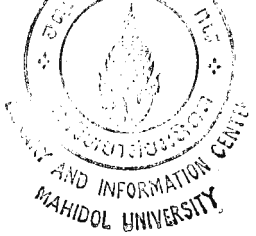

THE RELATIONSHIP OF PERSONAL FACTORS, PERCEIVED HEALTH STATUS, AND HEALTH-PROMOTING BEHAVIORS AMONG ADULT MEN IN KHLONG TOEI CROWDED COMMUNITY, BANGKOK

NAIYANA KANJANAPIBUL

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NAIYANA KANJANAPIBUL : THE RELATIONSHIP OF PERSONAL FACTORS, PERCEIVED HEALTH STATUS, AND HEALTH-PROMOTING BEHAVIORS AMONG ADULT MEN IN KHLONG TOEI CROWDED COMMUNITY, BANGKOK. THESIS ADVISORS: CHOUNCHOM CHAROENYOOTH, Ph.D., SOMCHIT PADUMANONDA, Dr.P.H., NANTAWON SUWONNAROOP, Ph.D. 90 P. ISBN 974-665-239-7.

Men's lifestyle habits are a major public health problem, resulting in an increase in mortality and morbidity rates. The purposes of this study were to assess perceived health status and health promoting behaviors, and also to determine the relationships of personal factors (age, marital status, educational level, job category and family income), perceived health status and health-promoting behaviors among adult men in Khlong Toei Crowded Community, using a descriptive research design. The conceptual framework used for this study was Pender's Health Promotion Model. Two hundred adult men, ranging in age from 20 to 59 years old, were recruited for this study. Data was collected through interview questionnaires modified from the Health Promoting Lifestyle Profile II (Walker, et al., 1995) and the General Health Perception Battery (Brook, et al., 1979). Descriptive statistics, Pearson's product moment correlation and partial correlation coefficients were used to analyze the data.

The results indicated that the overall health-promoting behaviors of the adult men were at a moderate level, whereas the physical activity and health responsibility subscales were at a poor level. Adult men perceived their health status at a moderate level. There were significant correlations among marital status, educational level, job category, family income, perceived health status and health-promoting behaviors, whereas there was no significant correlation between age and health-promoting behaviors.

The findings of this study suggest that interventions aimed to enhance health-promoting behaviors in adult men group should be developed. Nurses should increase attention on the groups of men not having a wife, low educational level, blue-collar worker, low family income and poor health perception.

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นัยนา กาญจนพิบูลย์ : ความสัมพันธ์ระหว่างปัจจัยส่วนบุคคล การรับรู้ภาวะสุขภาพ และพฤติกรรมส่งเสริมสุขภาพของชายวัยผู้ใหญ่ในชุมชนแออัดคลองเตย กรุงเทพมหานคร (THE RELATIONSHIP OF PERSONAL FACTORS, PERCEIVED HEALTH STATUS, AND HEALTH-PROMOTING BEHAVIORS AMONG ADULT MEN IN KHLONG TOEI CROWDED COMMUNITY, BANGKOK.) คณะกรรมการควบคุมวิทยานิพนธ์ : ชื่นชม เจริญยุทธ, พบ.ด.(ประชากรและการพัฒนา), สมจิต ปทุมานนท์,ส.ด.(การพยาบาลสาธารณสุข), นันทวัน สุวรรณรูป, Ph. D.(Nursing), 90 หน้า. ISBN 974-665-239-7.

การดำเนินชีวิตของชายวัยผู้ใหญ่ถือได้ว่าเป็นปัญหาทางด้านสาธารณสุขที่สำคัญซึ่งนำไปสู่อัตราการตายและอัตราการป่วยที่เพิ่มมากขึ้น การศึกษาครั้งนี้เป็นการวิจัยเชิงบรรยายโดยมีวัตถุประสงค์เพื่อประเมินการรับรู้ภาวะสุขภาพ พฤติกรรมส่งเสริมสุขภาพ และหาความสัมพันธ์ระหว่างปัจจัยส่วนบุคคล ได้แก่ อายุ สถานภาพสมรส ระดับการศึกษา ประเภทของงาน และรายได้ของครอบครัว รวมถึงการรับรู้ภาวะสุขภาพกับพฤติกรรมส่งเสริมสุขภาพของชายวัยผู้ใหญ่ในชุมชนแออัดคลองเตย กรอบแนวคิดในการวิจัยครั้งนี้ดัดแปลงมาจากแบบจำลองการส่งเสริมสุขภาพของเพนเดอร์ กลุ่มตัวอย่างเป็นชายวัยผู้ใหญ่อายุระหว่าง 20-59 ปี จำนวน 200 ราย เครื่องมือที่ใช้ในการเก็บรวบรวมข้อมูลเป็นแบบสัมภาษณ์ซึ่งดัดแปลงมาจากแบบวัดแบบแผนการดำรงชีวิตที่ส่งเสริมสุขภาพของวอล์กเกอร์และคณะ (Walker, et al., 1995) และแบบวัดการรับรู้ภาวะสุขภาพทั่วไปของบรูกและคณะ (Brook, et al., 1979) วิเคราะห์ข้อมูลโดยใช้สถิติแบบพรรณนา และหาความสัมพันธ์ระหว่างตัวแปรโดยใช้สัมประสิทธิ์สหสัมพันธ์ของเพียร์สัน และแบบเชิงส่วน

ผลการวิจัยพบว่า พฤติกรรมส่งเสริมสุขภาพโดยรวมของชายวัยผู้ใหญ่อยู่ในระดับปานกลาง ในขณะที่ด้านการออกกำลังกาย และด้านความรับผิดชอบต่อสุขภาพอยู่ในระดับไม่ดี ชายวัยผู้ใหญ่รับรู้ว่าภาวะสุขภาพของตนอยู่ในระดับปานกลาง และพบว่ามีความสัมพันธ์อย่างมีนัยสำคัญระหว่างสถานภาพสมรส ระดับการศึกษา ประเภทของงาน รายได้ของครอบครัว การรับรู้ภาวะสุขภาพ กับพฤติกรรมส่งเสริมสุขภาพ ในขณะที่ไม่พบความสัมพันธ์อย่างมีนัยสำคัญระหว่างอายุกับพฤติกรรมส่งเสริมสุขภาพ

ผลการวิจัยให้ข้อเสนอแนะว่าการปฏิบัติการพยาบาลที่มุ่งเน้นให้เกิดพฤติกรรมส่งเสริมสุขภาพในกลุ่มชายวัยผู้ใหญ่ควรได้รับการพัฒนาขึ้น พยาบาลควรเพิ่มความสนใจในกลุ่มชายที่ไม่มีภรรยา ระดับการศึกษาและรายได้ของครอบครัวต่ำ ทำงานที่ต้องใช้แรงงาน และมีการรับรู้ภาวะสุขภาพที่ไม่ดี

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CHAPTER I

INTRODUCTION

Background and Significance of the Study

The advancement of medical and public health technology in Thailand leads to the decreasing of communicable diseases and the increasing of life expectancy. However, the morbidity and mortality rates caused by non-communicable diseases are rapidly increasing. These are partly the result of changing lifestyles and health behaviors of the people. The five leading causes of death among Thai people in 1998 were cardiovascular diseases, accidents, neoplasms, respiratory diseases, and certain infectious and parasitic diseases. Among these causes of death, the mortality rates of men were higher than that of women. The mortality rate of men caused by cardiovascular diseases, the first cause of death, was 122.1 per 100,000, while the rate of women was only 75.2 per 100,000. The rate of men who died by accidents, the second cause of death, was 100.3 per 100,000, while the rate of women was 24.6 per 100,000. For the other three causes of death, the men's death rate from neoplasms, respiratory diseases and certain infectious and parasitic diseases were 52.9, 46.3 and 37.1 per 100,000, while the rate of women were 34.7, 21.3 and 18.8 per 100,000 respectively (Ministry of Public Health, 1999: 68). One of the possible reasons for these differences is that men have higher risk taking behaviors than women (Stanhope & Lancaster, 1996: 566).

Kaplan and colleagues (1987, cited in Speake, et al., 1989: 93) conducted one study over a 17-year period. They found that the increase in risk of death was associated with being male, smoking, having little leisure time activity, weight deviations and not having breakfast. Reed and colleagues (1998: 1463) found that the most consistent predictors of healthy aging in men with high life expectancies were not smoking cigarettes, and not being obese. Moreover, they concluded that beyond the biological effects of aging, much of the illness and disability in the elderly were related to risk factors presented at midlife period. Palank (1991: 822) reviewed many research articles about determinants of health-promoting behaviors. The results showed a relationship between gender and health-promoting behaviors. Women were likely to report engaging in more health-promoting activities than men. Lusk and others (1995:23) also found that white-collar, blue-collar and skilled trade women had a higher health responsibility and better health-promoting behaviors than men. Many studies in Thailand support this finding. Suwonkhong (2000: 71) found that female laborers had better health-promoting behaviors as compared to males. The same results were found in the study of Prompunjai (1997: 98-99) who studied in factory workers and the study of Suthikul (1997:139) who studied in primary school teachers. Moreover, Supornsilchai and others (1996: 171) found that men often had riskier behaviors than women.

Bangkok, the capital city of Thailand, is the center of all economics and social activities. People who live in Bangkok have a hurried lifestyle, higher stress, and more health-risk behaviors. According to Supornsilchai and colleagues (1996: 7,9), they conducted a survey concerning the behaviors influencing the prevalence of non-communicable diseases in Thai people. The results showed that people living in

Bangkok spent more time working than resting in contrary to people living outside Bangkok. Furthermore, they suffered from high stress levels that could cause mental health problems at the rate of 6-7 percent. Chavalitnitikul and colleagues (1995: 194) studied health status and health behaviors of Thai males in rural communities of Bangkok. The study revealed that the percentages of current cigarette smoking and alcohol drinking among Thai males were 69.8 and 66.9, respectively. Only 27.2 percent of the subjects exercised regularly.

Furthermore, Bunyarattapun and colleagues (1995: 238-241) studied health status of Thai people and future trends. They found that adult men in Bangkok had premature deaths more than women. From 1986 to 1994, the death rate of men in Bangkok age 15-24 and 25-44 years old increased three folds. The major causes of death among Thai men age 25-44 years old who lived in Bangkok were accidents, coronary disease, and stroke. For the 45-64 year of age, the major causes of death were circulatory disease and cancer. In 1991-1992, Chuprapawon (1996: 81,86) conducted a national survey of health status of Thai people. The result showed that Thai men smoked cigarette 10.7 times and consumed alcohol 9 times more than women. Focusing on Bangkok, the percentages of Thai men age 25 to 54 years old who had acute illnesses within 2 weeks prior to the interview were over 40 percent. These results were higher than Thai men all over the country, which was over 30 percent. The result of nutrition status by body mass index (BMI) in Thai men age 20 years and older showed 24.7 percent undernutrition, 20.4 percent overnutrition, 2.3 percent obesity and only 52.6 percent normal BMI. The highest prevalence rate of coronary disease in people age 30 years and older were found in Bangkok with 19.7

per 1,000. This prevalence rate was found in men 23.3 per 1,000 (Chuprapawon, 1996: 39,56,130).

Health promotion is a strategy setting in the 8th National Economic and Social Development Plan 1997-2001 (n.d.: 181). The goal is to decrease health-risk behaviors and occurrence of chronic diseases and to increase healthy behaviors especially in the working group. Adult men age 20 to 59 years old are the working group who has important roles in socioeconomic and country development. Besides, this age group also has high responsibility like the backbone of society (Stanhope & Lancaster, 1992: 532). Most of the adult men have the important role as chief of their family. Their duties are to look after and to be responsible for all of the family members including being the main power to work for income, (Simon, 1998:39) and be the role model. They are a durable pillar in the role of raising their family.

Supornsilchai (1996: 175) found that health deviation was directly related to occupation. An overload of work could cause many health disadvantages, such as lack of time for self-care, stress as well as inadequate rest. Moreover, Stanhope and Lancaster (1996:566) reported that risk-taking behaviors, stress and neglect of abnormal signs were the reasons for shorter life expectancy for men than women. Hence, the adult men seem to become sick easily because they work hard, have high stress, and are lack of attention to their health. These reasons may lead to sicknesses and health problems in this group. If the adult men become ill, their family members will be affected. The family will suffer both financially measurable such as treatment costs and not financially measurable such as sadness and lack of support from the family leader. Thus, health promotion is a major concern in this population to enhance their quality of life. The study of health-promoting behaviors among adult men will be

useful as a guide to solve health behavior problems and to promote health-promoting behaviors.

Pender's Health Promotion Model was selected as the conceptual framework for this study because its greater emphasis on self-responsibility for health. Pender (1996: 34) proposes the goal of health promotion is directed toward increasing the level of well-being and self actualization of a given individual or group. Health-promoting behaviors, as a key entity in the concept of health promotion (Palank, 1991: 815), are described as self-initiated actions that enhance health status in the absence of a specific health threat.

Perceived health status is one of the factors related to the practice of health-promoting behaviors. Pender concluded that perceived health status was found to be an important predictor of health-promoting behaviors in many studies (Pender, 1996: 64-65). Zabalegui (1994) found a statistically significant positive correlation between health perception and participation in cancer screening programs. Desmond, et al., (1993: 79) reported that perceived health status was positively correlated with physical activity of male workers. This finding was supported by Suparasie (1995). She reported a significant relationship between health perception and health-promoting behaviors.

Sumpunyu (1996) indicated that hypertensive patients with very good health perception had better health-promoting behaviors than patients with fair health perception at the significance level of .001 and .05, respectively. Fehir (1988) found that perceived health status was one of the predictors that accounted for the variance in the health-promoting behaviors among men aged 35 to 64 years old. Weitzel (1989: 102) confirmed this finding in a sample of blue-collar workers. However, a conflicting

result was reported by Hounthasan (1996: 130). She found no correlation between health perception and health-promoting behaviors in menopausal women. Besides the perceived health status, personal factors that influence the health-promoting behaviors such as age, marital status, education level, job category, and family income are included in this study.

Age: The study of Sinthanayothin (2000: 82) found that age had a significant positive correlation with the level of health-promoting behaviors in midlife working women. Moreover, Leetherakul (1997: 55) found that age was one of three variables that accounted for the variance in health-promoting behaviors. However, a conflicting result was reported in the study of Sakbunditsakul (1998: 93) who found no correlation between age and health-promoting behaviors.

Marital status: The study of Fehir (1988) found that marital status was one of the factors that accounted for the variance of health-promoting behaviors in men. In contrast, Speake, et al., (1989:96) found that marital status was not significantly associated with health-promoting behaviors.

Educational level: The study of Suwonnaroop (1999: 121) found a positive significant correlation between health-promoting behaviors and educational level. In contrast, Oumpram (1998) found no correlation between health-promoting behaviors and educational level.

Job category: The literatures reported that blue-collar workers generally did not participate in health promotion programs as much as white-collar workers (Fielding, 1989; King, 1988; Warner, 1987, cited in Desmond, et al., 1993: 73). The study of Desmond, et al., (1993: 81) found that job category (e.g., blue-collar and

white-collar) was a highly significant predictor of physical activity, including occupational and leisure time activity.

Family income: The study of Sakbunditsakul (1998:96) showed that family income was positively correlated with health-promoting behaviors. In contrast, Oumpram(1998) found no significant correlation between family income and health-promoting behaviors.

Nurses are uniquely positioned among health professional to act on the opportunities for promoting health. The researcher is aware of this point in studying health-promoting behaviors of adult men by using the Pender's Health Promotion Model as the framework. The National Statistical Office (1995: 9) reported that adults who live in a crowded community have children and elderly dependency ratio higher than adults who live outside a crowded community in Bangkok. Moreover, Robert (1998:18) indicated that a person's health is associated with socioeconomic status of the community. Hence, in this study, the biggest crowded community in Thailand, Khlong Toei (Pingpadung, 1997: 125), is used as a study sample. This community is well known as a source of multi-problems, such as poor income and low education. The study of Pingpadung (1997) indicated that quality of life of people in Khlong Toei Crowded Community did not meet the basic requirement of urban community. Thus, this population should be emphasized.

The results of this study will provide a guidance for planning health promotion programs to promote healthy behaviors among adult men. These programs can lead to better physical health of this group, effective and efficient work, and several benefits for society in the future.

Research Questions

1. What are the levels of each dimension and the overall scores of the health-promoting behaviors among adult men in Khlong Toei Crowded Community?

2. What is the level of perceived health status among adult men in Khlong Toei Crowded Community?

3. What are the relationships of perceived health status, age, marital status, educational level, job category, family income and health-promoting behaviors among adult men in Khlong Toei Crowded Community?

Purposes of the Study

The purposes of the study are:

1. To assess each dimension and the overall scores of the health-promoting behaviors among adult men in Khlong Toei Crowded Community.

2. To assess perceived health status among adult men in Khlong Toei Crowded Community.

3. To examine the relationships of perceived health status, age, marital status, education level, job category, family income and health-promoting behaviors among adult men in Khlong Toei Crowded Community.

Conceptual Framework

The conceptual framework that was used to guide this study was adapted from Pender's Health Promotion Model (1996: 66-72). According to Pender, health-promoting behaviors is the end point or action outcome in the Health Promotion

Model. It is an expression of the human actualizing tendency that is directed toward optimal well being, personal fulfillment, and productive living. Walker and her colleagues (1995) developed a measure of health-promoting behaviors consisting of 6 subscales that were nutrition, physical activity, health responsibility, interpersonal relations, stress management, and spiritual growth.

Based on Pender's Health Promotion Model, whether adult men have good health-promoting behaviors, it depends on many factors. One of the significant factors influencing practices toward increasing the level of well-being and self-actualization of an individual or group is personal factors. The understanding about factors that facilitate adult men practice will provide to plan effective health-promoting programs and reach to the target population. Hence, personal factors, basis for structuring effective interventions, were included in this study. Personal factors are categorized as biological, psychological and sociocultural.

Perceived health status is one of the psychological personal factors related to the practice of health-promoting behaviors. Many studies indicated the correlation between health perception and health-promoting behaviors (Harrison, 1993; Desmond, et al., 1993: 78; Tirapongnapalai, 1998:138). Individuals who rated their health as good participated more in health-promoting behaviors. Furthermore, Pender (1996: 64-65) concluded that perceived health status was found to be an important predictor of health-promoting behaviors in many studies. In this study, perceived health status is measured by the General Health Perception Battery (Brook, et al., 1979: 35) which is divided into 6 subscales namely perception of prior health, current health, health outlook, resistance/susceptibility to illness, health worry and concern, and sickness orientation.

Besides perceived health status, personal factors including in this study were biological factors (age) and sociocultural factors (marital status, educational level, job category and family income). The conceptual framework is presented in Figure 1.

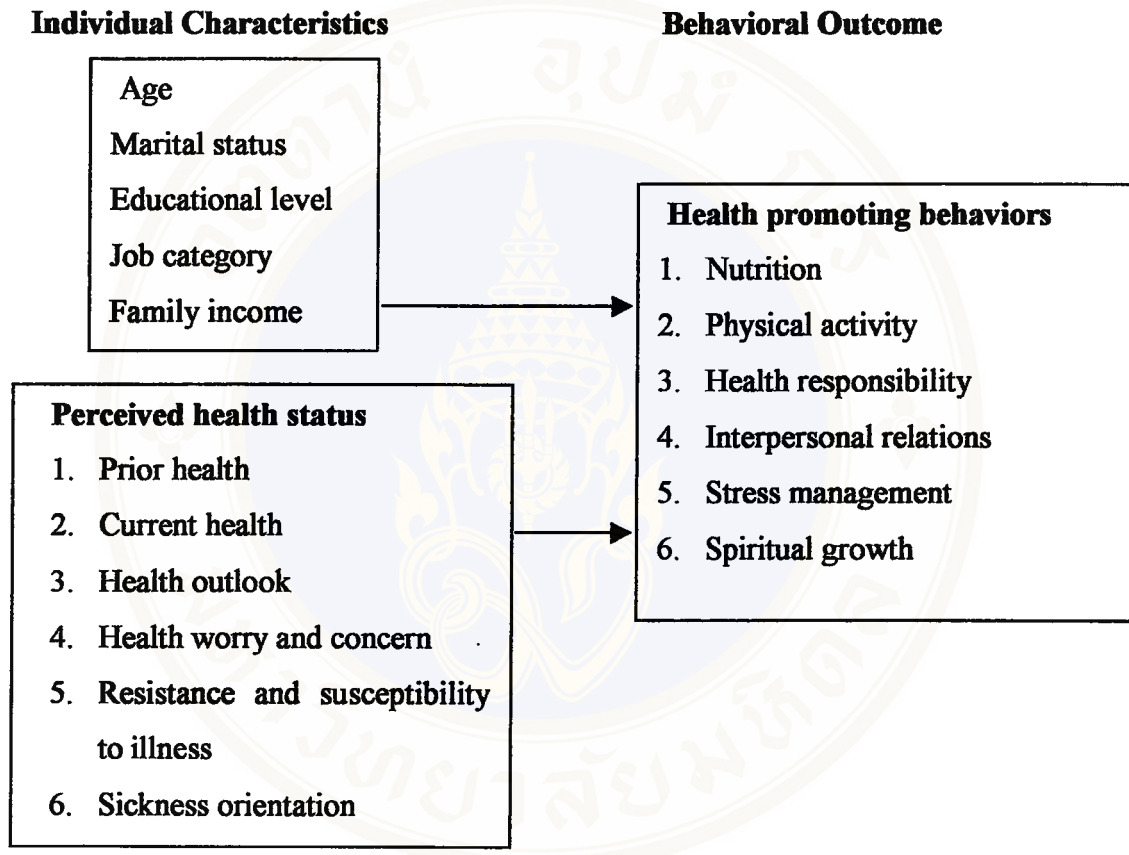

Figure 1: Conceptual framework to study health-promoting behaviors among adult men.

Source: Adapted from Health Promotion Model. (Pender, 1996:67)

Hypotheses

The hypotheses of this study are:

1. Personal factors are related to health-promoting behaviors.

    1.1 Age is associated with health-promoting behaviors.

    1.2 Marital status is associated with health-promoting behaviors.

1.3 Education level is related to health-promoting behaviors.

1.4 Job category is related to health-promoting behaviors.

1.5 Family income is related to health-promoting behaviors.

2. Perceived health status is associated with health-promoting behaviors.

Scope of the study

The scope of this study includes the study of personal factors, perceived health status and health-promoting behaviors of the adult men age 20 to 59 years old who live in Khlong Toei Crowded Community, Bangkok.

Definition of Terms

The definitions of terms in this study are included as follows:

1. Health-promoting behaviors are defined as wellness approach behaviors directed toward increasing the level of well-being and self actualization (Pender, 1996: 34). Health-promoting behaviors are measured by using the interview questionnaire that was translated and modified from the Health Promoting Lifestyle Profile II (HPLP II) (Walker, et al., 1995). The questionnaire is composed of six dimensions as follows:

2.1 Nutrition is measured by subject self-report of selecting food choices;

2.2 Physical activity is measured by subject self-report of having regular exercises patterns;

1.3 Health responsibility is measured by subject self-report of being educated about health, seeking professional assistance when necessary, and attending to and accepting responsibility for one's own health, including avoidance of smoking, drinking alcohol, and power increase-drinks;

1.4 Interpersonal relation is measured by subject self-report of maintaining relationships involving a sense of intimacy and closeness;

1.5 Stress management is measured by subject self-report of recognizing sources of stress and acting to control stress and achieve relaxation; and

1.6 Spiritual growth is measured by subject self-report of having a sense of purpose, seeking personal development, and experiencing self-awareness and satisfaction.

2. Perceived health status is defined as the individual's self assessment of health status which is measured by using the interview questionnaire. This questionnaire is translated from the General Health Perception Battery of Brook and colleagues (1979: 28). The questionnaire composes of six dimensions as follows:

2.1 Current health is measured by subject self-report of health status at present;

2.2 Prior health is measured by subject self-report of health status in the past;

2.3 Health outlook is measured by subject self-report of health status in the future;

2.4 Health worry and concern is measured by subject self-report of health worry and concern;

2.5 Resistance and susceptibility is measured by subject self-report of resistance and susceptibility to illness; and

2.6 Sickness orientation is measured by subject self-report of sickness orientation.

3. Personal factors are defined as the personal characteristics of the adult men, which include 5 variables as follows:

3.1 Age is measured by the subject self-report of age in years;

3.2 Marital status is determined by the subjects' report of status of marriage, which is classified into 3 categories: single, married, and widowed/divorced/separated;

3.3 Educational level is measured by the subject self-report of highest level of formal education;

3.4 Job category is measured by the researcher according to the subjects' report of characteristics of his work, which is divided into 2 categories as follow:

- Blue-collar workers mean the subjects whose work required physical strength, and

- White-collar workers mean the subjects whose work did not require physical strength;

3.5 Family income is measured by the subject self-report of total income in baht of family members.

Expected Outcomes and Benefits

1. The research results can be used as basic information for community health nurses for planning health promotion programs to promote healthy behaviors in adult men.

2. It will provide a guide for teaching student nurses. They will have a better understanding, and awareness of the importance of the health-promoting behaviors among adult men.

3. It will provide a further guide for conducting research in other areas that is related to health-promoting behaviors.

CHAPTER II

LITERATURE REVIEW

This chapter presents an integrative review of the theoretical and relevant literature describing the concepts of interest and the interrelationships among them as follows:

1. Health-promoting behaviors
    1.1 Concept of health-promoting behaviors
    1.2 Pender's Health Promotion Model
    1.3 Health-promoting behaviors of adult men
2. Perceived health status
    2.1 Concept of perceived health status
    2.2 Perceived health status assessment
3. Studies related to health-promoting behaviors
    3.1 Studies of perceived health status and health-promoting behaviors
    3.2 Studies of personal factors and health-promoting behaviors

1. Health-promoting Behaviors

1.1 Concept of health-promoting behaviors

Gochmon (1988: 3) defined health behavior as the personal attributes such as beliefs, expectations, motives, values, perception, and other cognitive elements; personal characteristics, including affective and emotional states and traits; and overt

behavior patterns, actions and habits that relate to health maintenance, and health restoration and health improvement.

Murray & Zentner (1993: 659) defined health promotion as activities that increase the levels of health and well-being and actualize or maximize the health potential of individuals, families, groups, communities, and society.

Maben & Clark (1995: 1163) defined health promotion as an attempt to improve the health status of an individual or community, and is also concerned with the prevention of disease. Though this is not its only purpose, health is not merely the absence of disease.

The World Health Organization (cited by Fowler, 1997: 112) defined health promotion as an attempt to enhance the physical, psychological and social health of an individual through activities, which have both a specific and a diffuse focus.

Palank (1991: 816) defined health-promoting behaviors as the behaviors initiated by any person, in any age group, to sustain or increase optimal well-being, self-actualization, and personal fulfillment. Examples of health-promoting behaviors are routine exercise, leisure activities, rest, optimal nutrition, stress-reduction activities, and development of social support systems.

Walker (personal communication, July 20, 2000) defined health-promoting behavior as a multidimensional pattern of self-initiated actions and perceptions that serves to maintain or enhance the level of wellness, self-actualization and fulfillment of the individual.

Pender (1996: 34) defined health-promotion as an attempt that is directed toward increasing the level of well-being and self-actualization of a given individual

or group. It focuses on efforts to approach or move toward a positively relevant of high-level health and well-being.

From all of these definitions as mentioned above, it could be concluded that health-promoting behaviors are the health behaviors initiated by a person or group to increase optimal well-being, self-actualization and personal fulfillment. Those behaviors include not only directly observable, overt behaviors, but also the mental events and feeling states that are observed or measured indirectly.

1.2 Pender's Health Promotion Model

According to Pender, health promotion focuses on efforts to approach or move toward a positively valenced state of high-level health and well-being whereas health protection targets efforts to move away from or avoid the negatively valanced states of illness and injury (Pender, 1996: 34). This is supported by Fowler (1997: 112). He indicated that health promotion focuses on behavior and lifestyle whereas health protection aims to target the environment.

Health Promotion Model (HPM) is proposed as a framework for integrating nursing and behavioral science perspectives on factors influencing health behaviors. It is offered as a guide for exploration of the complex biopsychosocial processes that motivate individuals to engage in behaviors directed toward the enhancement of health. A number of constructs from expectancy-value theory and social learning theory are integrated in this model within a nursing perspective of holistic human functioning (Pender, 1996: 51, 53).

In the HPM, Pender describes many factors influencing health-promoting behavior in 3 major components: Individual characteristics and experiences, behavior-

specific cognitions and affect, and behavioral outcome. This model is presented in Figure 2.

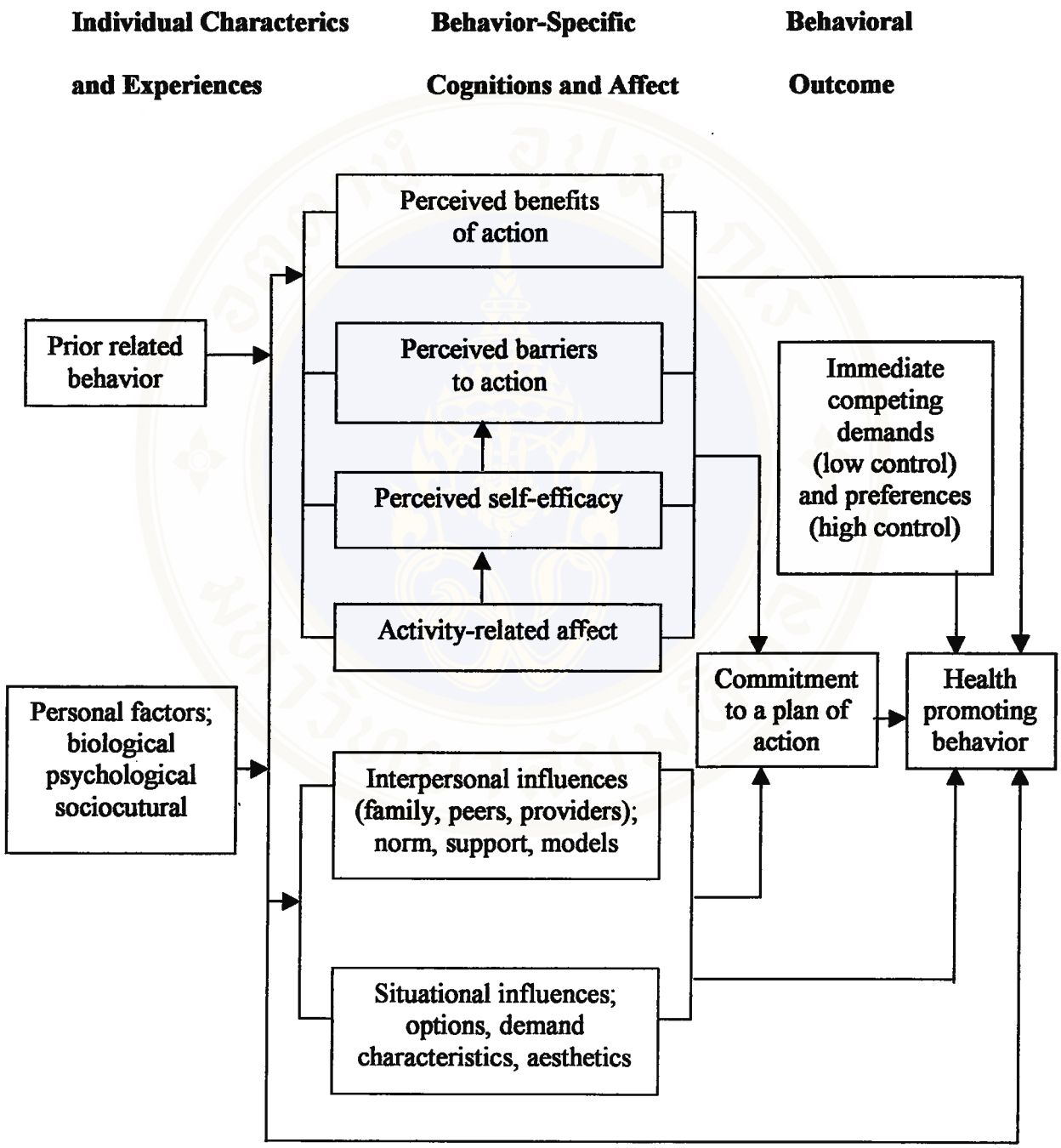

Figure 2: Pender's Health Promotion Model (1996:67)

As presented in Figure 2, health-promoting behaviors are determined by 3 major components. The first component, individual characteristics and experiences, consists of prior related behavior and personal factors. The effect of prior related behavior on health-promoting behaviors may be due to habit information, predisposing one to engage in the behavior automatically with little attention to the specific details of its execution. Moreover, prior behavior is proposed as shaping all of the behavior-specific cognitions and affects. For the personal factors, they are categorized as biologic, psychologic, and sociocultural. Personal biologic factors include variables such as age, gender and body mass index. Personal psychologic factors can include variables such as perceived health status and self-esteem. Personal sociocultural factors include variables such as education and socioeconomic status. Personal factors are proposed as directly influencing both behavior-specific cognition and affect as well as health-promoting behavior.

Behavior-specific cognitions and affect is the second component in this model. It consists of 6 concepts which are considered to be of major motivational significance. Moreover, these concepts constitute a critical core for intervention through nursing action. All of the 6 concepts are perceived benefits of action, perceived barriers to action, perceived self-efficacy, activity related affect, interpersonal influences and situational influences.

Behavioral outcome is the last component in this model. It consists of the commitment to a plan of action and immediate completing demand and preferences. Commitment to a plan of action initiates a behavioral event. This commitment will propel the individual into and through the behavior unless a completing demand that the individual cannot avoid or a completing preference that the individual does not

resist intervenes. Health-promoting behaviors is the action outcome in this model. It is an expression of the human actualizing tendency that is directed toward optimal well-being, personal fulfillment, and productive living.

1.3 Health-promoting behaviors of adult men

The changing of society and economics at present leads to high stress and tiredness in adult working men. These men have important roles as a working group that includes high responsibility as a family leader. These reasons may cause health problems, lack of attention in their health and lack of interpersonal relations with others. Thus, health promotion is a major concern in this population. According to World Health Organization (1974, cited by Hitchcock, 1999: 184), health is defined as "a state of complete physical, mental, and social well-being and not merely the absence of disease and infirmity". By this definition, the researcher decided to use a measure of health-promoting behaviors by Walker and her colleagues (1995) which consisted of 6 subscales namely nutrition, physical activity, health responsibility, interpersonal relations, stress management, and spiritual growth. Because of promoting physical well-being, the dimension of nutrition, physical activity and health responsibility must be assessed. To promote mental well-being, the assessment of stress management and spiritual growth are essential. As well as promoting social well-being, interpersonal relations must be assessed. The health-promoting behaviors of adult men are described as follows:

1.3.1 Nutrition. Food is an essential factor for life. Adult men who expect to have good health need to eat proper food. Proper food consumption plays a major role in preventing diseases, energetic living, and staying healthy (Pender, 1996: 209;

Edelman & Mandle, 1998: 246; Williams & Worthington-Roberts, 1992:82). The Thai Food Based Dietary Guidelines (Thai FBDG) are recommended by Nutrition Division, Minister of Public Health (1998: 1-40). There are nine guidelines for a healthy diet for Thai people to follow:

1.3.1.1 Eat a variety of foods from each of five major food groups and maintain desirable weight. Eating a variety of foods from each of five major groups will derive essential nutrition suitable for body requirements. Maintaining a desirable weight by eating proper food and doing routine exercise will lead to strengthen physical health and a decrease in risk factors for many illnesses caused by over or under nutrition.

1.3.1.2 Eat a diet with rice or starch. Rice and many products from starch such as noodles are an important source of energy.

1.3.1.3 Eat a diet with plenty of grain products, vegetables and fruits. Vegetables and fruits are an important source of vitamins and minerals. High fiber in this group relieves constipation and also reduces cholesterol and some carcinogens.

1.3.1.4 Eat a diet with fish, lean meat, egg, and legumes regularly. These foods are important sources of protein. Protein is an available source for promoting physical growth, renovating weary tissues, producing disease-protecting substances, and providing energy.

1.3.1.5 Drink milk everyday. Milk is a major food source of calcium and phosphorus. Bone and tooth formation needs these minerals. Besides, it also contains protein and other vitamins. Adults should drink 1-2 cups of milk each day. Not only milk, but also yogurt and soya milk are products providing protein, vitamins, and minerals.

1.3.1.6 Eat a diet low in fat, saturated fat, and cholesterol. A diet high in saturated fat and cholesterol is associated with increased incidence of atheroscerosis and coronary heart disease. Also, high fat diets contribute to the development of obesity and increase cancer risk. Hence, reducing intake of fat, saturated fat, and cholesterol should be promoted.

1.3.1.7 Avoid eating a diet with a lot of sugar and salt. Eating too much sugar leads to unnecessary energy deriving. This can cause obesity. For salt, excessive eating increases the opportunity for hypertension to occur.

1.3.1.8 Avoid contaminated food. Eating fresh and clean food is the choice for avoiding contaminated food. In case of ready made food and can-containing food, label reading is important to identify components, place of production, and dates of production and expiration.

1.3.1.9 Avoid drinking alcoholic beverages. Heavy alcoholic beverage drinking contributes to chronic liver diseases and some neurologic disorders, as well as throat and neck cancers. Moreover, it is a major factor in accidents.

1.3.2 Physical activity. Physical activity is the movement produced by skeletal muscles that results in energy expenditure. Exercise has both physiological and psychological effects. For adult men, regular exercise can increase their work efficient functioning, reduce stress response, enhance self-esteem and body image, decrease the frequency of minor medical complaints and subsequent absence from work, and also reduce the risk of many diseases including heart disease, hypertension, cancer, osteoporosis and diabetes mellitus (Stanhope & Lancaster, 1992: 600-601; Hitchcock, et al., 1999: 196). Thus, habitual exercise is recommended. Exercise for

20-30 minutes or work hard until sweating 3 times per week has proposed effect that is good for health (Suwankhong, 2000: 24-25).

1.3.3 Health responsibility. Adult men are working group. Condition and environment in working may affect their health. Additionally, hard work in this group may lead to lack of attention in their health. Thus, attention to care and improve health in this group should be concerned by observing their bodies for any abnormal signs, seeking information about taking care and promoting health from several sources and avoiding some health-risk behaviors such as smoking, and drinking alcohol and power-increasing beverages.

1.3.4. Interpersonal relations. All people need relationships with others to remain healthy, physically and psychologically (Murray & Zentner, 1993: 664). It is a basic human need which is considered to be person-environment interactions that decrease the occurrence of stressors, buffer the impact of stress, and decrease physiologic reactivity to stress (Pender, 1996: 256). It may take the form of intimacy, caregiving, providing advice and information, or assisting with problem solving. It may also reinforce a positive self-concept and facilitate healthful coping behaviors and lifestyles (Smith & Maurer, 2000: 471). There are many methods to promote personal skill to communicate with others in this group such as maintaining meaningful and fulfilling relationships with others, discussing problems and concerns with close friends, showing concern, love and warmth to others, etc.

1.3.5. Stress management. Stress has been identified as a potential threat to mental health and physical well-being and has been associated with the occurrence of illnesses such as heart disease and cancer, in numerous studies (Pender, 1996:124). Work is often cited as a source of stress (Pender, 1996: 238). Adult men are the

working group who have an important role as a productive career. Besides, this group also has high responsibility as a family leader and a caretaker for children and parents. These reasons lead to more opportunities to have high stress. There are many methods to relieve or reduce stress in this group such as getting enough sleep, accepting things, which they can not change in their life, balancing time between work and play and practicing meditation, etc.

1.3.6 Spiritual growth. This important dimension leads to a happy life. A man who has spiritual growth has the ability to develop his spiritual nature to its fullest potential, including the ability to achieve his purpose in life (Pender, 1996: 129). There are many ways to increase spiritual growth such as believing in religion, working toward a purpose in life and feeling content and at peace with themselves, etc.

2. Perceived Health Status

2.1 Concept of perceived health status

Perception is an active process in which an individual reacts, links, and responds to environmental stimuli (Lee, 1993: 20).

Perception is a way of seeing, understanding or interpreting something (Crowther, Ed., 1995: 859).

Perception is a process of organizing, interpreting, and transforming information from sense data and memory. It is a process transactions with environment. It gives meaning to one's experience, represents one's image of reality, and influences one's behaviors (King, 1981:24)

Perceived health status is an integrative concept that reflects an individual's assessment and evaluation of his/her general health (Speake, et al., 1989: 95).

Perceived health status is the self-evaluation of health as a subjective state (Pender, et al., 1990: 326).

Perceived health status or self-rated health is an inclusive and accurate measure of health status and health risk factors. It captures the full array of illnesses a person has and possibly even symptoms of disease as yet undiagnosed but present in preclinical or prodromal stages (Idler & Benyamini, 1997:27-29). Moreover, perceived health status measures behaviors because people behave largely according to what they perceived and how they feel (Lee, 1993: 20). Therefore, it affects health status. Poor perception of health may lead to less engagement in preventive practice or self-care (Idler & Benyamini, 1997: 29)

Williams and Worthington-Roberts (1992: 52) stated that perceived health status relates to personal perception of one's own health and well-being, although perception and reality may not necessarily agree. Individuals who rate their health as excellent or good have a longer life expectancy than those who rate their health as fair or poor. Self-rating of health is a stronger predictor of life expectancy than actual physical status based on a medical examination. Positive feelings about one's health usually reflects a similar attitude toward life in general that supports positive adjustment and adaptation.

According to Pender, perceived health status appeared to play a role in the frequency and intensity of health-promoting behaviors (Pender, 1987: 64). The better a person believes his/her health to be, the more likely he/she will act in ways to maintain it (Weitzel, 1989: 102). In the HPM, perceived health status is one of the psychological personal factors that influences health-promoting behaviors. It is a significant predictor of the target behaviors in a number of studies and is predictive

both in the studies of health-promoting lifestyle and in the studies of specific behaviors.

2.2 Perceived health status assessment

In 1978, Ware (1978:396) constructed scales for measuring general health perceptions. It contained 32 items and was divided into eight subscales namely perception of prior health, current health, health outlook, resistance/ susceptibility to illness, health worry and concern, sickness orientation, rejection of sick role, and attitude toward going to the doctor. Later in 1979, Ware including Brook and others (1979: 9-35) studied the overview of adult health status measures fielded in Rand's health insurance study. This study also included Ware's general health perception battery but omitted 2 subscales, rejection of sick role and attitude toward going to the doctor. The details of the remaining 6 subscales are described as follows:

2.2.1. Prior health perception is the assessment or evaluation of his/her general health in the past. Attitude and experience when illness occurred influences this subscale.

2.2.2. Current health perception is the assessment or evaluation of his/her general health in present. Difference of current health perception for each individual depends on perception of health in the past, receiving of health information, comparing their health to others, and appearance of illnesses.

2.2.3. Health outlook perception is the assessment or evaluation of his/her general health in the future. Perception in the past and present including comparing their health to others leads to what to expect of their health in the future.

2.2.4. Health worry and concern is the assessment or evaluation of his/her worry and concern to health. It depends on self-health care attention and comparing their health worry and concern to others.

2.2.5. Resistance/susceptibility to illness is the assessment or evaluation about being physically strong when illnesses occur. This subscale depends on health history in the past, comparing their health to others and opportunity to become sick when the environment changes. A person who becomes sick more easily than other people will induce high anxiety and lead to poor health perception.

2.2.6. Sickness orientation is the extent to which people perceive illness to be a part of their lives. A person who perceives like this will prepare to strengthen his/her health and seek treatment when illnesses occur.

3. Studies Related to Health-promoting Behaviors

3.1 Studies of perceived health status and health-promoting behaviors

Harrison (1993) showed that perceived health status and health promoting lifestyle were positively correlated ($r = .35$, $p<.001$) among HIV seropositive men. Desmond and others (1993: 78-79) supported this correlation. They found that male workers who reported higher perceived health status participated more in physical activity ($r = .24$, $p<.02$). Weitzel (1989: 101) showed that blue-collar workers who perceived themselves to be in better health engaged in more health-promoting behaviors than their counterparts ($r = .34$, $p<.001$). As the same as Pender and her colleagues (1990:330), they found that positive evaluation of employees' health was associated with more health-promoting lifestyles ($r = .29$, $p< .001$). Furthermore, Zabalegui (1994: 215) indicated that there was a significant correlation between health

perception and participation in cancer screening programs among elderly (r = .51, p <.001). Speake, et al (1989: 96) also showed that a positive perception of health was positively associated with health-promoting lifestyles in elderly. The finding of Suwonnaroop (1999: 121) was consistent with this correlation (r = .20, p <.05).

In Thailand, many studies confirm the correlation between perceived health status and health-promoting behaviors. Tirapongnapalai (1998: 138) found the significant correlation between these two variables in primary school teachers (r = .45, p<.001). The study of Sinthanayothin (2000: 79) showed the significant correlation between health perception and health-promoting behaviors (r = .38, p<.01) in midlife working women. This finding was also consistent with the studies of Sittichai (1997: 76) in HIV seropositive mothers(r = .44, p<.001), Leetheragul (1998: 55) in pregnant women with hepatitis B carrier (r = .45, p<.001) and Oumpram (1998: 81) in menoplausal women (r = .33, p<.01). Moreover, Thongrat (1998) and Thaewpia (1997: 75) also found this correlation in thalussemia childrens (r = .32, p<.01) and syphilitic pregnant women (r = .35, p<.001), respectively.

However, conflicting results were reported by Brown & McCreedy, Foster, and Hounthasan. Brown & McCreedy (1986 cited by Suwonnaroop, 1999: 61) found no correlation between overall health status and health-protective behaviors in the elderly. They claimed that their finding was valid, and the lack of the expected association was not due to a flow in research methods. In addition, Foster (1992, cited by Suwonnaroop, 1999: 61-62) found a non significant relationship between health-promoting activities and perceived current heath status in the elderly. The non-randomness of the sample, culture and/or the sample size may affect this outcome. The study of Hounthasan (1996: 160-161) also showed no correlation between health

perception and health-promoting behaviors. She explained the reason of this finding that the majority of the sample had good and very good health perception.

3.2 Studies of personal factors and health-promoting behaviors

Personal factors are proposed as directly influencing behavior-specific cognitions and affect as well as health-promoting behavior (Pender, 1996:68). In this study, 5 personal factors: age, marital status, job category, educational level and family income, affecting health-promoting behaviors will be reviewed in each variable as follows:

3.2.1. Age. Most of the people who are still young and healthy are not careful and concerned for their health (Lowenstein & Rinehart, 1982:254 cited by Suwankhong, 2000:33). The ones who have more maturity can choose and make better decisions about their self-care (Orem, 1980: 154). Sinthanayothin (2000: 82) found that age was associated with health-promoting behaviors in midlife working women ($r = .14$, $p<.01$). Thongbai (1997: 140) also found that age affected health-promoting behaviors among workers ($r = .11$, $p<.01$). Moreover, the study of Duffy (1997: 157) showed that age was significantly related to all aspects of health-promoting lifestyles among employed Mexican American women.

On the other hand, Sumpunyu, Sakbunditsakul, Thaewpia, and Suwankhong found no correlation between age and health-promoting behaviors. Sumpunyu (1996: 101) claimed that many social supports source i.e. parents, spouse, children assisted the hypertensive patients in many aspects of health-promoting behaviors especially when they were sick. Hence, health-promoting behaviors did not depend upon age. Sakbunditsakul (1998: 93) claimed that the majority of worker

women in the textile factories were adolescents and young adults. This made for a small variation of the sample ages. For the study of Thaewpia (1997: 97) in a sample of syphilitic pregnant women, she claimed that the majority of the samples used to receive knowledge about syphilis. A small variation in knowledge, attitude and practice about syphilis in the sample affected no correlation between age and health-promoting behaviors in her finding. The study of Suwankhong (2000: 73) also found no correlation between age and health-promoting behaviors. She claimed that small variation within health-promoting behaviors and age in the sample influenced her result.

3.2.2. Marital status. Married people are healthier and happier than those who are single, divorced or widowed. Moreover, married people have higher levels of physical and psychological well-being than do unmarried people (Ross & Willigen, 1997: 278). Hanucharoengul (1993: 43) state that people who are single, widowed, divorced and separated seem to lack someone who takes care of them and gives them willpower. On the other hand, married people seem to receive assistance from their spouse. The study of Brown & McCreedy (cited by Walker, et al, 1988: 80) found that older men who were married practiced significantly more health-promoting behaviors than those who were unmarried. Duffy (1997: 157) also found the same result in a sample of employed Mexican American women. Sinthanayothin (2000: 81) found that marital status was associated with health-promoting behaviors in midlife working women ($r = .14$, $p<.01$).

However, Suwankhong and Duffy found that marital status was not significantly associated with health-promoting behaviors. Suwankhong (2000: 76) claimed that marital status might not be the only factor, which influences on one's

health-promoting behaviors. Duffy (1988:360) claimed that the relative homogeneity of the sample affected this discrepancy.

3.3.3. Educational level. Educational attainment increases resources that contribute to healthy aging, including economic resources, health life style and social psychological resources (Ross & Wu, 1996: 105,117; Ross & Willigen, 1997: 277-278). Generally, individuals who have a higher educational level should have better knowledge, vision and self-conduct on physical health than those who have a lower educational level (Suwan, 1983:182). Suwonnaroop (1999:121) reported that educational level was correlated with health-promoting behaviors ($r = .37$, $p<.001$) in the elderly. Leetheragul (1998: 54) also found a significant correlation between educational level and health-promoting behaviors ($r = .24$, $p<.01$) in pregnant women with hepatitis B carriers. The same finding was found in a sample of midlife working women ($r = .25$, $p<.001$) by Sinthanayothin (2000: 80). Moreover, the study of Suparasie (1995: 78) found that post-cardiac valvular replacement patients who had a higher educational level participated more in health-promoting behaviors ($F = 6.27$, $p <.001$).

However, Sumpunyu, Sakbunditsakul and Oumpram reported contrasting results. They found no correlation between educational level and health-promoting behaviors. Sumpunyu (1996: 102) claimed that availability of health education in hypertension patients made the sample to have similar knowledge. Sakbunditsakul (1998: 94) claimed that the majority of the samples had small variations in their educational level. The significant correlation between educational level and family income ($r = .41$, $p<.01$) affected the finding in the study of Oumpram (1998: 97).

3.3.4. Job category. Many studies indicated that blue-collar workers generally did not participate in health promotion programs as much as white-collar workers (Fielding, 1989; King, 1988; Warnerr, 1987 cited by Desmond, et al., 1993: 73). The study of Lusk, et al (1995; 22) found that white-collar workers were significantly higher than blue-collar workers and skilled trade workers on self-actualization, exercise, and interpersonal support subscales. Blue-collar workers were significantly lower than the other two groups on nutrition and health-promoting lifestyle. Sinthunava (1997:96) found that menopausal women who were white-collar workers (governmental officers and merchants) had a better quality of life including health and physical work than those who were blue-collar workers (farmers and laborers). The study of Desmond and colleagues (1993: 81) concluded that job category was found to be a highly significant predictor of physical activity including occupational and leisure time activity. In contrast, they found that blue-collar workers participated more in physical activity than white-collar workers.

3.3.5. Family income. Pender (1982 cited by Patanavanichnan, 2000:48-49) stated that a person with a firm financial background will be able to seek health care, get good food and high quality service, and also find the right product and equipment for health promotion. A person with less income will have limits in finding things to improve health. Robert (1998: 19) suggested that the socioeconomic status of family could directly impact physical, social, and service environments of an individual, which may consequently impact health. The study of Thaewpia (1997: 74) indicated the significant positive correlation between income and health-promoting behaviors ($r = .26$, $p<.01$) in syphilitic pregnant women. Moreover, the study of Sakbunditsakul (1998:68) found that female workers in the textile industries who had

higher income demonstrated better health-promoting behaviors ($F = 26.75$, $p<.001$). Suparasie (1995:78) found the same results ($F = 3.27$, $p<.01$) in a sample of post cardiac valvular replacement patients.

However, conficting results were shown in the studies of Duffy, Leetheragul, and Oumpram. They found no correlation between family income and health-promoting behaviors. Duffy (1988:360) claimed that this discrepancy was probably due to the relative homogeneity of the samples. For the study of Leetheragul (1998: 54) and Oumpram (1998:81), they claimed that the correlation between family income and other variables lead to no correlation between family income and health-promoting behaviors.

CHAPTER III

METHODOLOGY

This chapter presents the design of the study, the population and sample, setting, instrumentation, procedures of data collection, procedures for protection of human subjects and data analysis.

Research Design

A descriptive research design was used to study the relationships of personal factors, perceived health status and health-promoting behaviors among adult men in Khlong Toei Crowded Community.

Population and Sampling

The population for this study was adult men age 20 to 59 years old who lived in Khlong Toei Crowded Community, Bangkok. The sample size was calculated by using the sample size tables of Cohen (1988: 102). With the significance criterion of .05 level in the two tailed test, the effect size of medium level (r = .30) and the power value of .99, the sample size was calculated to be at least 195. The total number of 200 subjects was used for this study.

The sample was selected as follows:

1. Two crowded communities were randomly selected from all of the 20 crowded communities in Khlong Toei to be a studied area. The results of this random

sampling were the community namely Lock 1-2-3 Community and Muban Pattana 70 Rai Community.

2. A systematic random sampling was used to choose the adult men who lived in these communities from the community map by the interval. The interval (I) is the result from dividing between the number of houses in the community (N) and one hundred (n) (I = N/n). This interval was added to the beginning number and so on until one hundred men were chosen. The beginning number was selected one from simple random sampling among 1 to the interval and it was the starting number by counting the houses in the map. If any house did not have a man, the house prior to that number was selected.

The number of houses in Lock 1-2-3 Community was 1,450. When divided with 100, 14.5 was the interval. The beginning number for this community by simple random sampling was 2. Therefore, the researcher started to count the house on the map with 2,16,30 and so on until 100 men were chosen.

For the Muban Pattana 70 Rai Community, The number of houses was 1,183. When divided with 100, 11.83 was the interval. The beginning number for this community by simple random sampling was 5. So, the researcher started to count the house on the map with 5,16,27 and so on until 100 men were chosen.

Setting

The communities randomly selected to be the setting of this study were Lock 1-2-3 Community and Muban Pattana 70 Rai Community. The land of these two crowded communities belongs to the Port Authority of Thailand. The number of houses in Lock 1-2-3 Community are 1,450 within 33 Rai while Muban Pattana 70 Rai

Community, the number of houses are 1,183 within 70 Rai. Thus, the average amount of houses per Rai for Lock 1-2-3 Community and Muban Pattana 70 Rai Community are 43.90 and 16.90, respectively. The interview process for data collection was conducted at the respondent's home or nearby area.

Instrumentation

This study used the interview questionnaire in collecting the data, which consisted of 3 parts:

Part 1 Characteristics of the samples. The questionnaire included personal factors such as age, marital status, educational level, job category and family income.

Part 2 Health-promoting behaviors questionnaire. The Health-Promoting Lifestyle Profile-II (HPLP-II) (Walker, et al., 1995) was translated into Thai and modified to suit the Thai culture. According to Walker and others, the HPLP-II consisted of 52 items that measure the frequency of self-reported health promoting behaviors in the dimension of nutrition, physical activity, health responsibility, interpersonal relations, stress management, and spiritual growth. The modification was added in two dimensions, nutrition and health responsibility. The Thai Food Based Dietary Guidelines (Thai FBDG.)(Ministry of Public Health, 1998: 7-41) were used to modify the nutrition dimension. For the health responsibility dimension, avoidance of smoking and drinking alcohol and power increase-drinks were added to the items. This modifier profile was used as an instrument to assess health-promoting behaviors among the adult men. The total number of 56 items were included in the questionnaire as the following:

2.1 Nutrition 10 items,

2.2 Physical activity 8 items,

2.3 Health responsibility 12 items,

2.4 Interpersonal relations 9 items,

2.5 Stress management 8 items,

2.6 Spiritual growth 9 items.

For each item, a 4 point rating scale ranging from never, sometimes, often and routinely were used. The meanings of the corresponding scales are as follows:

Never refers to the respondent's perception of never practiced on that statement.

Sometimes refers to the respondent's perception of practiced occasionally on that statement.

Often refers to the respondent's perception of practiced frequently on that statement.

Routinely refers to the respondent's perception of practiced routinely on that statement.

All of the statements in this questionnaire were positive direction. Four-point response format was employed with the criteria for scoring as follows:

Responses	Scores
Never	1
Sometimes	2
Often	3
Routinely	4

Interpretations of scores were computed for the total scale, each of the six subscales and each item by a mean score:

Mean score between 3.01-4.00 means the respondent's health promoting behavior is at good level.

Mean score between 2.01-3.00 means the respondent's health promoting behavior is at moderate level.

Mean score between 1.00-2.00 means the respondent's health promoting behavior is at poor level.

Part 3 Perceived health status questionnaire. The perceived health status questionnaire was translated from General Health Perception Battery (Brook, et al., 1979: 28) into Thai. This questionnaire consisted of 6 dimensions, which were prior health, current health, health outlook, resistance and susceptibility to illness, health worry and concern, and sickness orientation. The total of 26 items were included in the questionnaire as the following:

3.1 Prior health 3 items,

3.2 Current health 9 items,

3.3 Health outlook 4 items,

3.4 Resistance and susceptibility to illness 4 items,

3.5 Health worry and concern 4 items,

3.6 Sickness orientation 2 items.

Each item was accompanied by a five-response choice: definitely true, mostly true, don't know, mostly false and definitely false. The meanings of the corresponding choices are as follows:

Definitely true means the respondent strongly agreed with the statement.

Mostly true means the respondent mostly agreed with the statement.

Don't know means the respondent did not know about the statement.

Mostly false means the respondent mostly disagreed with the statement.

Definitely false means the respondent strongly disagreed with the statement.

The statements in this questionnaire have both positive and negative directions. The positive direction was listed in 16 items and the remaining 10 items were the negative direction.

Criteria for scoring was as follows:

Responses.	Score for positive direction.	Score for negative direction.
Definitely true	5	1
Mostly true	4	2
Don't know	3	3
Mostly false	2	4
Definitely false	1	5

The obtained scores of the perceived health status questionnaire are categorized into 3 different levels by mean score as the following:

Mean score between 3.67-5.00 means the respondent's health perception is at good level.

Mean score between 2.34-3.66 means the respondent's health perception is at moderate level.

Mean score between 1.00-2.33 means the respondent's health perception is at poor level.

Validity and Reliability Test

1. Content validity: The questionnaires were sent to five experts for validating the interview questionnaires. They are listed as follows:

Two educators in community health nursing

Two educators in health education and behavioral sciences

One educator in mental health and psychiatric nursing

Corrections and revisions of the questionnaire were made according to suggestions from the above validators.

2. Reliability: The revised questionnaires were tired out with 30 adult men and tested for reliability by using SPSS for Windows (Statistical Package for the Social Science for Windows) to calculate Cronbach Alpha Coefficient. The alpha coefficient of the health-promoting behaviors questionnaire was .84 and the alpha coefficient of the health perception questionnaire was .75.

Data Collection

The interview questionnaires were used for data collection. The process for data collection were as follows:

1. A letter from the Dean of Faculty of Graduate Studies was submitted to the Director of Health Department, Bangkok Metropolitan Administration in order to obtain a permission for data collection.

2. After obtaining the permission, the researcher contacted the Director of the Public Health Center Number 41(Khlong Toei) and the head of the selected communities to inform them about the study and data collecting processes.

3. The researcher contacted the health care volunteers in the community to accompany the researcher into the community.

4. The researcher approached the samples and informed consent was given to be interviewed. The duration for interviewing process for each sample was approximately 40-50 minutes. The data was collected everyday including Saturday and Sunday from 10.00 a.m. to 6.00 p.m.

Protection of Human Subjects

Before the interview, potential participants were informed of the purposes of the study and their right to participate or not. The participants were also told about the duration of the interviewing process and their freedom to discontinue participation at any time. The collecting data was treated as confidential and presented as a group.

Data Analysis

The interview questionnaires after being edited, verified, and scored according to the criteria previously identified, were coded for computerization. The data was analyzed by using SPSS for Windows (Statistical Package for the Social Science for Windows) as follows:

1. Descriptive statistics were used to describe the data concerning personal factors, perceived health status, and health-promoting behaviors.

2. Pearson's Product moment correlation coefficients and Partial correlation were employed to analyze the correlation between personal factors, perceived health status and health-promoting behaviors.

According to this analysis, educational level was recoded as the number of years they attended in formal education. For example, Prathom 4 was recoded as 4 and Mathayom 3 was recoded as 9. Moreover, since the proposed assumption in calculating the Pearson's Product moment correlation coefficient, the variables measured on at least an interval scale. Therefore, data transformations for variable measures on the nominal scale to the dummy variables must be made (Polit and Hungler, 1995: 502,649). For this study, the variables on nominal scale were marital status and job category. Marital status was recoded as single, widowed, divorced, and separated = 0, and married = 1. Job category was recoded as blue-collar worker = 0, and white-collar worker = 1.

CHAPTER IV

RESULTS

This descriptive study aimed to examine the relationships of personal factors, perceived health status and health-promoting behaviors among adult men in Khlong Toei crowded community. The results of this study are presented in 4 parts as follows:

Part 1. The characteristics of the samples.

Part 2. Perceived health status of the adult men.

Part 3. Health-promoting behaviors of the adult men.

Part 4. Factors related to health-promoting behaviors of the adult men.

Part 1: The Characteristics of the Samples.

The samples in this study were 200 adult men who lived in the 2 selected communities. Their characteristics were shown in Table 1.

Table 1: Number and Percentage of the Adult Men Categorized by General Characteristics. (n = 200)

Characteristics	Number	Percentage
Age (years)		
20 – 29	31	15.5
30 – 39	53	26.5
40 – 49	73	36.5
50 – 59	43	21.5
Minimum = 20, Maximum = 59		
Mean = 40.84, Standard deviation = 9.68		

Table 1: Number and Percentage of the Adult Men Categorized by General Characteristics. (Cont.)

Characteristics	Number	Percentage
Marital status		
Single	26	13.0
Married	157	78.5
Widowed/divorced/separated	17	8.5
Educational level		
No formal education	8	4.0
Elementary school	115	57.5
High school	70	35.0
Vocational and college school	7	3.5
Occupation		
No occupation	8	4.0
Government officer	26	13.0
Employee	135	67.5
Merchant	31	15.5
Job category		
No occupation	8	4.0
Blue-collar worker	132	66.0
White-collar worker	60	30.0
Monthly family income		
5,000 Baht or less	32	16.0
5,001 – 10,000 Baht	81	40.5
10,001 – 15,000 Baht	48	24.0
15,001 Baht or more	39	19.5
Minimum = 1,500, Maximum = 52,000		
Mean = 11,700.50, Standard deviation = 8049.47		
Adequacy of income		
Adequate with some savings	45	22.5
Adequate with no savings	40	20.0
Inadequate with no debt	37	18.5
Inadequate with some debt	78	39.0

Table 1: Number and Percentage of the Adult Men Categorized by General Characteristics. (Cont.)

Characteristics	Number	Percentage
Chronic illness		
No	182	91.0
Yes	18	9.0
Diabetes Mellitus	9	4.5
Hypertension	5	2.5
Asthma	2	1.0
Tuberculosis	1	0.5
Back pain	1	0.5

As shown in Table 1, a sample of 200 adult men participated in this study. The age of the respondents ranged from 20 to 59 years old, with the average age of 40.84 (S.D. = 9.68). The largest group (36.5%) was in the 40-49 age group. The second large group (26.5%) was in the 30-39 age group.

The majority of the sample was married (78.5%). Only 13% of the subjects were single, and 8.5% were widowed, divorced, and separated. More than half of the sample (57.5%) had elementary school education and 35% had high school education. Four percent of the subjects had no formal education. Those who had more than high school education represented only 3.5% of the sample.

The subjects responded to the question about occupation: 67.5% were employees; 15.5% were merchants; 13% were government officers; and only 4% had no occupation. For the purpose of analysis, these data were grouped into white and blue collar workers. There were 66% blue collar workers and 30% white collar workers. The subjects who had no occupation (4%) were not included in this analysis.

Considering family income, the respondents had monthly family income ranging from 1,500 to 52,000 Baht, with an average of 11,700.50 (S.D. =8049.47). There were 56.5% who reported a family income less than 10,000 Baht per month. In this group, 40.5% reported monthly income between 5,001 to 10,000 Baht and 16% of them reported 5,000 Baht or less. The remaining 43.5% of the sample reported a monthly family income over 10,000 Baht.

When considering about adequacy of income, nearly 60% reported having inadequate income. In this group, 39% reported having some debt and 18.5% having no debt. For the sample reported having adequate income, 20% reported having no savings and 22.5% having some savings.

Most of the subjects (91%) reported having no chronic illness. Only 18 subjects (9%) reported of having chronic illness. Diabetes Mellitus (4.5%) and Hypertension (2.5%) were most commonly identified problems.

Part 2: Perceived Health Status of the Adult Men.

The perceived health status of the subjects was measured by the interview questionnaire, which was translated from the General Health Perception Battery (Brook, et al., 1979). The findings are presented in Table 2.

Table 2: Means, Standard Deviations and Interpretations of Perceived Health Status in Overall and Each Dimension.

Perceived health status	Mean	SD.	Interpretation
Overall perceived health status	3.42	0.44	Moderate
Current health	3.28	0.74	Moderate
Prior health	3.58	1.13	Moderate
Health outlook	2.87	0.69	Moderate
Health worry and concern	3.25	0.56	Moderate
Resistance and susceptibility	3.72	0.75	Good
Sickness orientation	4.70	0.46	Good

As presented in Table 2, the overall mean of perceived health status of the adult men was at a moderate level as reflected by the mean of perceived health status scores of 3.42 (S.D.= 0.44). Considering perceived health status in each dimension: current health, prior health, health outlook, and health worry and concern were found at a moderate level, with the means of 3.28, 3.58, 2.87, and 3.25, respectively. The dimensions which were found at good level were resistance and susceptibility to illness and sickness orientation (mean = 3.72 and 4.70, respectively).

Part 3: Health-promoting Behaviors of the Adult Men.

The health-promoting behaviors of the respondents were measured by the interview questionnaire, which was modified from The Health Promoting Lifestyle Profile II (HPLP-II)(Walker, et al., 1995). The results are presented in Table 3-9.

Table 3: Means, Standard Deviations and Interpretations of Health-promoting Behaviors of the Adult Men in Overall and Each Dimension.

Health-promoting behaviors	Mean	SD.	Interpretation
Overall health-promoting behaviors	2.39	0.28	Moderate
Nutrition	3.09	0.37	Good
Physical activity	1.90	0.72	Poor
Health responsibility	1.91	0.37	Poor
Interpersonal relations	2.54	0.42	Moderate
Stress management	2.48	0.37	Moderate
Spiritual growth	2.46	0.49	Moderate

Table 3 showed the overall health-promoting behaviors of the adult men, which was at a moderate level as reflected by the mean of overall health-promoting behaviors score of 2.39. Considering health-promoting behaviors in each dimension, nutrition had the highest mean (3.09), indicating a good level of practice. The dimensions found at a moderate level were interpersonal relations, stress management, and spiritual growth, with the means of 2.54, 2.48, and 2.46, respectively. The rest two dimensions, physical activity and health responsibility, were found at a poor level, with the mean of 1.90 and 1.91 respectively.

Table 4: Percentages, Means, Standard Deviations and Interpretations of the Dimension of Nutrition in Each Item.

Nutrition	Percentage (%)				Mean	SD.	Interpre-tation
	Routinely	Often	Sometimes	Never			
1. Choose a diet low in fat...	38.5	23.5	30.0	8.0	2.93	1.00	Moderate
2. Limit use of sugar.	66.5	16.0	14.5	3.0	3.46	0.85	Good
3. Limit use of salt.	72.5	18.0	9.0	0.5	3.63	0.67	Good
4. Eat rice or noodle...	100.0	0	0	0	4.00	0	Good
5. Eat fruits everyday.	33.0	16.0	49.5	1.5	2.81	0.92	Moderate
6. Eat vegetable everyday.	64.0	14.5	20.5	1.0	3.42	0.85	Good
7. Drink milk, yogurt or...	17.0	7.5	44.5	31.0	2.11	1.03	Moderate
8. Eat fish, lean meat or...	56.0	29.0	14.0	1.0	3.40	0.76	Good
9. Read labels to identify...	36.0	3.5	10.5	50.0	2.26	1.39	Moderate
10. Eat breakfast.	57.0	3.0	15.5	24.5	2.93	1.31	Moderate

As presented in Table 4, each item of nutrition were found at moderate and good level, with a mean ranging from 2.11 to 4.00. The highest mean score was found in the item of eating rice or noodle as a main course with 100% regularly practiced. While, the lowest mean score was found in the item of drinking milk, yogurt, and soya milk everyday with only 17% routinely drinking. The items that were found at moderate level were the items of choosing a diet low in fat, saturated fat and cholesterol with 38.5% routinely practiced and 23.5% often practiced, eating fruits everyday with 49.5% sometime practiced. The interesting finding in these items were 50% never reading labels to identify date of expiration and 57% routinely eating breakfast. The other items were found in good level practice. The majority of the sample indicated that they routinely and often practiced in these items.

Table 5: Percentages, Means, Standard Deviations and Interpretations of the Dimension of Physical Activity in Each Item.

Physical Activity	Percentage (%)				Mean	SD.	Interpre-tation
	Routinely	Often	Sometimes	Never			
11. Follow a planned exercise..	14.5	3.0	12.5	70.0	1.62	1.08	Poor
12. Exercise vigorously for...	20.0	1.5	17.0	61.5	1.80	1.18	Poor
13. Take part in light to...	32.5	6.0	14.0	47.5	2.24	1.34	Moderate
14. Take part in leisure-time...	18.0	4.5	29.0	48.5	1.92	1.12	Poor
15. Do stretching exercises...	32.0	8.0	28.5	31.5	2.40	1.23	Moderate
16. Get exercise during usual..	12.0	11.0	47.0	30.0	2.05	0.94	Moderate
17. Check my pulse rate...	0	0	0	100.0	1.00	0	Poor
18. Exercise until sweating.	23.5	4.5	40.5	31.5	2.20	1.13	Moderate

As shown in Table 5, mean scores in each item of physical activity ranged from 1.00-2.40 indicating poor and moderate levels. The highest mean score was found in the item of doing stretching exercises at least 3 times per week. However, only 32% routinely practiced. The lowest mean score in this dimension was the item of checking pulse rate when exercising with 100% never practiced. The other items that were found in poor level practice were the items of following a planned exercise program, vigorously exercise for 20 or more minutes at least 3 times per week, and taking part in leisure time and physical activity with 70%, 61.5% and 48.5% never practiced, respectively. The items that were found at moderate level practice were the item of taking part in light to moderate physical activity, getting exercise during usual daily activities and exercise until sweating. The majority of the samples reported that they never and sometimes practiced in these items.

Table 6: Percentages, Means, Standard Deviations and Interpretations of the Dimension of Health Responsibility in Each Item.

Health Responsibility	Percentage (%)				Mean	SD.	Interpre-tation
	Routinely	Often	Sometime	Never			
19. Avoid smoking.	39.0	5.0	2.5	53.5	2.30	1.44	Moderate
20. Report any unusual sign...	4.0	10.0	56.5	29.5	1.89	0.74	Poor
21. Read or watch TV. program.	2.0	16.5	54.5	27.0	1.94	0.72	Poor
22. Avoid drinking alcohol.	37.0	21.0	16.5	25.5	2.70	1.21	Moderate
23. Question health professional	5.5	5.0	18.5	71.0	1.45	0.83	Poor
24. Discuss my health concern	1.5	2.0	29.0	67.5	1.38	0.61	Poor
25. Get a second opinion...	1.0	1.0	2.5	95.5	1.08	0.39	Poor
26. Inspect my body...	11.0	40.5	38.0	10.5	2.52	0.83	Moderate
27. Avoid drinking power...	36.5	32.5	16.5	14.5	2.91	1.05	Moderate
28. Ask for information from...	1.5	1.5	35.0	62.0	1.43	0.61	Poor
29. Attend educational program.	0.5	2.0	20.5	77.0	1.26	0.51	Poor
30. Seek guidance or counseling	3.0	20.5	62.0	14.5	2.12	0.68	Moderate

As presented in Table 6, the items in the health responsibility dimension were found at poor and moderate levels. The items of avoid drinking power-increase drink had the highest mean score (mean = 2.91). While, the lowest mean score was found in the item of getting a second opinion about their health (mean = 1.08). Almost all of the items that were found at poor level practice were the items associated with health professionals. The majority of the sample reported that they never and sometimes practiced in these items. The remaining items were found at moderate level. Nearly 54% had never avoided smoking, while 25.5% had never avoided drinking alcohol and 14.5% had never avoided drinking power-increase beverage. Sixty-two percent and 14.5% of the subjects indicated that they sometimes and never seek guidance or counseling.

Table 7: Percentages, Means, Standard Deviations and Interpretations of the Dimension of Interpersonal Relations in Each Item.

Interpersonal Relations	Percentage (%)				Mean	SD.	Interpre-tation
	Routinely	Often	Sometime	Never			
31. Discuss my problems and...	8.5	20.5	36.0	35.0	2.03	0.95	Moderate
32. Praise other people...	10.0	40.5	39.0	10.5	2.50	0.81	Moderate
33. Maintain meaningful and...	24.0	55.0	20.0	1.0	3.02	0.69	Good
34. Spend time with close friend.	37.0	27.0	32.5	3.5	2.98	0.92	Moderate
35. Show concern, love and...	7.0	44.5	46.5	2.0	2.57	0.65	Moderate
36. Touch and am touched...	7.0	47.5	44.0	1.5	2.60	0.64	Moderate
37. Find way to meet my needs..	2.5	41.5	55.5	0.5	2.46	0.56	Moderate
38. Get support from...	8.5	31.5	44.0	16.0	2.33	0.84	Moderate
39. Settle conflicts with others...	16.0	33.5	27.5	23.0	2.42	1.01	Moderate

Table 7 showed that almost all of the items in the dimension of interpersonal relations were found at moderate level, with a mean ranging from 2.03-3.02. The highest mean score was found in the item of maintaining meaningful and fulfilling relationships with others. While, the lowest mean score was found in the item of discussion problems and concern with closing people. The majority of the samples reported that they often and sometimes practiced in these items

Table 8: Percentages, Means, Standard Deviations and Interpretations of the Dimension of Stress Management in Each Item.

Stress Management	Percentage (%)				Mean	SD.	Interpre-tation
	Routinely	Often	Sometimes	Never			
40. Get enough sleep.	60.0	11.5	24.0	4.5	3.27	0.98	Good
41. Take some time for relax	36.5	39.0	19.5	5.0	3.07	0.87	Good
42. Accept those things in ...	17.0	62.5	20.0	0.5	2.96	0.62	Moderate
43. Concentrate on pleasant...	4.0	10.5	41.0	44.5	1.74	0.80	Poor
44. Use specific methods to...	19.5	46.5	32.0	2.0	2.84	0.76	Moderate
45. Balance time between work.	11.0	14.5	55.0	19.5	2.17	0.87	Moderate
46. Practice meditation for...	4.0	2.0	19.5	74.5	1.36	0.72	Poor
47. Pace myself to prevent...	3.5	39.0	54.5	3.0	2.43	0.61	Moderate

Table 8 showed that the items in the dimension of stress management were found at poor, moderate and good level, with a mean ranging from 1.36-3.27. The highest mean score was found in the item of getting enough sleep that indicating good level practiced. The other item that was found in good level of practice was the item of taking some time relaxation. The majority of the samples responded at routinely and often practiced in these two items. The lowest mean score was found in the item of practice meditation for 15-20 minute daily that indicating poor level. The other item that was found at poor level was the item of concentration on pleasant thoughts at bedtime. The remaining items were found at moderate level. In these items, the majority of the sample reported that they often and sometimes practiced.

Table 9: Percentages, Means, Standard Deviations and Interpretations of the Dimension of Spiritual Growth in Each Item.

Spiritual Growth	Percentage (%)				Mean	SD.	Interpre-tation
	Routinely	Often	Sometimes	Never			
48. Feel I am growing and...	11.0	35.0	39.5	14.5	2.42	0.87	Moderate
49. Believe that my life has...	15.0	34.5	35.5	15.0	2.50	0.92	Moderate
50. Look forward to future	11.0	38.5	38.0	12.5	2.48	0.85	Moderate
51. Feel content and at peace	17.5	36.0	41.5	5.0	2.66	0.82	Moderate
52. Work toward long term...	7.5	36.5	51.5	4.5	2.47	0.70	Moderate
53. Find each day interesting	10.0	24.5	54.0	11.5	2.33	0.81	Moderate
54. Am aware of what is...	12.0	48.0	37.0	3.0	2.69	0.72	Moderate
55. Feel connected with...	28.5	17.0	38.0	16.5	2.58	1.07	Moderate
56. Expose myself to new...	4.0	10.0	71.0	15.0	2.03	0.64	Moderate

As showed in Table 9, most of the items in the dimension of spiritual growth were found at moderate level, with a mean ranging from 2.03-2.69. The lowest mean score was found in the item of exploring themselves to new experiences and challenges. The item of awareness of what is important in life had the highest mean score. The majority of the samples reported that they often and sometimes practiced in all items.

Part 4: Factors Related to Health-promoting Behaviors of the Adult Men.

Pearson correlation analysis was performed to determine the relationship among the study variables. The results of correlation coefficients are presented in Table 10.

Table 10: Summary of Correlation Matrix of the Study Variables (n = 192).

Variables	1	2	3	4	5	6	7
1. Age	1.00						
2. Marital status	0.31**	1.00					
3. Educational level	-0.45**	-0.19**	1.00				
4. Job category	-0.19**	-0.02	0.40**	1.00			
5. Family income	-0.11	-0.02	0.27**	0.15	1.00		
6. Perceived health status	-0.15*	-0.07	0.06	0.08	0.03	1.00	
7.Health-promoting behaviors	-0.25**	0.03	0.46**	0.33**	0.28**	0.18*	1.00

*p < 0.05; **p < 0.01

As shown in Table 10, The correlation matrix indicated that age, educational level, job category, family income, and perceived health status were significantly correlated with health-promoting behaviors. Age was the only one variable that found having negative relationship with health-promoting behaviors. Marital status was not correlated with health-promoting behaviors.

To determine the actual correlation between independent variable and dependent variable with the control of the effect of the other independent variables, the partial correlation analysis was performed. The results of partial correlation coefficients are presented in Table 11.

Table 11: Partial Correlation Coefficients between Personal Factors, Perceived Health Status and Health-promoting Behaviors (n = 192)

Variables	Partial correlation coefficients	p
1. Age	-0.06	0.414
2. Marital status	0.15*	0.048
3. Educational level	0.32***	<0.001
4. Job category	0.16*	0.030
5. Family income	0.18*	0.013
6. Perceived health status	0.17*	0.022

* $p < 0.05$; *** $p < 0.001$

In Table 11, significant correlations were found between the health-promoting behaviors and marital status ($r = 0.15$, $p < 0.05$), educational level ($r = 0.32$, $p < 0.001$), job category ($r = 0.16$, $p < 0.05$), income ($r = 0.18$, $p < 0.05$) and perceived health status ($r = 0.17$, $p < 0.05$). There was no significant correlation between the health-promoting behaviors and age.

The difference between Pearson correlation coefficients and partial correlation coefficients showed the effect among variables. For Pearson correlation coefficients, they were not controlling for other variables. Hence, the associations between independent variables affect to dependent variable. For example, the correlation of age and other independent variables in Table 10 showed the impact of age on the health-promoting behaviors. When controlling for the effect of other variables in partial correlation coefficients (Table 11), no significant correlation was found between age and health-promoting behaviors.

CHAPTER V

DISCUSSION

This research was a study of the relationships of personal factors, perceived health status and health-promoting behaviors among adult men in Khlong Toei Crowded Community. Two hundred adult men age from 20 to 59 years old were included in this study. The discussions of the findings are provided accordance to the following objectives and hypotheses.

Objective 1: To assess each and the overall dimensions of the health-promoting behaviors among adult men in Khlong Toei Crowded Community.

The result shows that the mean score of the overall health-promoting behaviors of adult men was at a moderate level. This could be due to the fact that nearly 60% of the subjects had elementary school education while only 35% had secondary school education. Suwan (1983:182) stated that individuals who have a higher educational level have better knowledge, vision, and self-conduct on health than those who have a lower educational level. Moreover, nearly 60% of the samples reported having inadequate income. In this group, 39% reported having some debt. Pender (1982 cited by Patanavanichnan, 2000: 48-49) stated that individuals with a good finance will be able to seek benefits for health care, get good food and high quality service and also find the right products and equipment for health promotion. On the other hand, a person with less income will have limits in finding things to improve health. Furthermore, 68.5% of the samples reported having moderate health

perception. Pender (1987: 64) stated that health perception is a factor, which influences health-promoting behaviors. In this study, the subjects have the mean score of health perception in a moderate level, which tends to have moderate score of health-promoting behaviors.

Considering health-promoting behaviors in each dimension, nutrition was found at a good level. The dimensions found at a moderate level were interpersonal relations, stress management, and spiritual growth whereas the remaining two dimensions, physical activity and health responsibility, were found at a poor level.

1. Nutrition. The result shows that the subjects had a good score in this subscale. One hundred percent of the subjects ate rice or noodle as a main course because Thai people always eat rice or some food made from starch everyday (Atthasit, 1998: 32). Thus, this item was found at a good level. Besides, the other items were also found at a good level were eating vegetable everyday and eating fish, lean meat or egg everyday. These can be explained by the fact that vegetable, egg and fish are cheap food and suit for their economic.

However, for the remaining items, the subjects had scores at a moderate level. Nearly 25% of the subjects skipped breakfast and 15.5% sometimes ate breakfast. Breakfast is the appropriate meal to replace the carbohydrate stores used during the night's sleep. Moreover, skipping breakfast leads to less alert and less efficient (Wardlaw & Insel, 1996: 21). Hurry lifestyle in Bangkok may affect this outcome. Furthermore, 50% of the respondents never read labels to identify expiration date. Most of the reason they claimed were they often ate fresh food and their wives prepared their meals. However, this behavior should be promoted in this group to increase the level of awareness in food consumption.

2. Interpersonal relations. The result shows that the subjects had a moderate score in this dimension. It can be explained that nearly 60% of the subjects in this study reported inadequate income, while 39% reported having some debt. Hence, they aimed to work for income as reflected in nearly 40% sometimes and never spend time with close friend. Besides, nearly 80% of the samples had wives. The role of the breadwinner in men who are responsible for the financial support in the family may affect their decision to discuss their problems and concern with close people such as their wives as reflected in 35% never practiced.

3. Stress management. The result shows that the mean score in this dimension was at a moderate level. Over 75% reported that they routinely and often took some time for relaxation each day. However, sixty percent of the subjects reported that they routinely had enough sleep. Nearly 75% indicated that they never practiced meditation while only 4% routinely practiced meditation. This findings similar to the study of Atthasit who found that 3.09% of Thai people practiced meditation. It can be explained that nearly 60% reported that they had inadequate income. In this group, 39% reported having some debt. This may lead to stress in their role as a breadwinner. However, nearly 80% were married. They had spouse support, which helps them reduce or relieve stress. From the interview, the majority of the samples indicated that they usually relax by watching television, listening to the radio, which have a low cost and is suited for their economic level.

4. Spiritual growth. The result shows that this dimension was found at a moderate level. It can be explained by the fact that nearly 60% reported inadequate income. In this group, 39% reported having some debt. This may lead to financial straints and affect their spiritual growth. Moreover, 66% of the subjects were blue-

collar workers. Their work required physical strength whereas nearly 60% of the samples were in the 40-59 age group, which is the period in which physical change declines.

5. Health responsibility. The result shows that this dimension was found at a poor level. The interesting findings in this dimension were shown in many items i.e. 53.5% of the samples had never avoided smoking, 25.5% had never avoided drinking alcohol and 14.5% had never avoided drinking power-increase beverage. Moreover, 77% of the samples never attended educational programs about health care. Most of the samples responded at a poor level with the items associated with health professionals. These finding lead to poor level in this dimension. This is consistent with the study of Supornsilchai (1997: 176), who stated that 41.8% of the people in Bangkok age 35-59 years old concerned for their health. And for the group age lower than 35 years, the similar finding was shown.

It can be explained by the fact that nearly 80% of the sample were married. They had an important role as a breadwinner. Moreover, nearly 60% reported inadequate income. Hence, they emphasize to work for income more than concern for their health. Furthermore, nearly 60% of the sample had only elementary school education, while 4% had no formal education. Suwan (1983: 182) stated that individuals who have a higher educational level have better knowledge, vision, and self-conduct on health than those who have a lower educational level. Moreover, the image of masculinity in men (White & Johnson, 1998: 42) may affect their health responsibility. In this study, the majority of the samples reported having no chronic illness. This finding may be due to the fact that almost all of the samples (67.5%) never discuss their health concern with health professionals. The study of

Chavalitnitikul (1996: 32) reported that the majority of men agree with "health is already fixed". This may lead to less involvement with health-promoting behaviors. Moreover, The accessibility of the health care system may affect this finding. Poomriew and Tonsakul (1997: 30) studied health behaviors of people in crowded communities, Bangkok. The results of this study showed that more than half of the samples went to the governmental hospitals and private clinics when they were ill. However, approximately 20% of the samples brought drugs from drug stores. Hence, this dimension should be promoted.

6. Physical activity. The finding indicates that this dimension had the lowest score and the subjects had a mean score in this dimension at a poor level. Seventy percent reported that they had never followed a planned exercise program. One hundred percent stated that they had never checked their pulse rate when exercising. Moreover, 60% of the samples had never exercised vigorously for 20 or more minutes at least three times a week. It can be explained that 66% of the samples are blue-collar workers. They claimed that they already exercised with their work. The most common reasons that they claimed were lack of time as well as place for exercise. These findings are consistent with the study of Sakbunditsakul (1998: 86) among female workers in textile factories. This study found that physical activity had the lowest score indicating a poor level. Sinthanayothin (2000:78) also found the lowest score of physical activity among midlife working women. Moreover, The National Statistical Office (1992, cited by Atthasit, 1998:36) indicated in a survey about exercise among Thai, that 74.3% did not play sports or exercise. They explained their reasoning was that they were not interest, have no time, place and sport accessories. Hence, physical activity promotion should be conducted in this population.

Objective 2: To assess perceived health status among adult men in Khlong Toei Crowded Community.

The result shows that the overall mean of perceived health status of the adult men in this study is at a moderate level. Considering perceived health status in each dimension, the results show that perception of current health, prior health, health outlook, and health worry and concern at a moderate level. The dimensions that are found at a good level are resistant/susceptibility to illness and sickness orientation.

These findings indicate that the subjects have moderate overall perceived health status. This can be explained by the fact that although notion of being strong is lay belief on men (White & Johnson, 1998: 42) and 91% of the subjects reported no chronic illness. The average age of the subjects was 40.84. Nearly 60% of the sample were in the 40-59 age group, which is the period in which physical change to decline. Moreover, Chuprapawan (2000:145-147) studied health status among working group age 13-59 years in 1996-1997. She stated that self-rated health was correlated with income and education. Individuals who had high income and high educational level had better health perception. These findings were supported in this study. In this study, 56.5% of the samples reported a family income less than 10,000 Bath per month and nearly 60% reported inadequate income. In addition, more than half of the samples had elementary school education. These reasons may lead to decrease of their health perception, as can be seen from the moderate score.

Objective 3: To examine the relationships of perceived health status, age, marital status, educational level, job category, family income, and health-promoting behaviors among adult men in Khlong Toei Crowded Community.

In this objective, the discussion will make according to the hypothesis as follows:

Hypothesis 1: Personal factors are related to health-promoting behaviors. Personal factors in this study are age, marital status, educational level, job category, and family income.

Hypothesis 1.1: Age is associated with health-promoting behaviors.

The result shows that there is no correlation between age and health-promoting behaviors. This result agrees with the study of Sumpunyu (1996: 101). She found no correlation between these two variables on hypertensive patients. Sakbunditsakul (1998: 93) and Thaewpia (1997: 97) also confirm this finding in worker women and syphilitic pregnant women, respectively. Furthermore, Suwankhong (2000: 73) showed no correlation between age and health-promoting beahviors on laborers before going to work abroad. It can be explained that the associations between independent variables affect this finding. Age is significantly correlated with educational level ($r = -.45$, $p<.05$) and marital status ($r = .31$, $p<.05$). While controlling for the effects of the other variables, the actual correlation is determined. No correlation between age and health-promoting behaviors is found.

However, it disagrees with studies in workers (Thongbai, 1997: 139), employed Mexican American women (Duffy, et al., 1997: 157), and midlife working women (Sinthanayothin, 2000:82).

Hypothesis 1.2: Marital status is associated with health-promoting behaviors.

The result from the analysis shows that marital status is significantly correlated with health-promoting behaviors ($r = .15$, $p<.05$). This finding suggests that health-promoting behaviors depend upon marital status. Adult men who had wives participated more in health-promoting behaviors than those who were single, widowed, divorced, and separated. This result is consistent with the previous study by Brown & McCreedy (cited by Walker, et al., 1988: 80). Brown & McCreedy indicated that older men who were married practiced significantly more health-promoting behaviors than those who were unmarried. Moreover, this finding also agrees with previous studies on midlife working women (Sinthanayothin, 2000: 81) and employed Mexican American women (Duffy, 1997:157).

It can be explained that people who are single, widowed, divorced, and separated seem to lack someone who takes care of them and gives them will power. On the other hand, married people seem to receive assistance from their spouse (Hanucharoenkul, 1993: 43). Having a wife indicates spouse support, which help adult men involving with health-promoting behaviors.

However, the result of this study does not support the study of Suwankhong (2000: 76) on laborers before going to work abroad and the study of Duffy (1988: 360) on midlife women. All of these two researches found no correlation between marital status and health-promoting behaviors. Suwankhong claimed that marital status might not be the only one factor, which influence on one's health-

promoting behaviors. Duffy claimed that the relative homogeneity of the samples affected this discrepancy.

Hypothesis 1.3: Educational level is associated with health-promoting behaviors.

There is a significant correlation between educational level and health-promoting behaviors ($r = .32$, $p<.001$). This finding indicates that health-promoting behaviors depend upon educational level. The finding of this study is consistent with previous studies reporting that persons who have higher educational level tended to involve with health-promoting behaviors (Suwonnaroop, 1999: 121; Suparasie, 1995: 78; Sinthanayothin, 2000: 80; Leetheragul, 1998: 54).

This can be explained by the fact that persons who have a higher educational level should have better knowledge, vision, and self conduct on health than those who have a lower educational level (Suwan, 1983: 182). Moreover, Ross & Wu (1996: 105,117) and Ross & Willigen (1997: 277-278) state that educational attainment increase resources that contribute to healthy aging, including economic resources, healthy life style and social psychological resources.

However, it contrasts with studies in the sample of hypertensive patients (Sumpunyu, 1996: 102), woman workers (Sakbunditsakul, 1998: 94) and menopausal women (Oumpram, 1998: 97). All of these three studies found no correlation between educaltional level and health-promoting behaviors. For the study on hypertensive patients (Sumpunyu, 1996: 102), she claimed that availability of health education in hypertension disease made the sample to have similar knowledge. About the samples of women workers (Sakbunditsakul, 1998: 94), she calimed that the majority of the

samples had small variations in their educational level. The significant correlation between educational level and family income affected the finding in the study of menopausal women (Oumpram, 1998: 97).

Hypothesis 1.4: Job category is related to health-promoting behaviors.

A significant relationship is found between job category and health-promoting behaviors ($r = .16$, $p<.05$). This result suggests that health-promoting behaviors depend upon job category. White-collar workers practice significantly more health-promoting behaviors than blue-collar workers. The result agrees with the study of Lusk, et al (1995: 22). They found that blue-collar workers were significantly lower than white-collar workers on health-promoting behaviors. Moreover, Sinthunava (1997: 96) found that menopausal women who were white-collar workers had a better quality of life including health and physical work than those who were blue-collar workers. However, the result of this study does not support the study of Desmond and colleagues (1993: 381).

This can be explained that the significant correlation between job category and educational level ($r=.40$, $p<.01$) may affect this findings. This shows that persons who are white-collar workers also have higher educational level than persons who are blue-collar workers. Ross & Wu (1996: 105,117) and Ross & Willigen (1997: 277-278) state that educational attainment increase resources that contribute to healthy aging, including economic resources, healthy life style and social psychological resources.

Hypothesis 1.5: Family income is related to health-promoting behaviors.

The result shows that there is significant correlation between family income and health-promoting behaviors ($r = .18$, $p<.05$). This finding indicates that health-promoting behaviors depend upon family income. This finding is consistent with previous studies reporting that those with more family income tended to participate in more health-promoting behaviors. This finding is shown in many studies (Prompunjai, 1997: 138; Sakbunditsakul, 1998: 68; Suparasie, 1995: 78; Nirattharadorn, 1996: 73; Thaewpia, 1997: 74).

Pender (1982 cited by Patanavanichnan, 2000: 48-49) stated that a person with a good finances will be able to seek benefits for health care, get good food and high quality service, and also find the right products and equipment for health promotion. On the other hand, a person with less income will have limits in finding things to improve health. Moreover, Robert (1998:19) stated that the socioeconomic status of family could directly impact physical, social, and service environment of an individual, which may consequently impact health.

However, the result of this study does not support the studies on midlife women (Duffy, 1988: 360), pregnant women with hepatitis B carrier (Leetheragul, 1998: 54), and menoplausal women (Oumpram, 1998: 81). Duffy claimed that the relative homogenuity of the samples affected her finding. But for this research, difference of family income level is noticed. For the reason of Leetheragul and Oumpram, they found that the correlations between family income and other variables lead to no correlation between family income and health-promoting behaviors. In this research, a small correlation coefficient is shown between educational level and family

income. When controlling for the effect of other variables to health-promoting behaviors, a significant correlation is shown between family income and health-promoting behaviors.

In conclusion, almost all of the selected personal factors: marital status, educational level, job category, and family income were significantly correlated with health-promoting behaviors, whereas there was no correlation between age and health-promoting behaviors.

Hypothesis 2: Perceived health status is associated with health-promoting behaviors.

This hypothesis is confirmed in this study. A significant relationship is reported between perceived health status and health-promoting behaviors ($r = .17$, $p < .05$). This result suggests that health-promoting behaviors depend upon perceived health status.

The person's perception and understanding of health determines the accountability and responsibility that he or she assumes for health (Craven & Hirnle, 1996: 720). Hence, perceived health status influences behavior that subsequently affect health status. Poor perception of health may lead to less engagement in preventive practices on self-care as well as to produce nonadherance to screening recommendations, medication and treatment (Idler & Benyamini, 1997:29-30). Moreover, it appears to play a role in the frequency and intensity of health-promoting behaviors. Positive health perception is a source of motivation for taking actions that increase personal health status (Pender, 1987: 64). The better a person believes his/her health to be, the more likely he/she will act to maintain it (Weitzel, 1989:102).

Harrison (1993) showed that perceived health status and health-promoting behaviors were positively correlated among HIV seropositive men. Weitzel (1989: 101) indicated that blue-collar workers who perceived themselves to be in better health engaged in more health-promoting behaviors than their counterparts. Moreover, this finding supports the study of Tirapongnapalai (1998:138). He found the significant correlation between health perception and health-promoting behaviors in primary school teachers. Sinthanayothin (2000: 79) also showed the significant correaltion between these two variables in midlife working women. Furthermore, this finding is consistent with the studies of Thaewpia (1997: 75), Leetheragul (1998: 55), and Oumpram (1998: 81) in pregnant women and menopausal women.

However, the result of this study does not support the study of Hounthasan (1996: 160-161). She found no correlation between perceived health status and health-promoting behaviors. She claimed for her finding that the majority of the sample had good and very good health perception. For this research, good distribution in health perception is shown in the adult men group.

CHAPTER VI

CONCLUSION

Summary of the Study

The purposes of this descriptive research were to assess perceived health status and health-promoting behaviors, and to examine the relationships of perceived health status, personal factors and health-promoting behaviors among adult men in Khlong Toei Crowded Community. Two hundred adult men ranging in age from 20 to 59 years old were recruited for this study. These samples were selected using simple and systematic random sampling. The interview questionnaires used in this study compounded of health-promoting behaviors questionnaire which was modified from the Health Promoting Lifestyle Profile II (HPLP II) (Walker, et al., 1995), and perceived health status questionnaire which was translated from the General Health Perception Battery (Brook, et al., 1979). Descriptive statistics were used to describe data concerning personal factors, perceived health status, and health-promoting behaviors. Moreover, Pearson's product moment correlation and Partial correlation coefficients were used to analyze the relationships among the study variables.

The results of this study can be summarized as follows:

1. Characteristics of the sample.

A total of 200 individuals participated in this study. Their average age was 40.84 years with a standard deviation of 9.68. The majority of the sample (78.5%) were married. More than half of the sample (57.5%) had an elementary school

education and those who had more than a high school education represented only 3.5%. For the job category, there were 66% blue-collar workers and 30% white-collar workers. When considering family income, there were 56.5% who reported a family income of less than 10,000 bath per month (mean=11,700.50, S.D.=8049.47). Nearly 60% reported having inadequate income. In this group, 39% reported having some debt. Most of the subjects (91%) reported having no chronic illness.

2. Perceived health status

The results indicate that the overall perceived health status of adult men was at a moderate level (mean=3.42, S.D.=0.44). In considering each dimension, perception of current health, prior health, health outlook, health worry and concern were found at a moderate level. The dimensions that were found at a good level were resistance and susceptibility to illness and sickness orientation.

3. Health-promoting behaviors

It was found from this study that the overall health-promoting behaviors was at a moderate level as reflected by the mean score of 2.39 (S.D. = 0.28). In considering each dimension, nutrition was found at a good level. The dimensions that were found at a moderate level were interpersonal relations, stress management, and spiritual growth. The remaining two dimensions, physical activity and health responsibility, were found at a poor level.

4. The relationships of personal factors, perceived health status and health-promoting behaviors among adult men.

There were significant correlations among marital status, educational level, job category, family income, perceived health status and health-promoting behaviors,

whereas there was no significant correlation between health-promoting behaviors and age.

Implications and Recommendations

Implication and Application of Research Findings

1. When planning interventions aim toward facilitating health promotion activities, nurses should consider and increase their attention in the group of men who are not having a wife, have a low educational level, work as a blue-collar worker, have a low family income and poor perceived health status.

2. One of the concepts underlying effective assessment, planning and intervention by community health nurses is empowerment. The concept of empowerment is central to humanizing nursing care because people themselves are the most capable of identifying both their own problems and their own solutions to those problems and there are multiple ways of viewing reality and people know their own realities best (Hitchcock, 1999: 518). Hence, Information about health-risk behaviors i.e. smoking, drinking alcohol and power-increase beverages should be given to this adult men group. After that, nurses should empower this group to find many strategies in changing their health-risk behaviors.

3. Concerning physical activity, which was found at a poor level, most of the reasons that the adult men claimed for not participating in exercise were lack of time as well as a place for exercise. Therefore, nurses should encourage adult men to see the benefit and promote exercise that does not require a spacious area i.e. stationary jogging and walking.

4. Regarding to health responsibility, most of the sample responded at a poor level of practice with the item associated with health professionals. Thus, nurses

should promote this dimension in the community by creating projects to enhance an easy physical examination in this population i.e. blood pressure check up. During this procedure, nurses can give adult men information and benefit from receiving other screening tests i.e. cholesterol level.

5. Although the result in the nutrition dimension was found at a good level, the interesting findings were shown in many items as follows: 50% of the subjects never reading labels to identify expiration date and 25% of the samples never eating breakfast. Hence, interventions aim to increase the awareness of food consumption should be provided by many methods which reach to the population i.e. health education by loudspeaker in the community. Not only adult men, but also all the populations in the community will benefits for this action.

Implication for Furture Studies

1. The result of this study found that the dimensions of physical activity and health responsibility were at a poor level. Thus, a qualitative study in these dimensions should be conducted to search for true root factors, which closely related to health-promoting practice. Moreover, an intervention aim to increase the level of physical activity and health responsibility should be performed after the qualitative study.

2. A survey study of health-promoting behaviors among adult men should be conducted at various crowded communities to represent this population in Bangkok.

3. A comparison between adult men who live in crowded communities and outside crowded communities should be conducted to indicate other factors influencing health-promoting behaviors.

4. Studies relate to potential strategies to enhance perceived health status should be performed to increase theoretical knowledge about interventions that influencing health-promoting behaviors.

5. Factors in the component of behavior-specific cognitions and affect of Pender's Health Promotion Model i.e. perceived self-efficacy, perceived benefits of and perceived barriers to action should be included in the next study to search for a major motivation to increase the level of well-being and self-actualization in the adult men group.

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