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The relationship between the health-promoting practices of advanced practice nurses and their counseling of patients

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THE RELATIONSHIP BETWEEN THE HEALTH-PROMOTING PRACTICES OF ADVANCED PRACTICE NURSES AND THEIR COUNSELING OF PATIENTS

by

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A thesis submitted in partial fulfillment
of the requirements for the

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ABSTRACT

The Relationship Between the Health-Promoting Practices of Advanced Practice Nurses and Their Counseling of Patients

by

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Among healthcare professionals, there is little research on health promotion and health-promoting practices, particularly advanced practice nurses (APN's) The literature also reveals a paucity of research on the counseling practices of APN's. The purpose of this descriptive, correlational study was to examine the relationships between selected variables, derived from Pender's revised Health Promotion Model (1996), and the degree to which they explain advanced practice nurses' current practice of health-promoting behaviors from a random sample of APN's (N = 357). The random sample was obtained from the American Academy of Nurse Practitioners. The study also described the relationship between these behaviors and the APN's counseling of patients. Pender's HPM (1996) provided the theoretical framework for this study.

Tools used to gather data were the demographic data sheet, the Health-Promoting Lifestyle Profile II (HPLP II), and the Health Promotion Inventory (HPI). Descriptive

statistics were used to analyze the characteristics of the sample. The majority of the sample was female, Caucasian, married, and master's prepared. Reliability for the HPLP II and the HPI were .91 and .90, respectively. The HPLP II measured the health-promoting behaviors of APN's. The HPLP II revealed a mean score of 154.19 indicating that the sample had a high incidence of health-promoting behaviors. The HPI measured the counseling activities of APN's which revealed a mean score of 71.17. This indicated a high occurrence of counseling activities done by APN's.

Correlation coefficients indicated negative relationships between the personal factors of income ($r = -.153$, $p = .004$) and body mass index ($r = -.22$, $p = .000$) with the HPLP II. This indicates that high income and high body mass index correlate with low incidence of health-promoting behaviors. Correlation coefficients also indicated a positive relationship between the HPLP II and the HPI ($r = .28$, $p = .000$). This indicates that APN's with a high incidence of health-promoting behaviors are likely to counsel patients regarding health-promoting practices.

As a result of the study's findings, recommendations include repeating the study with a larger, more diverse sample and performing comparison studies with other groups of primary care providers, such as physicians and physicians assistants.

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CHAPTER 1

INTRODUCTION

Introduction

This descriptive study describes the health-promoting lifestyle practices of advanced practice nurses. This study also describes the relationship between the APN's health practices and their counseling of patients. This chapter contains a background to the problem, the purpose, and lastly, the significance of the study.

Background of the Problem

In the past two decades the association between health and lifestyle practices has earned increased attention from healthcare professionals, policy makers, and the general public (Pender, 1987; Spellbring, 1991; U.S. Department of Health and Human Services, 1980). A healthy lifestyle has become increasingly important as the national expenditure for healthcare costs continues to rise. National healthcare costs consumed 12.2% of the gross national product reaching $666.2 billion in 1990, in comparison to 5 % in 1960. It is anticipated that by the year 2000, healthcare costs will account for 16.4% of the gross national product, or $1.6 trillion (Health Care Financing Administration, 1991). The financial burden of heart disease and stroke alone amounts to nearly $135 billion a year (Healthy People, 1996). Increasingly, the literature has shown that poor nutritional

behaviors, decreasing physical activity, and increased life stressors are influencing the health status of individuals, families, and communities (Edelman and Mandle, 1998; Pender, 1996).

According to the US Department of Health and Human Services (1990), the once-prevalent diseases of nutritional deficiency, such as scurvy and malnutrition, are being replaced by diseases of dietary excess and imbalance. The prevalence of obesity in the United States has increased over the past decade for adults and adolescents. One in three adults (34%) and one in five adolescents (21%) in the United States are overweight (Kuczmarki, Flegal, Campbell, and Johnson, 1994). Problems resulting from dietary excess now rank among the leading causes of illness and death in the United States. The four leading causes of death directly associated with excess dietary consumption are coronary heart disease, stroke, cancer, and diabetes mellitus (Wardlaw and Insel, 1993).

A recent report on nutrition monitoring in the United States found the American diet fails in the following areas (Federation of American Societies for Experimental Biology, 1995):

1. Although there has been a small decline in fat consumption, it remains above the recommended levels for a large part of the population.
2. For most Americans over the age of 6, sodium intake from food is higher than recommended.
3. Calcium intake from food is below recommended levels, especially in women, adolescents, the elderly, and non-Hispanic Black males.
4. Less than a third of Americans consume the five or more servings of fruit and vegetables per day.

One of the major themes of Healthy People 2000 (1996) is to encourage healthy choices in exercise, diet, and weight control. The priority areas for health promotion with regards to nutrition are fewer individuals being overweight and reducing dietary fat intake. The goal of decreasing weight is not being met. The percentage of adults considered to be overweight increased from 26% to 34% between 1976-80 and 1988-91, even though a small decline in fat consumption was noted (Healthy People, 1996).

Besides dietary excess and poor nutritional behaviors, only 20% to 25% of Americans exercise enough to benefit their physical health (Edelman and Mandle, 1998). Consequently, approximately 250,000 deaths each year are related to a lack of regular physical activity (USDHHS, 1996).

Epidemiological data has shown that regular exercise reduces the risk of many diseases, including cardiovascular disease, hypertension, osteoporosis, diabetes, and anxiety and depression (Woolf, Jonas, and Lawrence, 1996). In their study of 9,777 healthy and unhealthy men, Blair, Kohl, Barlow, Paffenberger, Gibbons, and Macera (1995) found a significant relationship between physical fitness and coronary heart disease with higher levels of fitness associated with lower CHD risk.

Several trends are indicating a more sedentary lifestyle, even though evidence has demonstrated the benefits of physical activity. With increased technology and more convenient lifestyles, the following phenomenon have been cited as contributing factors in a sedentary lifestyle (USDHHS, 1996): 1) Machinery to do our work and provide transportation; 2) increased amount of time at the computer; 3) decreased finances in schools and communities to support physical activity programs; 4) fear of crime in

neighborhoods which results in decreased outdoor activity; and 5) increased time playing video games and watching television.

Physical activity and fitness has been identified in Healthy People 2000 (1990) as being a top priority for health promotion. Two priority areas pertaining to physical activity are increasing the number of people who exercise regularly and reducing the number of people who engage in no leisure-time physical activity. While the number of people who engage in regular exercise and strength training activities has increased, there has been no progress made in transitioning individuals out of a sedentary lifestyle (USDHHS, 1996). Twenty-four percent of men and women 18 years and older report no leisure-time physical activity with the tendency to be sedentary increasing with age (USDHHS, 1996).

Stress is a part of everyday living. Stress is linked to the development of mental disorders, decreased immunologic functioning, and the occurrence of stress-related illnesses (headaches, low back pain, cardiovascular disease, gastrointestinal disorders, etc.) (Woolf, Jonas, and Lawrence, 1996).

Visits to health care providers for stress-related disorders is estimated at 60% to 90% (Pelletier and Lutz, 1988). It has been estimated that absenteeism, decreased productivity, disability, and health-damaging effects of stress cost business and industry $150 billion annually (Bourdon, Rae, Locke, Narrow, and Regier, 1992).

In Healthy People 2000 (1990), the importance of developing healthy coping mechanisms is emphasized as crucial to mental health. The following national goals have been identified (USDHHS, 1990):

1. Reduce to less than 35% the proportion of people aged 18

and older who report adverse health effects from stress within the past year. (Baseline: 44.2% in 1985).

2. Decrease to no more than 5% the proportion of people aged 18 and older who report experiencing significant levels of stress who do not take steps to reduce or control their stress. (Baseline: 24% in 1985).

3. Increase to at least 40% the proportion of worksites employing 50 or more people that provide programs to reduce employee stress. (Baseline: 26.6% in 1985).

As of 1993, fewer than 39% of people aged 18 and older were reporting stress-related problems. This is a noticeable step in the right direction of the year 2000 target of 35%. Worksite stress management programs have increased with 37% of employers with 50 or more employees offering information, resource materials, or lectures to reduce employees' stress as of 1992 (USDHHS, 1996). However, the second goal above is moving away from the year 2000 target. Specific numbers are not listed in the literature, but individuals with significant levels of stress are not taking steps to control stress according to Healthy People 2000 (1996).

Lifestyle practices were identified as powerful determinants of health, morbidity, and longevity in Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention (1979). The report also stated that nurses, physicians, and other healthcare providers have a responsibility to provide information and services directed at promoting health and preventing disease. The advanced practice nurse involved in family practice has the opportunity to serve as a resource and role model for the public in promoting a healthy lifestyle.

Counseling on health promotion, particularly dietary guidelines, weight control, exercise, and stress management are a responsibility undertaken by advanced practice

nurses (Griffith & Diguiseppi, 1994). However, there is little discussion in the literature regarding the influence of the personal health habits of advanced practice nurses on their practice of counseling of patients. During a patient visit, advanced practice nurses often counsel patients about weight control, dietary guidelines, exercising, and methods to decrease stress (Clarke, 1991; Edelman & Mandle, 1998). However, if the advanced practice nurse is overweight, not exercising, experiencing stress, and shares the same poor health habits as the patient, is counseling of the patient influenced?

Significant points in the literature support the importance of the question. First, poor nutrition, a sedentary lifestyle, and increased stress can seriously affect health and longevity (Edelman and Mandle, 1998). Second, face-to-face counseling is an influential element in effecting change in poor health habits (Wells, Ware, and Lewis, 1984). Lastly, Wells et al. (1984) found evidence that physicians who smoke are less likely to counsel about smoking than physicians who are nonsmokers.

Advanced practice nurses are a source of health promotion education and counseling. As health care moves toward a health promotion/prevention model, nurse practitioners can facilitate a wellness attitude in their patients. This can include not only encouraging healthy lifestyles in patients, but also leading by example. While a few studies may examine the health habits of nurses (Connolly, Gulanick, Keough, and Holm, 1997; Haughey, Mathewson, Dittmar, and Wu, 1989) and others may describe counseling behaviors (Jordan-Marsh, 1988; Brown and Waybrant, 1988), none has examined the relationship between the health habits of advanced practice nurses and their counseling practices.

Purpose of the Study

The purpose of this study was to examine the relationships between selected variables, derived from Pender's revised HPM (1996), and the degree to which they influence advanced practice nurses' current practice of health promoting behaviors. It also examines the relationship between these behaviors and the APN's counseling of patients. These variables include demographic characteristics (age, gender, race, marital status, educational level, income, and body mass index), health-promoting behaviors (health responsibility, physical activity, nutrition, interpersonal relations, spiritual growth, and stress management), and counseling practices. Pender's Health Promotion Model (1996) was used as the theoretical framework for the study.

Significance of the Study

Several studies have incorporated a health promotion framework, but few have concentrated on health-promoting practices of nurses (Nemcek, 1986). There are also numerous studies which examine health behaviors in the literature, yet few investigate health-promoting practices of nurses (Nemcek, 1986). Despite the potential importance, there has been few attempts to measure the relationship between personal health habits of advanced practice nurses and the counseling of patients. Advanced practice nurses need to have an active role in the health promotion of their clients, however they need to be cognizant of their own lifestyle behaviors. Recommending regular exercise, proper nutrition, and stress management strategies and espousing the benefits from personal experience could have an impact on patient involvement (Edelman & Mandle, 1998). However, there remains a void in the literature on the health-promoting practices

of advanced practice nurses and the relationship between their counseling practices. This descriptive, correlational study will add to the current knowledge base regarding the influence of personal health-promoting behaviors of advanced practice nurses and the relationship between these behaviors and their practice of counseling patients.

CHAPTER 2

REVIEW OF RELATED LITERATURE

Introduction

In her revised HPM (1996), Pender has suggested that personal factors can influence behavior-specific cognitions and affect, and health-promoting behaviors. The variables chosen for this study, derived from the HPM (1996), are: the personal factors of gender, age, race, educational level, marital status, income, and body mass index. Other variables used in this study, also taken from the HPM (1996), are the health promotion practices of nutrition, physical activity, stress management, interpersonal relations, spiritual growth, and health responsibility.

Several areas are addressed in the literature review. These areas include: a historical perspective of health promotion, definitions of health promotion, nurses' health promotion practices, demographic factors influencing health-promoting behaviors, and counseling practices of nurses.

Historical Perspective of Health Promotion

The earliest influence specific to health promotion for nursing can be attributed to Florence Nightingale. In her model of nursing care, she embodied a health promotional stance of patient education on diet, light, environment, and cleanliness

(Nightingale, 1969). Nursing's history and evolution have always included health promotion activities. Community health nurses from the Henry Street Settlement were offering health promotion services to policy holders with Metropolitan Life Insurance Company in the 1900's. The National Organization for Public Health Nursing was formed in 1912. After World War II, hospitals in the 1940's were booming and the medical model dominated (Gallagher & Kreidler, 1987). Wellness nursing began to predominate in the late 1970's with nurse practitioners gaining national visibility and placing emphasis on health promotion (Spellbring, 1991). In the 1980's, nursing began addressing health promotion for the individual, family, and community in texts (Pender, 1987).

At present, nursing remains committed to health promotion as echoed in the American Nurses Association Social Policy Statement: Nursing is concerned with the adaptation of individuals and groups to actual as well as potential health problems, the environments that influence the individual's health, and the nursing interventions that promote health (1980).

In the United States, there has been increased concern regarding the nation's health status during the past two decades. In consideration of these concerns, the government created health goals and objectives for the nation. Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention (1979), a report that identified a set of national goals proposed for improving the nation's health during each stage of the lifespan by 1990. The document that followed, Promoting Health/Preventing Disease: Objectives for the Nation (1980), was published and identified specific health goals in three major areas: health promotion, health protection,

and preventive services. These two documents were effective in drawing the nation's attention to the potential of disease prevention and health promotion. The continued interest of the government in the objectives of health promotion and prevention efforts resulted in the publishing of Healthy People 2000: National Health Promotion and Disease Prevention Objectives (1990). This report identified three broad goals: increase the span of healthy life, reduce health disparities among Americans, and achieve access to preventive services for all Americans.

In Healthy People 2000: Midcourse Review and 1995 Revisions (1996), overall progress has been made on the year 2000 targets, with 50 percent moving in the right direction. The areas demonstrating no change were physical activity with 24% of the population never exercising in 1990 and 1995 and diabetes-related deaths remaining at 38% (over 100,000 deaths each year). The objectives moving away from the targets included: an increase of 8% in the number of overweight individuals; an increase in teen pregnancies; an increase in homicides and assault injuries with the United States ranking first among industrialized nations; a tripling of work-related injuries from 100 to 368 per 100,000 between 1987 and 1992; an increase of 0.2% in the number of low birth weight babies; 10.6% of the U.S. population with chronic disabling conditions in 1993, up from 9.4% in 1988; an increase of 3.2% in the number of pneumonia and influenza deaths among adults 65 and older; and finally, an increasing number of uninsured and under-insured individuals not receiving preventive services. Advanced practice nurses are included in the Healthy People statistics, thus need to bring attention to the role they can play in changing their behaviors to improve their health status.

Definitions of Health Promotion

Health promotion has been identified as an important concept for nursing practice (Spellbring, 1991). Numerous terms have been used to describe the dimensions of behavior for health promotion. A negative health perpsective was suggested with earlier terms such as disease and illness prevention, preventive health behavior, health protection, and risk-reducing behavior (Kulbok & Baldwin, 1992). Recently, a more positive perspective of health behavior terms has surfaced. These terms are health promotion, health-promoting behavior, health maintenance, health practices, and healthy lifestyle (Kulbok & Baldwin, 1992). From a global perspective, the World Health Organization (WHO) has one of the most widely recognized definitions of health. "Health is a state of complete physical, mental, and societal well-being and not merely the absence of disease and infirmity" (World Health Organization, 1947). The WHO also defines health promotion as the process of enabling people to both increase control over and to improve their health (World Health Organization, 1986).

Within a nursing perspective, various nursing authors have defined health promotion in many contexts. Judith Smith (1983) completed foundational work in defining health within her work The Idea of Health. In her work, she identified four models of health: 1) the clinical model, 2) the role performance model, 3) the adaptive model, and 4) the eudemonistic model. These models acknowledge that the focus of health may be either psychological, physiological, or social well-being, based upon the values of the person experiencing health and wellness. Health promotion terms have been defined by various nursing authors. Brubaker (1983) suggested that health promotion is health care aimed at growth and improvement of well-being through the

processes that encourage changing of personal habits or the environment in which people live. Guzzeta (1995) makes the distinction between health maintenance and health promotion. Health maintenance centers on supporting a neutral state of health. Whereas, health promotion entails a personal responsibility for one's health where individuals actively seek to better their lifestyle to attain high-level wellness. Laffery (1985) defines health promotion as action taken for the purpose of achieving a higher level of health and well-being.

Pender (1996) makes distinctions between health promotion and health protection. The later is influenced by a desire to actively protect against illness by means of early detection or maintaining functional ability within the restrictions of an illness. Health promotion is influenced by the desire to increase well-being and actualize human health potential. As noted by Pender (1996), health promotion is "approach" motivated and health protection is "avoidance" motivated. Health promotion focuses on expanding the positive potential for health, whereas health protection focuses on taking action to fend off insults to health and well-being. Pender (1996, p.22) defines health as "the actualization of inherent and acquired human potential through goal-directed behavior, competent self-care, and satisfying relationships with others while adjustments are made as needed to maintain structural integrity and harmony with relevant environments." The definition of health promotion adopted for this study consists of activities directed toward increasing the level of well-being and actualizing health potential of individuals, families, communities, and society (Pender, 1996).

Nurses Health Promotion Practices

Nemcek (1986) commented on the lack of nursing research on health promotion of the well adult population, with few studies focusing on nursings' health-promoting practices. Of the studies addressing health-promoting practices of nurses, most examined unhealthy behaviors such as smoking. In a descriptive study of 499 critical care nurses (CCN's), Haughey, Mathewson, Dittmar, and Wu (1989) examined their smoking practices, their knowledge about the health effects of smoking, and their perceptions regarding responsibility for supporting antismoking efforts. The data was gathered by a questionnaire developed by the authors to elicit professional characteristics, smoking habits, knowledge of health effects of smoking, and their attitudes toward their role in promoting smoking cessation. Approximately 20% currently smoked and 26% were former smokers. Fifty-one percent smoked between one half pack and one pack of cigarettes per day, and 24% had smoked as long as 21 to 36 years. Many of the CCN's (56%) indicated they desired to stop smoking and 78% had actually attempted to do so. More than 90% of the CCN's were aware of the association of smoking with lung cancer, chronic bronchitis, coronary artery disease, and emphysema. Of note when interpreting results of the study, nurses who smoked may be reluctant to report themselves as smokers so the potential for self-report bias should be kept in the reader's mind.

In a study of smoking habits of nurses and midwives in England, Sacker (1990) set out to examine the hypothesis that increased awareness of the hazards of smoking encourages smoking cessation in female health care workers. Seventy-one nurses and 42 midwives completed a questionnaire about whether they were smokers, non-smokers, or ex-smokers. With the nurses and midwives separated into two groups, the nurses

smoked significantly (43%) more than the national average (27%), whereas the midwives smoked significantly (13%) less. However, when grouped together, nurses and midwives were not significantly (31%) different from the national average. The reader must keep in mind the small sample size when interpreting the results.

Nursing has been characterized as a stressful profession, with nurses providing care to others while ignoring the benefits of a healthy lifestyle for themselves (Clark, 1991). With regard to stress, a Scottish study (Plant, Plant, & Foster, 1992) examined levels of stress among a sample of 600 nurses. The study was a descriptive survey investigating both stress and drug use among nurses, and described the levels of stress reported by different sub-groups of nurses. The study also examined nurses' experience, attitudes and beliefs in relation to HIV/AIDS. Instruments used to elicit the data included: a standardized interview schedule administered by trained staff; the Grey-Toft Nursing Stress Scale; a questionnaire on AIDS-related knowledge, attitudes and beliefs; and a general health schedule. The Grey-Toft Scale was applicable to this particular study group and consisted of 7 factors. The factors were as follows: death and dying, conflict with doctors, inadequate preparation, lack of support, conflict with other nurses, workload, and uncertainty concerning treatment. Specific findings in relationship to stress include female nurses reported workload as the most stressful factor. Fifty-nine percent of the women reported frequently or very frequently feeling stressed related to unpredictable staffing and scheduling. Specific nursing specialties were examined for relationships of self-reported levels of stress. Significant differences emerged among the groups with higher stress scores reported by medical nurses and the lowest stress levels reported by psychiatric nurses ($F = 7.04$, $p < 0.0001$). The analysis also revealed that,

among females, the following variables emerged as significantly predictive of total stress: previous week's alcohol consumption ($p < 0.01$) and number of cups of coffee consumed daily ($p < 0.01$). The authors stated one needs to be careful in interpreting these results as the associations between variables do not indicate specific cause-and-effect relationships.

A few studies have examined the health practices of nurses. In a survey of 499 critical care nurses, Haughey, Kuhn, Dittmar, and Wu (1992) sought to describe the health practices of these nurses. The data was gathered by a questionnaire that included information regarding smoking habits, oral health and dietary practices, energy expenditure, seat belt use, alcohol consumption, and health surveillance behaviors. The results found that 20% smoked, 67% did not floss daily, 58% ate breakfast irregularly, only 43% engaged in physical activity three or more times a week, and the most distressing finding was that 74.1% practiced breast self-exam either occasionally (61.8%) or not at all (12.3%).

Callaghan (1995) sent a questionnaire to 210 nurses in Britain to determine the health-related behaviors of respondents. The questionnaire assessed five classes of health-related behaviors including: smoking and alcohol consumption, positive health practices, diet and eating habits, driving behavior, and preventive health care. One hundred and thirteen (54%) completed the questionnaire. The survey revealed 47% of the sample smoked, 85% reported using alcohol with 18% being regular drinkers, and coffee consumption was reported at 82%. A worrisome statistic was that 6% of females reported drinking and driving over the past year, while no males reported such behavior. Thirty percent of males reported never having examined their testicles for lumps, whereas 6% of females reported they never examined their breasts for lumps.

In an analysis of the General Social Survey data from the National Opinion Research Center (NORC) at the University of Chicago, Schwartz-Barcott and Schwartz (1990) compared the general health status, experiences and behaviors, and general level of happiness of nurses with non-nurses. The NORC conducts nationwide telephone interviews of independently drawn samples of persons aged 18 and over. The survey design has been shown to establish highly representative samples of the adult population in the U.S. in terms of sex, age, race, education, occupation, and other characteristics. The representativeness of these samples allows one to compare a relatively small subgroup with a much larger subgroup. The authors analyzed this data on computers and examined the health status of 256 registered nurses, 8,324 other females, and 15,255 other adults. The data found that 45% of nurses evaluated their health as excellent as compared to only 29% of other females and 31.3% of other adults. In regards to drinking behavior, 83% of nurses noted they use alcoholic beverages which represents a statistically higher figure than the 66% of other females and 71% of other adults who admitted the same. However, the authors noted that the strength of these relationships was weak as they had no data on how frequently or how much nurses drink.

Given that the profession of nursing is devoted to the health and wellness of the public, it is reasonable to assume that nurses value their own health. While a few studies have compared nurses to non-nurses (Schwartz-Barcott & Schwartz, 1990), none has examined the health-promoting lifestyle practices of advanced practice nurses.

Factors Influencing Health-Promoting Behaviors

Health-promoting behaviors have been found to be influenced by demographic factors. These include gender, age, race, educational level, marital status, and income.

The demographic factor of body mass index (BMI) is also discussed. Pender (1996) has designated these in her revised HPM.

Gender

There appears to be a correlation between gender and health-promoting behaviors. O'Quinn (1995) sampled 187 employees at a public university in the southwest to compare health-related lifestyle behaviors of those enrolled in a worksite wellness program with those who were not. The study found that men engaged in regular exercise behaviors more frequently than women. However, in the same study, women were more likely to accept responsibility for their own health and were more educated about health than men.

Callaghan (1995) found in a study of 113 nurses living in southeast England that female nurses were more compliant than males with most health-related behaviors. Nevertheless, this same study showed that females reported taking greater risks with driving by occasionally "drinking and driving."

Walker, Volkan, Sechrist, and Pender (1988) examined health-promoting behaviors of older, middle-aged, and young adults and found that gender contributed to the explanation of variance in overall health-promoting lifestyles, with women having higher scores than men in the areas of exercise, nutrition, interpersonal support, and health responsibility.

Age

In a national survey of personal health practices, Wilson and Elinson (1981) concluded that older individuals practiced more and better health habits than younger

individuals. Walker et al. (1988) found older age was the best explanatory variable in the areas of nutrition, stress management, and health responsibility in comparison to young and middle-age adults.

In regards to unhealthy habits, several researchers (Rausch, Zimmerman, Hopp, Lee, 1987; Feldman and Richard, 1986) found a tendency of older nurses to smoke more than younger ones.

Race

A study of preventive health behavior among white and black women in urban and rural areas reported that African American women were less likely than Caucasian women to engage in healthy behaviors, such as not smoking, exercising, and maintaining a suitable weight (Duelberg, 1992). However, African American women were more likely to engage in preventive behaviors such as breast exams and cervical cancer screening than Caucasian women. Ahijevych and Bernhard (1994) found in a study of health-promoting behaviors among African American women that these women scored much lower in the areas of nutrition, exercise, and self-actualization than their Hispanic and Caucasian counterparts.

A study of health-promoting lifestyle behaviors of 397 employed Mexican American women reported these women tended to practice more healthy lifestyle behaviors when compared to a population of African American women (Duffy, Rossow, and Hernandez, 1996). Yet, in a San Antonio heart study (Hazuda, Haffner, Stern, and Eifler, 1983), Mexican American women lagged appreciably behind their Caucasian counterparts in the practice of healthy lifestyles to prevent coronary artery disease.

Educational Level

Educational preparation has shown a significant association with smoking, with a higher number of non-smokers having bachelor degrees (Knobf and Morra, 1983). In comparing health-promoting lifestyles of older adults with young and middle-aged adults, more education contributed to the explanation of variance in the areas of nutrition, stress management, and interpersonal support (Walker et al., 1988).

Marital Status

Gottlieb and Green (1987) examined ethnicity and lifestyle behaviors in 3,025 adults aged 20 to 64. They reported overall healthier lifestyles were practiced more often by married women and men than by unmarried members of both sexes.

A survey of 659 women regarding health promotion and health damaging behaviors determined women who had increased stressors, were less educated and not married, engaged in health damaging behaviors. Also, women with decreased stressors and more education employed more health promotion activities (Woods, Lentz, and Mitchell, 1993).

Income

A correlational study of 420 employed women showed that two variables accounted for 17.3% of the variance of the total health status score, presence of a diagnosed health problem and household income (Duffy, 1989). Hence, women with adequate income and no reported health problems were more likely to feel in control of their health and not believe in fate.

Walker et al. (1988) found that two indicators of socioeconomic status, education

and income, contributed to the explanation of variance in overall health-promoting lifestyles and in the area of self-actualization. In addition, a higher income was associated with exercise and health responsibility dimensions.

Body Mass Index

Body mass index (BMI) is a weight-for-height standard used to define healthy weight and estimate obesity. It is calculated as weight in kilograms divided by height in meters squared (Wardlaw, 1999). BMI interpretation values are categorized as underweight at less than 18, acceptable weight between 19 and 24, overweight between 25 and 29, obese between 30 and 39, and morbidly obese greater than 40 (World Health Organization, 1995). The concept of body mass index is easy to use as the values apply to both men and women. However, BMI is a crude measure and not a standard for everyone. Body mass index should not be applied to children and adolescents who are still growing, adults over 65, pregnant and lactating women, and highly muscular individuals (Wardlaw, 1999).

Various studies have examined the relationship between body mass index and mortality. In a study of over 1 million adults in the United States, the relationship between body mass index and mortality were examined (Calle, Thun, Petrelli, Rodriguez and Heath, 1999). The effects of age, race, sex, smoking status, and history of disease were also investigated. The authors found that obesity (BMI greater than 30) was most strongly associated with an increased risk of death among those who had never smoked and who had no history of disease, whereas leanness (BMI less than 20) was most strongly associated with an increased risk of death among current or former smokers with a history of disease. With regards to race, the study found the risk of

death associated with a high BMI was greater for white men and women than for black men and women (relative risks 2.58 and 2.00, and 1.35 and 1.21, confidence interval 95%, respectively). The authors concluded that the ideal body mass index for longevity occurred between 20.5 and 24.9 for men and women of all age groups.

Ford (1999) studied the association between obesity and colon cancer in a cohort of 222 men and women aged 25-74 who participated in the First National Health and Nutrition Examination Survey from 1971 to 1975 and were followed up through 1992. Ford (1999) found the lowest incidence rates of colon cancer in both men and women occurred among the leanest participants, those with a body mass index of less than 22. Furthermore, as body mass index increased, the colon cancer rates increased steadily and peaked for participants whose body mass index was between 28 and 30.

Counseling Practices of Nurses

Advanced practice nurses (APN's) can play a significant role in promoting healthy lifestyle behaviors in their patients. APN's can work with patients through health education and counseling that yields integration of healthy practices into their daily lives.

In 1984 the U.S. Public Health Service established the U.S. Preventive Services Task Force (USPSTF) to develop guidelines for clinical preventive services (Griffith and Diguiseppi, 1994). Out of the project, the Guide to Clinical Preventive Services, was released. The report evaluated the clinical effectiveness of 169 clinical preventive services and provided specific recommendations on services that should be included in the periodic health examination (USPSTF, 1989).

As a result of this report, several important findings evolved. First, the data

suggested that the most effective interventions available to clinicians for decreasing the incidence and severity of the leading causes of disease and disability in the U.S. are those that address the personal health practices of patients. The suggested interventions are health counseling and education (USPSTF, 1989).

A second finding was that "conventional clinical activities (e.g., diagnostic testing) may be of less value to patients than activities once considered outside the traditional role of the clinician (e.g., counseling and patient education)." (USPSTF, 1989). This may be less applicable to nurses and nurse practitioners as patient education and counseling are emphasized in their educational programs and has been considered an integral part of the nursing role (Griffith and Diguiseppi, 1994). However, a 1992 survey of primary care providers indicated that the number of nurse practitioners who routinely provided counseling services was not as high as the objectives set in Healthy People 2000 (USDHHS, 1996). The percentages of nurse practitioners who reported that they provided counseling services to their patients who needed the services were 14 % for physical activity, 31% for diet/nutrition, 20% for tobacco use, and 19% for alcohol consumption and other drug use (USDHHS, 1996). The objectives set in Healthy People 2000 for counseling services by primary care providers were 50% for physical activity, 75% for diet/nutrition, 75% for tobacco use, and 75% for alcohol and drug use (USDHHS, 1996). Lastly, a principle emphasized by the USPSTF (1996) was that every encounter or visit and every "teachable moment" must be used by the healthcare provider to provide clinical preventive services. This includes wellness visits as well as illness visits.

Counseling skills are an integral component of preventive services, and

preventive services provided by APN's can improve the health of the population while decreasing health care costs (Bergman-Evans & Walker, 1996). A descriptive study of hospital-based nurses examined their attitudes and behaviors toward counseling patients on smoking cessation (Goldstein, Hellier, Fitzgerald, Stegall, & Fischer, 1987). The study was conducted in a university-based teaching hospital with 244 nurses participating from medical, surgical, obstetrics, and psychiatry wards. The data was collected using a 27-item self-report questionnaire which included demographic information, personal smoking habits, attitudes about nursing roles in smoking cessation, current smoking counseling practices, barriers to increased smoking counseling, and the degree of physician-nurse cooperation in providing smoking counseling. The results were that 95% of respondents believed it was the responsibility of a nurse to counsel some patients who smoke, yet only 52% believed that nurses should provide cessation counseling to all patients who smoke. Forty-four percent of the nonsmoking nurses claimed to counsel all patients who smoke, compared to only 7% of the nurses who currently smoke. Several barriers to smoking counseling were reported. Of those nurses stating a reason, 43% reported that they do not know how to counsel, 27% said counseling is not rewarding, and 8% stated counseling took too much time. Limitations of the study were that only one site was surveyed.

Dalton and Swenson (1986) examined role modeling beliefs and behaviors of smoking and nonsmoking nurses in relation to patients, families, and the general public whom they counsel about smoking. Six hundred and one nurses in a North Carolina hospital were randomly surveyed via a 204-item questionnaire that measured 1) smoking habits of nurses, their families, and peers, 2) nurses' knowledge of smoking effects, 3)

nurses' job situations and professional roles, and 4) nurses' attitudes and behavior as role models. Findings of the study included over half (53.7%) of the participants thought nurses are very important role models of healthy behaviors for their patient. Eighty-eight percent of current smokers and 97% of nonsmokers agreed that nurses should practice good health behaviors to be effective role models. Yet, only 23% of nonsmokers and 12% of current smokers regularly counsel patients about the health effects of smoking ($p < 0.00005$).

To better understand how nurses might partake more effectively in the treatment of patients with high blood cholesterol levels, a study of 206 randomly sampled nurses from a large academic medical center in New York City was done to evaluate their knowledge, attitudes, and practice patterns concerning cholesterol and coronary heart disease (Wilt, Hubbard, and Thomas, 1990). The questionnaire used was developed by the National Heart, Lung, and Blood Institute (NHLBI) and was modeled after those used to assess knowledge and attitudes about cholesterol and heart disease in physician samples. A multiple regression analysis was utilized to determine key variables associated with dietary counseling and knowledge level. With regards to counseling, only 19% (40 nurses) of the sample reported currently counseling about diet. Of those 40 nurses, 48% felt prepared to counsel patients about cholesterol-lowering drugs and their side effects. Multiple logistic regression analysis found the likelihood of counseling was significantly associated with a number of variables. These variables included degree obtained, knowledge about blood cholesterol levels and heart disease, and personal preventive behavior. Specifically, nurses who were certified, were master's prepared nurse practitioners, knew their own cholesterol levels, and had higher

overall knowledge scores were more likely to counsel. Some limitations of the study were that the sample was disproportionately Caucasian and educated with 48% having bachelor's degrees and 11% with master's degrees. According to the authors, this could overestimate the knowledge levels and counseling practices in the total nursing population. Also, the sample was homogeneous with regard to sex and ethnicity. The sample was 97% female, 72% Caucasian, 9% African American, 8% Hispanic, and 11% Asian.

The purpose of a study done by Bergman-Evans and Walker (1996) was to determine the extent to which women aged 65 and older were in compliance with the 1989 U.S. Preventive Services Task Force (USPSTF) recommendations for clinical preventive services. The authors analyzed data from the 1991 Health Promotion and Disease Prevention Supplement of the National Health Interview Survey of 5,574 women aged 65 and older to determine who reported receiving recommended screening, counseling, and immunization services. Data from the National Health Interview Survey was collected by the National Center for Health Statistics from a representative sample of non-institutionalized U.S. civilians aged 18 and older. The USPSTF makes recommendations for counseling about lifestyle behaviors to include diet and exercise, substance use, injury prevention, dental health, and other preventive measures. After analyzing the data, the authors found that approximately 40% of the women interviewed reported being asked none of the recommended history questions concerning functional status, dietary intake, physical activity, or use of tobacco, alcohol, or drugs during their last check-up. The lack of focus on healthy lifestyle behaviors shown in the history taking was displayed in the delivery of counseling services as well. The minimal goal

of receipt of at least one counseling service (i.e., diet) recommended by the USPSTF within the past year by 40% of older women was exceeded (67%). However, less than 1% of the women received 4 or 5 of the counseling services. The authors also found that with increasing age, women received less counseling regarding preventive services and healthy lifestyle behaviors. In the age group 85 years and older, 50% received no counseling services.

Summary

This chapter addressed some of the pertinent literature regarding the background of health promotion, nurses' health promotion practices, factors influencing health-promoting behaviors, and counseling practices of nurses.

Pender (1987, p. 77) described health promotion lifestyle as a "multidimensional pattern of self-initiated actions and perceptions that serve to maintain or enhance the level of well-being, self-actualization, and fulfillment of the individual." As shown in the literature review, government agencies and publications, and numerous researchers shed light on the impact health-promoting behaviors have on individuals and the healthcare system.

Of the studies addressing health-promoting practices of nurses, most examined unhealthy behaviors such as smoking (Sacker, 1990; Plant and Plant, 1992; Haughey, et al., 1989). Other studies investigated a small sample of the nursing population such as critical care nurses (Haughey et al., 1989; Haughey et al., 1992). While there has been a multitude of studies using Pender's (1996) revised Health Promotion Model, few have utilized nurses or advanced practice nurses (APN's) as the sample. The question

becomes: As APN's help patients improve their health, what are APN's doing for their own health?

The literature revealed that personal factors contribute to the occurrence of health promotion behaviors. Age and gender were found to have a significant impact on health-promoting activities. Income and education were positively associated with some health behaviors. Ethnicity and marital status had limited research done in regards to health promotion behavior.

Advanced practice nurses as primary care providers have frequent and personal contact with the public and have a unique opportunity to affect the lifestyle choices of their patients. Much of the counseling research with nurses pertains to unhealthy behaviors (Dalton and Swenson, 1986; Goldstein et al., 1987).

The existing literature warrants further investigation of the determinants of health-promotion behaviors in advanced practice nurses. The literature review reveals a paucity of studies describing APN's health-promoting practices. Those that do describe health practices examined unhealthy behaviors such as smoking. There is also a paucity of studies describing the relationship between the health practices of APN's and their counseling of patients in health promoting activities.

CHAPTER 3

THEORETICAL FRAMEWORK

Introduction

Health promotion has gained nationwide attention and has become an important focus of the nursing profession. This chapter will illustrate Pender's revised Health Promotion Model (HPM) (1996), in relation to the study variables. The HPM will guide the researcher to elicit conclusions regarding the health-promoting behaviors of advanced practice nurses and demographic variables, and the relationship between these behaviors and the counseling practices of advanced practice nurses.

This chapter describes Pender's revised Health Promotion Model and its structure in relation to the study variables. This chapter also presents research questions, definition of terms, and assumptions of the study.

Conceptual Framework

Pender's revised Health Promotion Model comprises two variables that are predictive of health-promoting behavior. These variables include individual characteristics and experiences. The variables of individual characteristics and experiences was utilized for this study. The researcher chose to use the Pender third edition model and focus on these variables.

Individual Characteristics and Experiences

Individual characteristics and experiences are one's unique attributes and past experiences that affect their subsequent action. Pender describes these variables as prior related behavior and personal factors. Pender (1996) proposes that prior behavior has a direct and indirect bearing on one's likelihood of undertaking health-promoting behaviors.

Pender (1996) classifies personal factors as biologic, psychological, and sociocultural. Personal biologic factors include the variables of age, gender, body mass index, pubertal status, menopausal status, aerobic capacity, strength, agility, and balance. Personal psychological factors include the variables of self-motivation, self-esteem, personal competence, perceived health status, and definition of health. Personal sociocultural factors include the variables of ethnicity, race, acculturation, education, and socioeconomic status. Pender suggests that only relevant variables that predict an intended behavior be included in a study. The proposed study examined the personal factors of age, gender, marital status, race, education, income, and body mass index.

The end point or outcome of the HPM, as suggested by Pender (1996), is health-promoting behavior. It is aimed at attaining positive health outcomes for the client. The positive health outcomes that were examined in this study include health responsibility, nutrition, physical activity, interpersonal relations, spiritual growth, and stress management. The health outcomes of the advanced practice nurse were examined.

Research Questions

The research questions for this study are:

1. What are the health-promoting behaviors of advanced practice nurses?

2. Is there a relationship between the personal factors of age, gender, marital status, race, educational level, income, and body mass index and the health-promoting behaviors of advanced practice nurses?

3. Do advanced practice nurses counsel their patients on health-promoting behaviors?

4. Is there a relationship between the health-promoting behaviors of advanced practice nurses and their of counseling patients regarding health-promoting practices?

Definitions of Terms

The terms in this study are defined in conceptual and operational contexts. The terms are: advanced practice nurse, personal factors, health responsibility, physical activity, nutrition, interpersonal relations, spiritual growth, stress management, and counseling practices.

Advanced practice nurse. Conceptually, advanced practice nurses are defined as "a licensed registered nurse who has advanced preparation that includes 9 to 24 months of supervised clinical experience in the diagnosis and treatment of illness" (Taber's, 1997, p. 1319). Operationally, advanced practice nurses are defined as a licensed, registered advanced practice nurse practicing family practice who voluntarily participates in this study.

Personal factors. Conceptually, personal factors are categorized as biologic, psychologic, and sociocultural (Pender, 1996). The operational definition of personal factors includes age, gender, marital status, race, educational level, income, and body mass index. Psychological personal factors are not examined in this study.

Health Responsibility. Conceptually, health responsibility is defined as adopting responsibility for one's own health, becoming educated about health, and requesting

professional assistance when necessary (Walker, Volkan, Sechrist, and Pender, 1988). The operational definition of health responsibility will be measured by the Health-Promoting Lifestyle II (HPLP II) health responsibility subscale score.

Physical Activity. Conceptually, physical activity is defined as participating in a regular exercise program (Walker et al., 1988). Operationally, physical activity will be measured by the Health-Promoting Lifestyle Profile II physical activity subscale score.

Nutrition. Conceptually, nutrition is defined as establishing meal patterns and selecting food choices (Walker et al., 1988). The operational definition of nutrition will be measured by the Health-Promoting Lifestyle Profile II nutrition subscale score.

Interpersonal Relations. Conceptually, interpersonal relations is defined as evolution and maintenance of relationships which encourage intimacy and closeness (Walker et al., 1988). The operational definition of interpersonal relations will be measured by the Health-Promoting Lifestyle Profile II interpersonal relations subscale score.

Spiritual Growth. Conceptually, spiritual growth is defined as "the ability to develop one's spiritual nature to its fullest potential, including the ability to discover and articulate one's basic purpose in life, to learn how to experience love, joy, peace, and fulfillment, and how to help ourselves and others achieve their fullest potential" (Chapman, 1987). The operational definition of spiritual growth will be measured by the Health-Promoting Lifestyle Profile II spiritual growth subscale score.

Stress Management. Conceptually, stress management is defined as the recognition of stressors, developing ways to control stress, and practicing relaxation techniques (Walker, et al., 1988). The operational definition of stress management will

be measured by the Health-Promoting Lifestyle Profile II stress management subscale score.

Counseling practices. Conceptually, counseling practices are defined as "efforts to educate patients about the consequences of personal health behaviors (e.g., tobacco use, diet, physical activity, sexual practices, injury prevention) and to work in collaborative fashion on strategies for risk factor modification" (Woolf, Jonas, and Lawrence, 1996). These practices or efforts can be in the form of assessments, teaching, or recommendations regarding health behaviors. Operationally, counseling practices will be measured by the Health Promotion Inventory.

Assumptions

Basic assumptions of the study include:

1. Individuals strive for health and well-being.
2. Individuals seek to actively regulate their own behavior (Pender, 1996, p. 55).
3. The advanced practice nurses' who participate in this study will answer the surveys honestly.

Summary

This chapter has described Pender's revised Health Promotion Model as the framework for this study. The Health Promotion Model defined the specific variables included in the study and provided the framework for research questions. Finally, terms of the study were defined and assumptions of the study were presented.

CHAPTER 4

METHODS AND PROCEDURES

Introduction

In this chapter, the methods and procedures of the study are described. Outlined are the design, the sample, the setting, the measurement methods, and the procedure for data collection. Ethical considerations are presented. Finally, the chapter concludes with the data analysis.

Research Design

A descriptive, correlational design was used for this study. The study utilized a survey asking advanced practice nurses about their health-promoting behaviors. A questionnaire asked advanced practice nurses about their health-promotion counseling practices of patients. "Correlational research involves the systematic investigation of relationships between two or more variables" (Burns and Grove, 1997). The basic intent of correlational research is to explain the nature of relationships, not to determine cause and effect (Burns and Grove, 1997). In this study, determination of the relationship between demographic characteristics and advanced practice nurses' practice of health-promoting behaviors was investigated. Also a relationship between the APN's health practices and their counseling of patients was examined.

The target population for this study was advanced practice nurses. The accessible population consisted of advanced practice nurses licensed by their respective State Boards of Nursing involved in family practice. The sample for this study was obtained from the American Academy of Nurse Practitioners (AANP). The AANP is a national organization for nurse practitioners. A mailed survey format was chosen because it was conducive to randomization and permitted the investigator greater accessibility to the target population.

Using a statistical power table with moderate effect size, an alpha level of .05, with a .80 power level, it was determined that a sample of 193 was needed (Borenstein & Cohen, 1990). The sampling for this study was conducted over three weeks.

Respondents were free to fill out the survey if they wanted, and at a location of their choice. The survey questionnaire was mailed to randomly selected members.

Measurement Methods

Three self-administered instruments were utilized for data collection: (1) a demographic questionnaire to obtain select biographical data on participants; (2) the Health-Promoting Lifestyle Profile II (HPLP II) to measure the health-promoting behaviors of advanced practice nurses; and (3) the Health Promotion Inventory (HPI) to determine counseling practices of advanced practice nurses.

Demographics

Demographic data that was analyzed included: gender, race, and marital status, all nominal data; age, income, and body mass index, all interval data; and level of education, ordinal data. The biographical data was used to identify any relationships

between the demographic data and the lifestyle practices of advanced practice nurses as measured by the Health-Promoting Lifestyle Profile II.

Health-Promoting Lifestyle Profile II

The Health-Promoting Lifestyle Profile II, a 52-item instrument, was developed by Walker, Sechrist, and Pender (1987). The instrument includes six subscales: physical activity (8 items), nutrition (9 items), health responsibility (9 items), interpersonal relations (9 items), spiritual growth (9 items), and stress management (8 items).

The development of the Health-Promoting Lifestyle Profile has gone through several stages of testing. The Health-Promoting Lifestyle II is a revision of the original which consisted of six subscales. The subscales are intended to measure: health responsibility, physical activity, nutrition, interpersonal relations, spiritual growth, and stress management. The instrument has a 4-point response format (never, sometimes, often, routinely) to measure the frequency of self-reported health-promoting behaviors. The instrument was piloted with a convenience sample of 173 graduate and senior undergraduate nursing students. In order to analyze for internal consistency and stability, a repeat administration was done two weeks later with 92 students in the sample. Coefficient alpha was .92 and test-retest r was .85, indicating internal consistency and stability. Following the pilot study, a 107-item Health-Promoting Lifestyle Profile (Walker, Sechrist, and Pender, 1987) was evaluated using 952 adults in midwestern communities. To establish reliability and validity, item and factor analysis were performed. After item analysis was completed, 37 items were eliminated. Of the 70 remaining items, the majority had item-total correlations of .25 or higher. In addition, inter-item correlations ranged from -.098 to .651. The 70 items were then submitted to

factor analysis. An additional 22 items were deleted. Based on the factor analysis, six subscales were formed and these subscales accounted for 47.1% of the variance. Second-order factor analysis was done with health-promoting lifestyle prevailing as the single factor. The alpha reliability coefficient for the total scale was .922 and ranges for the subscales was .70 to .90. Test-retest to evaluate stability was done on a sample of 63 adults at a two week interval. Pearson's correlations ranged from .81 to .91 for the subscales, and .93 for the total scale. The current Health-Promoting Lifestyle Profile II 52-item scale has been revised to reflect current literature and practice. Cronbach's alphas for the HPLP II are as follows: health responsibility (.861), physical activity (.850), nutrition (.800), spiritual growth (.864), interpersonal relations (.872), stress management (.793), and total HPLP II (.943) (Walker, 1999). Based on the reliability and validity statistics, the authors conclude the instrument to be sufficient for use by researchers to explore determinants of health-promoting lifestyles, to describe health-promoting factors in various populations, and to measure changes in lifestyles as a result of interventions. On the basis of the reliability and validity scores of these studies, the Health-Promoting Lifestyle Profile II is a powerful tool to use for this study. Reliability for this instrument was obtained by the investigator for this study. Permission to use this instrument was obtained from Dr. Susan Walker (Appendix D).

Counseling Tool

The Health Promotion Inventory (HPI), a 27-item instrument, was developed by Brown and Waybrant (1987). The instrument includes three subscales: health promotion, counseling services, and education. Sample items for the health promotion subscale were stress management, exercise counseling, nutrition information, smoking

cessation, and seat belt use. The counseling subscale included psychological help for family problems, sexual concerns, anxiety, depression, and crisis intervention. The education subscale addressed education about a specific disease problem or prescribed medication.

The instrument was pilot tested by 10 nurse practitioners in the state of Washington. A repeat administration was done with a convenience sample of 110 nurse practitioners to examine the extent to which health promotion, health education, and counseling activities were reported in their practices (Brown & Waybrant, 1987). The number of items was summed for a total health education/promotion score, which had an internal consistency reliability of .90 using Cronbach's alpha.

The health promotion subscale was utilized for this study to measure the health promotion activities of advanced practice nurses. This component is a nineteen-item, 5 point response format to obtain an ordinal measure of frequency (never, seldom, sometimes, often, always). Using Cronbach's alpha, Brown and Waybrant (1987) obtained an internal consistency reliability score of .87. Reliability for this instrument was obtained by the investigator for this study. Permission to use this instrument was obtained from Dr. Marie Annette Brown (Appendix F).

Procedure

The American Academy of Nurse Practitioners provided a randomized list, based upon their membership, for this study. The demographic questionnaire, the Health-Promoting Lifestyle Profile II, the Health Promotion Inventory, a cover letter explaining the purpose of the study (Appendices C, E, G, B) and a pre-addressed stamped return envelope were mailed to the 800 advanced practice nurses from the

AANP list. The respondents were asked to complete and return the questionnaires to the researcher in the self-addressed stamped envelope provided in the mailing.

Ethical Considerations

First, review and approval of this research study was obtained by members of the thesis committee. A Human Subjects' Rights (HSR) Protocol Form was submitted to the investigator's thesis committee and the Department of Nursing HSR committee. Once approval was obtained from the thesis committee, the HSR Protocol Form was submitted to the University of Nevada, Las Vegas Institutional Review Board (IRB) for final approval. The study was approved by the Biomedical Sciences Committee of the IRB (Appendix A). A cover letter was received by the study participants randomly selected. Participation was entirely voluntary and anonymity was preserved as no personal identifiers were asked for in the questionnaires. Informed consent included completion and return of the study questionnaire to the investigator.

Data Analysis

Eight hundred surveys were mailed to advanced practice nurses in February of 2000. Four hundred and twenty-eight surveys were returned in the three week sampling period. Ten surveys were returned with fifty percent of the data missing on the Health-Promoting Lifestyle Profile II. Eight of the surveys were returned with the Health Promotion Inventory uncompleted. Fifty-three of the remaining 410 surveys were omitted from analysis due to missing data. Therefore, 357 surveys were utilized for statistical analysis. Based on the number of available surveys, a return rate of 44% was computed.

Prior to data entry, each survey was numbered to facilitate data retrieval and record keeping. The data was then entered into the computer using the case number corresponding to the number assigned to each survey. Alpha coefficients were computed for the Health-Promoting Lifestyle Profile II and the Health Promotion Inventory to determine measurement reliability within the sample.

Descriptive statistics were used to analyze the demographic data and describe the characteristics of the sample. This included frequency distributions, percentages, means, medians, mode, ranges, and standard deviation. Respondents gave height and weight information on the demographic data sheet. Using this data, the investigator computed the body mass index (BMI) of each respondent by taking the weight in kilograms and dividing it by the height in meters squared. Frequencies and percentages were also computed for the BMI.

Each research question was analyzed in the following manner:

Research Question 1

Are advanced practice nurses engaging in health-promoting behaviors? Frequency analysis was used to determine the health-promoting behaviors of advanced practice nurses. The question was addressed by obtaining mean scores of the total Health-Promoting Lifestyle Profile II and each of the six subscales of health responsibility, physical activity, nutrition, interpersonal relations, spiritual growth, and stress management. Frequencies were reported as 1 = never, 2 = sometimes, 3 = often, and 4 = routinely. Frequencies for each response, as well as percentages, were computed.

Research Question 2

Is there a relationship between the personal factors of age, gender, marital status, race, educational level, income, and body mass index and the health-promoting behaviors of advanced practice nurses? Pearson's Product Moment Correlation was used to calculate relationships between the interval level variables and Spearman's Rho for ordinal level variables. A one-way analysis of variance was used to test the relationships between the nominal level variables of race and marital status with the Health-Promoting Lifestyle Profile II. An independent samples *t*-test was used to analyze the difference between the two means of a sampling of 30 females and 30 males with the Health-Promoting Lifestyle Profile II.

Research Question 3

Do advanced practice nurses counsel their patients on health-promoting behaviors? Frequency analysis was used to determine the counseling activities of advanced practice nurses. The question was addressed by obtaining a mean score of the Health Promotion Inventory. Frequencies were reported as 1 = never, 2 = seldom, 3 = sometimes, 4 = often, and 5 = always. Frequencies for each response, as well as percentages, were computed.

Research Question 4

Is there a relationship between the health-promoting behaviors of advanced practice nurses and their counseling of patients regarding health-promoting practices? Correlation coefficients were calculated to analyze relationships and answer this question. The data from the Health-Promoting Lifestyle Profile II was correlated to the

data from the Health Promotion Inventory. The nutrition subscale of the HPLP II and the nutrition data from the HPI were also correlated. The correlation coefficient used was the Pearson's Product Moment Correlation.

Summary

A descriptive, correlational design was used for this study to answer the research questions. The random sample consisted of advanced practice nurses who are members of the American Academy of Nurse Practitioners. The survey packet contained a cover letter, the demographic questionnaire, the Health-Promoting Lifestyle Profile II, and the Health Promotion Inventory. Statistical analysis consisted of frequency distributions, correlations, a one-way analysis of variance, an independent samples *t*-test, and scores from the Health-Promoting Lifestyle Profile II and the Health Promotion Inventory.

CHAPTER 5

RESULTS

Introduction

This chapter presents results of data analyses as they relate to the health-promoting behaviors of advanced practice nurses and the relationship these behaviors have with the advanced practice nurses counseling of patients. The study results are presented as follows: demographic characteristics, results of the research questions, reliability analysis, and summary of the results.

Demographic Characteristics

Demographic characteristics were obtained from the demographic data sheet. Tables 1-5 (Appendix H) describe the characteristics of the study sample.

Table 1 depicts the age, gender, race, and marital status of the respondents. Ages ranged from 25 to 69 years. The most predominant age group was 46-55 (40.1%, n = 143). The mean age of the sample was 44 years. The majority of the sample was female (91.6%, n = 327), whereas there were 30 males (8.4%) who participated. Ethnic background was reported as predominantly Caucasian (93%, n = 332), while minority groups comprised the remaining 6.4% of the sample (n = 23), with 2 respondents reporting "other" (0.6%). Minority representation consisted of African-Americans,

Hispanics, Native Americans, and Asians. Two hundred sixty-eight (75.1%) of the respondents were married, while 11.2% (n = 40) were single, and 10.9% (n = 39) were divorced.

Table 2 depicts the respondents' height in inches, weight in pounds, and the body mass index of the study sample. The mean height was 65.5 inches with the range from 58.75 to 76 inches. Forty-four percent (n = 157) of the sample were within 63.5 to 66 inches. There was a wide range of weights among the respondents with the lowest weight at 96 pounds and the highest at 290 pounds. The mean weight was 154 pounds with the largest percentage (35.6%, n = 127) between 121 and 145 pounds. Ninety-nine (27.7%) of the respondents fell between 146 to 170 pounds. The majority of the advanced practice nurses (51.8%, n = 185) have a body mass index within the acceptable weight range of 19-24. The mean BMI was 25 with the range from 17 to 45. The remaining sample was categorized as overweight (32.5%, n = 116), obese (13.2%, n = 47), and morbidly obese (1.4%, n = 5), respectively.

The respondents were asked to indicate the number of children residing at home and the highest level of education achieved. Table 3 depicts that 52.4% (n = 187) and 39.5% (n = 141) of the respondents indicated having no children or only 1-2 children at home, respectively. Further, three hundred thirteen advanced practice nurses (87.7%) are master's prepared followed by eighteen (5%) with doctoral degrees. As depicted in Table 3, the largest number of advanced practice nurses (30.8%, n = 110) reported that they worked in a "private MD practice" followed by the category of "outpatient clinic" (29.4%, n = 105).

The majority of respondents (47.6%, n = 170) reported working 31-40 hours per

week, while 96 (26.9%) reported working 41-50 hours per week. Respondents were asked to indicate the number of years of experience in advanced practice nursing and the annual total household income. Approximately, 34.2% of the respondents stated they had been in practice 3-5 years (n = 122) followed by 0-2 years (33.9%, n = 121), 11 years or greater (17.9%, n = 64), and finally 6-10 years (14%, n = 50). The largest group of respondents had an annual household income of $50,001-75,000 (33.6%, n = 120) followed by $100,000+ (32.2%, n = 115), $75,001-100,000 (26.3%, n = 94), $25,001-50,000 (7.6%, n = 27), and finally $0-25,000 (0.3%, n = 1). Table 4 summarizes the above demographic characteristics.

Table 5 describes tobacco (cigarette) use and alcohol consumption of the study sample. The majority, 70.9%, of the respondents stated they have never smoked (n = 253) followed by those who stated being former smokers (25.8%, n = 92), and finally those who stated being current smokers (3.4%, n = 12). Regarding alcohol consumption, a majority, 53.2%, reported consuming alcohol less than once per week (n = 190). Of the remaining respondents, 18.2% reported having "never" consumed alcohol (n = 65), while 17.6% reported consuming alcohol 1-2 times per week (n = 63), and finally 10.9% reported consuming alcohol more than 2 times per week (n = 39).

Results of the Research Questions

Research Question 1

To answer the question, "What are the health-promoting behaviors of advanced practice nurses?" respondents were asked to answer the 52 questions of the Health-Promoting Lifestyle Profile II. The study participants selected from a four-point Likert

scale: 1 = never, 2 = sometimes, 3 = often, and 4 = routinely. Total and subscale scores were calculated. The possible range of scores was 52-208 overall, with a lower score indicating a lower incidence of health-promoting behaviors, and a higher score indicating a higher incidence of health-promoting behaviors. The subscales of health responsibility, nutrition, spiritual growth, and interpersonal relations each had 9 questions with a possible range of scores from 9-36, overall. The subscales of physical activity and stress management each had 8 questions with a possible range of scores from 8-32, overall.

The total Health-Promoting Lifestyle Profile II (HPLP II) mean score and each of the six subscale mean scores are depicted in Table 6 (Appendix H). The total mean score for the HPLP II was 154.19 with a standard deviation of 19.19. The HPLP II subscale "spiritual growth" had the highest mean score among the sample at 31.13 followed by "interpersonal relations" with a mean score of 29.60. In the area of "spiritual growth," a large majority of the study sample (70.3%, n = 251) responded "routinely" to the item "believe that my life has purpose." Another 68.6% (n = 245) responded "routinely" to the item "am aware of what is important to me in life." In the area of "interpersonal relations," the largest majority (67.8%, n = 242) of respondents stated they "routinely" maintain meaningful and fulfilling relationships with others.

The subscale of "stress management" had the lowest mean score at 21.26 followed by "physical activity" with a mean score of 21.50. Regarding "stress management," almost half of the sample (46.8%, n = 167) reported they "sometimes" take time for relaxation each day and 40.6% (n = 145) reported they "sometimes" use certain methods to control their stress. Regarding "physical activity," the majority of the

study sample (45.7%, n = 163) reported they "sometimes" take part in leisure-time physical activities.

Research Question 2

The relationships between the advanced practice nurses health-promoting behaviors and the personal factors of age, gender, marital status, race, educational level, income, and body mass index were investigated. Tables 7-11 (Appendix H) depicts the relationships between the health-promoting behaviors of advanced practice nurses and their personal factors. An alpha level of .05 was used for all statistical tests.

Table 7 depicts the results of the correlations between the HPLP II and the variables of age, income, body mass index, and education. Pearson's Product Moment correlations were conducted for age, income, and body mass index. A Spearman's Rho was conducted for education. Among the 357 advanced practice nurses who participated in this study, the correlation between their income and their health-promoting practices was a weak negative relationship ($r = -.153$, $p = .004$). This would indicate that as income decreased, scores on the HPLP II would increase. Weak negative correlations were found between income and the subscale of health responsibility ($r = -.104$, $p = .048$), physical activity ($r = -.141$, $p = .007$), and interpersonal relations ($r = -.172$, $p = .001$). These relationships indicate that as income decreased scores on the subscales of health responsibility, physical activity, and interpersonal relations would increase. Table 8 depicts the significant correlations between income and the HPLP II subscales.

With regards to body mass index (BMI) and health-promoting behaviors, a weak negative relationship ($r = -.22$, $p = .000$) was found. In this relationship, as the BMI

increased, the Health-Promoting Lifestyle II scores decreased. Table 9 depicts the correlations between body mass index and the HPLP II subscales of nutrition, physical activity, stress management, and health responsibility. Weak negative correlations were found between body mass index and the subscales of nutrition ($r = -.201$, $p = .000$), stress management ($r = -.131$, $p = .013$), and health responsibility ($r = -.109$, $p = .039$). These relationships indicate that as body mass index increased, the scores on the subscales of nutrition, stress management, and health responsibility decreased. A moderate negative correlation ($r = -.369$, $p = .000$) was shown between body mass index and the physical activity subscale. In this relationship, as the BMI increased, the physical activity scores decreased.

A one-way analysis of variance was used to determine if there was a difference between race and HPLP II scores, as well as marital status and HPLP II scores. As depicted in Table 10, the ANOVA results were not statistically significant.

An independent samples *t*-test was used to analyze the difference between the HPLP II mean score of 30 females and the HPLP II mean score of 30 males. Because the sample of males was small, 30 females were randomly selected from the sample of females for this analysis. As depicted in Table 11, the results were not statistically significant ($t = 1.513$, $p = .136$).

Research Question 3

To answer the question, "Do advanced practice nurses counsel their patients on health-promoting behaviors?" respondents were asked to answer the 19 questions of the Health Promotion Inventory. A total mean score was calculated. The study participants selected from a five-point Likert scale: 1 = never, 2 = seldom, 3 = sometimes,

4 = often, 5 = always. The possible range of scores was 19-95 overall, with a lower score indicating a lower occurrence of counseling activities performed by advanced practice nurses, and a higher score indicating a higher occurrence of counseling activities. Each counseling activity had a possible range of scores of 1-5, with 1 indicating no counseling activity, and 5 indicating counseling activities done at all times.

The total HPI mean score for the sample and the mean scores of each activity are depicted in Table 12(Appendix H), with each activity listed in descending order of highest to lowest mean score. The total mean score for the HPI was 71.17 with a standard deviation of 10.97. The counseling activity of "smoking" had the highest mean score of 4.50 with 59.7% (n = 213) of advanced practice nurses "always" counseling regarding smoking. The counseling activity of "reporting mouth sores" had the lowest mean score of 2.63 with 33.3% (n = 119) of advanced practice nurses "seldom" counseling regarding mouth sores. Over eighty percent of participants stated they "often" (37.3%, n = 133) or "always" (47.1%, n = 168) counsel patients on breast self-exam. Yet, only sixty percent of participants stated they "often" (33.6%, n = 120) or "always" (27.2%, n = 97) counsel patients on testicular self-exam.

Research Question 4

The relationship between the health-promoting behaviors of advanced practice nurses (HPLP II) and their counseling of patients regarding health-promoting practices (HPI) was examined. Pearson Product Moment correlation coefficients were calculated to analyze this relationship. An alpha level of .05 was used for all statistical tests. Table 13 (Appendix H) depicts the correlation between the Health-Promoting Lifestyle Profile

II and the Health Promotion Inventory. A weak linear relationship ($r = .28$, $p = .000$) was found between the HPLP II and the HPI. In this relationship, higher scores on the HPLP II indicated higher scores on the HPI.

The nutrition subscale of the Health-Promoting Lifestyle Profile II was correlated with nutrition questions 6, 7, 8, 9, 10, 11, 12, and 13 of the HPI. Table 14 (Appendix H) depicts the results of this correlation. A weak linear relationship ($r = .23$, $p = .000$) was found between the HPLP II nutrition subscale and the nutrition questions, 6-13, of the HPI. In this relationship, higher scores on the nutrition subscale of the HPLP II indicated higher scores on the nutrition questions of the HPI.

Reliability Analysis

Cronbach's alpha reliability coefficient was calculated for the Health-Promoting Lifestyle Profile II and the Health Promotion Inventory in order to determine internal consistency of the two instruments for this sample. Cronbach's alpha reliability coefficients were also calculated for the subscales of the HPLP II. Table 15 (Appendix H) displays the total HPLP II and the HPI alpha reliability scores, as well as the HPLP II subscale alpha reliability scores. The reliability coefficient was .91 for the total HPLP II and .90 for the total HPI. This analysis demonstrated support for internal consistency reliability of both tools.

Summary of Results

This chapter has summarized the findings and results of the relationship between the health-promoting practices of advanced practice nurses and their counseling of patients. The population was described using descriptive analysis. The average

participant was a 44 year old Caucasian female, married, with a masters degree, and no children at home. One-third of the sample had an annual household income of $50,001-75,000. Almost seventy percent of the sample had 5 years or less experience in advanced practice. More than half of the sample worked in either a private physician practice or an outpatient clinic. Almost half of the sample worked 31-40 hours per week. The majority of participants had an acceptable body mass index between 19 and 24, never smoked, and consumed alcohol less than once per week.

Frequency analysis and correlation coefficients were used to answer the research questions. Results indicated the majority of the participants practice health-promoting behaviors with the strongest areas being "spiritual growth" and "interpersonal relations," respectively. The results indicated that participants health-promoting behaviors of "stress management" and "physical activity" were weak areas, respectively.

The personal factors of income and body mass index were correlated with health-promoting behaviors. The results indicated that participants with a lower income were engaging in more health-promoting behaviors. It was also found that as the body mass index increased, the health-promoting behaviors of participants decreased. A significant correlation between body mass index and the subscales of nutrition and physical activity was found. Results revealed participants with a higher body mass index had lower nutrition scores and decreased physical activity.

The results indicated the majority of participants counsel their patients regarding health-promoting behaviors. Over half of the sample indicated they "always" counsel regarding smoking, while only one-third "seldom" counseled regarding reporting mouth sores. The majority of participants "often" or "always" counsel patients regarding

breast self-exam and testicular self-exam. The results also indicated that participants with higher health-promoting scores had higher counseling activity scores.

CHAPTER 6

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

This chapter presents a brief summary of the study and discussion of the findings as they relate to the description of the sample and the research questions. From the discussion, conclusions are presented. Finally, limitations of the study, implications for nursing, and recommendations for further research conclude the chapter.

Summary of the Study

A descriptive, correlational study was done to describe the health-promoting lifestyle practices of advanced practice nurses, and to describe the relationships between these practices and the advanced practice nurses counseling of patients. The study also examined relationships between selected demographic variables and the degree to which they explain advanced practice nurses current practice of health promoting behaviors.

Concepts investigated in the literature included history of health promotion, definitions of health promotion, health-promoting practices of nurses, factors influencing health-promoting behaviors, and counseling practices of nurses. Pender's revised Health Promotion Model (1996) was utilized as the conceptual framework to guide the study.

Personal factors, health-promoting behaviors, and counseling practices were the variables examined in the study.

Three self-administered instruments were mailed to 800 members of the American Academy of Nurse Practitioners nationwide. The instruments included a demographic data sheet, the Health-Promoting Lifestyle Profile II (HPLP II), and the Health Promotion Inventory (HPI). Frequency distributions and descriptive statistics were used to analyze the data on the demographic sheet, and to describe the health-promoting behaviors and counseling activities of advanced practice nurses. Correlation coefficients, an analysis of variance, and an independent *t*-test were used to analyze the relationships between the personal factors and the health-promoting behaviors of advanced practice nurses. Correlation coefficients were used to analyze the relationships between health-promoting behaviors of advanced practice nurses and their counseling of patients regarding health-promoting practices.

Discussion of the Findings

Demographic Characteristics

Of the 357 respondents, the majority were female (91.6%) and Caucasian (93%). These findings indicate that the nursing profession is predominately female and Caucasian. This is consistent with national statistics from the Bureau of Health Professions. A national sample survey of over 2 million registered nurses found that 94.6% were female and 89.1% were White/Non-Hispanic (USDHHS, 1996). Almost half were between the ages of 46-55 (40.1%). Regarding marital status, the majority of

respondents were married (75.1%). Approximately half had no children at home (52.4%).

Concerning body mass index, the majority of the APN's were within the acceptable weight range with BMI's of 19-24 as defined by the World Health Organization (1995). Nearly one-third of the APN's (32.5%) were overweight, and 14.6% were obese and morbidly obese. The study findings are congruent with results Calle et al (1999) found in their study of BMI and mortality of U.S. adults. The authors found that nearly one-third (32.6%) of adults in the U.S. meet the World Health Organization's definition of overweight (BMI between 25-29), and 22.3% meet the criteria of obese and morbidly obese (BMI of 30 or greater).

The majority of respondents (87.7%) were master's prepared, worked 31-40 hours per week (47.6%), worked in a private physician practice (30.8%) or an outpatient clinic (29.4%), and had an annual household income of $50,001 to $75,000 (33.6%). Approximately 68% of the respondents had less than 5 years of experience as an advanced practice nurse. This could explain the high response rate (44%), as many of the respondents have finished their own research and would empathetically respond to a graduate student research questionnaire.

Regarding tobacco (cigarette) use and alcohol consumption, the vast majority of respondents (70.9%) have never smoked and over half (53.2%) consume alcohol less than once per week. An explanation for the high number of non-smokers and decreased alcohol consumption could be the higher level of education (master's prepared), married status, and older age (mean age of 44) of respondents. Knobf and Morra (1983) found that individuals with a bachelor's degree or higher are more likely to be non-smokers.

In another study, Woods, Lentz, and Mitchell (1993) found that women who were married and had more education were less likely to engage in health damaging behaviors. With regard to age, Wilson and Elinson (1981) found that older individuals practiced more and better health habits than younger individuals. Concerning alcohol consumption, the study sample reported less intake of alcohol with 53.2% at less than once per week compared with a sample of critical care nurses (Haughey et al., 1992). The majority of critical care nurses (41.9%) consumed alcohol 1-2 times per week.

In summary, the respondents were advanced practice nurses involved in family practice. The sample was drawn from a professional association and not from a randomized national sample, therefore the ability to generalize these findings beyond this sample is restricted. At best, the sample represents the advanced practice nursing members of the American Academy of Nurse Practitioners.

Research Question 1

The findings in this study indicate that advanced practice nurses are practicing health-promoting behaviors. The overall mean score for APN's health-promoting behaviors on the Health-Promoting Lifestyle Profile II was 154.19. In this sample, the mean score for the total HPLP II was higher than the mean score of 133.71 for employees of a public university (O'Quinn, 1995), the mean score of 140 for a group of persons over 65 years of age (Duffy, 1993), and the mean score of 133.73 for midlife women living in a rural setting (Duffy, 1988).

With regards to the subscale scores, the APN's had the highest mean score in the area of spiritual growth (31.13), followed by interpersonal relations (29.60). One explanation for the high scores in spiritual growth and interpersonal relations could be

explained by the age of the sample as the mean age was 44 and the largest percentage (40.1%) was between ages 46-55. The sample is described as being in early middle age (35-44 years) to late middle age (45-64 years) (Whitman, Merluzzi, and White, 1999). The developmental tasks of these age groups are typically rediscovering or developing new satisfaction in relationships with others, peaking in one's career, and operate from the perspective that life has value, meaning, and direction (Edelman and Mandle, 1998).

The advanced practice nurses lowest score was on the subscale of stress management (21.26). An explanation for the low scores in stress management could be that this age group is dealing with the financial demands of family, identity conflict due to a reluctance to move into middle age, and caring for aging dependent parents (Whitman, Merluzzi, and White, 1999). The finding of a low score on stress management is consistent with results from Healthy People 2000 (1996). According to Healthy People 2000 (1996), individuals with high levels of stress are not taking steps to control their stress. In this study, only 40.6% of the participants "sometimes" use stress management techniques.

Surprisingly, a study of university students had similar results with the students scoring highest in spiritual growth and interpersonal relations, and lowest in stress management (LaRouche, 1998). It has been demonstrated that while college students may engage in risky behaviors (drug use, infrequent condom use, and alcohol abuse), their health knowledge surpasses such behaviors (LaRouche, 1998). This means that young adults have the knowledge regarding risky behaviors, but the risk-taking exceeds their health-promoting activities (LaRouche, 1998). One explanation for the similar results of APN's and college students could be that of higher education. Higher

education contributes to engaging in a more healthy lifestyle (Walker et al., 1988; Woods, Lentz, and Mitchell, 1993).

It is difficult to do comparisons with previous studies using the Health-Promoting Lifestyle Profile II, particularly prior to 1998. The previous version was called the Health-Promoting Lifestyle Profile and had the subscales of self-actualization and interpersonal support. Also, the range of scores for the total instrument was 48-192. Whereas, the current version has the subscales of spiritual growth and interpersonal relations, and range of scores at 52-208. Also, there is a paucity of current studies using the HPLP II.

Research Question 2

Statistically significant relationships were identified between health-promoting lifestyle practices and two of the seven demographic variables. The personal factors found to correlate with the HPLP II and subscales were income and body mass index.

A significant negative correlation was identified between income and the subscales of health responsibility, physical activity, and interpersonal relations, as well as the total Health-Promoting Lifestyle Profile II score. These findings indicate that a lower income is associated with higher levels of health-promoting behaviors, particularly in the areas of health responsibility, physical activity, and interpersonal relations. One explanation for this could be that an APN with less income may be working less hours, therefore may have more time to participate in health-promoting behaviors. The results do not support previous research pertaining to income and health-promoting activities. Findings from previous studies found higher income to be associated with more and better health habits (Walker et al., 1988; Duffy, 1989; Duffy, 1993; Johnson et al., 1993).

Body mass index had negative correlations with the total Health-Promoting Lifestyle Profile II score as well as the subscales of nutrition, stress management, and health responsibility. There was also a moderate negative correlation with physical activity. These relationships indicate that with a high body mass index, APN's are less likely to engage in health-promoting activities, will exhibit poor nutrition habits, and will have limited stress management techniques. Concerning body mass index correlating to physical activity, a higher BMI would indicate advanced practice nurses are not engaging in exercise behaviors. This result is similar to findings by Johnson et al. (1993) that body mass index had a direct effect on health-promoting behaviors, particularly exercise behaviors.

The personal factors of age, gender, race, level of education, and marital status were not found to have a relationship with health-promoting behaviors. These findings are in contrast to other studies that have found age, gender, race, education, and marital status to have significant correlations to health-promoting behaviors (Duffy, 1988; Soeken et al., 1989; Pender et al., 1990). Duffy (1993) found that older married individuals were more likely to engage in exercise, health responsibility, and stress management behaviors. O'Quinn (1995) found women had higher health responsibility behaviors, whereas men performed physical activity behaviors more than women.

Regarding race, Duelberg (1992) found that African-American women were less likely than white women to engage in exercise and non-smoking behaviors. With regards to education, Walker et al. (1988) found that those individuals with higher education had higher scores in nutrition, stress management, and higher overall health-promoting scores. Participants in this study were highly educated, of higher economic

status, and primarily white, therefore making comparisons to other studies is difficult. Further research with diverse samples is warranted.

Research Question 3

The findings indicate that advanced practice nurses are counseling patients regarding health-promoting behaviors. The overall mean score for the advanced practice nurses counseling practices on the Health Promotion Inventory was 71.17 (SD = 10.97). Counseling regarding smoking was the activity most often performed by the APN's in the study, with a mean score of 4.50 (SD = .698). The least performed counseling activity was that of reporting mouth sores, with a mean score of 2.63. Comparing these findings to the findings in Brown and Waybrant's (1988) study, APN's in their study most frequently counseled on breast self-exam (mean = 4.67, SD = 4.17) and least frequently on seat belt use (mean = 1.64, SD = 2.66). The sample in this study consistently scored higher on most counseling activities than Brown and Waybrant's (1988) sample as shown in Table 16.

When interpreting the results of both studies, one must take into consideration the practice setting of the advanced practice nurses. In this study, the majority of APN's worked in a private physician practice (30.8%) or an outpatient clinic (29.4%). These practice setting's may be more conducive to and allow more time for health promotion counseling. Whereas in the Brown and Waybrant (1988) sample, the majority worked in health maintenance organizations (23.3%) or community clinics (27.2%). Advanced practice nurses working in health maintenance organizations may be required to see more patients, therefore may have less time to counsel on health promotion practices.

Based on the objectives set in Healthy People 2000 (1996) for counseling

services for physical activity (50%), diet/nutrition (75%), tobacco use (75%), and alcohol/drug use (75%), this study sample is meeting those objectives. The APN's in this sample counsel on the those activities as follows: physical activity (85.5%), nutrition (85.5%), tobacco (93.3%), alcohol use (70.3%), and drug use (60.8%). The previous percentages represent totals of the "often" and "always" responses on the Health Promotion Inventory. The Healthy People 2000 (1996) objectives for counseling services were set for all primary care providers, hence this includes physicians, physicians assistants, and advanced practice nurses. Consequently, the high percentages of counseling activities performed by advanced practice nurses in this sample is not truly representative of the counseling services done by all APN's or primary care providers.

Research Question 4

A significant positive relationship was found between the health-promoting behaviors of advanced practice nurses and their counseling of patients regarding health-promoting practices. In this relationship, advanced practice nurses who engage in health-promoting behaviors are likely to counsel their patients regarding healthy behaviors.

A significant positive correlation was found between the nutrition subscale of the Health-Promoting Lifestyle Profile II and the nutrition questions 6, 7, 8, 9, 10, 11, 12, and 13 of the Health Promotion Inventory. This relationship indicates that APN's with good nutrition behaviors are likely to counsel regarding nutrition practices.

The study findings are consistent with a study of nurses in New York evaluating their knowledge, attitudes, and practice patterns regarding cholesterol and coronary heart disease (Wilt, Hubbard, and Thomas, 1990). The results found that nurses who

were certified, master's prepared, knew their own cholesterol levels, and had higher overall knowledge scores were more likely to counsel.

Findings Related to Framework

Pender's Health Promotion Model (1996) was utilized as the theoretical framework for the study as the model's emphasis is on health-promoting behaviors. Pender (1996) suggests that personal factors can have direct or indirect influence on health-promoting behavior. The personal factors examined in this study included age, gender, race, marital status, education, income, and body mass index as measured by the demographic data sheet and correlated to the Health-Promoting Lifestyle Profile II. The variables of income and body mass index were found to have significant relationships with health-promoting lifestyle practices, as previously discussed. These findings provide support for specific personal factors and their influence on health-promoting behaviors, as proposed in Pender's Health Promotion Model (1996). This study utilized Pender's revised Health Promotion Model (1996) and the new Health-Promoting Lifestyle Profile II (HPLP II). Very few studies (LaRouche, 1998) have tested the revised model or the HPLP II. To determine if personal factors of specific populations influence health-promoting behaviors, further research is warranted.

Limitations

The sample does not fully represent the advanced practice nursing population. The sample was drawn from the American Academy of Nurse Practitioners and consisted of advanced practice nurses involved in family practice. The study results are not generalizable to the overall population of nurse practitioners or specialty groups

(geriatric nurse practitioners, pediatric nurse practitioners, and women's health nurse practitioners) nationwide.

Another limitation is the relative homogeneity of the sample. The majority of respondents were Caucasian, female, well-educated, and financially comfortable. Hence, the study results cannot be generalized to the population of all advanced practice nurses or women.

Another area of concern in this study involved the study instruments and their use of self-report measures. Participants in this study may have felt the need to respond in a manner that displayed a healthy lifestyle due to the societal expectations that advanced practice nurses be role models. Thus, inaccurate data could have resulted.

Although the Health Promotion Inventory had reliable internal consistency (.90) for this study, the instrument has not been tested thoroughly in other studies. The overall score of the Health Promotion Inventory may not be a true measure of the advanced practice nurses counseling activities. Some of the items (saturated fat reduction) identify a focused counseling activity, whereas other items (exercise) identify a broad counseling activity. Further study with the Health Promotion Inventory is warranted.

Conclusions

The purpose of this study was to examine the relationships between personal factors and the degree to which they influence advanced practice nurses current practice of health-promoting behaviors, and the relationship between these behaviors and their counseling of patients. The current study suggests several conclusions.

1. Advanced practice nurses in this study are practicing health-promoting lifestyle behaviors.
2. The personal factors of income and body mass index do influence the health-promoting behaviors of advanced practice nurses.
3. The personal factors of age, gender, race, level of education, and marital status do not influence the health-promoting behaviors of advanced practice nurses.
4. Advanced practice nurses in this study are counseling patients regarding health-promoting behaviors.
5. Advanced practice nurses in this study who engage in health-promoting behaviors do counsel their patients regarding health-promoting behaviors.

Implications for Nursing

Advanced practice nurses need to have an active role in the health promotion of their patients, as well as be aware of their own lifestyle behaviors. The findings of this study are encouraging since they suggest that advanced practice nurses do practice a health-promoting lifestyle as measured by the Health-Promoting Lifestyle Profile II. The advanced practice nurses ranked in the 50th percentile for mean scores on the Health-Promoting Lifestyle Profile II and the subscales. With very few studies utilizing the HPLP II, research examining the health-promoting behaviors of advanced practice nurses and other populations is warranted to substantiate this study's findings. The advanced practice nurses in this study scored lowest on the HPLP II subscale of stress management. Further study is warranted to determine what factors or characteristics of advanced practice nurses contribute to high levels of stress.

The study suggests that relationships exist between selected personal factors

and health-promoting behaviors. These findings may reflect this study sample only. The ability to generalize the findings of this study is limited to advanced practice nurses from the American Academy of Nurse Practitioners. Therefore, additional research using a larger, more heterogeneous sample is warranted to determine if such relationships exist.

As noted previously in this study, health care expenditures continue to rise in the United States. Advanced practice nurses as health care providers have the knowledge and expertise to counsel patients about their lifestyle behaviors and recommend activities that promote a patients well-being. Effective counseling by advanced practice nurses to help change or alter patient behaviors in terms of such activities as diet, exercise, alcohol consumption, and smoking could make important contributions to cost containment of health care expenditures.

Health promotion is aimed at the personal and lifestyle habits of patients to improve their physical and psychosocial well-being. By providing routine counseling and health education, advanced practice nurses can help motivate individuals to integrate healthy lifestyle habits into daily living.

Objectives set in Healthy People 2000 (1996) seeks to increase the number of primary care providers who provide counseling regarding health promotion and disease prevention activities, specifically nutrition, exercise, tobacco, alcohol, and drug use. Meeting these goals necessitates making advanced practice nurses aware of the need for, and the effectiveness of, health promotion and disease prevention counseling.

Recommendations for Further Research

Based on the results of this study, the following recommendations for further study are suggested:

1. Repeat this study using a larger sample size.
2. As the demographic characteristics of advanced practice nurses change, longitudinal studies examining the health-promoting practices of this group throughout their careers is warranted.
3. Continued use of the Health-Promoting Lifestyle Profile II in studies examining health-promoting practices of advanced practice nurses, other health care professionals, and other populations.
4. Compare the health-promoting behaviors of primary care providers, such as nurse practitioners, physicians assistants, and physicians.
5. Continued use of the Health Promotion Inventory in studies examining the counseling activities of advanced practice nurses and other primary care providers.
6. A study to evaluate the effectiveness of the counseling activities provided by advanced practice nurses.
7. Compare the counseling activities of primary care providers, such as nurse practitioners, physicians assistants, and physicians.

Summary

This chapter presented a summary of the study, a discussion of the findings, limitations of the study, conclusions, and implications for nursing. Finally, recommendations for further research were discussed.

APPENDIX A

HUMAN SUBJECTS RIGHTS

UNLV
UNIVERSITY OF NEVADA LAS VEGAS

DATE: December 10, 1999

TO: Wanda M. Boyer (NUR)
M/S: 3018

FROM: Dr. Jack Young
Chair, Biomedical Sciences Committee
UNLV Institutional Review Board

RE: Status of Human Subject Protocol entitled:
"Health-Promoting Practices of Advanced Practice Nurses and the Relationship between these Practices and their Counseling of Patients"

OSP #501s1299-170b

This memorandum is official notification that the protocol for the project referenced above has been approved by the Biomedical Sciences Committee of the Institutional Review Board. This protocol is approved for a period of one year from the date of this notification and work on the project may proceed.

Should the use of human subjects described in this protocol continue beyond a year from the date of this notification, it will be necessary to request an extension.

If you have any questions or require any assistance, please contact the Office of Sponsored Programs at 895-1357.

cc: OSP File

Office of Sponsored Programs
4505 Maryland Parkway • Box 451037 • Las Vegas, Nevada 89154-1037
(702) 895-1357 • FAX: (702) 895-4242

APPENDIX B

COVER LETTER

UNLV
UNIVERSITY OF NEVADA LAS VEGAS

February 19. 2000

Dear Advanced Practice Nurse.

I am a graduate nursing student completing my masters degree at the University of Nevada, Las Vegas. As a registered nurse, I am interested in health promotion behaviors. particularly health promotion behaviors of nurses. Currently, I am conducting a research study to determine the health-promoting practices of advanced practice nurses and their health promotion counseling of patients.

Your name was randomly selected from a list of licensed APN's provided by the American Academy of Nurse Practitioners. Enclosed with this letter are three questionnaires to be completed, a demographic data sheet, a questionnaire on health-promoting lifestyle practices. and a counseling tool. Completion of the instruments will require 15-20 minutes of your time. Participation in this study is entirely voluntary. Completion and return of the instruments will indicate your consent to participate in the study. Although there are no personal benefits to you. the results of this study will add to the current knowledge base regarding the relationship between the health-promoting practices of APN's and their counseling of patients. The study procedures involve no foreseeable risks or harm to you.

After completion of the questionnaire, please return the surveys in the self-addressed stamped envelope provided. Your name will not appear on the questionnaire. therefore. anonymity will be maintained throughout the study. Responses from the questionnaires will be reported as grouped findings and will remain confidential. A summary of the findings will be available to you upon request if you send your name and address to the investigator.

If you have any questions regarding the study. feel free to contact me at the Department of Nursing. 702-895-3360. Questions regarding the rights of research subjects can be directed to UNLV's Office of Sponsored Programs. 702-895-1357.

Thank you for your cooperation and support.

Wanda Boyer, RN

Wanda Boyer. RN. BA
Graduate Student

Department of Nursing
4505 Maryland Parkway • Box 453018 • Las Vegas. Nevada 89154-3018
(702) 895-3360 • FAX (702) 895-4807

APPENDIX C

DEMOGRAPHIC DATA SHEET

DEMOGRAPHIC DATA SHEET

DIRECTIONS: Please complete the following items.

AGE: _____

GENDER: _____Female _____Male

HEIGHT: _____ Feet _____Inches **WEIGHT:** _____Pounds

RACE: _____Caucasian _____African American _____Hispanic
_____Native American _____Asian _____Other

MARITAL STATUS: _____Single _____Married
_____Divorced _____Widowed _____Separated

NUMBER OF CHILDREN CURRENTLY RESIDING AT HOME: _____

HIGHEST LEVEL OF EDUCATION ACHIEVED:
_____Doctorate _____Masters _____Bachelors _____Bachelors w/Certificate
_____Associate Degree w/Certificate _____Diploma w/Certificate

PRACTICE SETTING: _____Hospital _____Outpatient Clinic
_____Home Health _____Private Physician Practice _____Long Term Care
_____Private NP Practice _____NP Faculty _____College Health
_____Correctional Facility _____Occupational/Employee Health ____Other

AVERAGE HOURS WORKED PER WEEK: _____

YEARS OF EXPERIENCE IN ADVANCED PRACTICE NURSING: _____

ANNUAL TOTAL HOUSEHOLD INCOME: ____$0-25,000 ____$25,001-50,000
_____$50,001-75,000 _____$75,001-100,000 _____$100,000 +

TOBACCO USE (Cigarettes):
_____ Current smoker _____ Former smoker _____ Never smoked

ALCOHOL CONSUMPTION:
_____Never _____Less than once per week _____1-2 times per week
_____More than twice per week

APPENDIX D

PERMISSION LETTER FOR USE OF HEALTH-PROMOTING LIFESTYLE PROFILE II

PERMISSION FORM

I plan to use the *Health-Promoting Lifestyle Profile II* in a research or evaluation project entitled:
Health Habits of Nurse Practitioners and How This Affects Their Counseling of Patients

I am enclosing a check for ten dollars ($10.00) payable to the **University of Nebraska Medical Center College of Nursing.**

Wanda Boyer, RN, BA, OCN
Print Name

Wanda Boyer, RN
Signature

FNP Graduate Student
Position

(702) 221-8050
Area Code Telephone #

3978 Pebble Creek Ave.
Mailing Address
Las Vegas, NV 89147

Permission is granted to the above investigator to copy and use the *Health-Promoting Lifestyle Profile II* for non-commercial data collection purposes such as research or evaluation projects provided that content is not altered in any way and the copyright/permission statement at the end is retained. The instrument may be reproduced in the appendix of a thesis, dissertation or research grant proposal without further permission. Reproduction for any other purpose, including the publication of study results, is prohibited without specific permission.

Susan Noble Walker

5/3/99
Date

Please send two signed copies of this page to:

Susan Noble Walker, Ed.D., R.N., F.A.A.N.
College of Nursing
University of Nebraska Medical Center
985330 Nebraska Medical Center
Omaha, Nebraska 68198-5330

APPENDIX E

HEALTH-PROMOTING LIFESTYLE

PROFILE II

LIFESTYLE PROFILE II

DIRECTIONS: This questionnaire contains statements about your present way of life or personal habits. Please respond to each item as accurately as possible, and try not to skip any item. Indicate the frequency with which you engage in each behavior by circling:

N for never, **S** for sometimes, **O** for often, or **R** for routinely

		N	S	O	R
1.	Discuss my problems and concerns with people close to me.	N	S	O	R
2.	Choose a diet low in fat, saturated fat, and cholesterol.	N	S	O	R
3.	Report any unusual signs or symptoms to a physician or other health professional.	N	S	O	R
4.	Follow a planned exercise program.	N	S	O	R
5.	Get enough sleep.	N	S	O	R
6.	Feel I am growing and changing in positive ways.	N	S	O	R
7.	Praise other people easily for their achievements.	N	S	O	R
8.	Limit use of sugars and food containing sugar (sweets).	N	S	O	R
9.	Read or watch TV programs about improving health.	N	S	O	R
10.	Exercise vigorously for 20 or more minutes at least three times a week (such as brisk walking, bicycling, aerobic dancing, using a stair climber).	N	S	O	R
11.	Take some time for relaxation each day.	N	S	O	R
12.	Believe that my life has purpose.	N	S	O	R
13.	Maintain meaningful and fulfilling relationships with others.	N	S	O	R
14.	Eat 6-11 servings of bread, cereal, rice, and pasta each day.	N	S	O	R
15.	Question health professionals in order to understand their instructions.	N	S	O	R
16.	Take part in light to moderate physical activity (such as sustained walking 30-40 minutes 5 or more times a week).	N	S	O	R
17.	Accept those things in my life which I cannot change.	N	S	O	R

	N	S	O	R
18. Look forward to the future.	N	S	O	R
19. Spend time with close friends.	N	S	O	R
20. Eat 2-4 servings of fruit each day.	N	S	O	R
21. Get a second opinion when I question my health care provider's advice.	N	S	O	R
22. Take part in leisure-time (recreational) physical activities (such as swimming, dancing, bicycling).	N	S	O	R
23. Concentrate on pleasant thoughts at bedtime.	N	S	O	R
24. Feel content and at peace with myself.	N	S	O	R
25. Find it easy to show concern, love, and warmth to others.	N	S	O	R
26. Eat 3-5 servings of vegetables each day.	N	S	O	R
27. Discuss my health concerns with health professionals.	N	S	O	R
28. Do stretching exercises at least 3 times per week.	N	S	O	R
29. Use specific methods to control my stress.	N	S	O	R
30. Work toward long-term goals in my life.	N	S	O	R
31. Touch and am touched by people I care about.	N	S	O	R
32. Eat 2-3 servings of milk, yogurt or cheese each day.	N	S	O	R
33. Inspect my body at least monthly for physical changes/ danger signs.	N	S	O	R
34. Get exercise during usual daily activities (such as walking during lunch, using stairs instead of elevators, parking car away from destination and walking).	N	S	O	R
35. Balance time between work and play.	N	S	O	R
36. Find each day interesting and challenging.	N	S	O	R
37. Find ways to meet my needs for intimacy.	N	S	O	R
38. Eat only 2-3 servings from the meat, poultry, fish, dried beans, eggs, and nuts group each day.	N	S	O	R
39. Ask for information from health professionals about how to take good care of myself.	N	S	O	R

	N	S	O	R
40. Check my pulse when exercising.	N	S	O	R
41. Practice relaxation or meditation for 15-20 minutes daily.	N	S	O	R
42. Am aware of what is important to me in life.	N	S	O	R
43. Get support from a network of caring people.	N	S	O	R
44. Read labels to identify nutrients, fats, and sodium content in packaged food.	N	S	O	R
45. Attend educational programs on personal health care.	N	S	O	R
46. Reach my target heart rate when exercising.	N	S	O	R
47. Pace myself to prevent tiredness.	N	S	O	R
48. Feel connected with some force greater than myself.	N	S	O	R
49. Settle conflicts with others through discussion and compromise.	N	S	O	R
50. Eat breakfast.	N	S	O	R
51. Seek guidance or counseling when necessary.	N	S	O	R
52. Expose myself to new experiences and challenges.	N	S	O	R

APPENDIX F

PERMISSION TO USE HEALTH PROMOTION INVENTORY

UNLV
UNIVERSITY OF NEVADA LAS VEGAS

Wanda M. Boyer
3978 Pebble Creek Avenue
Las Vegas, NV 89147
(702) 221-8050
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November 18. 1999

Marie Annette Brown. PhD. FAAN
Professor
Family and Child
Box 357262
University of Washington
Seattle. WA 98195-7262

Dear Dr. Brown,

I am a nursing masters student at the University of Nevada. Las Vegas. I am conducting research on the health-promoting practices of advanced practice nurses and the relationship between these practices and their counseling of patients. I would like to use/adapt your Health Promotion Inventory in my thesis work and would appreciate your permission to do so.

Thank you.

Sincerely.

Wanda M. Boyer

Wanda M. Boyer

I. Marie Annette Brown ~~grant~~ Wanda M. Boyer permission to utilize/adapt the Health Promotion Inventory.

Marie Annette Brown 11/15/99

Marie Annette Brown Date

Department of Nursing
4505 Maryland Parkway • Box 453018 • Las Vegas, Nevada 89154-3018
(702) 895-3360 • FAX (702) 895-4807

APPENDIX G

HEALTH PROMOTION INVENTORY

Health Promotion Inventory

DIRECTIONS: This questionnaire contains statements about health promotion activities used in your practice. Please respond to each item as accurately as possible. Consider only adults ages 18+.

How often do you teach/counsel on?

1. EXERCISE.....NEVER SELDOM SOMETIMES OFTEN ALWAYS
2. HYGIENE.....NEVER SELDOM SOMETIMES OFTEN ALWAYS
3. SMOKING.....NEVER SELDOM SOMETIMES OFTEN ALWAYS
4. ALCOHOL ABUSE.....NEVER SELDOM SOMETIMES OFTEN ALWAYS
5. DRUG ABUSE.....NEVER SELDOM SOMETIMES OFTEN ALWAYS
6. NUTRITION.....NEVER SELDOM SOMETIMES OFTEN ALWAYS
   a. SODIUM REDUCTION.....NEVER SELDOM SOMETIMES OFTEN ALWAYS
   b. SATURATED FAT REDUCTION.....NEVER SELDOM SOMETIMES OFTEN ALWAYS
   c. REFINED SUGAR REDUCTION.....NEVER SELDOM SOMETIMES OFTEN ALWAYS
   d. CAFFEINE REDUCTION.....NEVER SELDOM SOMETIMES OFTEN ALWAYS
   e. WEIGHT CONTROL.....NEVER SELDOM SOMETIMES OFTEN ALWAYS
   f. CALCIUM INTAKE/ SUPPLEMENTS.....NEVER SELDOM SOMETIMES OFTEN ALWAYS
   g. NUTRITIONALLY BALANCED INTAKE.....NEVER SELDOM SOMETIMES OFTEN ALWAYS
7. STRESS MAMAGEMENT.....NEVER SELDOM SOMETIMES OFTEN ALWAYS
8. ENHANCING SOCIAL SUPPORT SYSTEMS.....NEVER SELDOM SOMETIMES OFTEN ALWAYS
9. SEAT BELT USE.....NEVER SELDOM SOMETIMES OFTEN ALWAYS
10. REPORTING MOUTH SORES.....NEVER SELDOM SOMETIMES OFTEN ALWAYS
11. BREAST SELF-EXAM.....NEVER SELDOM SOMETIMES OFTEN ALWAYS
12. TESTICULAR SELF-EXAM.....NEVER SELDOM SOMETIMES OFTEN ALWAYS

APPENDIX H

DATA TABLES

Table 1

Frequency Distributions for Age, Gender, Race, and Marital Status (N = 357)

Variable	Frequency	%
Age (N = 357)		
20-25 years	1	0.3
26-36	57	16.0
36-45	135	37.8
46-55	143	40.1
56+	21	5.9
Gender (N = 357)		
Female	327	91.6
Male	43	8.4
Race (N = 357)		
Caucasian	332	93.0
African-American	6	1.7
Hispanic	10	2.8
Native American	4	1.1
Asian	3	0.8
Other	2	0.6
Marital Status (N = 357)		
Single	40	11.2
Married	268	75.1
Divorced	39	10.9
Widowed	5	1.4
Separated	5	1.4

Table 2

Frequency Distributions for Height, Weight, and Body Mass Index (N = 357)

Variable	Frequency	%
Height in Inches (N = 357)		
58-63 inches	78	21.8
63.5-66	157	44.0
66.5-69.5	87	24.4
70+	35	9.8
Weight in Pounds (N = 357)		
95-120 pounds	43	12.0
121-145	127	35.6
146-170	99	27.7
171-195	51	14.3
196-220	21	5.9
221-245	7	2.0
245+	9	2.5
Body Mass Index (N = 357)		
<18	4	1.1
19-24	185	51.8
25-29	116	32.5
30-39	47	13.2
>45	5	1.4

Table 3

Frequency Distributions for Number of Children at Home, Level of Education, and Practice Setting (N = 357)

Variable	Frequency	%
Number of Children at Home (N = 357)		
0 children	187	52.4
1-2 children	141	39.5
3-4 children	27	7.6
5 or more children	2	0.6
Level of Education (N = 357)		
Doctorate	18	5.0
Masters	313	87.7
Bachelors	3	0.8
Bachelors with certificate	9	2.5
Associate with certificate	8	2.2
Diploma with certificate	6	1.7
Practice Setting (N = 357)		
Hospital	51	14.3
Outpatient Clinic	105	29.4
Private Physician Practice	110	30.8
Long Term Care	7	2.0
Private NP Practice	14	3.9
NP Faculty	10	2.8
College Health	8	2.2
Correctional Facility	1	0.3
Occupational/Employee Health	10	2.8
Other	41	11.5

Table 4

Frequency Distributions for Average Hours Worked Per Week, Years Experience in Advanced Practice, and Annual Household Income (N = 357)

Variable	Frequency	%
Hours Worked Per Week (N = 357)		
0-10 hours	17	4.8
11-20	17	4.8
21-30	35	9.8
31-40	170	47.6
41-50	96	26.9
51+	22	6.2
Years of Experience in Advanced Practice (N = 357)		
0-2 years	121	33.9
3-5	122	34.2
6-10	50	14.0
11 or greater	64	17.9
Annual Household Income (N = 357)		
$0-25,000	1	0.3
$25,001-50,000	27	7.6
$50,001-75,000	120	33.6
$75,001-100,000	94	26.3
$100,000+	115	32.2

Table 5

Frequency Distributions for Tobacco Use and Alcohol Consumption (N = 357)

Variable	Frequency	%
Tobacco Use (N = 357)		
Current smoker	12	3.4
Former smoker	92	25.8
Never Smoked	253	70.9
Alcohol Consumption (N = 357)		
Never	65	18.2
Less than once per week	190	53.2
1-2 times per week	63	17.6
More than 2 times per week	39	10.9

Table 6

Means and Standard Deviations on Health-Promoting Lifestyle Profile II (HPLP II) and Subscales (N = 357)

Variable (range)	Mean	SD
Total HPLP II (89-198)	154.19	19.19
Stress Management (12-32)	21.26	4.09
Physical Activity (8-32)	21.50	5.73
Health Responsibility (12-35)	24.29	4.58
Nutrition (15-36)	26.39	4.55
Interpersonal Relations (18-36)	29.60	4.25
Spiritual Growth (18-36)	31.13	4.09

Note: Range = range of scores; SD = Standard deviation.

Table 7

Correlations Between Personal Factors and Health-Promoting Lifestyle Profile II (N = 357)

Variable	HPLP II	
	r	*p*
Age	.074	.160
Income	-.153	.004
Body Mass Index	-.222	.000
	r_s	*p*
Education	-.070	.184

Note: *r* = Pearson's Product Moment Correlation; r_s = Spearman's Rho Correlation.

Table 8

Correlations Between Income and the HPLP II Subscales of Health Responsibility, Physical Activity, and Interpersonal Relations (N = 357)

Variable	Income	
	r	*p*
Health Responsibility	-.104	.048
Physical Activity	-.141	.007
Interpersonal Relations	-.172	.001

Table 9

Correlations Between Body Mass Index and HPLP II Subscales of Nutrition, Physical Activity, Stress Management, and Health Responsibility (N = 357)

Variable	Body mass index	
	r	*p*
Nutrition	-.201	.000
Physical Activity	-.369	.000
Stress Management	-.131	.013
Health Responsibility	-.109	.039

Table 10

Comparison of Marital Status and Race with Health-Promoting Lifestyle Profile II (N = 357)

Source	df	SS	MS	F	F Prob.
Marital Status					
Between Groups	4	1510.03	377.50	1.025	.3942
Within Groups	352	129636.84	368.28		
Total	356	131146.87			
Race					
Between Groups	5	1424.89	284.97	.7711	.5711
Within Groups	351	129721.98	369.57		
Total	356	131146.87			

Note: df = Degrees of freedom; SS = Sum of squares; MS = Mean square; F = F ratio; F Prob. = F Probability.

Table 11

Comparison of Gender with Health-Promoting Lifestyle Profile II (n = 60)

Gender	n	Mean	SD	*t*	df	Sig.
Female	30	152.60	21.99	1.513	58	.136
Male	30	144.86	17.31	1.513	54.96	.136

Note: n = number in subsample; SD = Standard deviation; *t* = Computed value of *t* test; df = Degrees of freedom; Sig. = Statistical significance.

Table 12

Means and Standard Deviations on Health Promotion Inventory (HPI) and Each Counseling Activity (N = 357)

Variable	Mean	SD
Total HPI	71.17	10.97
Reporting Mouth Sores	2.63	1.15
Social Support Systems	3.44	.838
Caffeine Reduction	3.47	.929
Hygiene	3.48	.853
Seat Belt Use	3.51	1.31
Sodium Reduction	3.52	.944
Testicular Self-Exam	3.61	1.22
Refined Sugar Reduction	3.62	.927
Stress Management	3.65	.806
Drug Abuse	3.67	1.10
Calcium Intake/Supplements	3.84	.930
Alcohol Abuse	3.86	.911
Saturated Fat Reduction	3.92	.883
Weight Control	3.95	.767
Nutritionally Balanced Intake	4.02	.812
Exercise	4.09	.728
Nutrition	4.13	.749
Breast Self-Exam	4.19	1.01
Smoking	4.50	.698

Note: SD = Standard deviation.

Table 13

Correlation Between Health Promotion Inventory (HPI) and Health-Promoting Lifestyle Profile II (HPLP II) (N = 357)

Variables	HPLP II	
	r	*p*
HPI	.28	.000

Table 14

Correlations Between Health-Promoting Lifestyle Profile II Nutrition Subscale and Health Promotion Inventory Nutrition Items (N = 357)

Variables	HPLP II Nutrition Subscale	
	r	*p*
HPI Nutrition Items	.23	.000

Table 15

Internal Consistency of the Health-Promoting Lifestyle Profile II (HPLP II), Total and Subscale Scores; and the Health Promotion Inventory (HPI) (N = 357)

Scale	Number of Items	Alpha
HPLP II Total Scale	52	.91
Subscale Nutrition	9	.74
Subscale Health Responsibility	9	.77
Subscale Interpersonal Relations	9	.82
Subscale Spiritual Growth	9	.86
Subscale Stress Management	8	.76
Subscale Physical Activity	8	.85
HPI Total Scale	19	.90

Table 16

Comparison of Means and Standard Deviations on Health Promotion Inventory for Current Study (N = 357) and Brown and Waybrant Study (N = 164)

HPI Activity	Current Study		Brown and Waybrant	
	Mean	SD	Mean	SD
Nutrition	4.13	.749	3.66	3.46
Exercise	4.09	.728	2.96	2.96
Smoking	4.50	.698	1.89	2.63
Hygiene	3.48	.853	1.99	2.78
Weight Control	3.95	.767	2.20	2.53
Stress Management	3.65	.806	2.20	2.53

Note: SD = Standard deviation.

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