. Some individuals speculated that the advertising for "the patch" is misleading, and is designed

by the company only to sell the product. One individual was told by her physician that NRT was “too dangerous” due to her heart disease, and other participants could not recall a health care professional recommending it to them. Knowledge of NRT was based on accounts from other smokers rather than current evidence: “And the only reason I didn't even think about the patch was because I had seen other people do it before, and it didn't work for them. So I assumed if it didn't work for them, it was not going to work for me.” Another participant was worried that she might want to smoke while using NRT: “... if you have that on your arm you couldn't smoke. And that scared me. Because I didn't – or I wasn't – or because I'm not ready to stop smoking. So that I won't take that patch, I'm afraid the craving for cigarettes will ah, overtake the other, the good part.” One man stated, “I don't want that dirty nicotine in my body, you know, through a patch (laughs). It's okay if it's going in this way but you know, because at least I'd get a puff or something, if it's coming in there well, this way you're just poisoning yourself to no... with no satisfaction.”

Perceived Attributions of MI and CAD: “I can't grasp that it's going to have something to do with smoking”

Participants verbalized a number of reasons for their MI and CAD, cited from a variety of sources. Cholesterol, stress, heredity and smoking were seen as the key contributors to their disease, but smoking was not viewed as a major cause by many participants. Thus, “perceived attributions of the MI and CAD” was chosen as a meaning unit. This category was defined as the participants' perceived understanding of factors that may account for their heart disease.

Diet: “They blame cholesterol.”

Some participants expressed the opinion that their MI was primarily due to elevated cholesterol: “That's what they said. It was cholesterol that caused the... so that's why now I'm taking a lot of pills.” This belief was reinforced when much of the literature that they received

in the hospital pertained to the importance of dietary changes in reducing the risk of a further cardiac event. One man commented on the booklets that he received: "It's mostly on cholesterol that they gave it to me for so, and that's why I had cut down on it." Others were less certain about the cause of their MI: "Could be something I eat, who knows? Could be the air I breathe, you know?"

Stress: "If I let myself stress, it [an MI] could happen again."

A few individuals blamed a stressful event for their MI: "I believe stress had much more to do with my heart attack than smoking, that's my personal opinion.... because of the fact that smoking does relax me, and de-stresses the situation, that this heart condition may have cropped up earlier." This participant believed that the advantages of the calming effects of smoking outweighed the negative effects of tobacco.

Predetermined: "I'd say that it's more genetic."

Several participants attributed their MI to hereditary or genetic factors. When asked about the role of smoking in CAD, one participant stated, "It [smoking] wouldn't be the exact bullet, I'd say that's more genetic or whatever?" Another individual had been told that although smoking could be one of many causes, "They [doctors] were more inclined to look at the heredity factor." Alternatively, one participant believed that the length of his life was predetermined by God, and that any efforts to alter it would be pointless. Moreover, he stated that because he believed that he was going to heaven, he was not afraid of dying.

Smoking: "I don't see the red flag."

Most participants alluded to smoking as one of many possible reasons for their MI: "It's not like a bullet, you're not going to smoke the cigarette and die. You probably, you know I'll have a heart attack when I'm not smoking a cigarette or something. I might just ah, take the

wrong step somewhere or work too hard or just – at any moment: bing [snaps fingers] take a shower, what ever, whatever happens you know?” Interestingly, only those who had a desire to quit smoking acknowledged that tobacco caused damage to their heart and blood vessels. One man stated, “I was getting angina from it and I said, my God, you know, I’m killing myself here.” Another participant revealed that he continued to use tobacco despite experiencing occasional dizziness while smoking.

Conversely, those who did not want to quit or were undecided, despite being well-educated individuals, were “dubious” about the “speculation” that smoking could be related to heart disease. Of these participants, one person suggested that scientific studies might be more convincing than “simplistic propaganda.” Two others viewed the existing statistics as “skewed” and “faulty science” that the government uses to rationalize cigarette taxation: “I’d get more scared or more see validity to it if I could see the numbers and studies or what exactly happened you know? It’s not as if I don’t believe it. It’s just that it’s kind of fuzzy in my mind” Some participants believed that certain people may be predetermined to acquire smoking-related illnesses, but not themselves, personally: “I don’t think it’s my case because as I say there are so many contributors.” Another participant argued, “I have a lot of longevity in my family with or without smoking.”

Consequences Due to Smoking: “Everybody’s gonna go sometime”

Some participants were worried about harmful consequences of smoking such as MI recurrence and death, and others stated they were not concerned, or that they tried not to think about it. Therefore the concept of consequences of smoking was selected as a key category. The following subcategories were identified: the MI as a “rude awakening,” “I don’t think about it,” “mild heart attack,” and “everybody’s gonna go sometime.”

MI: "A rude awakening."

Initially, participants referred to their MI as "earth shattering" and "a rude awakening," and having previously perceived themselves as being healthy, they had been in a state of disbelief. One man said he considered himself lucky to have gotten "away with it," and that the experience made him feel very "fragile": "I'd be clutching onto my little bottle of nitroglycerine... you get acquainted with your mortality and all that, you know, this could be the last day." Despite their concerns, these individuals did not make a serious attempt to quit smoking. One man reflected on the impact of his MI: "Smokers are always saying oh I should quit, I should quit, I should quit. So [after the MI] the frequency at which I say I should quit has probably doubled."

Participants acknowledged that they were "stubborn," "pigheaded," or had a "head like a stone" when it came to smoking. They stated, "You should be afraid, but I said I'm not. And I said, I'm still smoking, I said, I don't get it." Another participant explained, "When I smoke, I say gee, what am I doing, I hate this stuff, well of course you're being stupid, you know?" Concerns about ill effects were overtaken by cravings for tobacco: "But there don't seem to be any fear in me about that. I just want my cigarettes. So there is nothing really more I can say." One woman wondered if quitting could set off a negative reaction: "I've had a few friends that quit smoking and they passed away shortly afterwards. So I don't know if it's a shock to the system or what it is that's done it, because they weren't ill. So I'm afraid in a way, and in another way I don't want to quit."

Perceived Severity: "They said it was a mild heart attack."

Having been told that their MI was mild, some of the participants were under the impression that their CAD was not serious, and concluded that the risk to the heart was minimal. A few of the respondents assumed that for their MI to have been deemed serious,

heart surgery would have been required. Five respondents said that they had been told by their physicians that they were “fine” now, or that their angioplasty had “fixed” them. Despite admitting to smoking, many were instructed to “keep doing what you’re doing.” One participant had experienced several life-threatening events, yet he still construed his MI as mild. As well, a few individuals believed that medications such as blood thinners would protect them from the possibility of another MI.

Recurrent MI: “I don’t think about it.”

A few respondents stated that they did not think about smoking too often because “everybody dies anyways.” One woman explained, “I’m afraid sometimes that that’s gonna happen to me, but then I say to myself, well everybody’s gonna go at one time or another.” This participant was told that she only had a year to live, and that she should enjoy what time she had left. Nevertheless, she still wanted to quit smoking. Two participants stated that although they knew about the risks of smoking and potential for a further MI, they did not think about it and felt that “If it happens, it happens.” One woman stated, “Never really thought about it, you know, because I say to myself in a sense, I would not have another heart attack, I will fight, you know. I will beat the odds, I’ll beat the smoking too.... you know so it’s not really good for you. Then you say ah, well you don’t really... don’t really feel any way about it. I don’t anyway.” Another participant discussed his feelings regarding the possibility of another MI: “Well, then it goes away because you can’t live with anxiety and panic all the time you know? So things come along and you get over it and carry on with smoking.”

Death: “Everybody’s gonna go sometime.”

Participants frequently alluded to non-smokers who had acquired smoking-related illnesses, or conversely, heavy smokers who had lived a long, happy life. As one man reasoned, “...yet I’ve seen people die with cancer that didn’t smoke. So you know you’re trying to put all

this together, I've even come to the conclusion that the cancer is in the food." Some individuals acknowledged that smoking was "suicidal behaviour," but either they had accepted it, or they argued that factors such as pollution, household chemicals, and food additives accounted for more deaths than cigarettes did.

In summary, four main meaning units emerged from the narratives to depict the experience of smoking following an MI. The central category regarding how individuals define themselves as smokers is connected to the other categories: how participants viewed the consequences of their smoking, perceived attributions of the MI, and their ambivalence surrounding quitting. The exemplars have provided a concrete description of the factors that influence smoking, and convey the meaning of smoking for these individuals. This evidence supports the meaning units that emerged, and answers the research question regarding "why some individuals smoke following an MI."

Limitations of the Study

In this study, recall bias should be considered regarding smoking cessation counselling, as participants may have underestimated the frequency of smoking-related messages. According to Goldstein et al. (1997), smokers who are in preparation for quitting would be more likely to recall advice to quit than those who do not want to quit, because such advice is more pertinent to their situations. Nevertheless, the fact that most of the participants could recollect messages from health care professionals suggests that these interactions are important to them.

Potential for selection bias is a possibility, as the patients who admit to continued smoking and are willing to speak to a researcher about it may be different from those who do not. All of the patients who qualified for the study were able to articulate their experiences in English, and thus may not have been a culturally representative sample. As well, it is possible

that participants recruited from a cardiac teaching centre may differ from those referred from community-based centres. Data were not isolated for those who did quit post-MI and relapsed, as compared to those who stopped smoking in hospital but did not quit. However, the sample in this study does reflect the characteristics of individuals who continue to smoke following an MI, and therefore contributes to an area of research that contains relatively few studies.

Discussion

The above findings provide insight into the experiences of individuals who continue to smoke following an MI. The participants disclosed psychosocial and physical factors that played a crucial role in their motivation to quit smoking following their MI. Smoking appeared to serve a number of roles, and these results illuminate several processes that can occur after an MI. A central characteristic that emerged from the categories was indecisiveness, and the movement back and forth between various justifications for smoking or quitting.

Self Definition as a Smoker

Participants in this study defined themselves as smokers, suggesting either that continued tobacco use may represent an attempt to preserve their normal patterns, or that there may indeed be a personality characteristic that reinforces smoking. Several researchers have linked increased tobacco intake with periods of inactivity, and have confirmed the role of routines in enforcing smoking behaviour. For example, Lindbladh and Lyttkens (2002) reported that habits are viewed as part of the smoker's self-identity which would require considerable energy to alter. McKibbin and Wilson (2001) suggest that if post-MI patients "were to make suggested lifestyle changes, they could be in fact undermining their own sense of self" (p. 36). As also noted in the present study, Bancroft, Wiltshire, Parry and Amos (2002) found that cigarettes assume different meanings to smokers at different times of the day. Participants who relied on routines that linked smoking with pleasurable activities, such as relaxing after dinner,

may have been less open to advice to quit smoking. Furthermore, habit and pleasure are connected, and maintaining habits may be considered a means to create a sense of security (Lindbladh & Lyttkens, 2002). However, Maiani, Callegari and Sanavio (1990) reported that 23% of respondents indicated that smoking was an automatic action rather than actual pleasure. A study by Jenks (1992) revealed that smokers tend to engage in more hazardous activities than nonsmokers do, and that smoking is only one aspect of a general pattern of risky behaviour.

An exploration of the participants' home environments and relationships has provided useful insights into smoking habits and barriers to quitting. Smoking was viewed as an effective means of managing emotions such as loneliness and anxiety. The results from this study indicate that men and women may face slightly different barriers, for example, women smoked to cope with abusive relationships or loneliness, and most men smoked for pleasure. Payne (2001) reported that women often use cigarettes to alleviate negative feelings, whereas men smoke to increase positive feelings. Stressful situations have been identified in several studies as a key trigger for relapse, and a common motivator for smoking is relaxation (Jenks, 1992). The administration of narcotic analgesia and benzodiazepines in the hospital setting may have reduced nicotine withdrawal symptoms. However, the association of smoking with daily routine and a stressful home environment may also explain why participants had little difficulty refraining from smoking while in the hospital. Participants seemed unaware or denied the fact that nicotine withdrawal does produce transient anxiety, yet over time, quitting results in improvements in stress levels (Chassin, Presson, Sherman & Kim, 2002). The perceived reduction in anxiety due to smoking for the individuals in our study often outweighed less immediate concerns regarding health consequences, a finding also reported by Brummet et al. (2002).

As found in the present study, addiction is commonly reported as a major barrier to quitting smoking (Bandura, 1997). Cravings were thought to be uncontrollable, and often prevented participants from committing to plans to quit. However, while observing the daily smoking behaviour of individuals, Bancroft et al. (2003) noted that not all cigarettes were actually smoked to satisfy symptoms of addiction. Smokers may attribute their smoking to factors seen as being outside of their control, such as stress or being “hooked,” in an attempt to alleviate the dissonance between their attitudes and their behaviour (Eiser, Sutton, & Wober, 1982; Owen & Brown, 1991). Researchers have linked higher levels of intrinsic motivation relative to extrinsic motivation to more advanced readiness to quit, and successful smoking cessation (Curry, Grothaus, & McBride, 1997). In the present study, one participant even referred to addiction as an “external influence,” and another acknowledged that it was not “rational.” However, according to Lawlor, Frankel, Shaw, Ebrahim and Smith (2003), continued smoking may indeed represent a rational response to a sub-optimal social environment. They contend that persistent smoking may be an attempt to exert control and freedom over some aspects of people’s lives, and interventions to reduce smoking among these groups may be unsuccessful unless opportunities to improve their general well-being are increased.

Ambivalence Surrounding Quitting

Throughout the interviews, the participants often contradicted themselves, demonstrating a high level of ambivalence towards smoking. Some participants vacillated between wanting to quit and not wanting to quit. For example, one man stated that while smoking, he often asked himself, “What am I doing?” Most individuals could list several barriers to quitting smoking, and were cognizant that the reasons for continued smoking were self-created “excuses”. Several participants had reasoned that if they decreased the number of

cigarettes smoked, smoking would not be a major threat to their health. In fact, researchers have demonstrated that smokers who cut back are unaware that they modify their nicotine consumption by inhaling more often and more deeply, negating many of the benefits of cutting back (Ahijevych, Weed, & Clarke, 2004). Furthermore, Prescott, Scharling, and Schnohr (2002) demonstrated that even very limited tobacco consumption, such as a few cigarettes daily or smoking without inhaling, is associated with a significantly increased risk of MI, and mortality of all causes. Seen from this perspective, cutting back may represent merely a means of minimizing the discomfort or guilt associated with smoking. For participants in the present study, sustained cessation was often viewed as an unrealistic goal, as they had little confidence that they could stop smoking completely. Self efficacy is a consistent predictor of sustained smoking cessation (Bandura, 1997), and following relapse a person is likely to experience decreased confidence in the ability to quit (Marlatt & George, 1998). According to Murray, Manktelow and Clifford (2000), if individuals are unable to sustain quitting they may feel discouraged from another attempt.

The majority of participants in this study had made few, if any, serious cessation attempts, and did not seem aware that smokers who quit typically require multiple quit attempts (Fiore, 2000). A few participants believed that strategies for smoking cessation were “common sense,” and that stopping would be easy. Of interest was the finding that it was these individuals who stated they did not want to quit smoking, and consciously chose to ignore advice to quit. Perhaps they had never made a genuine cessation attempt, and therefore had not experienced how challenging it could be. Alternatively, they might have become so determined to live their lives the way they choose, that they had decided that they were not going to quit even if they could.

The finding that participants stated that the desire to quit must come from within is congruent with a study that demonstrated that smokers who were counselled to facilitate autonomous motivation were more likely to sustain quitting (Williams, Gagne, Ryan and Deci, 2002). While a few participants in the present study wanted to quit smoking to please their physician, many of the participants found that the recommended strategies were not practical or possible. The lack of interest in the reading material that was offered may have reflected the fact that it was beyond the level required if these patients were not ready to quit. In some cases, counselling did not correspond with reality of the barriers they faced upon discharge from hospital. Murray et al. (2000) suggest that providing education in an environment that is vastly different from the home, such as the hospital, may be associated with insufficient motivation. It is possible that information regarding strategies for quitting was withheld when patients admitted to a low level of desire to quit. Perhaps clinicians were following clinical guidelines to raise the issue of smoking cessation with every patient (Fiore, 2000), but did not follow through with assisting smokers to quit, or arranging follow-up.

A few participants were angry regarding tobacco taxation and the regulation of smoking areas, a finding also reported by Lawlor et al. (2003). They reported that smokers were resentful because these measures did little to alleviate their difficult situations, and felt that government should be focusing their efforts in addressing the root causes of disadvantage. It has also been reported that resentment, anger and guilt may result from exploring the contributing causes of patients' MIs as they attempt to accept the changes that they are asked to make (Johnson & Morse, 1990; Sutherland & Jensen, 2000).

According to McKibbin and Wilson (2001), some health care professionals view smoking cessation as a straightforward process in which a person merely decides to change and then does it. The finding that nearly all the participants believed that the only option available

to them was quitting “cold turkey” raises concerns. In a study of women with heart disease, Thomas (1994) found that participants were instructed to quit smoking, but they had not received specific strategies regarding how to quit. A recent study to evaluate the effect of an expanded assessment tool to increase rates of smoker identification found that while physicians were more likely to ask patients if they smoked, it did not increase the rates in which physicians advised or assisted smokers to quit (Piper et al., 2003). The fact that participants had not been able to sustain quitting for more than a few days suggests that they may have been insufficiently prepared to cope effectively with a high-risk circumstance. However, Marlatt and George (1998) have proposed the notion that individuals may covertly place themselves in situations in which it is virtually impossible to resist temptation to smoke, when in fact there were a number of opportunities to avoid the situations that may lend themselves to relapse.

Participants in this study seemed unaware that all available forms of NRT have been shown to double the odds of quitting when offered together with counselling. (Silagy, Lancaster, Stead, Mant, & Fowler, 2004). Wiltshire, Bancroft, Parry, and Amos (2003) contend that this skepticism regarding the use of NRT may reflect the fact that pharmacotherapy alone can not address the social or personal circumstances of participants’ lives that appear to support smoking, such as stress. Some individuals stated that their doctors had discouraged the use of NRT on the basis of their heart condition, despite current evidence indicating the safety of these products for patients with a history of CAD (Mahmariam et al., 1997; Silagy et al., 2004). Conflicting or ambiguous reports may contribute to confusion and a lack of trust regarding aids to quit. For example, one study demonstrated that 90% of smokers who quit do so unaided (Fiore et al., 1990). Similarly, Marshall (1990) found that 60% of MI patients who quit, quit without a formal program.

Perceived Attributions of MI

Although not all participants in this study were convinced that smoking played a large part in their CAD, most recognized that giving up their previous lifestyle and adopting healthy habits played a significant role in the prevention of a subsequent MI. One explanation for persistent smoking may be that smoking was not emphasized as a major cause of the participants' MI. While most participants had developed explicit explanations regarding the causes of their disease, a few were still struggling to understand why they had had an MI. Researchers have acknowledged that causal explanations can have a major impact on motivation regarding lifestyle changes (Johnson & Morse, 1990). In a study by Clark, Hogan, Kviz, and Prohaska (1999), smokers who attributed various disease symptoms to smoking rather than aging were more motivated to make an attempt to quit. Similarly, Billing, Bar-on, and Rehnqvist (1997) found that following an MI, accurate causal attributions and positive ideas about coping contributed to healthy lifestyle changes. As some individuals come to terms with their MI, they may question the value of lifestyle changes that do not guarantee protection from another MI (Wiles, 1998). According to Murray et al. (2000), information regarding cardiovascular risks is often drawn from talking with friends and relatives, and television programs. McSweeney (1993) has reported that "explanatory models", or the conclusions that people draw about the meaning of their illness, can directly influence decisions regarding which behaviours to modify.

The way that individuals make sense of their MI has important implications for motivation to make lifestyle changes (McKibbin & Wilson, 2001). The event that is perceived to precipitate an MI is often an important part of giving structure to the hospital experience (Frazier & Garvin, 1996). Some of the participants in this study attributed their MI to stressful events leading to MI, rather than underlying risk factors. The perception that stress is the

dominant cause of an MI has been described by several researchers (eg: McKibbin & Wilson, 2001). Fielding (1987) and McSweeney (1993) reported that patients most often attributed their MI to psychosocial causes such as stress and overwork, rather than biological causes. Participants in other studies also believed that the positive calming effects of smoking outweighed the stress associated with quitting in the prevention of further disease (Murray et al., 2000). The finding that stress was perceived to be responsible for the MI reveals a discrepancy between patients' views and prevailing medical opinion, and is a common misapprehension (Petrie, Broadbent & Meechan, 2003).

The perception of an unmodifiable risk factor such as heredity or fate as the primary explanation for an MI may be a significant barrier to quitting smoking. Highlighting their lack of control by taking the position that genes or bad luck could play an ultimate role in their disease may be a means of exempting themselves from moral judgement (Crossley, 2002). While some participants in the present study continued to pursue the possibility of quitting smoking, others gave up hope, feeling powerless to prevent a subsequent MI. According to a study by Wiles (1998), when there appears to be no obvious cause for an MI or medical explanations seem inadequate, the notion of fate was often drawn on to account for this "bad luck" in having had an MI. Bergman and Berterö (2001) reported that patients with CAD who felt that they were victims of circumstances had more difficulty changing their lifestyle. For example, other researchers have reported that patients who believed that illness and wellness were God's will often felt less compelled to comply with medical advice (Fleury, 1996; Al-Hassan & Sagr, 2002).

Individuals tend to choose among alternative strategies to minimize further CAD, and while none of the participants in this study had sustained smoking cessation after their MI, they were committed to making behaviour modifications in other areas. Change efforts were focused

on dietary adjustments, maintaining medications regimes, and increasing activity. Many of those who did not consider smoking to be a major cause of their MI did adhere to advice regarding diet and medications, believing that these changes were adequate. Wiles and Kinmonth (2001) reported that medication adherence was viewed as more important than lifestyle changes; quitting smoking was seen as a personal choice, and taking medications was viewed as under the control of the doctors. These findings also coincide with those of a large study that revealed that people are more willing to take cardioprotective drugs such as aspirin and beta blockers than to change their lifestyles (Baesler et al., 2001).

Consequences due to Smoking

One variable thought to influence motivation to quit smoking is fear of consequences. Consistent with previous research (Kerr & Fothergill-Bourbonnais, 2002), several participants in the present study described feelings of disbelief when they first learned they had had a heart attack, but at the time of the interview many stated that they were not worried about a recurrent MI. Some participants did reflect on the life-changing nature of their MI; however, this image was not considered sufficient to motivate smoking cessation. Such lack of concern could be explained by Wiles (1998) who states that patients place a high level of trust in epidemiological data regarding the dangers of smoking in the period immediately following an MI, but as they recover, they tend to question and challenge this information. Jackson et al. (2000) reported that prominent fears had resolved as early as the second week after an MI, and as reported in this study, quitting smoking was not deemed important for those who stated "it's best not to think about it." It is possible that the burden of acknowledging the life-threatening nature of their illness was so overwhelming that they took a fatalistic view, believing that they would likely have another MI regardless of any lifestyle changes.

According to Irvine and Ritvo (1998), health knowledge is necessary, but may have little impact on smoking behaviour. Although several of the participants in this study appeared to have a realistic perception of the magnitude of the complications of smoking, this was not sufficient to motivate them to quit. For other smokers, as noted by Manfredi, Lacey, Warnecke and Balch, (1997), the effects of smoking may be perceived as minor compared with other health risks such as pollution. Marlatt and George (1998) contend that cognitive distortions such as denial or rationalization make it easier to continue to smoke. Streuer, Kruter and Kobrin (1995) reported that smokers often stated that they understood the health effects, but worried more about other risk factors that were in reality much less serious. Moreover, given the complexity and uncertainty surrounding the effects of smoking and making an explicit decision to quit, continuing their habit may seem to them a natural and rational strategy (Lindbladh & Hampus Lyttkens, 2002).

The finding in this study that some patients minimize the seriousness of their MI is consistent with prior research. The perceived extent of the MI predicts success in long-term smoking cessation; patients who have had a “mild” heart attack have been reported to trivialize their illness, and therefore be less committed to quitting (van Berkel, van der Vlugt & Boersma, 2000). Wiles and Kinmoth (2001) have suggested that continued smoking reflects a denial of the significance of an individual’s MI, and Thompson, Ersser and Webster (1995) noted that patients coped with the threats posed by their MI by playing down the seriousness. As in Wiles’ study (1998), participants in the present study believed that their condition had been “fixed” by their angioplasty. Wiles found that patients often viewed their MI as an isolated, acute event from which they had made a full recovery rather than an ongoing chronic condition.

Marshall (1990) found that those who did quit smoking after an MI perceived a greater susceptibility to further ill health, which suggests that quitters are more likely to make an

accurate evaluation of the personal consequences of smoking. As reported by Murray (1989), the participants in the present study acknowledged smoking as a risk, but minimized their personal vulnerability by failing to relate it to their own MI. Research by Boney-McCoy et al. (1992) revealed that smokers often perceive their own risks as lower than those of typical smokers, and therefore are less interested in quitting, and that those enrolled in a smoking cessation program did not have this optimistic risk distortion. Xu (2002) suggests that with modern technology and medications, these individuals may think that it is not necessary to quit smoking, and they may choose alternative preventative measures to offset the effects of smoking. A patient may refute the detrimental effects of smoking as a coping mechanism; however, it may be an oversimplification for a clinician to label this process as denial. Jenks (1992) argues that evidence linking CAD and smoking is so compelling, and public awareness has become so pervasive, that it is impossible to deny the detrimental effects of smoking. Despite agreeing that “smoking is a filthy, dirty habit,” participants questioned the validity of health information regarding the dangers of smoking. Exempting themselves from the risk may be an attempt to reduce the dissonance produced by the inconsistency of the smokers’ beliefs (Baker, Bye, Dennison, & Ainsworth, 2001). Participants may also have attempted to alleviate dissonance by comparing themselves to smokers who are healthy, and nonsmokers who have heart or lung disease, thus concluding that the likelihood of another MI is in the hands of fate. As reported in other studies (eg: Wiles, 1998), participants drew on cases of acquaintances that had smoked all their lives and been healthy, or non-smokers who had died of tobacco related disease. The knowledge that some people may get lung cancer despite not smoking may be viewed as further proof of their invulnerability to the risk. Furthermore, some patients may see smoking cessation as pointless if they do not believe that they have long to live anyway (Wiles, 1998).

Some health care professionals may be excessively encouraging in their efforts to avoid provoking an anxiety so intense as to make it difficult for smokers to rethink the situation and consider quitting (Irvine & Ritvo, 1998). However, communicating optimism regarding prognosis was perceived by participants in this study as conflicting, as a mild heart attack was not seen to necessitate smoking cessation. For many nurses, the choice to provide either reassurance, or to offer realistic information that may lead to anxiety, depression or fatalism, can be fraught with tension. An approach from either extreme may result in a client with low motivation to make lifestyle changes (Wiles & Kinmoth, 2001). While a certain degree of health-related anxiety is necessary to motivate adherence, Irving & Ritvo (1998) contend that messages that are too threatening can increase fear beyond adaptive levels resulting in avoidance or denial. The findings in this study can be used to inform health care professions regarding the challenges facing smokers, and the meaning of smoking.

In summary, Georgi's (1997) phenomenological method of data analysis was useful for identifying the central factors in the decision-making processes that guide lifestyle changes following an MI. On consideration of the data, the complexity of the participants' attitudes in relation to smoking was evident. The seemingly contradictory responses regarding benefits and risks conveyed a high level of indecisiveness, and the balancing of pros and cons by the participants revealed ambivalence.

Implications for Practice

Evidence consistently demonstrates that individual counselling increases the likelihood of cessation (Lancaster & Stead, 2004a), and therefore the following recommendations for nursing practice are proposed: 1) An in-depth assessment should be made of patients' perceptions of facilitating factors and health consequences connected with smoking, together with their intentions and confidence regarding quitting; 2) Health care professionals should

assist patients to correct misperceptions regarding the severity of their CAD, the links between smoking and their current illness, and the correct attributions to their CAD; 3) Patients may not be ready to learn a great deal of detail about quitting smoking during their hospital admission, but strategies should be made available to them when they are ready; and 4) The addictive nature of tobacco should be addressed with discussions regarding pharmacological aids to quit smoking; 5) Broadly based initiatives to address smoking in a wider social context may be the only way to assist some smokers to quit.

The findings of this study demonstrate how tobacco cessation interventions could be more pertinent after a patient's views have been explored. Fleury (1992) contends that an assessment of the decisional processes that guide the initiation and maintenance of health behaviours may lead to an individualized approach yielding a more effective result. It was clear that for this group simple advice to stop smoking would be insufficient, and that interventions should be based on their perceptions so they are personally relevant. Traditions, values, and religious beliefs affecting therapeutic regimens should be explored, and individuals with fatalistic attitude should be identified. For example, clinicians should be prepared for the fact that patients value on their religious beliefs more than statistics regarding the consequences of smoking. Rather than simply trying to persuade an individual to quit, an understanding of how the barriers influence sustained quitting may lead to effective solutions. According to Goldstein and Niaura (2000), employing an empathetic style and giving personalized feedback and support are most likely to be effective for patients who are not committed to quitting smoking.

Educational efforts to make nurses aware of the psychosocial determinants of motivation will prepare them to assist individuals and families to initiate and sustain smoking cessation. When anxiety is perceived as a major barrier to quitting, it would be worthwhile to address the stressful factors that make it difficult to quit smoking by incorporating stress

management strategies into a smoking cessation program. Another important step towards promoting smoking cessation might be to identify who may benefit from self efficacy enhancement before quit attempts are made. To prevent diminishing self-confidence in their ability to quit, it may even be worthwhile to suggest that smokers delay cessation until stressful periods in their life have subsided, and they have a higher chance of success (Owen & Brown, 1991). Patients should be informed that individuals who stop smoking successfully typically require multiple quit attempts (Fiore, 2000). Skill training in anticipating and preventing relapse may improve self-confidence in the ability to quit (Marlatt & George, 1998). Clients who believe that “cutting back” is beneficial should be informed that this approach may be self-deceptive if the lack of nicotine is compensated for by deeper inhalation, and smoking more of the cigarette before putting it out. For clients who are overly optimistic, measures to prepare them for the difficulties of overcoming nicotine cravings may be helpful. The fact that several participants started smoking within a few days after discharge with “just one” has implications for preparing patients for situations with high potential for relapse. For example, the nurse may assist patients to identify the circumstances in which they smoke, their feelings at the time, and what role the cigarette plays in coping with situations (Fleury, Thomas & Ratledge, 1997). Murray et al. (2000) recommend a discussion of the meaning and value of smoking cessation as a series of steps that fit the person’s plans after discharge. An appreciation of which triggers precipitate relapse may allow smokers to reduce perceived obstacles, making quitting more manageable.

A second implication is that clinicians must elicit patients’ understandings of their disease and cardiac risk factors so that misperceptions can be addressed. Many participants in this study did not feel that the risks of smoking were substantial enough to quit, and those who had not accepted smoking as a cause of their MI were not ready to quit. Thus, communication

should leave no doubt as to the health consequences of smoking. Discussions regarding perceived causality of their MI may provide an opportunity to provide factual information about the effect of smoking on their CAD, and influence long-term behaviour. Participants may have difficulty quitting smoking if they believe that future exacerbations of smoking-related illness are predestined, and view their disease as impossible to influence. For patients who view their CAD primarily as the result of personally uncontrollable factors such as anxiety or heredity, attributions should be clarified with consistent information, and alternate possibilities should be explored. To avoid an overemphasis on the role of cholesterol on CAD, dietary recommendations should be presented along with smoking advice. Furthermore, it must be conveyed that despite the fact that the patient may have had a "mild" MI, the adoption of long-term lifestyle changes is crucial to prevent further CAD. Patients who have had an angioplasty to "fix" their blockage must be informed that they have an underlying disease process that will continue to progress if they do not quit smoking. A better understanding of any discordance between awareness and behaviour could be useful in guiding smoking cessation interventions for smokers who deny the importance of quitting. A formal framework, such as a decision support tool may be useful to assess values, and provide precise information regarding probability of risks (O'Connor et al., 1999). Marlatt and George (1998) suggest individualized cognitive reframing strategies to provide the client with alternative views of various aspects of the change process, that allow the clients to see through self-deceptive defence mechanisms. These approaches may present options for smoking cessation so that discrepancies can be resolved.

A third implication relates to interventions provided while patients are hospitalized. While extra efforts may be necessary for patients who are not motivated to quit, patients may be more receptive to advice during hospitalization (Emmons & Goldstein, 1992; Glasgow,

Stevens, Vogt, Mullooly & Lichtenstein, 1991). Raising the issue and prompting each patient to make a credible attempt would capitalize on heightened motivation and openness to messages. However, an attempt to provide information in hospital when it is not the patients' priority may result in them feeling overwhelmed, ignored or misunderstood (Kerr & Fothergill-Bourbonnais, 2001). In addition, Fielding (1987) contends that by failing to offer relaxation strategies as standard care in the hospital, we are neglecting to address the concern that patients perceive to be the most threatening. According to Goldstein and Niaura (2000), the development of skills to assist with management of stress may tip the balance toward a decision to quit smoking. For individuals who want to quit but are ambivalent about the costs and benefits, Cole (2001) suggests encouraging small steps towards quitting, such as cutting down or delaying the first cigarette in the morning. However, interventions at this time should be directed at long-term maintenance of change (Marlatt & George, 1998), and therefore these patients should be encouraged to set goals for themselves. The high rate of relapse among the participants who did manage to stop smoking provides a strong rationale for offering opportunities to discuss their beliefs regarding smoking, and challenges that they will face after discharge. Brief hospital stays may make it challenging to offer this type of counseling, as patients are ill and medicated, and may be too preoccupied with issues such as managing symptoms to concentrate on health promotion. The results of a review by Rigotti, Munafo, Murphy and Stead (2004) revealed that smoking cessation interventions delivered during a period of hospitalization increased smoking cessation, but only when coupled with referral to support after discharge. Follow-up appointments with an advanced practice nurse regarding lifestyle changes would be an effective way to ensure that patients receive ongoing support and are connected with appropriate services. In one systematic review, a phone call from a counsellor was found to increase the chances of quitting relatively by around 50 percent compared to a minimal intervention such as

providing standard self-help materials (Stead, Lancaster, & Perera, 2004). In a review of self-help strategies, effectiveness was only demonstrated for approaches that could be tailored for individual smokers (Lancaster and Stead, 2004b). Telephone quitlines are available in many languages with extended hours of operation, and have been shown to be a highly effective means of helping individuals quit smoking (Fiore et al, 2004). Interactive programs using technology such as the internet may allow people to take steps to quit smoking at their own pace (Klein, 2001). Computer-based programs allow health messages to be personalized by addressing the key psychosocial determinants influencing an individual's choice (Bandura, 1997).

A fourth implication relates to pharmacotherapy for smoking cessation. Encouraging abrupt cessation as the only option is unlikely to motivate smokers who are not ready to quit (Fagerstrom, 1999). The imposed smoking ban in hospital provides an opportunity to enhance efforts from physicians by encouraging nicotine replacement therapy, and possibly antidepressives, instead of benzodiazepines to alleviate nicotine withdrawal symptoms. This situation presents an opportunity for nurses to become actively involved in efforts to assist MI survivors to develop a plan to quit smoking. According to CIHI (2000), improved use of clinical practice guidelines such as suggesting NRT, is required to provide evidence-based practice. NRT should be offered along with other support for smoking cessation to smokers who are motivated to quit and who have high levels of nicotine dependence. In view of the fact that withdrawal symptoms were reported as a substantial barrier to quitting in the present study, offering pharmacotherapy for managing these symptoms may improve the capacity to assist patients to quit smoking by increasing self efficacy and motivation to quit (Fagerstrom, 1999). This study revealed that health care professionals also require clarification regarding the safety of NRT with cardiac patients. Health care professionals should follow clinical guidelines that

urge clinicians to provide pharmacotherapy for every patient making a quit attempt, and be informed that NRT has been shown to be effective and safe for patients with CAD (Fiore, 2000).

Finally, given the challenges of smoking cessation, it may be unrealistic to rely on individual's capacity for change alone to make a difference (Fleury, 1992). According to Rosen, McCarthy and Moskowitz (1995), a multifaceted approach is needed to achieve a permanent change in smoking behaviour. The findings of this study emphasize the need for nurses to initiate and support systematic policies to improve the provision of smoking cessation services. Nurses must acknowledge that attributions represent an expression of values and beliefs reflective of the social context in which people live (Murray et al., 2000). If we are to assist these individuals to enhance their willpower to quit, we may need to promote changes in the environment, such as increased services for women in abusive relationships, or smoke-free regulations in all cities in Ontario. Marlatt and George (1998) contend that a smoking cessation program must include measures to improve clients' overall lifestyle by encouraging them to participate in healthy activities so that their capacity to cope with adverse conditions is improved.

Implications for Research

The results of this study provide a basis for several fields of further investigation that would be fruitful. Despite the sensitive nature of this study's subject, the response rate of 66%, indicates that it is feasible to access this population of post-MI smokers. Replicating this study using similar methods in another cardiovascular setting should add to the credibility of these findings. It would also be of interest to determine the transferability of these findings to other sub-populations by determining whether similar results would be obtained in individuals hospitalized for other aspects of cardiovascular disease, those who have had coronary bypass

surgery, or those with non-cardiac illnesses. Research with an ethnically diverse sample to explore the role of cultural factors is also warranted. A longitudinal study to follow the relationship between intention to quit, confidence, desire to quit, and quit attempts, would reflect patterns over time. Using these results to construct a survey, data could be confirmed quantitatively to enable researchers to access a larger sample so that intervention studies could be justified. An investigation of the cyclical nature of the responses found in this study may also be useful to determine the optimal timing for interventions. An examination of the impact of unsuccessful quit attempts on future attempts should be conducted to see whether the process of relapse increases resistance.

Conclusion

Sustained smoking cessation could make a profound difference in patient outcome by decreasing subsequent MIs and prolonging life. These findings have important implications for secondary prevention regarding health behaviour. This study confirms findings that are implicit in the literature, and the in-depth narrative may allow health care professionals to have a greater understanding of clients who view health differently. The main contributions of this study are 1) a clearer picture of the barriers to smoking cessation for this subgroup of smokers, 2) a greater understanding of patients' perceptions and misperceptions of risk and disease, 3) a visual representation of the major concepts surrounding continued smoking after an MI, and 4) provision of insight into ways that post-MI patients interpret advice from health care providers, and the impact that these interactions have on smoking. Consideration of these factors may lead to a greater number of options for engaging patients in conversations about their smoking.

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Table 3.1

Interview Questions and General Probes

Interview Questions	
1.	Think back to before you had your heart attack. Can you tell me about the events leading up to your heart attack?
2.	How do you see the connection between the development of your heart disease and smoking?
3.	People are often asked to make a lot of lifestyle changes after a heart attack. Can you tell me how this has been for you?
4.	People are often asked to make a lot of lifestyle changes after a heart attack. Can you tell me how this has been for you?
5.	Tell me (more) about what happened with your smoking after your heart attack?
6.	Given you've had a heart attack, how do you feel about continuing to smoke?
7.	What do you see as the pros and cons of smoking?
8.	Considering what you've told me about the health effects of smoking, how do you feel about continuing to smoke?
9.	Is there anything that would have to happen before you seriously considered quitting?
General Probes	
	Can you tell me more about that?
	What else...
	Explain what you mean by...
	How did you feel about...
	Can you give me an example?
	How were you feeling at that time?
	What exactly happens when...
	What else have you noticed? Anything else?
	From what you have told me, I can imagine it would be difficult to quit smoking.
	It sounds as if...

Table 3.2

Potential Study Subjects

Cardiac patients who admitted to smoking who were asked if they would mind if a graduate student contacted them:	
Total patients asked	95
Patients that said no	32
Patients that said yes	63
Of the 63 patients who agreed to be called by graduate student:	
Did not meet inclusion criteria	41
Could not be reached	5
Declined (too busy, too sick)	8
Interviewed	9
Patients who did not meet inclusion criteria:	
CABG (and lived within 90 min Ottawa)	11
Lived more than 90 minute drive	7
MI was > one year ago	6
Did not have MI / CAD	14
Quit smoking recently	1
Using active strategies to quit smoking	2

Table 3.3
Characteristics of Study Sample

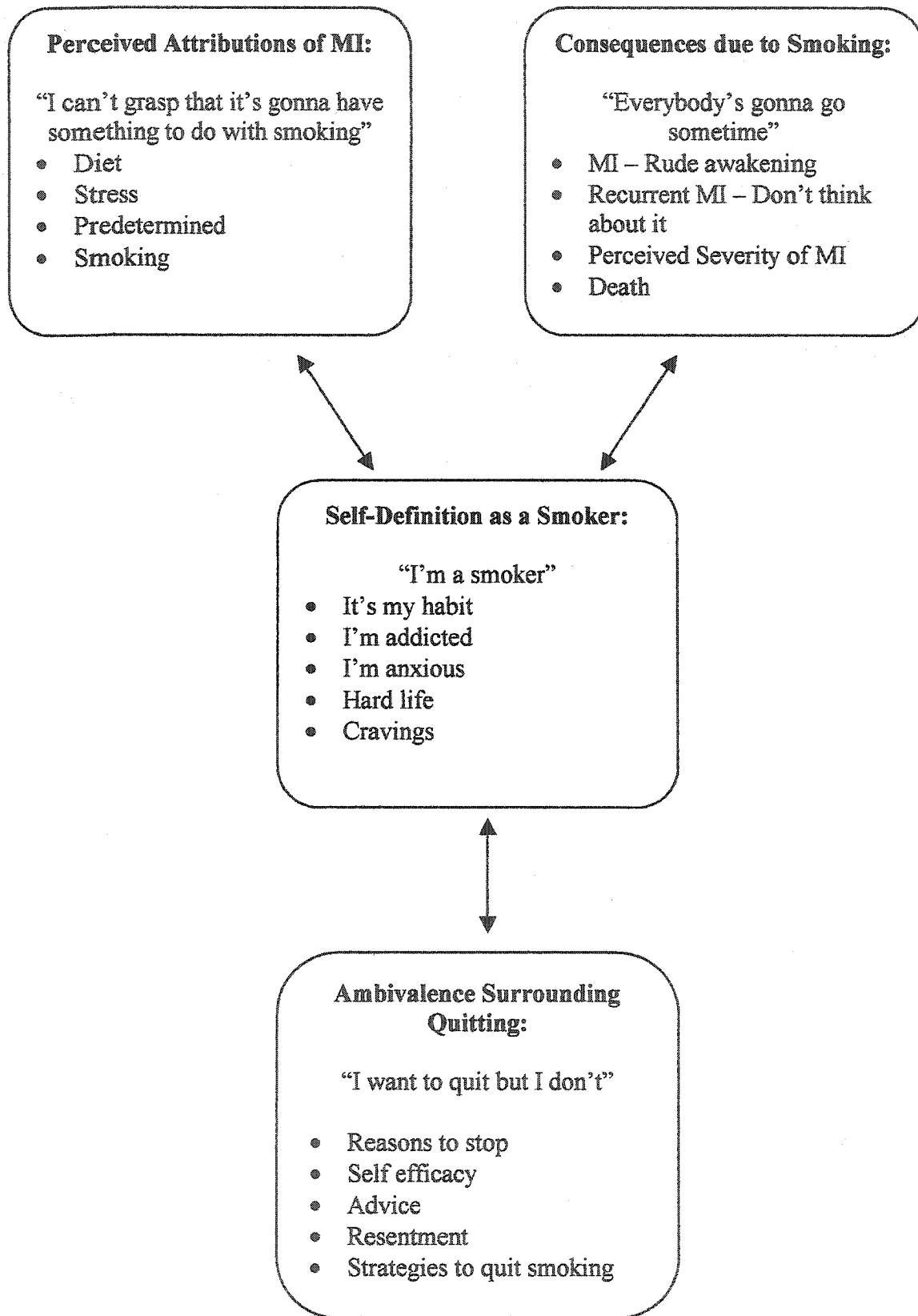
Participant	1	2	3	4	5	6	7	8	9
Age	55	69	41	47	46	60	55	55	57
Sex	M	F	M	M	F	F	M	M	M
# Months since MI	9 & 2	10	9	9	8	12	7	7	7
PCA	√	√	√	√	√	√	√	√	√
Previous stroke		√							√
Diabetic								√	
Told MI was mild	√				√				√
# of times quit in past	many	never	a few	a few	a few	?	a few	once	once
Smoked at hospital								√	
Weeks quit post-hospitalization	0	0	9	0	4	0	0	0	0
Want to quit	no	yes	yes	no	yes	yes	maybe	maybe	no
Smoking bothers them	no	yes	yes	no	yes	yes	maybe	no	no
Could quit	yes	no	no	yes	yes	no	no	no	?
Likely cause of MI	stress	many	chol	chol	chol	many	many	stress	hered.
Believe smk R/T MI	maybe	yes	yes	maybe	yes	yes	maybe	maybe	maybe
Believe HCPs could assist with quitting	no	yes	no	no	no	yes	no	no	no
Believe aids could help	no	yes	no	no	no	yes	no	?	no
Marital status	m	w	m	div	div	div	m	div	m
Spouse/partner smokes	no	N/A	no	N/A	yes	N/A	yes	N/A	yes
Smoker in household	son	son	no	yes	-	no	-	no	-
Would quit cold turkey	yes	yes	yes	yes	yes	maybe	yes	yes	yes
Smoked during interview							√	√	

m = married
 chol = cholesterol

div = divorced
 hered = heredity

w = widow
 HCPs = health care providers

Figure 3.1
Schematic Diagram of the Structure of the Experience



CHAPTER IV

Intervening in Client Lifestyles: Ethical Implications

This chapter discusses the ethical implications from the findings of the study described in Chapter III.

Participant Quote:

“Yeah and you’re sent out to smoke and, ah, you can’t smoke in bars and things like that.

It’s almost as if the nonsmokers and the smokers...

and somebody’s shifting their things on other people”

Abstract

Despite the fact that tobacco use is the leading cause of preventable illnesses and premature death in Canada, 21.5% of Canadians continue to smoke. For individuals who have survived a myocardial infarction, smoking may be the greatest predictor of mortality, and smoking cessation can reduce the risk of recurrent myocardial infarction and cardiovascular death by 50 percent or more. This paper discusses the ethical issues that arise when individuals continue to engage in risky behaviours, despite being informed of potential harmful effects by health care providers. Three opposing ethical principles as they relate to adherence issues will be explored: autonomy, beneficence, and distributive justice. While clinicians are obligated to inform clients regarding the consequences of smoking, they may observe others giving forceful advice, which could be perceived as coercive. Furthermore, clinicians may experience frustration when significant time is spent with a client who experiences exacerbation of illness due to an unhealthy lifestyle choice, leaving less time for other clients. In complex situations, even a commitment to an environment of ongoing ethical inquiry may not always lead to a single resolution. However, the College of Nurses of Ontario states that personal values should be identified so that a sound decision can be reached and articulated.

Introduction

Tobacco use is the leading cause of preventable illnesses and premature death in Canada (Makomaski Illing & Kaiserman, 2004). However, 21.5% of Canadians continue to smoke (Statistics Canada, 2004). For individuals who have survived a myocardial infarction (MI), smoking may be the greatest predictor of mortality, and smoking cessation can reduce the risk of recurrent MI and cardiovascular death by 50 percent or more (Deckers et al., 1994; Greenwood, Muir, Packham, & Madeley, 1995; Rea et al., 2002). Goldenberg et al. (2003) have demonstrated that conclusive evidence links continued smoking to sudden cardiac death for those who have experienced an MI, and thus advocate for vigorous smoking cessation counselling as an integral component of secondary prevention. In situations where clients are not willing or able to alter smoking habits, nurses may feel distressed, or uncertain how to proceed. If attempts are made to persuade an individual to change when the client does not share this goal, interventions may not be ethically justified. The qualitative study outlined in Chapter III of this thesis explored perceptions of individuals who continued to smoke following the diagnosis of an MI. The results of this study revealed that a discussion of ethical issues surrounding health promotion was warranted.

While advances have been made to demonstrate the value of health promotion, less progress has been made in articulating its ethical aspects (Sindall, 2002). Some clinicians attempt to influence the behaviours of clients so that they are more consistent with their own values (Reigle & Boyle, 2000). Nurses may observe others giving forceful advice, which could be perceived by the patient as coercive. In addition, nurses may experience frustration when time spent with a client who experiences exacerbation of illness due to unhealthy lifestyle choice leaves less time available for other clients. To what extent is it ethical to interfere in a client's chosen lifestyle when their habits are contributing to illness? Should health care

professionals intervene when lifestyle choices threaten to cause health problems, and should they try to impose regulations that may restrict freedom? Should the client's level of adherence to recommendations determine the amount and quality of care provided?

This paper will address these questions by exploring three opposing ethical principles as they relate to adherence issues. The study described in Chapter III was conducted to gain an understanding of how individuals with coronary artery disease (CAD) view the risks of smoking. The findings were then analysed for patterns and meanings, which were clustered into categories. Five of the nine participants interviewed were resistant to quitting smoking, and thus the data chosen for this paper were based on their responses. Quotes from these individuals will be used throughout this paper to demonstrate how situations in health promotion can contribute to ethical uncertainty.

Ethical Principles Relating to Health Promotion

The College of Nurses of Ontario (CNO) Practice Standard for Ethics is a framework that was developed to provide "direction in identifying and resolving ethical situations" (2004, p.19). The principles are referred to by CNO (2004) as the ethical values of: client choices (autonomy), client well-being (beneficence), and fairness (distributive justice). In an ethical analysis, competing values are balanced and interpreted within the context of the circumstances, and the moral justification for the final decision is based on an appeal to these principles (Reigle & Boyle, 2000). According to the CNO, the above situation would be considered an ethical conflict or dilemma, occurring "when two or more ethical values apply to a situation, but support diverging courses of action" (2004, p.4). While no single solution will be correct in all situations or satisfy everyone, nurses need to identify their personal values, and reach a sound decision that they can articulate (CNO, 2004).

Client Choices

The notion of client choice refers to the core value of autonomy or self-determination. Implicit in this ethical principle is the fact that clients know the context in which they live, and when they are provided with the necessary information, they can decide what is best for themselves according to their own beliefs and values (CNO, 2004). The nurse has a duty to respect the free choices of competent patients, and a client has a right to refuse treatment, as long as such activities do not harm others. The CNO (2004) acknowledges that the nurse's personal values may conflict with a client's decision, but contends that a client has a right to choose a risky course of action.

"Don't ever tell me to quit, because I said, I'll do the opposite"

Some health care professionals may believe that techniques such as arousing fear of the consequences of non-adherence or lifestyle choices do not need to be justified. Because active involvement in health promotion is viewed as an important responsibility of a nurse, some nurses might consider their efforts a failure if they had not attempted to pressure the client into making a change. A paternalistic style may even be used, in which the nurse provides the solutions for a client. While this approach may be rationalized by health care professionals, it is rarely justified ethically because it ignores the right of individuals to determine their own outcomes. By using a forceful approach, the health professional may even reinforce resistance to change (Rollnick, Mason, & Butler, 1999). Client resistance may also be a sign that the nurse has assumed there is greater readiness to change than exists (Rollnick et al., 1999). Alternately, other health care professionals believe that they should not attempt to persuade individuals unless they are invited to do so, because this may impose their own values and interfere with the client's freedom and autonomy. A nurse possessing this belief would be guided exclusively by the principle of autonomy, and may intervene only minimally, accepting unhealthy

behaviour with resignation. McKenzie, Neiger, & Smeltzer (2005) propose a hierarchy of autonomy that ranges from facilitation and persuasion to manipulation and coercion. Table 4.1 outlines examples of health promotion activities related to these levels of involvement.

"I know I'm doing wrong. I don't like somebody to keep telling me about it"

Cody (2003) states that paternalism is widespread in health promotion, and he defines it as an approach that dictates that people must do something that they don't want to do, or refrain from doing something that they do want to do. Some clinicians do not perceive any ethical difficulty when encouraging their clients to take steps to make changes when the client has not asked for help. However, Rollnick et al. (1999) argue that simply "encouraging" healthy behaviour can easily slide into coercing, labelling and blaming. The root of the word "patient" means passive or unable to take action (Husted & Husted, 1999), and the word compliance conveys the expectation that the authority of the health care provider should rarely be questioned (Kickbusch, 1988). This language persists in health care, and may sustain a system of dominance, implying that noncompliance is a problem requiring a nursing solution (Murphy & Canales, 2001). Autonomy may be diminished and a power imbalance may be created in an environment where the sole emphasis of health care is directed toward trying to get people to make healthy changes. If a health professional establishes an agenda from a hidden perspective, the resulting intervention could be considered manipulative. Carey (2000) contends that "empowerment" rhetoric may be used to persuade clients to control their "deviant" behaviour. Health promotion strategies may not truly offer individuals "autonomous" choice if clients are given an illusion of choice when the agenda is actually to get them to do what health professionals want them to do (Carey, 2000). For example, subtle strategies such as having clients identify what they dislike about smoking in an attempt to get them to realize for

themselves that they need to quit could be considered coercive if the client was not aware of the intent of the interview (Rollnick et al., 1999).

"For me to want to quit is just a big brain wave saying I want to quit and that's it"

Engaging in unhealthy lifestyles may not be genuinely autonomous if clients are uninformed about various aspects of their health or strategies for change. Most participants in the study stated that they were unaware of any strategies to quit smoking besides "cold turkey." As well, some believed that NRT was ineffective, and furthermore that it was contraindicated with CAD, despite research establishing its efficacy and safety (Fiore, 2000). Because participants in the study were offered substantial health teaching regarding cholesterol, they attributed their MI to cholesterol or stress rather than smoking. They perceived their MI to be mild, and thus not requiring major lifestyle changes. Individuals who had undergone angioplasty believed that the risk of recurrent MI was eliminated and they had been "fixed", failing to acknowledge the fact that smoking contributes to the underlying disease process rather than a single vessel. There is some evidence that health behaviour may be beyond the capacity of some individuals to alter. Tobacco is addictive, and therefore the decision to continue to smoke may not always be a simple matter of rational choice (Evans & Stoddart, 1990). One finding of the present study was that participants believed that biologically it was more difficult for they themselves to quit than others. While no studies can be found to support such comments, no studies have refuted them either.

"I don't have no more willpower left. I feel like I used it all up trying to stay alive"

Harmful lifestyle habits may be more complex than simple free choice if they are a form of coping with adverse situations. Initiatives to promote personal responsibility for maintaining health may not be ethical if they direct attention away from the socioeconomic determinants causing the concern (Lupton, 1994). For some clients, physicians' instructions

may not have corresponded with the social and economic realities of everyday life (Fluery, 1996). A person's choices may be grounded in experiences that include social, biological, ecological, economic, and political factors (McPherson, 1998). As an example, the relationship between socioeconomic status and health has proven to be consistent over time, and recent Canadian surveys have indicated that those with limited income are more likely to engage in health-inhibiting behaviours (Ruetter, 2000). Acton and Malathum (2000) reported that decisions regarding healthy behaviour correlate with basic need status, and unmet needs for belonging, food, shelter and education might predict engagement in health promoting behaviour. One woman in the study who had been in a number of abusive relationships explained why some women smoke: "I say, she never went out in her life, I see it. What do you want her to do, stop smoking and go crazy?" Lupton (1994) contends that non-adherence may be a reaction to the patient's position of powerlessness.

"God has determined when you are going to die"

Values, beliefs and fears are deeply cultural and personal, and may be difficult for an outsider to understand (Cody, 2003). For example, if the cultural norm is to offer a cigarette to get acquainted with somebody, then the health effects of the behaviour will not be as valued in the decision to quit (Kickbusch, 1988). One participant from the study in Chapter III believed that efforts to prolong life by quitting smoking would be pointless since the date of his death was predetermined by God. Wiles (1998) argues that in some situations, clients' perceptions that change is futile may in fact be accurate, and thus their choice should be respected. However, it is important to distinguish between determinants of health and fatalism, in which there is nothing that can be done to promote change. One woman who enjoyed smoking felt that because she had been told she would only live a few years longer, she might as well enjoy

what she has left. At this extreme, behaviour is viewed as being predetermined, and humans are seen as products of their environment.

Client Well-Being

Another principle that nurses must consider is client well-being or beneficence, defined as facilitating good health and preventing harm (CNO, 2004). Many health professionals feel obligated to prevent harm by advising individuals to adhere to medical recommendations. The ethical uncertainty that occurs when a client does not follow a therapeutic regimen may be due to the conflict between client well-being and autonomy. Nurses feel torn between either neglecting to address long-term health risks, or offering unsolicited lifestyle advice that may seem authoritarian and jeopardize the relationship. Cody (2003) cautions that the threat to human dignity by having one's life controlled by others must be considered when the benefit connected with an intervention is statistically uncertain.

"I have to somehow rationalize it... I weigh all the pros and cons"

According to CNO (2004), the approach to an ethical dilemma should meet the needs of the client, and the client's views must be considered. As a starting point, the CNO framework suggests differentiating between the nurse and client's views of what is beneficial. Risky behaviour is not always based on the health professional's view of what is "rational." Some participants simply do not follow recommendations because other priorities conflict with their ability to achieve smoking cessation. For other participants, despite the evidence, they denied that there were health benefits to quitting smoking: "I can't grasp that it's going to have something to do with smoking." Other participants were "dubious" of the statistics about the harmful effects of smoking: "Is this all guess work or is it true facts?" In health care the benefits must constantly be weighed against the risks of harm. According to Wiles (1998), providing information regarding the benefits of quitting smoking ignores the fact that lifestyle

changes may not prevent some clients from having another MI, and clients may be accurate in their perception that change is futile. Furthermore, there may not always be clear evidence that dictates one course of action over another (Beauchamp & Walters, 1989). For example, in a prospective study examining outcomes in 2916 first-time CABG patients, researchers reported statistics to demonstrate that there was no difference in mortality and morbidity between smokers and non-smokers (Utley et al., 1996).

"I don't think I can do it... So I don't try too hard now"

The principle of non-maleficence is associated with beneficence, and involves providing interventions that will not cause harm to the patient. While health care professionals are obligated to offer health information, the possibility of unintended negative effects must be considered. For example, nurses may be uncertain about strategies to convey the seriousness of the risks of smoking without significantly increasing anxiety. Kickbusch (1988) contends that some risk reduction campaigns and screening programs might have a negative psychological impact on health by increasing fear of so-called "killer-diseases." As one man in the study stated, "You can't spend your life thinking about that, you know... because everybody dies anyways." Irvine and Ritvo (1998) caution that although a certain amount of health related anxiety is necessary to motivate clients to change, health risk messages should be calibrated to a threat level that will mobilize smoking cessation without resulting in avoidance. Excessive scare tactics may be tuned out if individuals believe that sustained smoking cessation is unattainable (Bandura, 1997). Furthermore, Prochaska and Velicer (1997) agree that providing interventions that are not appropriate for a client's readiness to change can make outcomes markedly worse. For example, individuals who do not possess the self efficacy required to sustain smoking cessation may experience demoralization and guilt when they are unable to meet the expectations that have been established by health professionals. Providing solutions

that clinicians think are most appropriate for an individual may also be inadvertently harmful in that they may minimize the client's strengths and knowledge, or even perpetuate denial or defiance. This approach can be oppressive when health care professionals convey the expectation that their advice must always be obeyed (Tapp, 2000). Individuals from less privileged backgrounds may react to their position of powerlessness by becoming defiant, uncooperative or helpless (Lupton, 1994).

"... but to me then it wasn't excuses. It was comforting me, you know?"

Health professionals cannot assume they know what is best for clients, and should consider the possibility that quitting smoking may not really be the best option for all individuals. Individuals are often exposed to health threats that are beyond their immediate control, and risky behaviour may be one way by which individuals can better cope with the demands of everyday life (Kickbusch, 1988). Many participants in the study smoked to calm their nerves: "It's my pill," and one man even believed that the benefit of stress relief from smoking outweighed the negative effects of smoking. One participant stated: "If stress levels were relieved it would possibly provide some circumstance that you could maybe press ahead with quitting smoking." In some cases, the correct course of action may be to allow a client to make a harmful choice, specifically when they are informed of the risks, and the choice is perceived to be less important than other needs (Hebert, 1996a). Without exploring the context of clients' lives, we may not have a full appreciation of how difficult it may be to quit smoking. Limited coping mechanisms or resources may be available for smokers who have a chronic disease. Two participants in the study mentioned that more exercise may be helpful for quitting, but due to angina and arthritis, they had no choice but to limit activity. Others stated that they had difficulty making a quit attempt when they felt lonely.

Fairness

The third value identified by the CNO (2004) that applies to health promotion is fairness, which is often discussed in the literature using the term distributive justice. This ethical principle refers to the allocation of resources on the basis of necessity, or objective health-related factors (CNO, 2004). When resources are scarce, “fairness” may be shaped by the need to consider a perceived choice between the principles of client well-being, versus the provision of benefit for the greatest number of people. When these principles conflict, the nurse must balance needs and make judgments accordingly. Such a situation can present difficulties; for example, participants in the present study who were not ready to quit smoking at the time of their MI may have been denied admission to a smoking cessation program if they indicated they were not ready to quit. In a hospital setting where time available for health promotion is restricted, nurses may choose to offer interventions equally to all clients, offer interventions to those will benefit most from it, or prioritize according to needs or level of adherence. While the CNO acknowledges that limited resources makes these choices about who is entitled to health promotion more challenging, they state that these decisions will depend on the context, and the nurse’s role in the situation.

“They wanted to make smoking socially unacceptable, they need sin-taxes”

Some health providers may argue that it is justifiable to use any means available to persuade individuals to comply with medical advice against their wishes if it will result in greater good for the majority of the community. In the current political climate which focuses on outcomes, provision of ethically justified care can be challenging, especially when a client chooses a course of action that is perceived to be unhealthy. A health care professional supporting this view may be willing to place restrictions on autonomy when lifestyle choices involve the utilization of scarce resources (Beauchamp & Walters, 1989). They may believe

that because humans are free to make their own choices, they must be held responsible for the consequences of their actions (Jacob, 1994). A health care professional taking this perspective may believe that the responsibility for health maintenance lies with the individual, and it is acceptable to blame an individual for poor health if he makes unhealthy choices.

"... but they don't seem to care when I do say I smoke. I figure, well, who can help me?"

Clinicians may dismiss individuals who are not ready to quit as being unlikely to benefit from interventions, and be reluctant to concentrate their time and energy on them. This rationale is sometimes used as a justification for not providing care to those who are reluctant to change, and may be a means of avoiding ethical conflict. When individuals who do not adhere to recommendations are viewed as responsible for their disease and thus undeserving of medical care, such value judgements will shape the approach to care (Lupton, 1994). A focus on encouraging people to be accountable for their health may also be used to divert energy from health promotion to other interventions. However, an overemphasis on personal responsibility for health ignores the social context, especially if these individuals have little power or choice over how they live (Jacob, 1994). Despite highly adverse environmental constraints, individuals can and do manage to make changes to improve their health (Minkler, 1999). Goldstein et al. (1997) revealed that health care providers could have significant influence in facilitating the movement of smokers to subsequent stages of change, concluding that "health care providers in the primary care setting who are only intervening with those patients who are ready to quit smoking are missing opportunities to provide effective smoking interventions to the majority of their smoking patients" (p. 1318). Ambivalent or unmotivated clients are also entitled to interventions that are effective, and there is a need for research to explore more effective approaches for these individuals.

Implications for Practice: An Ethical Approach to Health Promotion

Critical Reflection on Personal Values

A variety of approaches may facilitate healthy choices, and nurses must consider which of them is ethically acceptable, and be aware of the rationale used to allocate their time.

Rollnick et al. (1999) argue that no interactions with patients are purely pragmatic and value-free. How we choose to relate to people is connected to beliefs about ourselves and what we know, about nursing as a profession, and about clients and what they know (Tapp, 2000).

Clarification of personal values can result in choices and behaviours that are consistent, and an awareness of situations in which conflicts may arise (Reigle & Boyle, 2000). In developing mutual partnerships, nurses also need to be self-critical regarding paternalistic language that may facilitate hierarchies between nurses and clients (Murphy & Canales, 2004).

Clarifying Client Values

Nurses should respect their patients' wishes even when their opinions are not the same as the clients' (CNO, 2004). Consistent predictors of adherence to health advice include socio-normative variables, the value placed on a particular goal, and perceptions of self efficacy (Clark & Becker, 1998). By accessing individuals' perceptions of their own health beliefs, and by exploring beliefs about risk factors, barriers to healthy behaviour can be identified. The belief system of the client's family should also be evaluated, since its willingness to make changes in daily life may affect adherence.

One strategy nurses can use to ensure that they do not impose themselves as "experts" is to ask questions that invite reflection. The CNO (2004) suggests exploring clients' rationales to see if alternatives can be found that satisfy the clients' wishes in a manner that concur with their own knowledge and judgment. Nurses must elicit stories that can help them respectfully learn about clients, so that approaches can be individualized. Underlying reasons for non-

adherence must be explored to clarify the motivation underlying the client's choices. Including details such as confidence in the ability to make changes, and the perceived value of changes when taking a routine history could also be useful for identifying misperceptions. Prompting clients to reflect on how they make decisions presents opportunities to promote coping strengths, and clients should be supported to find the best possible solution given their unique decision making styles (CNO, 2004). If clients are assisted to explore possible solutions and their consequences, they may be better able to choose thoughtfully among possibilities without relying on advice (Tapp, 2000). This approach contributes to the development of a collaborative partnership.

Basic need status should be assessed before strategies to make healthy changes are offered. It may be unethical to focus on behaviour modification when issues such as loss, or fear of dying from smoking-related heart disease have not been adequately addressed. Clients may feel that benefits gained from smoking such as perceived quality-of-life enhancement outweigh negative aspects, particularly if clients experience anxiety when trying to quit, and coping strategies have not been developed.

Strategies for Approaching Health Promotion in an Ethical Manner

Recommendations that focus predominantly on the specific lifestyle changes that will have the most impact may have a greater chance of success, since adherence rates are highest when therapeutic regimens are simple (Clark & Becker, 1998). Given the compelling evidence linking tobacco and CAD, the provision of health care would not be complete without informing clients of the consequences of smoking. While nurses have a responsibility to increase awareness and to facilitate access to healthy options, the client alone has the right to make his or her own health choices. The role of the clinician is to provide structure, direction and support, and in this context, a confrontational interviewing style is not productive (Rollnick

et al., 1999). For individuals with no intention of quitting, Cole (2001) recommends asking clients to reflect on how their lives would improve if they were not smoking, but states that the nurse should not proceed to a discussion of strategies for smoking cessation unless the clients has given permission (Cole, 2001). Attempts to intervene will not succeed unless the client wants to change; therefore the main task is to provide appropriate motivation (Christie & Hoffmaster, 1986). The goal should be to promote clients' willingness to become an active participant in setting a course of action, so that they will take control of their decision-making and make healthy choices. Williams, Gagné, Ryan, and Deci (2002) demonstrated that smokers counselled in a style that supported autonomous self regulation, such as offering choice or acknowledging feelings, had a higher quit rate at 6, 12, and 30 months after the interview. An example of such an approach might entail actively engaging the client in devising strategies to cope with perceived barriers to smoking, such as anxiety. Measures to increase self-esteem and assertiveness would also facilitate informed decision-making, and increase the client's capacity for autonomy (Ng, 1997).

Considering Health Behaviour in the Wider Social Context

It may be an over-simplification to believe that a single lifestyle choice can be isolated, when a web of issues might have to be addressed together (Christie & Hoffmaster, 1986). A focus on personal factors that determine individual risk reduction offers limited explanation of the overall social context that might influence a person's ability to make changes. An epidemiological approach accounting for influences of socio-economic, cultural and political factors would use broader definitions of health to create an environment for the realization of health potential (Kickbusch, 1989).

Nurses need to be cognizant of the rationale used to allocate limited health promotion services, and how their values relate to the demands of fairness (CNO, 2004). According to the

CNO (2004), allocation issues should be discussed with the appropriate authorities, and policies should be formulated to provide adequate resources to promote client well-being. Some individuals might even argue that ethical practice would require advocacy to promote the principles of primary health care, such as political lobbying for legislation to increase access to the determinants of health.

Conclusion

“Consideration of ethical issues is an essential component of providing care within the therapeutic nurse client relationship” (CNO, 2004, p.3). By clarifying the relevant ethical values and behavioural directives involved, a greater understanding of the underlying reasons for continued smoking can be obtained. A key contribution that a nurse can make is to facilitate in-depth conversation that encourages colleagues to challenge assumptions regarding ethical issues (Reigle & Boyle, 2000). The nurse can assist colleagues to understand assumptions they may make about clients that are based on their own values and judgements.

Nurses must be aware of the constraints on their role when offering advice. They must challenge the presumption that they are the expert regarding clients’ personal situations, and acknowledge the fact that they may be viewing issues from a very different perspective than the client. To provide ethical care, an approach should be used that invites an equal partnership between the client and nurse, to better understand perspectives and develop insights. Emphasizing a client’s individual responsibilities for health without confronting barriers to individual change may be ineffective and judgemental.

Although health risks are reported in the media, research describing how people experience risk factors and how much control they feel they have over them is inadequate (Kickbusch, 1988). Studies to determine how motivation can best be facilitated in clients who are resistant to quitting smoking would allow nurses to offer counselling in ethically acceptable

and potentially more effective ways. Because feelings of powerlessness are a major factor in understanding risk behaviour, research to examine the use of power in attempting to promote adherence would also be beneficial (Kickbusch, 1988). For those not willing to quit, it would be worthwhile to explore the ethical implications of harm reduction efforts, to determine whether encouraging patients to reduce the number of cigarettes smoked may inadvertently convey the message that smoking is still acceptable.

As this paper has demonstrated, ethical conflicts that surround lifestyle choices are complex. Choosing the most effective approach means being aware of circumstances, and examining dilemmas in a context-specific manner. An in-depth knowledge of ethics assists us to clarify the rationale that justifies our actions (Hebert, 1996b). Successful resolution of complex ethical issues requires a commitment to facilitating an environment of ongoing ethical inquiry.

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Table 4.1

Hierarchy of Autonomy

	Facilitation	Persuasion	Manipulation	Coercion
Definition	Assist in achieving objectives set by a target group	Argue and reason	Modify the environment around a person or the psychic disposition of a person	Threat of deprivation
Example	Improving social conditions to ensure basic needs met Offering classes to cope with stress	Try to convince people that statistics about smoking are accurate	Make environments smoke-free	Telling a patient: "You've smoked your last cigarette" Offering coronary bypass surgery only to non-smokers

Levels and definitions from: McKenzie, J.F., Neiger, B.L., & Smeltzer, J. L. (2005). Planning, implementing, and evaluating health promotion programs: A primer (4th ed.). San Francisco, CA: Benjamin Cummings. Box 12.2, pp. 285.

CHAPTER V

Synthesis of the Thesis: Summary and Conclusions

This chapter contains a synthesis of the three manuscripts in this thesis, and a discussion of the implications for nursing practice, nursing education, and health policy.

Participant Quote:

“Well, if you’re looking to motivate somebody to stop smoking, going at it from the health aspect is pointless because... well for the most part... any person who quits smoking has to want to quit, so you have to find out from the individual what would motivate them to want to quit. And if you can’t find that motivational point, then it’s pointless to be at somebody to do something that they don’t really want to do. It’s not gonna happen.”

Introduction

This chapter contains a synthesis of the thesis and discusses how the three manuscripts are linked. This thesis focused on individuals who continued to smoke following an MI, however, it also addressed the more global topic of adherence to lifestyle recommendations from health care professionals. Based on the manuscripts, this thesis argues that an exploration of a patient's perceptions of their smoking and illness is essential for understanding how motivation can best be stimulated in an ethical manner.

Contributions of this Thesis

By outlining what is known about factors and meanings that influence smoking, this thesis demonstrates how continued smoking becomes more understandable when viewed in the context of people's lives. Furthermore, this thesis illustrates how addictive behaviours have underlying meanings, and possibilities for change can be derived from the ways that clients view their MI and their smoking. Recognition of any discordance between awareness and behaviour for smokers who deny the importance of quitting could be useful in guiding smoking cessation interventions. The findings of the study in Chapter III provide support for many of the health promotion models and theories discussed throughout the thesis. The schematic diagram in Figure 3.1 reflects the participants' perceptions of smoking following an MI. This conceptualization could be used as a first step towards developing a framework for smokers who are diagnosed with cardiac disease.

This thesis also provides valuable insight into how people respond to advice to quit smoking. This information may prevent health care professionals from making assumptions regarding their patients' situations. To promote behaviour change in an ethical and sensitive manner, nurses need to be aware of the value judgements that they may unconsciously make about their clients, and how information regarding their MI or CAD may be misinterpreted.

Chapter IV demonstrates how an in-depth knowledge of ethics may assist us to clarify the rationale to resolve complex ethical issues related to health promotion. In addition, this thesis emphasizes the need for nurses to initiate and support policies that make interventions available to individuals who express low motivation to quit smoking.

Key Nursing Implications

Hospitalization and the MI itself provides motivation for clients to evaluate their risk factors and consider lifestyle changes. However, despite heightened perceptions of vulnerability in early stages of change, many individuals experience difficulty in quitting smoking. Raising the issue of smoking, and initiating long-term support for smoking cessation would capitalize on this increased openness to messages. This thesis provides support for the technique of motivational interviewing, a patient centred approach that provides an alternative to methods that attempt external persuasion (Butler, Rollnick & Stott, 1996). According to this approach, ambivalent smokers are more likely to quit and sustain smoking cessation if they are encouraged to explore their ambivalence, and make their own appraisal the risks and benefits of quitting.

Clinicians must elicit patients' understandings of their disease and cardiac risk factors so that misperceptions can be corrected regarding the severity of their CAD, and accurate attributions to their CAD. Patients who believe that their MI is controllable and caused by modifiable risks are more likely to take action to change behaviour. The identification of personality traits as obstacles to quitting should also be addressed. Patients who have had revascularization procedures must be aware of the importance of smoking cessation to prevent progression of the underlying disease process. For smokers who deny the importance of quitting, an understanding of any discordance between awareness and behaviour could be useful in guiding smoking cessation interventions.

Smoking appears to serve a number of roles for individuals, and continued tobacco use may represent an attempt to preserve daily patterns. A discussion of the meaning and value of smoking cessation as a series of steps that fit the person's plans after discharge may be more successful than offering simple behavioural advice. If local resources are scarce or not accessible to facilitate long-term maintenance of change, interactive programs using internet technology might be an effective option for some individuals. The addictive nature of tobacco should also be addressed with pharmacological aids to manage these symptoms, thus improving clients' capacity to quit smoking.

Smoking may be more complex than simple free choice if it is a form of coping with adverse situations, and broadly based initiatives to address smoking in a wider social context may be the only way to assist some smokers to quit. Smoking cessation programs should include measures to improve clients' overall lifestyle so that their capacity to cope with adverse conditions is improved. While smokers with CAD will still require individualized assistance to quit smoking, health care professionals should continue to advocate for community efforts to reduce barriers to smoking cessation at the population level.

Implications for Nursing Education

Effective strategies to promote smoking cessation could make a profound difference in patient outcomes by preventing subsequent MIs and prolonging life. Facilitation of counselling skills in eliciting the patient's perceptions regarding smoking would enable clinicians to offer information that is relevant, and provide advice that corresponds with the barriers they will face. By listening for cues, clinicians may begin to intervene at the patient's reference point and challenge any misconceptions that arise. Nursing education must also increase awareness of the effects of various messages clinicians may inadvertently communicate to the client. The

language that is used should convey that the clients themselves should decide which behaviours to focus on, and they should be active participants in setting courses of action.

Smokers may not see the connection between smoking and their health, or may not view their illness in the same way as their health providers. Persistent smokers who do believe that tobacco is dangerous may simply not place cardiovascular health at the top of their scale of values. Values, beliefs and health choices are personal, and may be difficult for health care professionals to understand. However, the nurse has a duty to respect the choices of clients, and a client has a right to continue smoking following an MI. A variety of approaches may facilitate healthy choices, and nurses must consider which of them is ethically acceptable, and be aware of the rationale used to allocate their time. A key contribution that a clinician can make is to facilitate an environment of ongoing ethical inquiry among colleagues. While no single solution may be correct in complex ethical situations, facilitating in-depth conversation may allow clinicians to identify personal values, and reach a sound decision that they can articulate.

Implications for Further Research

Further research needs to be conducted to identify effective approaches to promoting healthy lifestyle choices for those not motivated to change. Research focusing on the decision-making process in the context of CAD might offer further insights, as could further analysis of the impact of self efficacy on long-term maintenance of smoking cessation. The way the message is presented may cause an individual to consider the advice or resist it, and it would be beneficial to evaluate which approaches are most effective at various stages after an MI, and explore the determinants of motivation. However, in order to bring the importance of the perspective of the patient to the attention of health care professionals, we need to acquire evidence regarding whether or not it would increase sustained smoking cessation.

Interventional studies are needed to evaluate various strategies for smoking cessation. Further

studies should be conducted to demonstrate whether beliefs regarding the consequences of smoking can in fact, be changed. Evaluation of hospital-based advice, coupled with outpatient relapse prevention programs might determine whether perceived attributions are amenable to change, and determine the optimal timing for interventions. Research is also needed to demonstrate to what extent smokers would benefit from formal psychosocial intervention such as measures to cope with stress or enhance self efficacy. Further investigation should also explore how the hospital and community services could be linked most effectively.

Limitations

Additional limitations for the research study in Chapter III should be acknowledged. Given the sensitive nature of the research questions, it is possible that participants may not have expressed their views openly. However, there was no indication from the data that participants were reluctant to disclose their true beliefs. The interviewer was not involved in the delivery of care, and the participants were assured of confidentiality and anonymity. If it were feasible, multiple interviews may have allowed participants to further discuss the categories identified in the analysis, so that a more accurate understanding of the intended meanings could be sought (Benner, 1994). Discussions are underway for a possible follow-up visit by a staff member from the cardiac centre to determine any effects that the interview may have had.

Conclusions

The pursuit of health has become a symbol for moral virtue and responsibility (Crossley, 2000). With the current focus on achieving optimal outcomes, it is critical that health promotion is effective, and ethically justified. When clients make choices that are viewed by health care professionals as unhealthy, such as smoking, these goals can become challenging. The evidence linking smoking with illness is substantial, and smoking is the most important modifiable risk factor for individuals with CAD. According to Chater (1999), the paradox is

that our society holds certain types of risk, or non-adherence, in awe, and the notion of risk becomes central to shaping how the health professional sees the client. Effective approaches do exist for smokers who are unwilling to change, or ambivalent about quitting. Interventions should address the addictive and habitual aspects of smoking, and promote feelings of control, satisfaction, self efficacy and self-esteem.

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Appendix A

Relevant Research 1989-2003

Studies Examining Smoking Behaviour Following A Myocardial Infarction

Author, Country	Design, Data Coll.	Sample	Purpose	Findings	Limitations
Marshall (1990)	Quantitative + Qualitative Retrospective -Mann-Whitney	43 pts after first time MI (37♂ 6♀)	To measure health beliefs & social support	-3 months post-MI 26% of smokers had quit. Of these, 60% stopped without a formal program. Of those who continued, 59% had reduced the # of cigarettes smoked, or changed to milder brand -smokers & ex-smokers had significant differences in beliefs regarding dangers of smoking -Reasons for continued smoking: stress reduction, emotional disturbance, boredom, loneliness, habitual, pleasure -ex-smokers- perceived greater susceptibility to further ill health -the illness experience was the prime motivator for quitting -No significant relationship between social support, smoking rate or previous intention to quit -Before providing health education, nurses should identify patient's beliefs & values re: smoking, & reasons for smoking must be followed up	none reported
UK	-Questionnaire + interviews 3 mos. post-MI -ex-smokers recorded triggers to quitting	Interviews: 15 X-smokers and 10 smokers randomly chosen	To identify attitudes or characteristics which differentiate between quitters and those who stop		
Maiani et al. (1990)	Qualitative & Quantitative	13 smokers,	To study the attitude,	Of those who continued to smoke: -Started smoking at a younger age, and mostly out of curiosity -State that the pleasant aspects of smoking are relaxation and somatic sensation. -23% stated that smoking was not a real pleasure, but rather an automatic reaction -85% reported worst cravings for cigarettes when anxious -55% put their health at the top of their values - -62% say it is extremely difficult to quit smoking -Persistent smokers reported the highest number of quit attempts previously, which were not always connected to health problems	Small sample size
Italy	Questionnaires and 3 structured interviews	20 who had stopped since MI, and 15 who had stopped before MI	personality traits, behaviour, habit, smoking history and other psych. variables of persistent smokers as compared to those who stopped since the MI or some time just before the MI	Researcher had difficulty finding MI patients who were willing to admit that they were still smoking	
				In all groups: No significant differences in anxiety, depression, personality characteristics, locus of control or self-control Future research: Should go beyond looking at the behavioural level and try to identify which thinking styles or value hierarchies are connected to the maintenance of smoking after an MI	

Author, Country	Design, Data Coll.	Sample	Purpose	Findings	Limitations
Rigotti et al. (1991) USA	Quantitative Prospective -multiple logis- tic reg. analysis Questionnaires at admission; Telephone follow-up at 6 & 12 mos.	310 smokers admitted to CCU first time to rule out MI	To determine how many pts quit smoking post MI, and characteristics associated with smoking cess'n	-Of 828 pts. admitted to CCU, 40% were current smokers -Hypothesized hospitaliz'n would impact quitting because of an enforced nonsmoking that could wean the pt and make sustained cessation easier -Concluded CCU admission is a stimulus to long-term smoking cessation, even in the absence of an intervention: 1/3 quit after 6 months, 1/4 maintained smoking cessation after one year -Smokers who quit more likely to: have more serious diagnoses, have longer hospital stays, require major procedures, have CHF, be lighter smokers, have received a new diagnosis of CHD -conclude that these findings provide a rationale for developing interventions targeted to pts most likely to quit	-self report -based on data collected in '78-'80 - smk behaviour & CCU care have changed
Aish et al. (1991) Ontario, Canada	Interview questionnaire in hospital and after 4-6 weeks -also asked if anything a nurse did influenced decision	Convenience sample - recovering from MI or CABG Smokers 39 Non-Smokers 30	To explore cognitive & social factors which may discriminate between cardiac smokers who will be successful in quitting	-Few social/ cognitive differences at baseline: Smokers - younger, more males, more MI vs CABG, larger proportion lower SE status -After 4-6 weeks, only 3 had resumed smoking. The smokers who had quit were now less concerned about what others thought about their smoking, and beliefs & values had changed slightly towards pro-smoking -44% of the smoking group were willing to consider risking some degree of remaining healthy to smoke, and 31% were willing to consider trading years of life expectancy to smoke - therefore at 4-6 weeks, many individuals still at risk to resume smoking -Only 27% recalled any nursing input directed towards smoking cessation	-small, non- probability sample -self reports of smoking -MI & CABG may be different

Author, Country	Design, Data Coll.	Sample	Purpose	Findings	Limitations
Ockene et al. (1992) USA	Quantitative Multivariate analysis Questionnaires at baseline, 6 and 12 months Results validated with cotinine assays (saliva)	267 current smokers after arteriography (many post-MI) randomly assigned to treatment groups -Classified as smokers if they had smoked within a 2 month period before arteriography (45% of all pts)	To test the effect of an individually delivered behavioural smoking intervention [SI] against offering 'advice only' [AO]	-Overall long-term quit rate for both groups predicted by stage of readiness to change at baseline, and self efficacy -Participants were very interested in a group treatment program, but when it was offered, most refused to participate -The SI was effective for certain subgroups (eg. sicker patients), but a large percentage in both groups were still smoking after one year -At 6 mos quit rates were 51% in the AO group, and 62% in the SI group. -At 12 mos quit rates were 48% in the AO group, and 57% in the SI group, and the presence of more severe disease continued to predict who was more likely to quit smoking -Impact of intervention strongly affected by reason for admission (eg: confirmed MI) and extent of underlying coronary disease (even after baseline characteristics such as readiness to change and self efficacy were taken into account) – these may have been mediated by the greater presence of symptoms -Concluded arteriography does heighten awareness of disease, possibly because it minimizes denial of cardiac risk, and hospitalization serves as a "window of opportunity" -With intervention, even those not motivated to quit on their own may be more receptive; without intervention they may be better able to deny the seriousness of the risk and therefore continue to smoke or relapse.	-Participants younger, more interested in quitting, had more confidence in quitting, and were more educated than refusers
Greenwood et al. (1995) UK	Quantitative Clinical details from another study, psych. variables from self-completed questionnaires Multiple logistic regression	532 patients who were smokers at the time of their MI	To examine the effect on mortality of stopping smoking after MI and the psychological factors that influence the decision to stop	-Smokers who stopped within one month of the MI reduced mortality by 50% compared with those who persisted -Overall, 74% stopped smoking after one month -Psychological factors associated with stopping smoking: being married, low life stress levels before infarct, and higher social class (stat. sig. but the strength of association was small); social support and marital status was not associated with quitting, and the home environment may play only a modest role -Of the clinical variables, a final diagnosis of a definite MI was associated with quitting (as compared to a possible MI or other diagnoses)	Response rate 45%

Author, Country	Design, Data Coll.	Sample	Purpose	Findings	Limitations
Huijbrechts et al. (1996)	Multiple Discriminant Analysis	260 patients (185 ♂ 75♀) admitted for their first MI	To assess the relationship between personality characteristics & smoking habits & to gain insight into persistent smoking post-MI	-Persistent smokers had a significant higher level of state-anxiety and depression -Young smokers had a high level of depression; elderly smokers were highly anxious and had a low level of somatization -Concluded that an tailored intervention should target smokers with these characteristics, and focus on the structure of the motives to stop or continue smoking - smoking cess'n may cause tension if no alternative is offered to cope with stress	Could not measure the amount or type of advice received -self-reports
Nether-lands	Structured interview & psychological questionnaires in hospital & 5 months later	-204 (78.5%) participated at 5 mos			
Bolman & de Vries (1998)	Quantitative Questionnaire 96 hours post admission	532 Recruited from 4 Dutch hospitals	To compare attitudes of 1) smokers vs quitters; 2) externally motivated vs internally mot. 3) smokers in different motivational phases	-Internally motivated: perceived more +ve effects of quitting, more social support and higher self efficacy -Smokers contemplating quitting are less convinced of relationship between complaints & smoking than internally motivated actors -Recommendations: Phase-tailored interventions - -Smokers not motivated to quit (Precontemplators) need attitude-enhancing info to become more convinced of advantages of quitting. -Smokers contemplating quitting or externally-motivated need interventions to enhance self efficacy and info on the relationship between their complaints and smoking	-Question'r completed 96 hours post-admission to hosp - pts may be less motivated later when they feel better Longitudinal research needed
Nether-land	-Used Trans-theoretical Model & The Attitude-Social influence-Efficacy Model of determinants	Exclusion: unstable complaints, terminal illness			

Author, Country	Design, Data Coll.	Sample	Purpose	Findings	Limitations
van Berkel et al. (2000)	Quantitative Regression for multivariable analysis	1,472 pts. admitted with MI in 4 hospitals in Rotterdam (530 of these were smokers pre-MI (35%))	To compare demographic, clinical & psychological characteristics of smokers vs nonsmokers	Baseline (at admission): Smokers: younger (average 10 years), male (79 vs 63%), higher cholesterol levels, fewer diabetics, more physically active. Psychological profile was similar for smokers & non-smokers 3 Months: 14% of smokers still smoked. Smokers younger, in hospital for shorter period of time, underwent fewer revascularization procedures, smoked more cigarettes at baseline, and were more socially isolated (isolation was a significant independent predictor) 4 Years: 52% still smoking -1/3 rd had resumed smoking after short-term quitting Persistent smokers: partner, family & friends more often smoked than quitters; less support to quit from family, cardiologist & colleagues; attitude more negative because of anger, stress, gloom and fear of withdrawal symptoms; significantly higher levels of anxiety & depression, fatigue, anger, tension, mood disturbances & vital exhaustion; lower self efficacy (self efficacy was equal at baseline) -Those who continued smoking or relapsed smoked fewer cigarettes than at baseline Independent predictors for long term quitting: a more serious MI (significant), angioplasty, higher displeasure with smoking -Almost 60% of quitters had made no quit attempts previous to baseline, 70% of persistent smokers had attempted to quit previous to baseline Not found to be predictors: other coronary risk factors, locus of control, health and risk knowledge	Baseline & 3-month info obtained from medical files -Long-term smoking status of pts who died unknown -Self-report (no biochem verification)
Netherlands		Questionnaire at: 1) day 5 of hospitalization 2) 3 months 3) 4 year follow-up: 107 died, 260 returned questionnaire	To examine all of these aspects in combination To examine determinants of smoking cessation in relation to relapse after short-term quitting		
Brummett et al. (2002)	Quantitative Questionnaires 3 mos post angiogram then yearly for 6 years	525-325 MI: 274 pts no MI: 251 pts	To examine demographic, psychosocial and clinical variables as predictors of smoking cessation	-Of the full sample, 40% quit smoking without relapse -patients with higher education and socioeconomic status, greater disease severity or CABG were less likely to continue smoking -hostility, distress, depression and anxiety scores were higher for those who continued to smoke -positive relationship between health concerns and continued smoking seems paradoxical, concluded gratification found with the perceived reduction in anxiety related to smoking may override concerns regarding future health -not found to be clinically significant: age, marital status, gender	Self-report MI and non MI pts may be different
USA					

Quantitative Studies Exploring Experiences Following a Myocardial Infarction (MI)

Author, Country	Design, Data Collection	Sample	Purpose	Findings in Relation to Adherence to Lifestyle Changes	Limitations
Miller et al 1989 USA	Questionnaires at D/C, 30, 60 days & 1 year. Miller attitude scale, health intention scale, health behav. scale, Garritty social & psych status scale, demographic & medical forms	81 pts with first time MI and no complica'ns -39 pts had a nursing visit one month post-MI	To examine changes in pt attitudes and beliefs toward compliance over time, as compared with actual compliance -To assess effect of nsg intervention	-Smoking declined at 30 days, no change was found between 30 & 60 days, and the quitters after 1 year was significantly lower (of 115 pts, 82 smoked at the time of the MI, 16 at 30 days, 22 at 60 days, & 29 at one year) -Perceived beliefs of others had no influence on adherence to medication or smoking advice -The MI itself appears to be the greatest deterrent to smoking -Compliance 1 year after hospitalization did not increase for pts who had received a nsg intervention - suggests that the timing (30 days post MI) was too late and compliance & adjustments had already stabilized	All completed a rehab program, therefore somewhat motivated -One visit may not have been enough to facilitate problem solving
Conn, Taylor & Hayes (1992) USA	Questionnaires (oral interview) Personal Resource, Rosenberg Self-Esteem, Health Behavior Multiple regression analysis	197 pts. (117♂80♀) who had survived an first MI 1-2 yrs prior	To examine the relationship between performance of self-care behaviours & perceived social support & self-esteem	-Social support scores predicted exercise & medication behaviour, but had little ability to predict dietary and stress management -Self-esteem scores did predict reported exercise, stress and diet; however social support may affect self-care behaviour mediated by self-esteem -Neither self-esteem nor social support predicted smoking reduction -Concluded that research regarding smoking cessation among MI survivors is needed, also more longitudinal studies needed to determine predictors for sustained behaviour changes	Self-reporting of self-care actions

Author, Country	Design, Data Collection	Sample	Purpose	Findings in Relation to Adherence to Lifestyle Changes	Limitations
Ashton, (1997) USA	Descriptive comparative Cardiac Pts Learning Needs Inventory	121 post MI (73♂ 48♀)	To determine what men & women perceive important to learn, & by which health provider	-Men & women rate similar categories as being important to learn, with risk factors and medications being most important -For many women, hospitalization for MI seemed to be the stimulus that caused them to re-evaluate risk-prone behaviour & make changes -More women preferred education from the physician over the nurse & dietician	-Questionnaires were completed while pts still in hospital
Cooper et al. (1999) UK	Illness perception questionnaire at discharge, follow-up at 6 mos	137 post MI or CABG	To determine whether beliefs during hospitalization could predict cardiac rehab attendance	-No differences in illness perceptions or socio-demographics between MI or CABG pts - concluded beliefs firmly established early and may be based on knowledge already gained through media or friends -72% intended to attend rehab - only 40% did attend -Predictors of attendance: those who believe their condition is controllable and their lifestyle may have contributed to their lifestyle, more aware of their cholesterol level, younger, more likely to be employed,	
Ziegelstien et al, (2000) USA	Interviews 3-5 days post-MI; phone interviews 4 months later	204 post MI (116♂ 88♀)	To determine whether depressive symptoms just after MI affects adherence after 4 mos	-Pt's with symptoms of depression at the time of hospitaliz'n for an MI are less likely to adhere to recommended lifestyle changes to reduce the risk of subsequent cardiac events at 4 months -Therapies targeted at treating depression may improve post-MI prognosis in this population -Further investigation is needed to determine the optimal content and timing of recommendations	Self report

Author, Country	Design, Data Collection	Sample	Purpose	Findings in Relation to Adherence to Lifestyle Changes	Limitations
Weinman et al. (2000)	Prospective Multiple regression analysis Questionnaire in hospital and at 6 month follow-up Spouses completed the questionnaire at 12 weeks post-MI	143 first time MI pts and their spouses (74%)	To assess causal attributions and beliefs and to relate these attributions to subsequent changes in health related behaviour 6 months post-MI	The most commonly endorsed attributions for MI were stress, high cholesterol, heredity with close agreement between pt and spouse -Those who believed that their MI was caused by poor health habits were more likely to have made dietary changes at 6 months than those who believed that their MI was caused by stress or heredity -The worse the pt perceived their health and the more afraid the spouse is of re-infarction, the more factors they were likely to see as having caused the MI -Pts who attribute MI to unhealthy lifestyle is a significant predictor for improvements in diet, and spouse's attributions to unhealthy lifestyle is the best predictor for increasing exercise -Smoking was given a higher attribution rating by patient than spouse	-Fixed list of attributions, did not allow respondents to generate their own -May be other factors that moderated relationship between attribution and behaviours
Al-Hassan & Sagr (2002)	Structured interviews with fixed-response format 30 min. 2-16 weeks after discharge	84 post-MI pts who did not receive invasive intervention (74%♂, 26%♀)	To identify stressors and examine significance of characteristics in predicting stress post MI	-Major stressors: having persons to provide care to, worrying about another MI, and concern about partner's worries -Predictors of post-MI stress: older, female gender, lower income -More attention should be given to cultural aspects and be aware of issues important for adjustment: Those who perceived physician's recommendations to quit smoking as strong & forceful experienced lower levels of stress -- this may reflect a level of comfort with an authoritative style - in the Jordanian culture men are supposed to be strong figures, and this approach may be associated with confidence and proficiency in care-giving, thus having a calming or stress-reducing effect -The majority of participants were Moslems and believe that illness or wellness is god's will and thus may give little attention to complying with medical instructions	Questionnaire only validated for North American MI patients, may lack sensitivity to Jordanian culture

Qualitative Studies Examining Lifestyle Changes Following a Myocardial Infarction

Author, Country	Design, Data Coll.	Sample	Purpose	Findings	Limitations
Murray (1989) UK	Standardized Interview just before discharged home	25 pts first MI (17♂ 8♀)	To explore pre-existing health beliefs & knowledge, what info patients receive, and how they have seen their needs met	Psychosocial factors most commonly perceived as main causes of MI: 'overwork', followed by stress, smoking, & being overweight -Among smokers, only 78% knew smoking to be a risk factor, 55% related it to their own MI, & 33% saw it as the principle cause -Pt's appeared surprisingly unworried about the possibility of suffering another MI - may be due to a fatalistic or Type B approach, or the stage in their coping -Pts could only give vague descriptions of discharge advice -Pt's beliefs & concerns regarding cause of MI were not elicited so that misconceptions could be addressed -80% received the most valuable info from nurses, but a number of participants cited other pts as most valuable information sources	-One centre with specific rehab program
Fleury (1991) USA	Grounded theory Structured & unstruc'd interviews -researcher attended seminars with participants	29 patients (18♂, 11♀) who were attempting to initiate & sustain cardiac risk factor modification	1) To identify, describe and analyze the processes used by individuals to sustain CV health 2) To substantiate and expand the Motivational theory	-Empowering potential was identified as the basic social process. It facilitates the emergence of new health patterns, and consists of 3 stages: appraising readiness, changing, & integrating change -Imaging - provided a framework that directed the plans of action in relation to perceived ability, potential barriers, & past experiences -reevaluation efforts were initiated in response to cues that heightened awareness of risk such as a persistent cough due to smoking -Barriers to lifestyle change: psychosocial, perception of self-control, "change cannot occur during unstable situations" -Environmental factors may be restraining or supportive forces -In order to perceive ownership of change, they needed to highly value the change, feel able to carry out the change, and accept responsibility -Use of relapse as an opportunity to learn (through identifying events that preceded relapse) was felt to be beneficial in sustaining changes	-24 participants were enrolled in cardiac rehab, 5 in weight loss program therefore participants must have had a certain level of motivation

Author, Country	Design, Data Coll.	Sample	Purpose	Findings	Limitations
Mc-Sweeney (1993a&b) -two articles on same study Texas USA	Ethno-graphic interview techniques, constant comparison Within 3-12 months rehab program completed -2 interviews, second interview to clarify meanings.	Purposive non- probability 8 patients who had MI in past 6-15 mos (7♂ & 1♀) & their spouses	1) To investigate Explanatory Models (EMs = causation) surrounding MI from a family dyad perspective 2) To explore relationship between EMs and health behaviour changes	-Medical knowledge and personal ideas were frequently combined to formulate EMs -dyadic (spousal) EMs were similar -Most important cause of MI perceived to be a specific precipitating stressful event before the MI -Food habits and smoking contributed to making lifestyle the most important causal factor -Conflicting results in media (eg: confusion regarding effectiveness of oat bran) undermined confidence in health care system and prompted angry responses -Self-talk was the most common self-motivating tactic -More likely to maintain lifestyle changes if they perceived MI to be due to modifiable risks (eg: smoking) rather than uncontrollable causes (eg: heredity or stress) -Discrepancies between EMs and recommended changes can be an influencing factor in long-term maintenance of behaviour changes -Suggest that long-term compliance can be increased if personalized EMs are addressed in treatment plan and linked to personal lifestyle changes -Future research needed to determine whether all aspects of EMs are amenable to change by health teaching, or if some are resistant	Selected highly motivated group that were identified by nurses as being 'interested' in rehab teachings. A less educated group may not respond similarly
Fleury (1993) North Carolina USA	interviews -- increasingly structured Constant comparison	Theoretic sampling 24 (17♂ & 7♀) in 10 th week of cardiac rehab	To describe the role of social networks in influencing motivation cardio- vascular health behaviour	Two primary categories were identified - Patients viewed members of the social network as enabling or limiting: 1) Enabling the initiation and maintenance of change - providing support & assistance in exploring options related to lifestyle change. Allowing a sense of control, and creating an enhanced readiness to initiate change often served as powerful external motivators. 2) Limiting the achievement of goals - Reduced motivation when lack of congruent values between individual and supporting network -Negative communication limiting, eg: expressions of doubt related to worth of changes or confidence that changes could be made, or lack of acknowledgement of efforts -Fostering dependence or monitoring activities resulted in reduced readiness to initiate or sustain health behaviours by diminishing sense of control	All Individuals were participating in a rehab program

Author, Country	Design, Data Coll.	Sample	Purpose	Findings in Relation to Adherence to Lifestyle Changes	Limitations
Wiles (1998) Also see same study Wiles (2001) UK	Grounded Theory Longitudinal Semi-structured interviews: 2 weeks after discharge then again 3 months later (five months post-MI)	13♂ 12♀ Ages 34-80 Purposive, Maximum variety sampling to ensure a range of social characteristics	To examine the beliefs patients have about an MI, their understanding of care and recovery post MI	-Lifestyle changes viewed as an action that would lead to recovery rather than to achieve longer term prevention -Fear of not doing what they were told, reliance on health professional's expertise, and gaining control over the situation were the most compelling motivators for lifestyle changes -higher level of trust in professionals (eg: risk calculation) in the initial interview, then trust diminished when they realized information was based only on probabilities -encouraged by staff to believe that their MI was a 'mild' acute event, and complete recovery was possible for most people in three months -those who did recover at three months found that motivation to sustain lifestyle change was difficult -a few participants believed so much damage to the heart that lifestyle changes would be pointless, and many concluded that prognosis was in the hands of fate -willingness to change varies according to perceptions of nature of MI and awareness of their understandings are crucial -simplified and over-optimistic information may have negative consequences	Patients were all receiving visits from a cardiac liaison nurse as a separate pilot project
Murray (2000) UK	Qualitative Analysis (1 hr. interviews) and descriptive stats (semi-structured questionnaire) -between days 2 & 5 of admission to hospital	Purposeful & Convenience -10 first time MI patients, 10 informal carers (partner) & 10 nurses	To determine the impact of social and cultural influences on perceptions of cardiovascular risk and lifestyle change among post MI patients	-4/10 patients smoked before MI: all considered that it had contributed to MI, but 2/4 considered smoking to play only a minor role, and believed that smoking had a positive effect on the body in relieving stress, which outweighed the harm -stress was perceived as a major risk factor by informal carers -half of the patients & informal carers believed that fate or predestination played a part in the illness, especially when there were no obvious risk factors and this fatalistic view may be a barrier to making lifestyle changes -Social and cultural factors dominated the perception of CV risk factors for pts and informal carers, & these perceptions formed the basis of patients intended lifestyle changes: nurses & doctors as a source of information received a low response. - Influences on cardiovascular risks included magazines, television hospital soaps, and talking with friends, neighbours and relatives -Nursing staff based perceptions of patients risk factors on epidemiological evidence such as exercise and diet, but pts and informal carers did not -In hospital, risk factors and lifestyle changes are discussed in an environment that is distant from the one in which they live, and there is little reference to the home environment, social relationships or meaning of ill-health -these social and cultural constructions of risk could be a potential barrier to changes	

Author, Country	Design, Data Coll.	Sample	Purpose	Findings in Relation to Adherence to Lifestyle Changes	Limitations
McKibbin & Wilson (2001)	Grounded Theory	Purposive, theoretic	To re-interpret why people with CHD do not readily modify their risk factors and make relevant lifestyle changes	-Subjective experience in health behaviour change cannot be accommodated within traditional social cognition theories – must take other factors into account, such as environmental context and the role of language -Traditional interventions to change lifestyles do not acknowledge the extent to which people have an investment in maintaining their usual lifestyle -Personal Construct Theory - provides a valuable tool to reflect on constructions and anticipation -meanings from the past help normalize the present and reconstruct the future -Initial reaction to MI: “why me?” -disbelief that it could happen to them, perceived themselves to be living healthy lifestyles, therefore changes won't be made if they do not feel they are warranted -It was difficult for participants to discuss lifestyle changes until they had described the experience and explored cause -How they ‘made sense’ of the MI influenced behavioural choices, and an attributional search assisted participants to regain control -It was the personal meaning of the event that made participant's motivations understandable and predictable – we need to understand their constructions of the cardiac event rather than attributing non-adherence to ‘lack of motivation’ -Stress and perfectionism was seen as the main contributor to MI, therefore motivation to make changes pertained to stress rather than diet, smoking etc. -Hospitalization is an opportunity to elicit stories in a non-judgemental manner to explore personal constructions and theories rather than trying to persuade the person to change. By reconstructing cardiac event, dominant stress story can be challenged	Procedures and details of study not described
South Africa	Two semi-structured interviews and two focus groups	10 persons Diagnosed with acute MI			
	Timing of interviews not specified				

Qualitative Studies Exploring "Lived Experiences" Following a Myocardial Infarction (MI)

Author, Country	Design, Data Collection	Sample	Purpose	Findings in Relation to Adherence to Lifestyle Changes	Limitations
Ford (1989) Alberta Canada	Two, 2 1/2 hour interviews 5-10 days apart Interpretations shared with participants for further exploration	7 ♂ two years after an MI	To gain a deeper understanding of the experience of living with a history of a heart attack	-Initially the diagnosis of an MI may be greeted with disbelief, provoking the patient to take time to reassess his life and identify what is important to him -Later he looks for causal relationships to make sense of the event, and has to come to terms with the question "Why me?" in order to go on living -Non-compliance may not be due to lack of motivation or denial, but a consequence of conflicting messages (eg: restricted activity vs. exercise) -The hospital experience generates a feeling of loss of control. At home, the watchfulness of the health care professionals is replaced by that of the family -To live fully, the patient has to feel secure and in control in his environment, therefore when the spouse assumes a managing role, it has potential for driving a wedge between them.	-Only interviewed male patients -Cannot assume a woman's experience is similar
Johnson & Morse (1990) Alberta Canada	Grounded Theory, 26 unstructured interviews 60-90 min. Data collected between 1-45 months after MI	Purposive, theoretical sampling 7 ♂ 7 ♀ Attending cardiac rehab or self-help group	To examine a profile of typical adjustment experiences after first MI, to identify theoretical components	-The major process after MI is the struggle to regain control -Adjustment is not complete until predictability, self-determination, and independence are achieved - the person then has the freedom to address other concerns such as lifestyle changes. -Decisions regarding lifestyle changes were strongly influenced by the causal explanation and the way they made sense of their MI's -All participants perceived that MI was a result of poor lifestyle, but felt the process of seeking a causal explanation and interrogation to identify risk factors induced guilt and shame -The majority of men considered lifestyle changes a joint venture with spouse, but women made changes independently -Clinicians must learn how to enhance adjustment skills before focusing on behavioural interventions	-Only interviewed patients attending rehab or self-help group -Longitudinal design may have identified changes over time

Author, Country	Design, Data Coll.	Sample	Purpose	Findings in Relation to Adherence to Lifestyle Changes	Limitations
Thompson, Ersser & Webster (1995) UK	Grounded theory- -1 hour Interviews -One month post MI	Random selection -20 married ♂ and their partners	To investigate the experiences of male pts and their partners and highlight implications for rehab services	Major categories that emerged: -Need for more detailed information -advice was perceived to be vague and inadequate, but participants also indicated that they could only absorb so much at one time -Most conveyed a positive reaction to the future, and felt they could exert some control over their health by modifying their behaviour, however partners often experienced a high level of anxiety regarding the future -One way of coping was to play down the significance of the MI, or use the mechanism of denial -Frequent references were made to wanting "to get back to normal"	-Only interviewed married, male patients -Both partners were interviewed together - may not have been as open
Sutherland & Jensen (2000) Alberta, Canada	Qualitative Structured & unstructured interviews 8 wks post-MI Categories confirmed by phone	Purposive 11 ♀ Age 70-85	To explore and describe elderly (+70) women's perceptions of having an MI	-Smoking, medication change, and stress were identified as causes of MI -Women who could not find a cause were uncomfortable because they felt unable to protect themselves from reoccurrence -Smoking cessation was the most common and difficult change to incorporate, and participants set limits on the number of changes they were able to make at one time -They wanted a less formally structured approach to risk reduction than rehab programs offered, eg: did not enjoy lecture format	Participants from similar cultural, & economic, & educational backgrounds
Kerr & Fothergill-Bourbonais (2002) Ontario, Canada	Heideggerian Phenomen. - inductive descriptive Unstructured interviews 2-5 weeks post MI	Purposive -older women 7 ♀ with first time MI	To examine the experience of recovery in women 65 yrs old or older during initial recovery from MI	Four themes: Life is scattered, Trying to make sense of it, Learning to live with it, and Getting settled -MI elicited feelings of disbelief and surprise - women believed that CAD was related to male gender, and underestimated their susceptibility -First few weeks: overwhelmed with feelings of chaos, fatigue, disruption of normalcy, powerlessness, and loss of independence -Women who lived alone and had fewer symptoms had difficulty accepting their diagnosis, and often "cheated" in relation to activity and diet. Cheating offered a measure of control. -Information primarily gained from booklets received at hospital, no additional information was received in the first five weeks post-MI -Feelings of improvement were linked to the ability to socialize -All intended to make lifestyle adjustments, but very little interest was shown in attending rehabilitation programs	Post-discharge interview difficult to coordinate due to re-hospitalization, convalescent arrangements, and fatigue

Qualitative Studies Exploring Experiences of Individuals with CAD

Author, Country	Design, Data Coll.	Sample	Purpose	Findings in Relation to Adherence to Lifestyle Changes	Limitations
Thomas (1994) USA	Hermeneutic phenomenology Semi-struct. interview	Purposive 8♀ (6 – CAD, all have had CABG or PTCA 1 – HTN 1 – Rhem. HD)	To describe the lived experience of making lifestyle changes to reduce risk factors among women with CVD	-Many feared recurrence and were overwhelmed by CVD diagnosis -Made lifestyle changes in attempt to maintain control -Many found attempting lifestyle changes difficult & frustrating – expressed desire to make changes but could not because their family responsibilities were a priority -Requests to MD for help to quit smoking not taken seriously, not referred to smoking cess'n program -One participant told by cardiologist disease was 95% hereditary and risk could only be decreased by 3-4% by quitting smoking -Info regarding lifestyle changes was not specific or detailed	-Response may be different depending on specific diagnosis
Fleury (1996) USA	Grounded Theory, Inductive exploration Researcher attended health centre events, then conducted one or two interviews/ participant	14 Based on 'theoretical relevance': (4♂, 10♀) Recruited from a CHC for low-income pts. -3 had CAD, -Remaining being treated for CV risk factors -3/14 had identified selves as non-adherent	1) To analyze the processes used by older, rural African Americans to initiate & sustain health-related behaviours 2) to examine the validity & cultural relevance of a theoretical framework	-Consistent with other research stating adherence to regimens is related to personal beliefs about illness and its treatment -The data validated and expanded the author's theoretical framework -Determinants of health behaviour change for this population were embedded in a cultural context including family, community & religion -More likely to rely on their own supportive networks and informal health systems when confronted with illness -Emphasized they could not predict future health outcomes, but that God would provide for them -There was a lack of understanding between patients and health care providers – instructions were either beyond the level of knowledge needed, or did not correspond to their social and economic realities of life	

Author, Country	Design, Data Coll.	Sample	Purpose	Findings in Relation to Adherence to Lifestyle Changes	Limitations
Rosenfeld & Gilkeson (2000)	Longitudinal Grounded theory Semi-structured Interviews: 1) day 4-6 of hosp. stay 2) 3 months post discharge	6 ♀: (3 PTCA & 3 CABG) Purposive for variety	To describe the meaning of an acute cardiac event and the psychosocial processes underlying behaviours	-The meaning of illness evolved over time: denial and seeking cause of heart disease more common in the first interview -Interventions during acute phase should focus on assisting women to explore the meaning of illness -If women have not explored causality and are not ready to refer to their experience as a cardiac illness, they may not be ready to incorporate behaviour changes into lives	-All white females from a large tertiary hospital -Post PTCA or CABG; may be different than first time MI patients
Bergman & Berterö (2001)	Hermeneutic analysis Interviews 30-85 minutes	Purposive - 8 dx with CAD 5-8 mos earlier (5♂, 3♀) Divided into 'compliers' and 'non-compliers'	To gain increased understanding of what it means to have CAD and how it affects lifestyle changes	-Most participants described heredity as the cause of their disease - Those perceived to be 'Victims of circumstance' had more difficulty changing lifestyles (eg: signs of resignation if parents or siblings had died of CAD) -Compliance with medical tx higher than with lifestyle changes -Stated smoking occurs in connection with stress. Aware smoking is unhealthy, but one participant realized only after his 3 rd MI - 'Pointers & prohibitions' not helpful for quitting smoking -- must understand exactly why smoking is unhealthy -Many stated they had considered healthier lifestyles, but did not have enough time or energy -Several participants expressed sadness & grief over disruption & lost health - previous strategies of life had to be relearned	50% response rate

Studies Examining Lifestyle Changes Following An Angioplasty (PCA)

Author, Country	Design, Data Collection	Sample	Purpose	Findings	Limitations
Kimble (1998) USA	Examined cognitive appraisals	58 Successful PCA	To determine if successful PCA changed cognitive appraisal of disease, and to explore risk reduction	Although threat of CAD was a significant negative predictor of psychological well-being, it did not predict participation in risk-reduction behaviour	The study instruments require further refinement
Hasdai et al., (1998) USA	Multiple logistics regression	5,450 patients after successful PCA (1,169 of these were smokers at PCA)	To identify independent predictors of smoking cess'n after successful PCA	63% of smokers continued to smoke Predictors of continued smoking were greater prior cigarette consumption, having one or more risk factors for CAD other than smoking, younger patients, more severe morbidity, and absence of unstable angina.	
Gentz (2000) USA	Systematic Review of 19 articles 1989-1999 (74% quantitative)	19 studies involving pts who had undergone PCA	To present a comprehensive account of perceived concerns and learning needs of patients post-PCA	The majority of patients modified their diet, but the most common modification was diet. Knowledge and adherence to lifestyle changes decreased over time. Level of adherence to lifestyle changes may have been a result of motivation, self efficacy, social support, or levels of mood disturbance such as anxiety	-Small sample sizes -Possibility of self-report bias -few studies go beyond 3 months post PCA

Appendix B
Patient Information Sheet

Student Researcher: Annette Bradfield, The University of Ottawa

Principal Investigator: Marlene Adam, The Ottawa Heart Institute, Telephone: 613-761-4708

Thesis Supervisor: Jo Logan, The University of Ottawa Telephone: 613-562-5800 (8415)

TITLE OF THE PROJECT: Smokers with Cardiac Disease: A Qualitative Study

INTRODUCTION:

You are invited to participate in a research project entitled **Smokers with Cardiac Disease: A Qualitative Study**. The purpose of this project is to help us learn more about smokers who have heart disease. The information that you provide may help nurses and other health providers to understand the kinds of things people experience after a heart attack, from your perspective. This study is being conducted by Annette Bradfield, RN, a student at the University of Ottawa, to fulfill the requirements for her Master of Science in Nursing degree.

You have been chosen to participate in this study because you are a smoker who has heart disease. The researchers appreciate the fact that it is your choice to continue to smoke, and that it is extremely difficult to stop smoking. If you agree to an interview, you will not be asked to quit smoking, and you will not be judged for your decision to smoke.

PROCEDURE:

Your participation in the study involves an interview with the student-investigator that will take approximately one hour. In this interview, you will be asked to discuss your personal attitudes and beliefs about smoking and lifestyle changes following a heart attack. The interview will be audio-taped so that your responses can be transcribed and analysed by the student investigator. Although you will not be paid for the time you spend being interviewed, a time and location will be chosen that is convenient for you. There are no treatments or medications involved in this study.

BENEFITS AND RISKS

Although you may not benefit from this study, your participation may benefit other patients who have heart disease. There are no expected risks or harm involved by participating in this study. You are free to call the student-researcher at any time if you have questions, by leaving a message with her thesis supervisor at 613-562-5800, extension 8415. One potential effect to this study is that the interview questions, although not intended to do so, may increase awareness regarding your beliefs about quitting smoking. In the event that you are considering quitting smoking and would like further information, you would be welcome to telephone Heart Check at 613-761-4753 at any time.

VOLUNTARY PARTICIPATION

You have the right to withdraw from the project at any time. During an interview you may refuse to answer questions, or you may withdraw or change any answer without fear of consequences. All of the information collected during the interview will be confidential. None of your health care providers will be informed of your responses. All identifying information will be removed from the data so it will not be linked with your name. Only the student-researcher, thesis committee, and representatives of the Research Ethics Committee of the University of Ottawa and the Ottawa Heart Institute will have access to the data. Tape recordings of interviews and other data collected will be kept in a secure manner. Although the general results of the study may be published, your identity will not be revealed.

Appendix C

Consent to Participate in Research

I, _____ agree to participate in a research study about smoking and heart disease. This study has been explained to me by the student-investigator, Annette Bradfield, a student at the University of Ottawa in the Faculty of Nursing. The project is under the supervision of Jo Logan, in the faculty of Nursing, University of Ottawa. The purpose of the research is to gain an understanding of what it is like for smokers who have heart disease.

I have read and understood the Information Sheet and Consent Form. My participation will consist of attending one interview to discuss my experiences. The session will be scheduled at a time, and in a location that is convenient to me. I have received assurance from the researcher that it is unlikely to cause me emotional stress. I understand that the contents will be used only for educational purposes and that my confidentiality will be respected. All of my questions at this time have been answered to my satisfaction.

Participation in research is completely voluntary. I am free to choose to participate or not to participate in this research study. If I agree to participate in this study, I may choose to withdraw at any time, before or during an interview, or refuse to answer specific questions. This will not affect my present or future care with my physician.

If I, or any of my family members have any further questions about this study, we may contact the Thesis Supervisor, Jo Logan, at 613-562-5800 (Ext. 8415). Alternately we may contact the Principal Investigator, Marlene Adam at 613-761-4708, or the Chairperson of the Research Ethics Board at 613-761-4417. I will receive a signed copy of this Consent Form and the attached Information Sheet. I have been informed of the requirements of the research, and I voluntarily agree to participate in this study.

Participant's Name _____ **Date** _____

Participant's Signature _____ **Date** _____

Signature of Person Obtaining Consent _____

Date _____

(Co-) Investigator's Signature _____

Date _____

Appendix D

Authorship Credit

This thesis was written as a manuscript-based thesis and articles will be submitted to peer-reviewed nursing journals. The contributions to all manuscripts by the authors were as follows:

- Annette Bradfield – conception and design of the thesis, data collection and analysis, writing of drafts, revisions, and final manuscript.
- Dr. Jo Logan – contribution to design and analysis of study, and final manuscript. Critically important content for research methodology and for shaping manuscripts.
- Dr. Kirsten Woodend – contribution to draft revisions and final manuscript. Critically important content for research methodology.
- Marlene Adam – contribution to draft revisions and final manuscript. Critically important content to ensure manuscripts are relevant to patient population.
- Dr. Nancy Edwards – contribution to revisions to draft of first manuscript for Chapter Two, and approval of final manuscript.

The order of authorship was decided together with the thesis committee and the graduate student.