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Screening And Intervention Practices Of Family Nurse Practitioners For Smoking Tobacco Usage

Joseph H. Maness
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**SCREENING AND INTERVENTION PRACTICES OF
FAMILY NURSE PRACTITIONERS FOR
SMOKING TOBACCO USAGE**

By

JOSEPH H. MANESS

A Thesis

**Submitted in Partial Fulfillment of the Requirements
for the Degree of Masters of Science in Nursing
in the Division of Nursing
Mississippi University for Women**

COLUMBUS, MISSISSIPPI

August 1999

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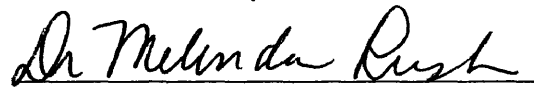
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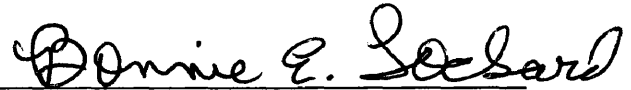
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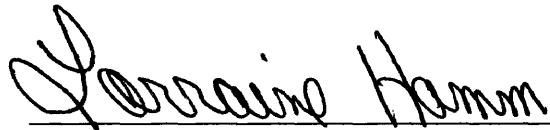
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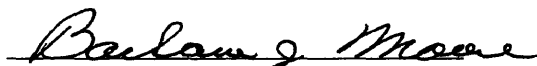
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Abstract

Smoking tobacco usage and its related health problems are a significant problem addressing the health care industry. Clients depend on primary health care providers to help identify potential health problems and to assist them in improving their health. The family nurse practitioner is in an ideal position to screen for smoking, and to intervene with those clients found to be at risk, to promote wellness within their client populations. Erikson, Tomlin and Swain's theory of Modeling, Role-Modeling served as the theoretical framework for this research. This descriptive study explored the screening and intervention practices utilized by family nurse practitioners for their clients who use smoking tobacco. Research questions included: (1) What are the screening practices used by nurse practitioners to identify smoking tobacco usage? (2) What intervention practices are used by family nurse practitioners to assist their clients in quitting smoking? The researcher-designed questionnaire was mailed to two hundred randomly selected family nurse practitioners certified in Tennessee. Those meeting criteria and returning the questionnaire within one month of initial mailing were included in the study. A final sample of 115 was obtained. Data analysis to identify frequencies and percentiles was performed using descriptive statistics. Over one-half of the study participants reported that they always screen for smoking usage on all clients, with the highest occurrence rate for clients with smoking related symptoms or illnesses at 92.2%. The rate of always advising and informing all smokers of available resources for quitting smoking occurred in less than one-quarter of the participants. The most frequently used intervention reported by the

study participants for assisting clients in smoking cessation was verbal encouragement. Based on the findings of this study, implications for nursing included the need for family nurse practitioners to use individualized and combined interventions when assisting their clients in quitting smoking. Recommendations included conduction of a study to explore the effectiveness of combined therapies for quitting smoking, including motivation, medication, exercise and counseling. Another recommendation included conduction of a research study to explore facilitators and barriers to smoker's receptiveness to involvement in smoking cessation interventions.

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Chapter 1

The Research Problem

Cigarette smoking is a significant health problem within the United States. The Centers for Disease Control and Prevention (CDC) state that cigarette smoking is the single most preventable cause of death in the United States, resulting in over 400,000 deaths of Americans each year (1996). Early identification and intervention for smoking cessation is critical in reducing the smoker's risk of suffering from smoking related diseases. Since 1964, approximately 10 million Americans have died as a result of smoking related illness including heart disease, emphysema and other respiratory diseases, with lung cancer alone accounting for 2 million of these deaths. Although smoking prevalence among U. S. adults has shown a decrease since 1965 from 42% to 26% in 1994, this figure represents one quarter of the population who are at risk for developing smoking related illnesses (CDC, 1996).

This occurrence rate helps illustrate the importance of recording, screening and intervening by health care providers for their clients who smoke. Screening and intervening by health care providers for their clients who smoke is essential in identifying and decreasing the numbers of current smokers, thus decreasing the number of smoking related illnesses. Clients seek medical treatment for varied reasons, including smoking and non-smoking related illness visits. The importance of identifying all clients at risk for

developing smoking related illnesses, and providing smoking cessation counseling to these clients is the responsibility of all health care providers.

Establishment of the Problem

The cost of smoking and its related health problems have had a staggering effect on society. Smoking Cessation Guideline Panel, (Rockville, Maryland 1996) stated the estimated 1993 cost at \$50 billion for smoking related illness plus \$47 billion for loss of productivity and potential earnings due to smoking-related disability. Passive or second hand smoke also has been shown to have an increased significance in the morbidity of smoking related health problems. Wewers et al. (1997) stated, "in children, exposure to second-hand cigarette smoke also has shown to exacerbate asthma symptoms and trigger upper respiratory and ear infections... in adult non-smokers, passive smoke exposure can cause similar health problems and is associated with such serious illnesses as lung cancer" (p.6) . Decreasing tobacco's future effect on morbidity and premature death depends on increasing the rates of cessation in current smokers and discouraging future smokers.

The role that primary health care providers play in reducing the occurrence of health problems related to smoking is very significant. The Smoking Cessation Guideline Panel and Staff (1996) stated at least 70% of all smokers see a health care provider each year and 70% of all smokers report an interest in quitting and have made at least one attempt at quitting. Only half of smokers have ever been encouraged by health care professionals to quit smoking, and even fewer have reported receiving specific advice on how to quit successfully from health care providers (Smoking Cessation Guideline Panel and Staff, 1996). Wewers et al. (1997) noted, "if just 100,000 physicians were to help just 10% of their patients who smoke to quit each year, the number of smokers in the U.S.

would drop by an additional 2 million per year” (p.22). The numbers of smokers that quit in the U. S. each year might increase tremendously if all health care professionals would assess and intervene with their clients who smoke (Wewers et al., 1997).

Health care providers may be missing unique opportunities for intervening and assisting clients for smoking cessation. The Smoking Cessation Guideline Panel and Staff (1996) also stated causes for missing these opportunities may include, “time restraints, a perceived lack of skills to be effective in this role, frustration due to low success rates, or even a belief that smoking cessation is not an important professional responsibility” (p.1271). For there to be an increase in the rate of smoking cessation, changes in health care delivery by providers must include identification of all smokers, and intervention for smoking cessation by offering treatment options to all clients who smoke.

There is a necessity, as well as a responsibility of health care providers to screen all clients for smoking. Identification of possible candidates for smoking cessation through screening is an excellent way to identify which clients are at greatest risk for developing smoking-related health problems, and which will best benefit from smoking cessation intervention techniques. Family nurse practitioners, due to their client- focused techniques, background in counseling, and skill of incorporating clients needs with holistic approaches, have a unique opportunity to identify and assist their clients with smoking cessation interventions. It is imperative that family nurse practitioners screen all clients for smoking and implement cessation techniques with all smokers. Yet there is little research that relates to specific nurse practitioners practices.

Theoretical Framework

Erikson, Tomlin and Swain's theory of Modeling and Role-Modeling (MRM) will serve as the theoretical framework for this study. Modeling and role-modeling theory can be described as a grand theory encompassing several mid-range theories and is based on philosophical beliefs and assumptions about people, environments, health and nursing (Hertz, 1996). According to Erickson, Tomlin and Swain (1983), modeling is defined as, "the process the nurse uses as she develops an understanding of the client's world- an image and understanding developed within the client's framework and from the clients perspective" (p. 95). The art of modeling involves developing a mirror image of the situation from the client's outlook. The science of modeling involves the gathering and analysis of data collected about the client's model. (Erickson et al., 1983) The second main component of the theory is that of role-modeling and, " occurs when the nurse plans and implements interventions that are unique for the client... requires an unconditional acceptance of the person as the person is while gently encouraging the facilitating growth and development at the person's own pace and within the person's own model," (Erickson et al. 1983, p. 95). Role-Modeling occurs during the planning and implementation stages. The art of role modeling develops when the nurse practitioner plans and implements interventions that are individualized for the client. The science of role-modeling occurs as the nurse practitioner plans interventions in regards to his/her theoretical base for the practice of nursing. These interventions should promote trust and control and be designed based on the client's personal perceptions and beliefs (Erickson et al., 1983).

MRM theory defines nursing as holistic helping of persons, and incorporates self-care activities of individuals in relation to their current health status. These self-care activities involve the use of knowledge, resources and action. The nurse-client relationship is interactive and interpersonal, and fosters strength within clients to identify and utilize resources that help them achieve, “a state of perceived optimal health and contentment” (Tomey et al. 1998, p. 393). MRM theory, in defining self-care knowledge, states that clients at some level know what has made them sick and also what will make them well. Self-care resources are the internal and external resources that help obtain, maintain and or encourage a maximal level of holistic health. Self-care action is the development and use of both self-care knowledge and self-care resources (Tomey et al., 1998).

Assessment of smoking status and intervention of smoking cessation techniques by nurse practitioners is necessary to provide holistic care, and promote optimal health within their client populations. To increase effectiveness of smoking cessation interventions, nurse practitioners need to individualize intervention strategies to fit distinct needs of each client (Robinson, 1995). MRM theory allows nurse practitioners to incorporate the distinctive needs of each client when developing and implementing treatment plans for smoking cessation.

Statement of the Problem

The evidence from literature indicates that persons who smoke are at great risk for developing smoking-related health problems and significant numbers of smokers have or would like to make attempts at quitting. Yet their primary care providers do not screen many clients for smoking tobacco usage and possible interventions. No research studies were found that looked specifically at the screening and intervention practices for family

nurse practitioners. The current research study identifies the screening and intervention practices of family nurse practitioner for their clients who use smoking tobacco.

Research Questions

This study will be guided by two research questions: (1) What are the screening practices used by nurse practitioners to identify smoking tobacco usage? and (2) What intervention practices are used by family nurse practitioners to assist their clients in quitting smoking?

Definition of Terms

1. Screening Practices

Theoretical definition- The “examination or testing of a group of individuals to separate those who are well from those who have an undiagnosed disease or defect or who are at risk”, (Miller and Keane 1987, p. 1114).

Operational definition- Screening practices as defined by the Maness Screening and Intervention Questionnaire used as an examination by family nurse practitioners to identify their clients who use smoking tobacco. Documentation and frequency patterns are addressed within the questionnaire.

2. Family Nurse Practitioner

Theoretical Definition-The family nurse practitioner is a “skilled health care provider who utilizes critical judgment in the performance of comprehensive health assessments, differential diagnosis, and the prescribing of pharmacological and non-pharmacological treatments in the direct management of acute and chronic illness and disease in a family practice setting”, (American Nurses Association 1996, p. 4).

Operational Definition- An advanced practice nurse in Tennessee whose name appears on the list of nurse practitioners certified in the state, and who is currently employed as a family nurse practitioner.

3. Smoking Tobacco Usage

Theoretical definition- “The act of drawing into the mouth and puffing out the smoke of tobacco contained in a cigarette, cigar, or pipe”, (Miller and Keane 1987, p.1145).

Operational definition- Smoking tobacco usage as defined by the Maness Screening and Intervention Questionnaire used to identify clients who draw into the mouth and puff out tobacco contained in cigarettes.

4. Intervention Practices

Theoretical definition- The “interposition or inference in the affairs of another to accomplish a goal or end”, (Miller and Keane 1987, p.653).

Operational definition- Intervention practices as defined by the Maness Screening and Intervention Questionnaire used as a means of inference by nurse practitioners to accomplish the goal of helping their clients stop smoking tobacco. Specific interventions included in the questionnaire are verbal encouragement, nicotine replacement, counseling/support groups, bupropion (Zyban), acupuncture, hypno-therapy and herbal therapy.

5. Quitting smoking

Theoretical definition- The stopping of inhaled tobacco contained in cigars and cigarettes.

Operational definition- Quitting smoking as defined by the Maness Screening and Intervention Questionnaire as the stopping of inhaled tobacco contained in cigars and cigarettes, with the goal of complete abstinence.

Assumptions

The following assumptions are made as underlying truths for this study:

1. Clients can benefit from screening and intervention for smoking tobacco usage by family nurse practitioners.
2. Clients depend on their primary care providers to identify potential health problems and to educate/promote healthier client behaviors.
3. Clients who smoke are at risk for developing smoking-related health problems and can benefit from screening and intervention by health care providers.
4. Modeling-Role-modeling allows individualization of screening and intervention practices by family nurse practitioners in providing care for their clients.

Chapter 2

Review of Literature

A review of literature was conducted to determine the status of past research regarding primary health care providers screening and intervention practices for smoking cessation. Although no research studies were found that looked specifically at nurse practitioner practices, there were several studies found that looked at smoking treatment practices for health care providers in general. Based on that review the following seven studies, which were most closely related to the current research, discussed screening and intervention practices of primary care providers for smoking cessation.

In a research study by Franzgrote, Ellen, Millstein and Irwin (1997), the purpose was to identify the reported rates for screening of adolescents by physicians and examine the correlates of the screening. The authors hypothesized that, “screening for smoking would vary by specialty and physician’s sex, as well as by exposure to smoking related diseases, both personally and in the practice setting, previous smoking-cessation training, attitudes toward adolescent patients, and attitudes about smoking cessation,” (Franzgrote et al.1997, p.1341).

The sampling design was a stratified random sample of physicians chosen from the American Board of Medical Specialties Compendium of Certified Medical Specialists. Criteria for inclusion were that the physician be: “community based, board certified, specialist in pediatrics, family practice, and internal medicine or specialist in adolescent

medicine (primarily pediatricians) who practice in California and spend at least 50% of their patient care time in primary care” (Franzgote et al.1997, p. 1341). The final sample included physicians who graduated between 1970 and 1985 and was comprised of both male and female physicians. This time period was chosen due to the definite findings by the Surgeon General’s report of the dangers of smoking, and the clear need for prevention. The initial survey included a modest payment and was sent to 754 physicians, who received follow up calls and second mailings. Exclusion criteria, refusal to participate, or inability to locate due to wrong addresses and phone numbers, narrowed the initial sample even further, resulting in a final sample size of 343 primary care physicians.

The instrument used for assessing the practice patterns of the physicians was a researcher developed questionnaire which included questions related to how frequently the physicians approached teenagers about “experimental and regular smoking during both routine and acute-care visits” (Franzgote et al.1997, p. 1342). The questions were focused on two age groups, younger adolescents, 11 to 14 years of age and older adolescents, 15 to 18 years of age. Information related to the physician’s “practice demographics, training experiences, personal exposure to smoking related diseases, and attitudes towards adolescent patients and about smoking cessation”, (Franzgote et al.1997, p. 1342) also was included. A 6-point likert scale (1 = very uncomfortable, and 6 = very comfortable) was the response scale by which physicians responded to the questions specific to “attitudes toward adolescent patients” (Franzgote et al.1997, p. 1342).

Analysis of the data included comparisons of the actual number of male and female providers within each specialty in California, as well as specific attitudes and

practices of the individual physicians. Analyses of variance were performed in order to assess how screening varied by specialty and physician's gender. A multivariate linear regression analysis was used to determine the independent contribution of physician attitudes and practice characteristics to rates of physician screening. Hierarchical multiple linear regressions also were used "to determine whether physician characteristics and physician attitudes accounted for variations in screening by specialty" (Franzgote et al. 1997, p. 1342).

Franzgote et al.(1997) determined many variations regarding screening of adolescents for smoking based on specialty of practice, gender of physician, age of the adolescent, type of exam, experimental usage and regular usage, and attitudes of individual physicians. During routine exams, physicians reported screening younger adolescents for regular smoking at an average of 71.4% and 84.8% for older adolescents. For acute-care visits, the average reported screening rates were 24.4% for younger adolescents and 40.2% for older adolescents. Responses by physicians who screen for experimental smoking were 18.2% for younger adolescents and 35.6% for older adolescents. The variance among specialties was found to be significant ($P<.001$), for both younger and older adolescents. Among younger adolescents, internists and adolescent medicine specialists asked about smoking more frequently than pediatricians. For older adolescents, family practitioners, internists, and adolescent medicine specialists all screened older adolescents more frequently than pediatricians. However, the percentage for experimental smoking screening did not vary significantly between specialties for either age group (Franzgote et al.1997). During acute-care visits, family practitioners, internists, and adolescent medicine specialists screened both younger and older adolescents

significantly more frequently than pediatricians (Franzgote et al. 1997). The rates for screening based on gender, for regular smoking among younger adolescents were “higher among female than among male physicians during routine visits (74.5% vs 65.6%; $P < .05$) and during acute-care visits (70.6% vs 78.4%; $P < .05$)”, (Franzgote et al. 1997, p. 1342). The difference for screening among older adolescents also was higher for female physicians during both routine (87.9% vs 78.6%; $P < .001$) and acute-care visits (88.6% vs 81.6%; $P < .01$), (Franzgote et al. 1997, p 1342).

The researchers found no gender difference in the rates of screening younger and older adolescents for experimental smoking. Based on attitudes, rates of screening of younger adolescents were highest among physicians who had more positive attitudes towards adolescents and more positive attitudes toward smoking cessation. For older adolescents, rates of screening were “independently associated with more positive attitudes towards adolescents” and “more positive attitudes towards smoking cessation” (Franzgote et al. 1997, p. 1343). For experimental use in both age groups there was an increase in screening with more positive attitudes toward adolescents.

Franzgrote et al. (1997) concluded that physicians screen younger clients less often than older adolescents and that screening for experimental smoking occurs less often than for regular smoking. The authors stated that the likelihood of experimental smoking first occurs in the younger adolescent population, and that “interventions designed to stop experimental smoking may be more effective than those targeting regular smoking” (Franzgote et al. 1997, p. 1342). Due to the decrease in screening of younger clients, and the probability that first cigarette use occurs more frequently within this group, the authors

suggest that physicians may be missing significant opportunities to intervene at the onset of smoking (Franzgote et al., 1997).

The authors stated the limitations in generalizing the study to all primary care physicians in California, and made recommendations for increasing the validity and generalizability in the study. One limitation was that the physicians surveyed did not represent a true probability sample of primary care providers due to the sampling design. Another limitation in the validity of the findings was due to the possibility of “specific biases in self-report of screening behavior” (Franzgote et al.1997, p. 1344). A suggestion made by the authors was that a more representative sample might include other primary care providers of adolescent clients, including nurse practitioners and physician assistants.

The significance of the reviewed research to the current research is in the area of screening of clients for possible smoking cessation intervention. Although Frangrote et al.’s research acknowledged limitations in its sample design and generalizability to the target population, they found the importance of identifying the current screening practices of primary care providers for their clients who smoke. The current research looks at the specific screening and intervention practices of nurse practitioners in family practice within the state of Tennessee and the factors that influence these clinicians to initiate screening and intervention for their clients who use smoking tobacco.

In another study Butler, Roisin and Stott (1998), identified three specific patient types and showed that the receptiveness to smoking intervention is based on the actual intervention style of the physician, as well as the identified type of patient. The researchers found that a confrontational approach with clients is not always the most effective intervention strategy.

The authors stated the purpose of the study was “to determine the effectiveness and acceptability of general practitioner’s opportunistic antismoking interventions” (Butler et al.1998, p.1878). The researchers questioned the validity of whether repeated interventions by physicians lead to more clients quitting smoking. The goal of the research was to “generate patient orientated evidence that matters, rather than generalizability in a statistical sense” (Butler et al.1998, p.1879). According to the authors, “to make the most of opportunities for smoking intervention that arise in normal health care, it may be important to understand patient’s perceptions of the acceptability of interventions they have received” (Butler et al.1998, p. 1878).

Butler et al. employed qualitative design. Smokers (536), were initially recruited to participate, of those only 42 were chosen and interviewed. The researchers purposely chose varying ages and educational levels to have a broad range of sociodemographic characteristics. They also included former smokers as well as current smokers.

Pilot semistructured interview guides which covered several topics were used. The topics included, “initial smoking, attempts to quit, thoughts about future smoking, past experiences with the health services, and the most appropriate way for health services to help the subject and other smokers” (Butler et al.1998, p.1879). The subjects were encouraged to be honest and open-ended questions were used, allowing the interviewers to follow up other issues that may have been brought up during the interview process. The interviews lasted 20-75 minutes; twenty-four were conducted by a social scientist and the other 18 by a general practitioner.

The data obtained from the interviews was analyzed by several methods including data reduction, data display, and drawing conclusions. Initial coding resulted in 73

categories, but after repeated discussions between the authors, rereading of interviews, and construction of data matrices, Butler et al. (1998) identified 30 themes included in each interview. One recurring theme was “doctors’ powers of persuasion”. Most subjects were very skeptical as to whether doctors had the power to influence smoking behavior. “Smokers evaluations”, another theme subject, related they did not need to be told repeatedly about the negative effects of smoking, but smokers were fully aware of the risk and possible negative effects of cigarette smoking. “Centering on the patient” was another theme identified which suggested, “good practice involves using a respectful tone, sensitivity to the patient’s receptivity, understanding the pt as a individual, being supportive, and most frequently, not preaching” (Butler et al.1998, p.1879). The last theme discussed was “anticipating antismoking advice”. Subjects anticipated that they would receive advice regarding smoking when they received health care. This anticipating advice included many negative aspects such as, clients avoiding medical care, to clients reporting feelings of guilt and shame related to smoking.

Three broad types of smokers also were identified based on their reactions to advice from doctors related to smoking cessation and were called “contrary” group, “matter of fact” group and the “self blaming” group. The contrary group tended to be less convinced of the advantages of quitting smoking and reported being less receptive and more skeptical towards a doctor’s ability to influence them in quitting smoking. The contrary group was more likely to describe negative feelings related toward intervention strategies and viewed smoking cessation as an individual’s choice alone. Matter of fact was the second group and viewed smoking as “a somewhat inexplicable and unfortunate lacuna in an otherwise balanced and worthy life” (Butler et al.1998, p.1880). The matter

of fact group found it reasonable for doctors to discuss smoking with them, and was the group least likely to be skeptical of a doctor's influence. The self blaming group expressed feelings of guilt and shame and related smoking to negative health effects. The self blaming group viewed smoking as a habit rather than an addiction, and felt doctors should speak to everyone about smoking.

The conclusions stated by the authors were doctors should not assume that repeated confrontational interventions for cigarette smoking result in more clients quitting smoking, and the greatest risk of damaging the doctor patient relationship through antismoking advice seemed to be evident within the contrary and self blaming groups. Findings from the study revealed that most subjects were most receptive to doctors who, "conveyed in a respectful tone; avoided preaching; showed support and caring; and attempted to understand them as a unique individual" (Butler et al.1998, p.1880). The authors stated, "how a patient views himself or herself as a smoker and how he or she is likely to react to differing styles of intervention may be useful to doctors when talking to patients about smoking" (Butler et al.1998, p.1880).

The current research study identifies specific intervention strategies utilized by nurse practitioners for their clients who use smoking tobacco, and uses Modeling and Role-Modeling theory as the theoretical framework. The past research, although based on patients' perceptions of physicians' interventions, has significant relevance in establishing the theoretical framework based on this model. The idea of "patients perceptions" also has significant importance in the current research, due to its possible effect on the practitioner's choice of intervention.

In another study by Kviz et al. (1995), the National Cancer Institute stated a “4 As protocol” should be used by health care providers for screening and intervention related to smoking cessation, and included, “Ask about smoking at every opportunity”, “Advise all smokers to stop”, “Assist the patient in stopping”, and “Arrange follow-up visits”, (p.201). Smoking cessation intervention by health care clinicians is an encouraging strategy for motivating and assisting smokers to quit. There is an increased probability that a smoker will make at least one visit to a health clinic each year. This increased probability, combined with the view that clients value advice given by health care workers, support the statement of Kviz et al. (1995), that “the more involved health care providers are in a smoking cessation program, the more likely it is that their patients will succeed in stopping smoking”, (p. 201). The researchers also reported the lack of significant prior research studies concerning age-specific strategies for motivating and assisting smokers to quit. Kviz et al. (1995) stated, “considering the potential effectiveness of health care provider-based interventions and the dearth of age-related smoking cessation research, knowledge about health care providers’ smoking cessation attitudes and practices according to patient age would be useful for developing strategies to enhance the frequency and quality of provider counseling of smokers of all ages to quit”, (p. 201).

The researchers stated the purpose of the research study was to analyze health care providers’ attitudes and self-reported performance of the 4 As of smoking cessation in relation to three different age groups and included three fundamental research questions. The fundamental research questions included: 1. “Are there differences in age-specific smoking cessation attitudes and practices by type of provider (MD/NPs vs RN/LPNs)?”, 2. “What is the relationship between providers’ smoking cessation attitudes and

practices?”, and 3. “Do providers’ smoking cessation attitudes and practices differ according to patient age?”, (Kviz et al.1995, p.202).

The setting for the study was a health maintenance organization (HMO) within the Chicago metropolitan area and consisted of 16 clinical offices. The data were obtained with a researcher developed questionnaire and targeted two provider groups, MD/NPs and RN/LPNs. Surveys were initially mailed to 261 physicians, nurse practitioners, registered nurses and licensed practical nurses who provided direct patient care to adult clients. Of the 261 potential participants 145 usable questionnaires were obtained. “The response rates for provider type included: physicians, 45.8%; nurse practitioners, 85.7%; registered nurses, 65.1%; and licensed practical nurses, 52.1%; with the overall total of the two provider groups in the analysis to be 52.9% for MD/NPs and 62.9% for RN/LPNs” (Kviz et al.1995, p.202).

Several variables were included within the sample population and included gender, age, race, smoking status, years of experience, scope of practice, and employment status. These variables were taken into account and obtained as part of the survey information. The age variable was separated into 2 categories, 49 or younger, and 50 or older, “to coincide with a major division in patient age used in age-specific questions about providers’ attitudes and practices”, (Kviz et al.1995, p. 202). The patient age groups for which the study addressed included 49 or younger, 50-64, and 65 or older.

Another goal of the researchers was to measure indicators of each of the 4 As protocol recommended by The National Cancer Institute. The first included asking, and was measured by frequency of documentation by the provider, of a patient's smoking history. Advising was measured by how often each provider advised patients to stop

smoking, regardless of smoking related illness. Assisting was measured based on the individual provider's amount of time spent on actually counseling to the patient, and whether it was provider or patient motivated. Arranging was measured by the frequency the providers checked the progress of patients they had previously counseled for smoking cessation (Kviz et al., 1995).

The actual analysis methods included several stages and types, and consisted of *t* test, X^2 , Pearson correlations, analysis of variance and Cochran's *Q* test. The researchers did not find significant differences in attitudes and practices related to smoking cessation by provider type ($p > 0.05$), but did find differences in attitudes based on patient age ($p < 0.05$), (Kviz et al, 1995). The most significant difference in attitudes by provider type in relation to age were by RN/LPNs, "whose attitudes were least favorable for the oldest smokers" ($p=0.001$), (Kviz et al.1995, p. 201). In contrast, smoking cessation practices did not differ significantly by patient age ($p > 0.05$), but showed a difference by provider type, with MD/NPs reporting more frequent performance of the 4 As, ($p < 0.05$), (Kviz et al., 1995).

The researchers concluded "a need for provider education, especially among registered/licensed practical nurses, about the benefits of smoking cessation for patients of all ages and the potential effectiveness of provider-based intervention strategies that are targeted toward specific age groups", (Kviz et al.1995, p. 201). Kviz et al. concluded that an active primary prevention related to smoking cessation education and intervention should be encouraged among both provider groups (1995).

The significance of the reviewed research to the current research was in the identification of specific attitudes and practices that providers have regarding smoking

cessation, and how these attitudes may affect what providers are utilizing for smoking cessation. Kviz's et al. (1995), research acknowledged the limitations in the results due to, "better opportunities for physicians and nurse practitioners to perform these practices.... differences in practices may reflect a stated or implied division of clinical roles regarding primary prevention", (Kivz et al.1995, p. 209). Although the reviewed research had limits in the generalizability to all providers, the findings indicate a need for more education of all provider groups to advise patients, even those without smoking-related symptoms, to stop smoking, (Kviz et al., 1995). The current research looks at the screening and intervention practices of nurse practitioners specifically. It also looks at what influences the nurse practitioner in choosing a specific intervention for smoking cessation. The previous research is relevant because of the focus on attitudes and practices for smoking cessation of specific provider groups.

In another research study conducted by Pohl & Caplan (1998), the effectiveness of using group intervention for smoking cessation was tested on low-income women. The study cited the incidence of smoking is declining more rapidly with males than with females. Pohl & Caplan (1998) stated that smoking prevalence between 1961 and 1991 had decreased by almost half among men but only one third with women, and if this trend continues, the prevalence of smoking in women will surpass that in men within the next two years. The researchers also stated changes in smoking patterns have a socioeconomic component, with a higher incidence of smoking occurring within lower income women. Pohl & Caplan (1998), stated "as the social class gap in smoking prevalence widens, the burden of smoking related diseases that affects the socially vulnerable will become increasingly disproportionate" (p.13). The researchers stated the need for effective

smoking cessation interventions, with an emphasis on delivering these interventions in a primary care setting to low income women.

The conceptual framework of the study was based on a feminist framework and Prochaska's model of change and was a descriptive study which included the development, implementation, and evaluation of a group intervention designed for low-income women in an urban primary care setting. Feminist thinking based interventions were used and included a focus on independence, empowerment, self-esteem, and self-efficacy. Prochaska's model of change was used to describe the process in moving from smoking toward quitting and includes five stages; (1) precontemplation, (2) contemplation, (3) preparation, (4) action and (5) maintenance, (Pohl & Caplan, 1998). Assumptions to the framework included; whether the client is in contemplation, preparation or action the client is in the process of change and moving toward a successful outcome. According to Pohl & Caplan effective interventions are specific for each stage and health care providers must be able to stage clients appropriately. Identifying the correct stage and providing specific interventions based on this stage will provide more successful outcomes for smoking cessation intervention (Pohl & Caplan, 1998).

The study's participants were obtained from a Midwestern county health department clinic, which served Medicaid-insured, under-insured, and uninsured populations. Fifty-five women smokers from the clinic population were surveyed over a four month period. Information collected during the initial survey included demographics, type and amount of cigarettes smoked, smoking experience, attempts to quit, substance abuse and other health information. Of the initial fifty-five, twenty women agreed to participate in the focus group that would help guide the study. From these twenty, nine

women agreed to participate in the intervention group and completed the program. The participants were staged according to Prokaska's model of change, the majority were classified as precontemplators ($n=7$; 78%), and two met the criteria for contemplators (Pohl & Caplan, 1998). The study was conducted by a nurse practitioner and a nurse practitioner graduate student over a six week period, and included measurement of carbon monoxide levels, distribution of educational materials, and direct education of smoking related illness through interactive group discussions. Group interventions were also focused on problem solving strategies, and women's issues directly related to smoking and the tobacco industry. All subjects were offered nicotine replacement therapy, of which seven chose to try nicotine patches.

The results of the findings indicated that participation in the group intervention had positive outcomes toward the goal of smoking cessation. Pohl & Caplan (1998), stated that by the end of the six week class eight participants had moved from the stage of precontemplation to the stage of preparation, and the average number of cigarettes smoked by the group had decreased from 22.7 to 9.2 ($p<0.01$). Within one month after completion of the intervention group seven of the original nine participants were classified as being in the action stage and within the first three months after the initial intervention all the study participants had quit smoking for at least one month. Important information obtained from research subjects included "(1) nurturing and support are critical, (2) patience is important-the participant a clinician believes is least likely to quit may be the first to quit, (3) do not rush quit date- the quitter must be the person to set it and (4) individualize the approach" (p. 31). According to Pohl & Caplan, (1998), on an average it takes five attempts at quitting smoking before one stops smoking and primary care

providers are in a unique position to assist their clients in developing creative and individualized approaches for quitting smoking.

The significance of the past research to the current research is the past research study looked specifically at group intervention conducted by nurse practitioners for their clients who smoke. The current research looks at screening and intervention practices of nurse practitioners for their clients who use smoking tobacco. The theoretical framework of the current research study is directly related to the findings of the past research of allowing the client to be an active participant in the treatment process and individualizing interventions that are unique for each client. The major focus of Modeling and Role-Modeling theory, framework for the current research study, is the importance of nurse practitioners developing plans and interventions that are specific and individualized for each client and their own specific needs. These interventions also require that clients take an active role in their treatment process.

In another research study conducted by Jaen, Crabtree, Zyanski, Goodwin and Stange (1998), the objective was to examine the incidence, targeting, and time demands of counseling by community family physicians for tobacco cessation within their client population. According to Jaen et al. (1998), despite the evidence of the effectiveness of smoking cessation advice to clients from health care providers, few physicians are utilizing key opportunities they may have to intervene for clients identified as smokers. Jaen et al. (1998), state that “smoking cessation advice is the most important preventive service that clinicians can offer patients who smoke... benefits all age groups and extends to individuals already afflicted with smoking related diagnoses”, (p. 425). The researchers cite that physicians know the smoking status of 69% to 96% of all ambulatory visits, but

only 20% of identified smokers reported that they have received smoking cessation counseling (Jaen et al., 1998).

The information sought by the past researchers was to compare the provisions of smoking advice by physicians, and to compare the duration of patient visits for nonsmokers, current smokers not receiving counseling, and current smokers receiving tobacco counseling. The comparison of provision of smoking cessation advice by physicians would be recorded by direct observation for acute illness visits, chronic illness visits, and well care visits (Jaen et al., 1998). The importance of smoking cessation advice during illness visit as well as during well care visits is critically important if primary care specialist are to maximize their therapeutic impact on their client population who smoke (Jaen et al., 1998).

The research setting included 138 family physicians in northeast Ohio and was conducted over a 10 month period between October 1994 to August 1995. Two teams of trained research nurses collected data from each physician's office visits on two separate occasions. The data was collected from observation of actual patient visits, and all physician participants were unaware of the focus on tobacco counseling during data collection. Tools used for data collection included the Davis Observational Code (DOC), a direct observational checklist, and a patient exit questionnaire. The observational checklist included identifying physician advice on passive tobacco exposure assessment, tobacco history, and tobacco cessation counseling, (Jaen et al., 1998).

There were 3663 patient visits observed with patient ages 14 and older. Of these 2790 (76%) returned the questionnaire, 135 of these were missing data or completed incorrectly and were not included in the study, leaving a final sample of 2655 patients,

(Jaen et al., 1998). The patient exit questionnaire collected additional data regarding the patient's past medical history, content of the observed visit, patient's past and present smoking status, and identification of current smokers. Jaen et al. (1998) classified all visits into three categories which included; acute problem, chronic problem, and wellness visit and was based on the research nurse's observation of the reason for the visit. Acute and chronic visits were then sub-categorized as either tobacco-related and non-tobacco-related visits on the basis of diagnosis.

The researchers used Chi-square tests to compare the proportion of smokers receiving counseling during tobacco-related and non-tobacco-related visits. One-way analysis of variance was used to compare the mean duration of encounters for nonsmokers, current smokers not receiving tobacco counseling, and current smokers receiving tobacco counseling. The researchers also chose Tukey's b post hoc analyses to identify which pair of groups most influenced the group comparisons, (Jaen et al., 1998)

The researchers identified 485 current smokers (18% of the 2655 patients); of these 122 (25%) were observed as having received smoking cessation advice. From the initial sample of 4454 visits only 56 (1%), received information on how to protect nonsmokers from passive smoke. Jaen et al.'s (1998), findings reported a direct relationship between reason for visit and incidence of smoking cessation advice. The highest incidence of cessation advice 55% occurred during wellness visits. Smokers seen for chronic visits were more likely to receive smoking cessation advice if the problem was tobacco-related vs chronic visits that were non-tobacco-related (32% vs 17%; $P = .05$), (Jaen et al., 1998). The researchers cited no significant difference in the incidence of smoking cessation advice during acute visits, whether they were tobacco-related or not.

The length of time spent on smoking cessation advice ranged from 20 seconds to 8.7 minutes with an average duration of 90 seconds and there were no significant differences in the duration of the advice between the different types of visits. According to Jaen et al. (1998), all acute care visits and acute tobacco-related visits revealed differences in length of visit when cessation advice was given. “Results of Tukey’s b post hoc analyses indicated that the duration of acute visits for smokers who received smoking cessation advice (mean=10.7 minutes) was significantly longer ($P < .05$) than acute visits for smokers who did not receive cessation advice (8.9 minutes)”, (Jaen et al. 1998, p.427).

Jaen et al. (1998), state that physicians are using one quarter of visits by smokers as an opportunity for smoking cessation counseling and suggest that physicians target their cessation advice based on patient characteristics. Despite the findings, the past researchers also stated there is room for family physicians to have additional impact. Jaen et al. (1998), state the explanation for physicians not delivering smoking cessation advice on all visits by smokers as “the perception that smoking cessation counseling takes too much time among the other competing demands... inadequate clinic or institutional support for routine assessment and treatment of tobacco use ... [and] cessation advice is perceived as unwelcome nagging”, (p.428). The researchers encouraged physicians to involve other clinic employees in the intervention process to help decrease the time demands and increase the effectiveness of the interventions.

The past research showed that physicians are already supplying specific smoking cessation advice and interventions. However, Jaen et al. emphasized a consistent screening and identification of a patient’s smoking status and a consistent provision of smoking cessation counseling to all identified smokers could further increase the impact

that family practices can have on the primary cause of premature death (1998). The significance of the past research to the current research is in the focus of smoking cessation advice in primary care. The past research looked at the patterns of identification and delivery of smoking cessation advice by family physicians to their clients who smoke, with an emphasis on type of visit and actual time spent for smoking cessation advice. The current research looks at the specific screening and intervention practices of family nurse practitioners for their clients who use smoking tobacco.

In another research study by Hurt, Sachs, and Glover et al. (1997) a comparison of sustained-released bupropion vs placebo was studied for its effectiveness when used for smoking cessation. According to the researchers numerous studies have demonstrated that nicotine replacement therapy has shown increased success rates in clients quitting smoking, and in most situations should be offered to all clients who are motivated to quit smoking. Trials of antidepressant medications for smoking cessation have produced variable results. Hurt et al.'s research question was "is a sustained-release dosage form of bupropion effective for smoking cessation in patients motivated to quit?" (1997, p. 1195).

Study participants were obtained through direct advertisement and 742 volunteers were initially screened, with 615 participants who met inclusion criteria and agreed to participate. Exclusion criteria included contraindications to bupropion, unstable medical or psychiatric condition, history of chemical dependency to any non-nicotine substance within one year, current use of nicotine replacement therapy, or current depression. The age range for the study participants was 31 to 57 years, 96% Caucasian, and smoked an average of 26 cigarettes per day, (Hurt et al., 1997). Treatment for the participants lasted 7 weeks, with each participant being randomly assigned to receive a placebo or bupropion

at a dose of 100, 150, or 300 mg per day. The target date for quitting was one week after initiation of treatment and brief counseling was provided at baseline, weekly during treatment, and at 8, 12, 26, and 52 weeks. Each subject also received a brief personalized message to stop smoking from a physician and self-help material on smoking cessation.

Subjects were asked to complete the Fagerstorm Tolerance Questionnaire, Beck Depression Inventory, and keep a daily diary to include nicotine withdrawal symptoms and smoking rates. Carbon monoxide measurements from expired air were conducted at each visit to validate self-reported abstinence. Intent-to-treat analysis was used, and participants who missed follow-up visits were considered to be smoking, (Hurt et al., 1997). Primary efficacy outcomes were measured in two separate ways, first by weekly rates called point prevalence, and secondly by rates of continuous abstinence. The researchers used changes in weight, scores on the Beck Depression Inventory, symptoms of nicotine withdrawal and adverse drug effects to measure secondary efficacy outcomes (Hurt et al., 1997).

Of the initial 615 participants, 219 (36%) did not complete the 12-month study. The rate of completion was lowest for the placebo group and rate of completion increased directly with the increase in bupropion dosage. Point prevalence cessation rates were 23.1% for bupropion 300 mg and 12.4% for placebo at 12 months. No reports were given for continuous abstinence rates at 12 months, but data including weight changes at 6 months indicated efficacy at 12.2% for bupropion 300 mg and 5.9% for the placebo group, (Hurt et al., 1997). The researchers cite the only adverse affects seen more significantly in the bupropion group vs the placebo group, were dry mouth and insomnia.

Hurt et al. (1997) concluded that “a sustained-release form of bupropion was effective for smoking cessation and was accompanied by reduced weight gain and minimal

side effects”, (p 1202). The researchers also stated that bupropion in conjunction with reported brief counseling and telephone follow-up, produced abstinence rates comparable to nicotine replacement products. The significance of the past research to the current research is in the use of alternative therapies for the treatment of smoking cessation. Primary care providers must be aware of all available options to assist their clients in quitting smoking. The current research studies the screening and intervention practices of family nurse practitioners for their clients who smoke.

In another research study by Irvin and Acton (1996), the intent was to test a midrange model of caregiver stress mediation and was based on Modeling and Role-modeling theory (MRM). The researchers cited that caregivers have specific needs including social support, feelings of self-worth and positive self regard, which are essential for their well-being and can also serve as motivation for behavior. Irvin and Acton state that according to MRM theory “ stronger one’s perception is of basic need satisfaction, the more likely one is to have self-care resources available and to be able to resolve a situation adaptively, with minimal stressful effects”, (1996, p. 160).

In seeking to test MRM theory, Irvin and Acton (1996) proposed three hypotheses, which included:

- I. Caregivers with higher levels of basic need satisfaction will have higher levels of self-care resources.
- II. Caregivers with higher levels of self-care resources will have higher levels of well-being.
- III. The effect of stress on well-being will be reduced in caregivers with higher levels of self-care resources, (p. 162).

The subjects for the study were a nonrandom convenience sample that was recruited from organizations associated with Alzheimer’s disease and related disorders.

The sample consisted of 117 primary caregivers of persons experiencing some kind of difficulty with memory, judgment, orientation, and problem solving. Women comprised 75% vs 25% of men, and ages ranged from 27 to 86 with a mean of 62. Care recipient mean age was 76 with 96% of study participants being a family relative, (Irvine & Acton, 1996). After signed consent forms were obtained the study participants were interviewed in their homes. Each participant was given a set of questionnaires, which consisted of demographic items and measures of basic need status, perceived support, self-worth, stress and well-being. The surveys were to be completed and returned in a self-addressed stamped envelope. The return rate for the questionnaires was 36%.

Questionnaires included in the survey were the Memory and Behavioral Problem Checklist (MPBC), Basic Needs Satisfaction Inventory (BSNI), Personal Resource Questionnaire (PRQ), General Health Questionnaire (GHQ), and the Rosenberg Self-Esteem Scale (ROSES).

The mean score on the MBPC was 76 (range 0 to 100) and indicated that the caregivers were experiencing moderately high levels of stress. The BSNI mean score was 87 ($SD = 22$; possible range 27 to 189), and indicated that basic needs were moderately satisfied. The researchers cited correlations between basic needs and self-care resources (BSNI, PRQ: $r = .63, p < .01$; BSNI, ROSES: $r = .54, p < .01$). Irvin and Acton (1996) stated the results indicated that caregivers with higher levels of basic need satisfaction had higher levels of perceived support and self-worth therefore accepting the first hypothesis.

The group mean score on the PRQ was 66 ($SD = 19$; possible range 25 to 175), and 18 on the ROSES ($SD = 5$; possible range 10 to 40), and according to the

researchers, indicated that the caregivers in this study had high levels of social support and self-worth. Moderate levels of well-being were also noted in the study participants by a mean score on the GHQ of 108 ($SD = 34$; possible range 58 to 232), (Irvin and Acton, 1996). The researchers cited correlations between self-care resources and well-being (PRQ, GHQ: $r = .57, p < .01$; ROSES, GHQ: $r = .54, p < .01$). Irvin and Acton (1996) stated the results indicated that caregivers with higher levels of perceived support and self-worth had higher levels of well-being therefore accepting the second hypothesis.

The third hypothesis was tested using Baron and Kenny's method of evaluating mediation. For mediation to be present, "the independent variable, stress response, must be significantly related to the mediator variable, self-care resources, and the mediator variable must be significantly related to the dependent variable well-being", (Irvin and Acton 1996, p. 163). Two hierarchical multiple regressions were performed to test for the mediational effect of self-care resources on well-being and the relationship between stress response and self-care resources. The first hierarchical regression, with stress response entered first then self-care resources, indicated stress response accounted for 12% of the explained variance in well-being, with an additional 31% of the explained variance from self-care resources. The second hierarchical regression with self-care resources entered first then stress response, indicated self-care resources accounted for 41% of the variance in well-being. Irvin and Acton (1996) stated the loss of 10% of the explained variance of well-being by stress response was due to the mediational effect of self-care resources, therefore accepting the third hypothesis.

In conclusion Irvin and Acton (1996) stated that "nurses should consistently assess caregiver need status in order to design specific interventions to promote need

satisfaction... nurses must continually model their client's world, asking what they need and what they think will alleviate their situation", (p. 165). The significance of the past research to the current research is in the testing of Modeling and Role-modeling theory as a foundation for nursing practice. The current research also uses MRM as it's theoretical framework in identifying screening and intervention practices of family nurse practitioners for their clients who use smoking tobacco.

Chapter 3

Methodology

Statement of Purpose

The purpose of this study was to explore and describe the screening and intervention practices of family nurse practitioners for their clients who use smoking tobacco. In this chapter the design of the study will be described, including the setting, population and sample, instrumentation, procedure and data analysis.

Design of the Study

A descriptive design was used for the study. According to Polit and Hungler (1995) descriptive research is used to observe, describe and document specific phenomena rather than explaining the phenomena. This design was appropriate as the screening and intervention practices of family nurse practitioners for smoking tobacco usage were only identified and described.

Setting

The setting for this study was the state of Tennessee. According to the Tennessee Department of Health and Statistics (1998), based on estimates from the 1990 census, the state population for 1997 was 5,368,198 and the total number of deaths for that same year were 52,579. The leading four causes of death, accounting for a rate of 652 deaths/100,000 were heart disease (16, 540), malignant neoplasms (11,872), cerebrovascular disease (4,110), and chronic obstructive pulmonary disease and allied

conditions (2,473), (Tennessee Department of Health and Statistics, 1998). Smoking tobacco usage has been shown to have a direct relationship to increased occurrence of the above conditions.

Tennessee is a state in which health care delivery encompasses a wide array of settings and allows nurse practitioners to be employed in both urban and rural practice settings. Operating within the practice guidelines set forth by the Tennessee Board of Nursing, family nurse practitioners work with client populations that include pediatrics, adults and geriatrics. Family nurse practitioners in Tennessee can independently prescribe and refer clients to available smoking cessation resources.

Population and Sample

Due to the independent and holistic nature of nurse practitioner practice in Tennessee, family nurse practitioners were chosen as the population for this research. The population was all family nurse practitioners whose names appear on the 1999 list of advanced practice nurses, and who currently hold a certificate of fitness (CF) or temporary certificate of fitness (TCF) with the Tennessee State Board of Nursing. The estimated number of nurse practitioners in the state of Tennessee holding a CF or TCF is 1,353 (Tennessee Department of Health and Statistics, 1998). The sampling design was one of convenience and included a random sample of two hundred nurse practitioners currently certified with the Tennessee State Board of Nursing. Inclusion criteria included meeting the operational definition of family nurse practitioner and returning of the questionnaire within four weeks of initial mailing.

Instrumentation

The Maness research questionnaire, (Appendix A) regarding screening and intervention practices for smoking tobacco usage was used. The questionnaire consisted of four demographic questions and twenty-three items regarding screening and intervention practices utilized by nurse practitioners. Questions 5, 6, 8-10, 13, 14, 17, 19, 21, 23, and 25 used a likert scale to rate frequency of use for specific screening and intervention practices. Questions 7, 11,12, 15,16, 18, 20, 22, 24, and 26 were checklist-type questions and identified factors that influenced which intervention practice was chosen. Question 27 allowed the participants to identify the four interventions most frequently used within their practice. This instrument was developed for this study from a review of literature and professional experience, and its purpose was to gather information needed in investigating variables in the research questions. This instrument was reviewed by a panel of experts and was determined to be appropriate for the proposed study. The instrument has face validity within the confines of this study.

Procedure

The researcher requested permission to conduct the study from the Committee on Use of Human Subjects in Experimentation of Mississippi University for Women. Upon obtaining approval (Appendix B), the researcher secured a list of all advanced practice nurses with a certificate of fitness or temporary certificate of fitness from the Tennessee Department of Health. The list was subdivided by practice area, and type of position. Six hundred and fifty seven names were categorized under nurse practitioner as type of position. Two hundred names were chosen using systematic sampling (every fourth name), and were mailed the questionnaire and cover letter (Appendix C). The cover letter gave a

brief introduction encouraging participation if meeting inclusion criteria, and explained that returning the questionnaire would imply consent to participate in the study. Anyone requesting results of the study findings was instructed to do so by written request or e-mail. A follow-up reminder postcard (Appendix D) was sent two weeks after the initial mailing of the questionnaire. All surveys returned within four weeks of initial mailing and meeting criteria were included in the study.

Data Analysis

Descriptive statistics including frequencies and percentiles were used to summarize and describe the quantitative data obtained.

Limitations

The limitations in this study were both internal and external. The greatest threat to internal validity was a lack of randomization. Sample selection was taken from all nurse practitioners in Tennessee, not just family nurse practitioners, and was restricted to the number of subjects who responded to the survey. The sampling design was one of convenience, therefore a true representation of family nurse practitioners must be questioned. Intervening variables may have skewed responses and thus affected the external validity of the study. Over one-half (52%) of the study participants had five or fewer years of advanced practice nursing. This relative inexperience of the respondents limited the ability to generalize the findings outside the state of Tennessee. Responses may have been influenced by respondent's desire for the researcher to have a good outcome in the research project. For example one respondent commented, "I'm a geriatric nurse practitioner but I filled the questionnaire out in case you needed to use it".

The instrument was researcher designed and had only face validity. This was the first time the instrument had been used in a study. The instrument was self-administered, and data were not validated. Certain geographic items did not allow for maximum clarity. For example question # 2 “Description of practice setting” gave ten options to choose from. Several respondents chose more than one option. Question # 4 “ Personal smoking history” gave non-smoker (no prior history of smoking), non-smoker (prior history of smoking), and current smoker with number of years smoking as answer options. The respondents that chose non-smoker (prior history of smoking) did not list past number of years smoking.

Chapter IV

The Findings

The purpose of this study was to explore and describe the screening and intervention practices of family nurse practitioners for smoking tobacco usage. A descriptive survey design was implemented for this study. The Maness Screening and Intervention Questionnaire for smoking cessation was utilized to obtain information from family nurse practitioners regarding current screening and intervention practices for quitting smoking. Data from each question were analyzed using percentages and frequency distributions. The findings from this study are presented in this chapter.

Description of the Sample

A total of 200 surveys were mailed to certified nurse practitioners within the state of Tennessee. A total of 132 surveys were returned, of these 5 were returned due to incorrect addresses, 9 did not meet inclusion criteria, and 3 did not meet the study deadline, resulting in a final sample of 115 participants.

Distribution by Current Practice Area

The 115 study participants comprised a wide span of practice areas, with the largest percentage, 71.3 % reporting family practice as current area of practice. Pediatrics included 1.7 % and adult practice 12.2 %. Other practice areas compromised 17.4 % of the study participants and included such areas as, HIV/aids, corrections, occupational/employee health, gastroenterology, cardiology, asthma, diabetes

emergency/urgent care, hematology, women's health, gerontology, and forensics. Those results are presented in Table 1.

Table 1

Area of Current Practice

| Practice Area | f | % * |
|-----------------|----|------|
| Family Practice | 82 | 71.3 |
| Pediatrics | 2 | 1.7 |
| Adult | 14 | 12.2 |
| Other | 20 | 17.4 |

Note, N = 115

*Totals exceed 100% due to participants checking more than one response.

Distribution by Practice Setting

The distribution for current practice setting included both rural and urban areas, with both private and free health clinical settings. The two largest percentages included private MD clinics with 32.3 % and urban practice settings with 16.1 % Other practice settings comprised 6.1 % and included responses such as, VA primary care clinic, multi-specialty clinic, acute care center, homeless clinic, orthopedic surgery clinic, free health clinic, and university medical center. Those responses are included in Table 2.

Table 2

Current Practice Setting

| Setting | f | % |
|----------------------|----|------|
| Urban | 30 | 26.1 |
| Rural | 28 | 24.3 |
| Health Department | 7 | 6.1 |
| Private MD Office | 37 | 32.3 |
| School Health Center | 6 | 5.2 |
| Hospital | 8 | 6.9 |
| Emergency Department | 2 | 1.7 |
| Other | 7 | 6.1 |

Note, N= 115

Distribution by Number of Years of Advanced Nursing Practice

The number of years of advanced nursing practice of the respondents was ascertained. Years of advanced nursing practice ranged from 1 to 25. More than half the sample were in practice for 5 or fewer years. The distribution by years of advanced nursing practice is presented in Table 3.

Table 3

Distribution by Years of Advanced Nursing Practice

| Years of Practice | f | % |
|-------------------|----|------|
| 0 – 5 years | 60 | 52.2 |
| 6 – 10 years | 25 | 21.7 |
| 11 – 15 years | 15 | 13.1 |
| 16 – 20 years | 12 | 10.4 |
| 21 – 25 years | 3 | 2.6 |

Note, N =115

Distribution of Personal Smoking History

The sample population included smokers and non-smokers. The largest percentage was 64.3 % and included non-smokers with no prior history of smoking. The range for number of years smoking for current smoking participants was 13 to 43 years with a mean of 28 years. The distribution of personal smoking history of the study participants is presented in Table 4.

Table 4

Personal Smoking History

| Smoking History | <u>f</u> | <u>%</u> |
|---|----------|----------|
| Non-Smoker/ No prior History of Smoking | 74 | 64.3 |
| Non-Smoker/ Prior History of Smoking | 37 | 32.2 |
| Current Smoker | 4 | 3.5 |

Note, N= 115

Findings Related to the Research Questions

Two research questions were answered in this study. Descriptive statistics were generated to answer those questions.

The research questions were as follows:

1. What are the screening practices used by family nurse practitioners to identify smoking tobacco usage?
2. What intervention practices are used by family nurse practitioner to assist their clients in quitting smoking?

The following data supply the answers to these research questions.

Screening and Documentation of Client's Smoking History

The questionnaire revealed the screening and documentation by family nurse practitioners for smoking tobacco usage. Of initial client visits the participants reported the rate of obtaining a smoking history on all clients occurred, always (62.2 %), almost

always (29.6 %), and sometimes (6.1 %). Reported documentation in the client's record of smoking history for all clients occurred, always (66.1 %), almost always (24.3 %), and sometimes (9.6 %). Documentation of smoking history on current clients who smoke occurred, for all smokers (92.2 %), only clients with smoking-related symptoms or problems (6.1 %).

Frequency of Advice Given for Quitting Smoking

The study participants reported a varying degree of when smoking advice was given to clients. The rate of occurrence for giving advice to smokers was greatest with those smokers/clients that had smoking-related symptoms or problems. The results are disclosed in Table 5 and Table 6.

Table 5

Advice to Smokers with Smoking-Related Symptoms

| Advice Given | <u>f</u> | <u>%</u> |
|---------------|----------|----------|
| Always | 74 | 64.3 |
| Almost Always | 38 | 33.0 |
| Sometimes | 3 | 2.6 |

Note, N = 113

Table 6

Advice Given to Smokers Without Smoking Related Symptoms or Problems

| Advice Given | <u>f</u> | <u>%</u> |
|---------------|----------|----------|
| Always | 49 | 42.6 |
| Almost Always | 54 | 47.0 |
| Sometimes | 11 | 9.6 |
| Never | 1 | .9 |

Note, N = 115

Table 7

Frequency of Assisting/Informing Smokers of Available Resources for Quitting Smoking

| Assisting/Informing of Available Resources | <u>f</u> | <u>%</u> |
|--|----------|----------|
| Always | 25 | 21.7 |
| Almost Always | 62 | 53.9 |
| Sometimes | 28 | 24.3 |

Note, N = 115

Use of Interventions and Factors Influencing Choice of Intervention

The participants were asked questions regarding use of smoking cessation interventions, and factors that influence their decision to intervene. The participants reported that intervention occurs, when they offer assistance (25.2 %), when patients ask for assistance (35.7 %), and both occur equally as often (38.3 %). The responses to factors influencing actual choice of intervention was also identified with the highest percentage factor identified as, the patient's motivation level for quitting smoking (49.6 %). The results of factors influencing intervention choice are listed in Table 8.

Table 8

Factors Influencing Choice of Intervention

| Factor | f | %* |
|--------------------------------------|----|------|
| Patient's Financial Resources | 36 | 31.3 |
| Patient's Motivation Level | 57 | 49.5 |
| Patient's Prior Attempts at Quitting | 14 | 12.2 |
| Proven Effectiveness of Intervention | 15 | 13.0 |
| Patient's Current Health Status | 13 | 11.3 |

Note, N =115

*Percentage totals are greater than 100 due to participants checking more than one choice.

Table 9

Frequency of Verbal Encouragement as Intervention for Quitting Smoking

| Verbal Encouragement | f | % |
|----------------------|----|------|
| Always | 70 | 60.9 |
| Almost Always | 41 | 35.7 |
| Sometimes | 4 | 3.5 |

Note, N = 115

Nicotine Replacement as Intervention for Quitting Smoking

The study participants were questioned regarding the recommendation/prescribing of nicotine replacement within their client population for quitting smoking. Questions regarding type of nicotine replacement and factors influencing choice for nicotine replacement therapy were also asked. The frequency of nicotine replacement therapy use by the study participants is described in Table 10. The types of nicotine replacement therapy used included, gum (22.8 %), patches (76.2 %) and nicotine inhalant (5.9 %), with percentage totals greater than 100 % due to participants checking more than one option. The factor most influencing the choice of nicotine replacement therapy was patient's request/choice. Table 11 presents the factors affecting the choice of nicotine replacement therapy for smoking cessation intervention.

Table 10

Frequency of Nicotine Replacement Therapy for Quitting Smoking

| Nicotine Replacement Therapy | f | % |
|------------------------------|----|------|
| Always | 7 | 6.1 |
| Almost Always | 25 | 21.7 |
| Sometimes | 69 | 60.0 |
| Never | 14 | 12.2 |

Note, N = 115

Table 11

Factors Affecting Nicotine Replacement Therapy as Choice for Quitting Smoking

| Factor | f | % |
|-----------------------------|----|------|
| Cost | 21 | 20.8 |
| Ease of Use | 13 | 12.9 |
| Patient's Request or Choice | 50 | 49.5 |
| Other | 10 | 9.9 |

Note, N = 101

Other responses included insurance, availability, available OTC, effectiveness in past, prior attempts at quitting, not using oral stimulation, patient motivation level, and number of cigarettes smoked per day.

Bupropion (Zyban) as Intervention for Quitting Smoking

The study participants were asked questions regarding the use of bupropion (Zyban) for quitting smoking. The factor found to be the most influential related to the use of bupropion for quitting smoking was patient's request/choice (41.7 %). The frequencies of bupropion use and the factors affecting it's choice for quitting smoking are presented in Tables 12 and 13.

Table 12

Frequency of Bupropion (Zyban) for Quitting Smoking

| Frequency | f | % |
|---------------|----|------|
| Always | 4 | 3.5 |
| Almost Always | 33 | 28.7 |
| Sometimes | 59 | 51.3 |
| Never | 19 | 16.5 |

Note, N =115

Table 13

Factors Affecting Bupropion (Zyban) as Intervention for Quitting Smoking

| Factor | <u>f</u> | <u>%</u> |
|--------------------------|----------|----------|
| Cost | 15 | 14.6 |
| Effectiveness | 29 | 28.1 |
| Ease of Use | 6 | 4.2 |
| Patient's Request/Choice | 43 | 41.7 |
| Other | 10 | 10.4 |

Note, N = 96

Other responses included age, current medications/interactions, current health status, patient's attitudes regarding antidepressants, insurance coverage, patient motivation, concomitant need for antidepressant, prior effectiveness of antidepressants for quitting smoking, and prior history of vascular disease.

Counseling/Support Groups for Quitting Smoking

The study participants were asked questions regarding the use of counseling/support groups for quitting smoking. The factor found to be the most influential related to the use of counseling/support groups for quitting smoking was patient's request/choice (44.4 %). The frequencies of counseling/support groups and the factors affecting their choice for quitting smoking are presented in Tables 14 and 15.

Table 14

Frequency of Counseling/Support Group for Quitting Smoking

| Frequency | <u>f</u> | <u>%</u> |
|---------------|----------|----------|
| Always | 12 | 10.4 |
| Almost Always | 18 | 15.7 |
| Sometimes | 69 | 60.0 |
| Never | 16 | 13.9 |

Note, N = 115

Table 15

Factors Influencing Counseling/Support Group as Intervention for Quitting Smoking

| Factor | <u>f</u> | <u>%</u> |
|--------------------------|----------|----------|
| Cost | 10 | 10.1 |
| Effectiveness | 23 | 22.2 |
| Ease of Use | 14 | 12.5 |
| Patient's Request/Choice | 46 | 44.4 |
| Other | 9 | 8.1 |

Note, N = 96

Other responses included availability, patient motivation, prior unsuccessful attempts at quitting, patient's belief /acceptance, and lack of success with other methods.

Hypno Therapy as an Intervention for Quitting Smoking

The study participants were asked questions regarding the use of hypno therapy for quitting smoking. The results were sometimes (17.4 %), and never (95 %). The factor most influencing the choice of hypno therapy as an intervention for quitting smoking was patient's request/choice (75 %). Other factors influencing choice (15 %), included availability, patient motivation, prior unsuccessful attempts at quitting, patient's belief/acceptance, and lack of success with other methods.

Acupuncture as an Intervention for Quitting Smoking

The study participants were asked questions regarding the use of acupuncture for quitting smoking. The results were sometimes (7.8 %), and never (90.4 %). The most influential factor in the choice of acupuncture as an intervention for quitting smoking was patient's request/choice (77.8 %). Other factors influencing choice (11.1 %), included availability, and patient's feelings related to holistic methods.

Herbal Therapy as an Intervention for Quitting Smoking

The study participants were asked questions regarding the use of herbal therapy as an Intervention for quitting smoking. Frequencies for herbal therapy use were sometimes (13 %), and never (98 %). The factor most influencing the choice of herbal therapy as an intervention for quitting smoking was patient's request/choice (86.7 %). Other factors listed that influenced the choice of herbal therapy included availability.

Intervention Practices Utilized Most for Quitting Smoking

The study participants were asked to rank the 4 most frequently used intervention practices utilized within their client population for quitting smoking. The interventions were ranked 1 to 4, with 1 being the most frequently used intervention and 4 being the 4th most frequently used intervention. Verbal encouragement ranked 1st, bupropion (Zyban) ranked 2nd, nicotine replacement therapy ranked 3rd, and counseling/support groups ranked 4th. The results of this question are presented in Table 16.

Table 16

Most Frequently used Interventions for Quitting Smoking

| Intervention | Mean | Standard Deviation | Valid N |
|---------------------------|------|--------------------|---------|
| Verbal Encouragement | 1.25 | .65 | 114 |
| Bupropion | 2.57 | .78 | 99 |
| Hypno Therapy | 3.60 | .55 | 5 |
| Herbal Therapy | 4.00 | .00 | 4 |
| Nicotine Replacement | 2.69 | .89 | 105 |
| Counseling/Support Groups | 3.14 | .95 | 97 |
| Acupuncture | 4.00 | .00 | 2 |
| Other | 3.60 | .89 | 5 |

Responses to the category of other included, behavior modification, tips from the American Cancer Society, and exercise.

Chapter V

The Outcomes

Screening and intervention for smoking cessation is critical in decreasing the number of smoking related illnesses. The Center for Disease Control and Prevention (1996), cite smoking as the single most preventable cause of death in the United States, resulting in over 400,000 deaths of Americans each year from a variety of illnesses including, heart disease, emphysema, lung cancer, and other respiratory diseases. Empirical evidence has shown that at least 70% of all smokers see a health care provider each year and report an interest in quitting smoking, yet only half of smokers have ever been encouraged by health care professionals to quit smoking, and even fewer have reported receiving specific advice on how to quit successfully (Smoking Cessation Guideline Panel and Staff, 1996).

The purpose of this study was to explore and describe family nurse practitioners' screening and intervention practices for their clients who use smoking tobacco. Erickson, Tomlin and Swain's modeling and role-modeling theory provided the theoretical framework. The study was guided by two research questions: (1) What are the screening practices used by family nurse practitioners to identify smoking tobacco usage? (2) What intervention practices are used by family nurse practitioners to assist their clients in quitting smoking? A randomized sample of 115 family nurse practitioners certified with the Tennessee Board of nursing were surveyed using the Maness Screening and

Intervention Questionnaire. Descriptive statistics were generated to describe current screening and intervention practices of family nurse practitioners for smoking tobacco usage. Responses to the instrument were analyzed using descriptive statistics including frequencies and percentages.

This chapter includes a discussion of the findings of the study. The conclusions, implications, and recommendations that evolved from those findings also are presented.

Summary and Discussion of Significant Findings

The sample for this study consisted of family nurse practitioners who responded to the Maness Screening and Intervention Questionnaire which was mailed to 200 certified nurse practitioners in Tennessee. A final sample of 115 was obtained. The sample represented 17.5 % of the total nurse practitioners in the state of Tennessee. The current number of nurse practitioners certified in family practice in Tennessee was not available at the time of this study, therefore the percentages are compared to the total number of certified nurse practitioners holding a certificate of fitness, or temporary certificate of fitness within the state of Tennessee. The majority of the participants 71.3% reported family practice as their current area of practice with the next highest 17.1%, which cited specialty practice. These demographics demonstrate that the sample was quite representative of the family nurse practitioners in Tennessee.

Family nurse practitioner practice site locations also were ascertained. Over 26% of family nurse practitioners in the sample classified themselves as urban practitioners, while 24.3% classified themselves as rural practitioners. Over 32% cited employment through private MD offices and 19.9% through hospitals, emergency departments, schools and health departments.

The number of years of advanced nursing practice was also ascertained. The largest percentage by years of practice was 52.2% and included those practitioners in practice for 5 or fewer years. The smallest percentage, 2.6% included those practitioners in practice over 20 years.

The smoking status of the study participants was identified. Ninety-six percent identified themselves as non-smokers, 64% with no prior history of smoking and 32% with a prior history of smoking. Only 4% of the study participants identified themselves as smokers, with 28 being the mean number of years smoking.

These demographic variables may have had a substantial impact on the findings related to the research questions for this study. Research question # 1 was “ What are the screening practices used by family nurse practitioners to identify smoking tobacco usage? The percentage of family nurse practitioners that always screen for smoking tobacco usage on all clients was 62.2%, with documentation of that history always occurring at 66.1%. A higher incidence of always documenting smoking history was identified for those clients who were identified as smokers and occurred at 92.2%. The key to decreasing the number of persons suffering from smoking related illnesses is to identify all those at risk and offer assistance to those clients. The study participants’ rate of always assessing smoking status on clients was only 62.2%, which shows that almost 4 out of every 10 clients will not be assessed for smoking risks, and possibly not advised on how to decrease their chance of developing smoking related illnesses, and death related to those illnesses. A decrease in the occurrence of screening clients for smoking use was also seen in a research study by Franzgote et al. (1997), in which the decrease in occurrence of screening was directly related to patient age. Franzgote et al.’s study involved screening of adolescent smoking

and showed a decrease in screening directly related to a decrease in patient age (1997). In conclusion a large proportion of the current study participants are not consistently screening, and therefore not consistently helping to decrease the number of current smokers. The most significant decrease in smoking related illnesses is directly related to decreasing the number of current smokers.

The study participants were questioned regarding the frequency of advice given to clients for quitting smoking and the stimulus for the advice when given. Sixty-four percent of the study participants reported that advice regarding smoking was always given to smokers with smoking-related symptoms. The rate of always giving advice to smokers without smoking related illnesses by the study participants occurred at 42.6%. Frequency of always advising and informing all smokers of available resources for quitting smoking occurred at a rate of only 21.7%. The frequency of advice as reported by the participants occurred when provider offered 25.2%, when patient asked for assistance 35.7%, and both occurred equally as often 38.3%.

The occurrence rate of advice given was consistent with a prior study by Kviz et al. (1995), in which a higher percentage of advice was given to smokers with related illnesses. Another research study reviewed also had similar results and showed an increase in smoking cessation advice given to tobacco-related vs. chronic visits that were non-tobacco related (32% vs. 17%), (Jaen et al., 1998). The findings indicate a need for family nurse practitioners to intervene with all smokers, not just those with smoking related illnesses. The low rate of intervention for all smokers may be related to several factors. Factors relating to a decrease in occurrence rate of advice for smoking cessation in the research study by Jaen et al. (1998), included perception of smoking cessation counseling

taking too long, inadequate clinical or institutional support for routine assessment and treatment of tobacco use, and perception of cessation advice as unwelcome by clients. These factors may also be related to a decrease in the percentage of advice given by the current study participants.

Factors that influence which smoking cessation interventions chosen by the study participants also were identified. The factor receiving the highest percentage for influencing the choice of cessation intervention was patient's motivation level at 49.5%. The second was patient's financial resources at 31.3%. Patient's motivation level can directly affect the efficacy of smoking cessation interventions. Similar results were seen in a study conducted by Pohl and Caplan (1998). Clients were staged according to readiness for smoking cessation, and health care providers identified the client's stage, and provided specific interventions based on this stage resulting in more successful outcomes (Pohl & Caplan, 1998). The current researcher concludes from the findings that family nurse practitioners use a variety of interventions for smoking cessation and base them on the individual needs for each client.

Research question # 2 was " What intervention practices are used by family nurse practitioners to assist their clients in quitting smoking? Verbal encouragement as an intervention for smoking cessation had the highest rate of occurrence by the study participants. Over 60% of the study participants stated they always used verbal encouragement as an intervention for smoking cessation. Findings from a study by Butler et al. (1998) revealed that most clients were more receptive to providers who showed support and caring when offering assistance for quitting smoking. Kviz et al. (1995) stated that smoking cessation interventions by health care clinicians is an encouraging strategy

for motivating and assisting smokers to quit. Kviz et al. also asserted that the more involved providers are in a smoking cessation program, the more likely their clients will have successful outcomes (1995). The findings from the current research study indicate that a combination of interventions including verbal encouragement must be used to assist clients in quitting smoking.

Nicotine replacement therapy was another intervention used by the study participants for their clients in quitting smoking. Just over 6% stated they always recommend nicotine replacement therapy, 21.7 almost always, and 60% sometimes recommended nicotine replacement therapy. This intervention also rated third in the four most frequently used interventions for smoking cessation by the study participants. Hurt et al. (1997) cited nicotine replacement therapy has shown relatively high success rates in clients who seek to quit smoking, and in most situations should be offered to all clients who are motivated to quit smoking. Factors that influenced the current study participants' choice of nicotine replacement therapy included patient's request or choice (49.5%), and cost (20.8%). The results indicated a low incidence of nicotine replacement always being offered as an intervention, which indicated the need of increased education regarding the use of nicotine replacement therapy and/or the grouping of it with other interventions.

In a research study by Hurt et al. (1997), the effectiveness of bupropion as an intervention for smoking cessation in motivated clients was evaluated. Results of the past research indicated that bupropion in conjunction with brief counseling and telephone follow-up produced abstinence rates comparable to nicotine replacement products. Nurse practitioners in the current study rated bupropion as their second most frequently used intervention for smoking cessation within their client population. The frequency of

recommendation of bupropion for smoking cessation was as follows: always 3.5%, almost always 28.7%, and sometimes 51.3%. Factors that most influenced the study participants' choice of bupropion included patient's request or choice (41.7%), and effectiveness of the method (28.1%). The current research findings indicate the frequent use of bupropion for assisting clients in quitting smoking. However, the method also should be combined with other interventions for more effectiveness as supported by earlier research (Hurt et al., 1997).

Pohl and Caplan (1998), evaluated the effectiveness of group intervention and counseling for quitting smoking. The findings indicated that participation in group intervention had positive outcomes toward the goal of smoking cessation. Within three months of initial intervention all the study participants had quit smoking for at least one month (Pohl & Caplan, 1998). The current study participants rated counseling and support groups as the fourth most frequently used intervention for quitting smoking. The frequency for recommendation of counseling and support groups for quitting smoking was always 10.4%, almost always, 15.7%, and sometimes, 60%. Factors that most influenced counseling and support groups as an intervention for quitting smoking were patient's request or choice (44.4%) and effectiveness (22.2%). The researcher concluded that family nurse practitioners use support groups and counseling as an intervention for quitting smoking, but these methods also should be combined with other interventions to improve efficacy.

Family nurse practitioners must increase the frequency of screening and intervention for their clients who use smoking tobacco. Clients look to health care providers for help and assistance in improving their health status. Identifying all clients

who smoke and providing information on available resources for quitting is critical in decreasing the number of current smokers, thus decreasing the morbidity and mortality of smoking related illnesses. Developing strategies and offering individualized interventions to each smoker will help the efficacy of smoking cessation interventions. These strategies must also use a combination of interventions, not just one single choice to assist with smoking cessation.

Conclusions

Several conclusions were drawn based of the findings. Family nurse practitioners do not always screen for smoking tobacco usage. Family nurse practitioners may be missing unique opportunities for intervening and assisting clients for smoking cessation. This conclusion is comparable with prior research by Wewers et al. (1997), who asserted that for there to be an increase in the rate of smoking cessation, changes in health care delivery by providers must include identification of all smokers, and intervention for smoking cessation by offering treatment options to all clients who smoke.

The findings of the current research showed that family nurse practitioners base their smoking cessation interventions on the individual needs of each client. This conclusion is congruent with the nursing theory of modeling and role-modeling, which served as the current study's theoretical framework. The nurse-client relationship is interactive and interpersonal, and fosters strength within clients to identify and utilize resources that help them achieve optimal health. The results of the study indicated that family nurse practitioners incorporate the distinctive needs of each client when developing and implementing treatment plans for smoking cessation. This conclusion is also similar to results found in a previous research study by Butler et al. (1998), which showed that

client's were most receptive to providers that used a respectful tone, avoided preaching, showed support and caring, and attempted to understand them as a unique individual.

The findings also indicated a need for increased education among family nurse practitioners regarding the need for consistent screening and knowledge of available resources for smoking cessation, not as single interventions but as combinations of interventions to provide more efficacious results. This need for increased education was also cited in a past research study by Kivz et al. (1995) who concluded that an active primary prevention related to smoking cessation education and intervention should be encouraged among all provider groups.

Family nurse practitioners are ideally positioned to assist clients in obtaining optimal health. Screening and intervening for smoking tobacco usage plays a key role in helping clients obtain optimal health. The research findings suggest that family nurse practitioners allow clients to be an active participant in the treatment process and individualizing interventions that are unique for each client. Family nurse practitioners must be aware of all available options to assist their clients in quitting smoking.

Implications for Nursing

A number of implications for nursing science were derived from this study. Implications are suggested for nursing theory, research, education, and practice.

Theory. Nursing theory is tested through research. Findings from previous studies using Erickson, Tomlin, and Swain's modeling and role modeling theory of nursing were validated by the findings of this research. This study revealed that over three-fourths (80.8%) of family nurse practitioners in Tennessee reported patient's motivation or patient's financial resources as the factors most influential in choosing an intervention for

their clients in quitting smoking. These family nurse practitioners are modeling their client's world and developing individualized interventions based on the client's available self-care resources. This is congruent with modeling and role-modeling theory which defines self-care resources as the internal and external resources that help attain, maintain and or encourage a maximal level of holistic health (Erickson et al., 1983).

Research. Although the benefits of quitting smoking is well documented in the literature, the role that family nurse practitioners play in screening and intervening for their clients who use smoking tobacco is not clearly defined. The findings from this study suggest that more research is needed to establish factors that motivate nurse practitioners to screen and intervene with their clients who use smoking tobacco.

Education. Findings from this study revealed that while 64.3% of family nurse practitioners always advise smokers with smoking related symptoms to quit smoking, only 42.6% always advise smokers without smoking related symptoms to quit smoking. This indicate a need for educators of family nurse practitioners to incorporate information into curricula in schools of nursing regarding the outcomes of clients who receive smoking cessation screening and intervention verses the outcomes of those who do not in terms of quality of life and costs to society. Findings also revealed that only 21.7% of family nurse practitioners always assist and inform all smokers on available resources for quitting, further demonstrating the need for inclusion of screening and intervention for smoking cessation information in continuing education programs for family nurse practitioners.

Practice. Family nurse practitioners provide holistic, family centered care focused on health maintenance and disease/complication prevention. Family nurse practitioners are perfectly adapted for identifying clients who are at risk for developing smoking related

illnesses and intervening with those clients to quitting smoking. Family nurse practitioners need to be aware of available resource to assist their clients in quitting smoking.

Experienced family nurse practitioners must take responsibility of role –modeling for inexperienced family nurse practitioners to instill on them the necessity of screening all clients for smoking tobacco usage, and providing individualized interventions for quitting smoking to those clients who smoke. Clients who smoke must be educated by family nurse practitioners about the health risk associated with smoking and the benefits to health of quitting. Unless these goals are achieved the rate of smoking related morbidity and mortality will not be decreased, thus affecting the health of individuals who smoke will decline, and the financial demands on society for the care of those individuals affected by smoking related illnesses will continue to rise.

Recommendations

Nursing Research

Based on the findings of this study, the following recommendations are made for future nursing research:

1. Conduction of a qualitative study to explore family nurse practitioners' motivations and professional needs related to screening and intervention for smoking tobacco usage.
2. Conduction of a study to explore the effectiveness of combination therapies for quitting smoking, including motivation, medication, exercise and counseling.
3. Replication of this study using the Maness Screening and Intervention Questionnaire with family practice physicians.

4. Conduction of a research study to explore facilitators and barriers to smoker's receptiveness to involvement in smoking cessation interventions.

5. Conduction of more research using Erickson, Tomlin, and Swain's modeling and role-modeling theory of nursing as a conceptual framework.

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Appendix A

Maness Screening and Intervention Questionnaire

Research Questionnaire
Screening & Intervention Practices Utilized by Nurse Practitioners
for their Clients who use Smoking Tobacco

Questions (1-4) are to obtain basic demographic information, smoking history, and scope of practice information.

- | | | | | | | | | | | | |
|--|---|--|-----------------------------------|--|-----------------------------|---------------------------------------|---------------------------------------|--|--------------------------------------|---|---|
| <p>1. <u>Area of current practice:</u></p> <p><input type="checkbox"/> Family Practice</p> <p><input type="checkbox"/> Pediatrics</p> <p><input type="checkbox"/> Adult</p> <p><input type="checkbox"/> Gerintological</p> <p><input type="checkbox"/> Other(please specify)</p> <p>_____</p> | <p>2. <u>Description of practice setting: (check main practice setting)</u></p> <table border="0" style="width: 100%;"> <tr> <td><input type="checkbox"/> Urban setting</td> <td><input type="checkbox"/> Hospital</td> </tr> <tr> <td><input type="checkbox"/> Rural setting</td> <td><input type="checkbox"/> ED</td> </tr> <tr> <td><input type="checkbox"/> Health Dept.</td> <td><input type="checkbox"/> Nursing Home</td> </tr> <tr> <td><input type="checkbox"/> Private MD office</td> <td><input type="checkbox"/> Residential</td> </tr> <tr> <td><input type="checkbox"/> School Health Center</td> <td><input type="checkbox"/> Other (please specify)</td> </tr> </table> <p>_____</p> | <input type="checkbox"/> Urban setting | <input type="checkbox"/> Hospital | <input type="checkbox"/> Rural setting | <input type="checkbox"/> ED | <input type="checkbox"/> Health Dept. | <input type="checkbox"/> Nursing Home | <input type="checkbox"/> Private MD office | <input type="checkbox"/> Residential | <input type="checkbox"/> School Health Center | <input type="checkbox"/> Other (please specify) |
| <input type="checkbox"/> Urban setting | <input type="checkbox"/> Hospital | | | | | | | | | | |
| <input type="checkbox"/> Rural setting | <input type="checkbox"/> ED | | | | | | | | | | |
| <input type="checkbox"/> Health Dept. | <input type="checkbox"/> Nursing Home | | | | | | | | | | |
| <input type="checkbox"/> Private MD office | <input type="checkbox"/> Residential | | | | | | | | | | |
| <input type="checkbox"/> School Health Center | <input type="checkbox"/> Other (please specify) | | | | | | | | | | |
| <p>3. <u>Years in advanced practice:</u></p> <p><input type="checkbox"/> # of years of advanced practice nursing</p> | <p>4. <u>Personal Smoking History:</u></p> <p><input type="checkbox"/> Non-smoker (no prior history of smoking)</p> <p><input type="checkbox"/> Non-smoker (prior history of smoking)</p> <p><input type="checkbox"/> Current Smoker <input type="checkbox"/> # of years smoking</p> | | | | | | | | | | |

Questions (5-27) will ask about specific screening & intervention practices utilized within your practice: Please select the choice that best describes your practice.

5. When a client visits you at the clinic for the first time, how often do you obtain a smoking history?
 always almost always sometimes never
6. If a client is identified as a smoker, how often is it documented in the clients record?
 always almost always sometimes never
7. Is documentation of smoking performed for:
 all smokers only smokers with related symptoms or problems
8. How often do you advise smokers with smoking-related symptoms to stop smoking?
 always almost always sometimes never
9. How often do you advise smokers without smoking-related symptoms to stop smoking?
 always almost always sometimes never
10. How often do you assist and/or inform smokers of available resources for quitting smoking?
 always almost always sometimes never
11. Your use of interventions to assist client in quitting smoking occur most often:
 when you offer assistance when pts ask for assistance both occur equally as often
12. When choosing an intervention to assist clients in quitting smoking, what factor most influences your choice of intervention?
 pt's financial resources pt's motivation level pt's prior attempt at quitting
 proven effectiveness of intervention pt's current health status
13. How often do you use verbal encouragement with your clients to stop smoking?
 always almost always sometimes never

14. How often do you recommend/prescribe a nicotine replacement for your clients who are trying to quit smoking?
 always almost always sometimes never

15. When prescribing a nicotine replacement, what method do you recommend/prescribe to your clients?
 gum patches nasal inhalant NA (do not use nicotine replacement)

16. If prescribed, what factor most influences your choice for nicotine replacement?
 cost ease of use pt's request/choice other (please specify) _____

17. How often do you recommend/prescribe bupropion therapy (ZYBAN) for quitting smoking?
 always almost always sometimes never

18. If prescribed, what factor most influences your choice for bupropion therapy?
 cost effectiveness ease of use pt's request/choice other(please specify) _____

19. How often do you recommend/prescribe counseling, formal treatment, or support groups (nicotine anonymous) for quitting smoking?
 always almost always sometimes never

20. If prescribed, what factor most influences your choice for counseling, formal treatment or support groups?
 cost effectiveness ease of use pt's request/choice other(please specify) _____

21. How often do you recommend/prescribe Hypno-Therapy for quitting smoking?
 always almost always sometimes never

22. If prescribed, what factor most influences your choice for Hypno-Therapy?
 cost effectiveness ease of use pt's request/choice other(please specify) _____

23. How often do you recommend/prescribe Acupuncture for quitting smoking?
 always almost always sometimes never

24. If prescribed, what factor most influences your choice for Acupuncture?
 cost effectiveness ease of use pt's request/choice other(please specify) _____

25. How often do you recommend/prescribe Herbal Therapy for quitting smoking?
 always almost always sometimes never

26. If prescribed, what factor most influences your choice for Herbal Therapy?
 cost effectiveness ease of use pt's request/choice other(please specify) _____

27. Please number four intervention practices you utilize the most often for quitting smoking within your client population. 1 being your most frequently used intervention, 2 being the next frequently used intervention, 3 being the 3rd most frequently used intervention and 4 being the 4th most frequently used intervention.

Verbal Encouragement Bupropion Hypno-Therapy Herbal Therapy
 Nicotine Replacement Counseling/Support Acupuncture other (please specify) _____

Appendix B

Approval of Committee on Use of Human Subjects in
Experimentation of Mississippi University for Women



MISSISSIPPI
UNIVERSITY
FOR WOMEN

Office of the Vice President for Academic Affairs
Eudora Welty Hall
W-Box 1603
Columbus, MS 39701
(601) 329-7142

Admitting Men Since 1982

March 1, 1999

Mr. Joseph H. Maness
c/o Graduate Program in Nursing
Campus

Dear Mr. Maness:

I am pleased to inform you that the members of the Committee on Human Subjects in Experimentation have approved your proposed research upon the condition that confidentiality or security of the data be maintained by placing it under lock and key.

I wish you much success in your research.

Sincerely,

A handwritten signature in cursive script that reads "Susan Kupisch".

Susan Kupisch, Ph.D.
Vice President
for Academic Affairs

SK:wr

cc: Mr. Jim Davidson
Dr. Mary Pat Curtis
Ms. Melinda E. Rush

Appendix C

Letter of Introduction and Informed Consent

Letter of Introduction and Informed Consent

Joseph H. Maness
2012 Central Ave
Memphis, TN 38104
E-mail address:
cbhjhm@aol.com

Dear Nurse Practitioner:

My name is Joseph Maness. I am a registered nurse and graduate student at Mississippi University for Women. I am conducting a research study concerning screening and intervention practices of family nurse practitioners for their clients who use smoking tobacco. Your name was randomly chosen from a list of nurse practitioners currently certified in the state of Tennessee. If you are certified in family practice and currently employed as a FNP, I am requesting that you participate in this study. Although there is no direct benefit to you for participation, information gained from this study might ultimately lead to more effective screening and intervention practices for smoking cessation.

Participation is completely voluntary, and your anonymity will be maintained as no names are included on the questionnaire and no numerical system is being utilized. The completion and return of the questionnaire will indicate your agreement to participate. Results of the study will be available in August 1999, anyone requesting results of the study findings may do so by written request or e-mail.

I appreciate your willingness and time in completing this questionnaire.

Sincerely,

Joseph H. Maness

Appendix D

Reminder Postcard

Reminder Postcard

Dear Nurse Practitioner:

I recently mailed you a questionnaire regarding screening and intervention practices of family nurse practitioners for their clients who use smoking tobacco. If you have already completed the questionnaire, thank you for your participation. If you have not, and are currently certified in family practice and employed as a FNP will you please take a few minutes to do so. Thank you for your help.

Sincerely,

Joseph H. Maness