THE EFFECTS OF AN EDUCATIONAL PROGRAM ON NURSES' KNOWLEDGE OF THE INFLUENCE OF CIGARETTE SMOKING ON HEALTH AND THEIR ATTITUDES AND BEHAVIORS CONCERNING NURSE-DELIVERED SMOKING CESSATION INTERVENTIONS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in the Graduate School of The Ohio State University

By

MARGARET CLARK GRAHAM, B.S.N., M.S.N.

* * * * *

The Ohio State University

1989

Dissertation Committee: Approved by
Moon S. Chen, Jr.
Franklin Banks
Mary Ellen Wewers

Moon S. Chen, Jr.
Health, Physical Education, and Recreation
DEDICATION

To Scott

To Catherine, Caroline, and Caitlin

To Mom and Dad
ACKNOWLEDGEMENTS

First and foremost, I wish to acknowledge my husband, Scott, for his countless hours of child care, typing services, moral support and administrative assistance over the past three and one-half years. Without his inspiration and understanding, this degree would not have been possible. I also wish to thank my children for giving up many things they would have otherwise received in order for me to go to school. I am sincerely grateful to my advisor, Dr. Moon S. Chen, Jr., for his valuable guidance and support. I also acknowledge Dr. Franklin Banks and Dr. Mary Ellen Wewers who participated on my committee and provided helpful assistance throughout. I am indebted to Bill Dudley for his statistical consultation on the data analysis. The help and support of Twilla Haynes, Faye Henning, and Melinda Norboge are greatly appreciated. I also wish to thank the nurses for their participation and the nurse supervisors for coordinating and participating in this research effort. Lastly, I will always be grateful to my parents for instilling in me the confidence, desire, and commitment that allows me to achieve my goals. I hope I can foster that same conviction in my own children.
VITA

March 30, 1953 Born Chilhowie, Virginia
1973 A.S., Ferrum Junior College Ferrum, VA
1975 B.S.N., University of Virginia School of Nursing Charlottesville, VA
1977 M.S.N., (Family Nurse Practitioner) Vanderbilt University School of Nursing Nashville, Tennessee
1977-1979 Nurse Practitioner U.S. Public Health Service Louisa, Virginia
1979-1980 Nurse Practitioner Sacramento County Health Department Sacramento, California
1980-1984 Assistant Professor, Nursing State University of New York Utica, New York
1984-1988 Assistant Professor, Nursing Wright State University Dayton, Ohio
1988-Present Assistant Professor, Nursing Medical College of Georgia Athens, Georgia

FIELDS OF STUDY

Major Field: Community Health Education
Minor Field: Preventive Medicine
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CHAPTER I

ORIENTATION TO THE STUDY

BACKGROUND AND SETTING

Cigarette smoking is the largest single preventable cause of death in the United States (U.S. Department of Health and Human Services [HHS], 1980). Cigarette smoking has been linked to many of the leading precursors of disease and disability such as coronary heart disease, lung cancer, bronchitis, emphysema, and peptic ulcer (Schwartz, 1987). There are also large financial costs associated with cigarette smoking. The U. S. Office of Technology Assessment (1985) estimated the smoking related government cost for providing personal health care in this country ranges between 2.1 and 7.1 billion dollars annually. The same office estimated health care related to smoking, for all ages, to be between 11.5 and 34.5 million dollars (Office of Technology Assessment, 1985).

In 1980, the Surgeon General identified fifteen priority areas for health prevention, protection and promotion in the 1990 Health Objectives for the Nation. The major health promotion objective is to reduce the prevalence of smoking (HHS, 1980). The Midcourse Review of the 1990
Objectives identified that though significant progress has been made toward realizing these objectives, it implies cigarette smoking will continue to pose a threat to the health and vitality of this nation. This review also contends this risk will continue until that point when society at large no longer views smoking as a normal, acceptable behavior (HHS, 1986).

Since the first Surgeon General's report in 1964, over 30 million smokers have quit smoking and the proportion of adult smokers has declined approximately nine percent. The smoking prevalence rate of decline in males dropped from 52.1% to 34.1%, and the rate of decline in females moved from 34.2% to 27.8%. However, those who are smoking are smoking more cigarettes per day and the number of new smokers as well as the rate of smoking in children, teenagers, and pregnant women are still areas of concern (HHS, 1987). Therefore, the 1990 Health Objectives have identified a variety of objectives including discouraging young people from starting to smoke, increasing the number of smokers who quit, and reducing the hazards to the maximum extent possible for those who continue to smoke. Plans for these objectives to be met have been outlined through the use of a variety of methods including reducing risk factors, increasing public and professional awareness, improving services and protection, and improving surveillance and evaluation systems (HHS, 1980). Reducing
risk factors includes reducing the percentage of the smoking population over 17 years of age from 33% in 1979 to below 25% in 1990 and reducing the 12 to 18 year-olds who smoke from 11.5% in 1979 to below six percent in 1990.

Health care professionals have been identified as being a major resource in achieving the 1990 objectives (American Cancer Society, 1982). However, a review of the literature shows that there has been limited research in the area of the amount of cessation counseling performed by physicians and even less research examining the amount of smoking cessation counseling performed by dentists, nurses and pharmacists. The research that is available has pointed out that health care professionals feel inadequate when practicing cessation counseling (Ockene, Hosmer, Williams, 1987; Ockene, Goldberg, 1988).

If health care professionals are adequately educated in cessation counseling, will this make a difference in their attitudes and practices? This quasi-experimental study will attempt to assess how nurses' counseling practices are affected by their knowledge of the influence of cigarette smoking on health, by their personal smoking habits, and by their attitudes toward counseling. This assessment will be examined before and after the nurses complete a smoking cessation counseling educational training program developed to teach nurses how to counsel their patients who smoke.
PROBLEM STATEMENT

There is a preponderance of research in the current literature supporting the significant role that health care professionals, chiefly physicians, can play in smoking cessation counseling. There is a void in the research literature which supports or negates the role the nurse plays, or could play, counseling the smoking client. Although there is an abundance of research literature examining the impact of smoking nurses, little effort has encompassed the nurses' role in smoking cessation counseling. Therefore, this study examines the nurses' knowledge about smoking cessation, their attitudes about counseling intervention, and provides insight into how nurses' personal habits, knowledge, and attitudes impact on their smoking cessation counseling. Specifically, this research effort probes the effects of an educational program on nurses' knowledge of the influence of cigarette smoking on health, their attitudes concerning nurse-delivered smoking interventions, and their counseling practices.

SIGNIFICANCE OF THE PROBLEM

Nurses are the largest occupational group among the health care professionals. They are viewed as a credible resource and as exemplars regarding health information to others (Haughey, O'Shea, Dittmar, Bahn, Mathewson, Smith, & Brasure, 1986). However, the role of the nurse in providing
cessation counseling has not been well defined. In a recent study of hospital nurses regarding their counseling of patients who smoke, only 35 percent of the nurses say they counsel patients on smoking cessation methods (Goldstein, Hellier, Fitzgerald, Stegall, & Fischer, 1987). Some studies have addressed the responsibility in providing cessation counseling, but most studies which concentrated on nurses and cigarette smoking address the large number of nurses who smoke (Goldstein et al., 1987). This research effort examines four dimensions of nurses' smoking cessation counseling practices, including nurses' knowledge of the influence of cigarette smoking on health; their attitudes concerning nurse-delivered smoking interventions; their own smoking behavior; and their counseling practices. The conceptual framework for this research is a combination of the Health Belief Model (HBM) and a model developed by McQueen (1975). Wells, Ware and Lewis (1984) used this conceptual model while studying physicians' attitudes in counseling patients about smoking.

According to the HBM, health-related action depends on the simultaneous occurrence of three factors: 1) Perceived susceptibility to, and severity of, illness or its sequelae; 2) Perceived benefits of taking action minus perceived cost or barriers to action, and; 3) Health motive: Value of reduction of perceived threats. McQueen (1975) combined elements of the HBM with diffusion theory to develop a model
which determines health habit counseling behavior. In his model, the health professional must first perceive the health risks of smoking. The professional will communicate the risks if the professional accepts the health threat information, is motivated to alter the clients' behavior and believes in the ability of professionals to alter their clients' behavior. Wells et al. (1984) used elements of the HBM and McQueen's model to develop the conceptual model shown in Figure 1.

**FIGURE 1:** Model of Physicians' Attitudes in Smoking Counseling (Wells et al., 1984)

In this model, counseling practice is seen as a function of four attitudes. Two of the attitudes, motivation to counsel and perceived risk of smoking, are based on both the HBM and McQueen's model. Perceived skills in counseling comes from McQueen's model and the costs and benefits come from the HBM. Wells et al. (1984) further
specified this model through analysis of attitude items from eight studies. Based on the analysis, 13 dimensions were hypothesized to identify the four attitudes. The attitudes and their dimensions are as shown in Table 1. After further testing Wells et al. (1986) further defined their model as shown in Figure 2.

Table 1: Attitudes and Dimensions of Smoking (Wells et al., 1984)

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<tr>
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<th>Dimensions</th>
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<td>Costs and benefits</td>
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<td></td>
<td>Convenience of counseling</td>
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<td>Difficulty of counseling</td>
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<td>Perceived counseling skills</td>
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<td></td>
<td>Ineffectiveness of counseling</td>
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<td>Knowledge of counseling techniques</td>
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<tr>
<td></td>
<td>Confidence in counseling abilities</td>
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<td>Counseling motivation</td>
<td>Importance of counseling</td>
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<td>Obligations to counsel</td>
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<td></td>
<td>Health benefits from stopping smoking</td>
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<td></td>
<td>Safety of stopping smoking</td>
</tr>
<tr>
<td>Risk of smoking</td>
<td>Single dimension</td>
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<td></td>
<td>The ability of patients to change their smoking habits was added to the model as a separate dimension.</td>
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FIGURE 2: Further Definition of Model (Wells et al., 1986)

For the purpose of this research, the clinical training will be represented by knowledge of health effects of smoking and smoking cessation. The reimbursement system or financing system policies do not apply to salaried nurses and will be eliminated in this study. The amended conceptual framework may be represented in Figure 3.

OBJECTIVES OF THE STUDY

The objectives of this study are:

1. To determine the effects of a smoking cessation counseling educational program on a sample of registered nurses employed in a public health setting in northern Georgia between May 1989 to September 1989.
FIGURE 3: Conceptual Framework for Current Study
Adapted From Wells et al., 1986

2. To determine the effects of a smoking cessation counseling educational program on attitudes, knowledge and practice of nurse-delivered smoking interventions for a sample of registered nurses employed in a public health setting in northern Georgia between May 1989 to September 1989.

3. To analyze the difference in group scores and behaviors before and after a smoking cessation educational program is presented to the treatment group.

4. To examine relationships between the dependent variables and relevant demographic characteristics.
RESEARCH HYPOTHESES

1. Nurses who participate in the smoking cessation counseling educational program will demonstrate a greater increase in knowledge of the influence of cigarette smoking on health than nurses who do not participate in the program.

2. The nurses who participate in the smoking cessation counseling educational program will have a more positive attitude concerning nurse-delivered smoking interventions after participating in the program.

3. Nurses who participate in a smoking cessation counseling educational program will demonstrate more smoking cessation counseling than nurses who do not participate in the program.

4. Nurses who smoke will be less motivated to counsel patients about smoking cessation than nurses who do not smoke.

NULL HYPOTHESES

1. There will be no difference in the level of knowledge of the influence of cigarette smoking on health for registered nurses who participate in a smoking cessation counseling educational program (treatment) as measured by scores on the pre/posttest than for registered nurses who do not participate in the smoking cessation counseling
educational program.

2. There will be no difference in the attitudes concerning nurse-delivered smoking interventions from registered nurses who participate in a smoking cessation counseling educational program as measured by pre/posttest scores than for registered nurses who do not participate in the smoking cessation counseling educational program.

3. There will be no difference in the counseling practices of nurses who participate in a smoking cessation counseling educational program as measured by random chart audits than for nurses who do not participate in the program.

4. There will be no difference in the attitude toward counseling patients about smoking cessation for registered nurses who smoke as measured by pre/posttest scores than for registered nurses who do not smoke.

DEFINITIONS

Attitude

Learned and relatively enduring favorable or unfavorable disposition or feeling about a situation which leads a person toward some preferred response or to act in a characteristic way.
Cessation

Complete abstinence from cigarette, pipe, or cigar smoking for a period of one year.

Educational Program

A 4-hour lecture/audiovisual/role play presentation (Appendix A) which explores the history of determinants of cigarette smoking, highlights the physiological and economical facts about smoking, and presents ideas which can be helpful as an aid for nurses' involvement in future smoking cessation counseling.

Knowledge

Acquaintance with facts, truths, or principles, as from study or investigation

Nurse/Registered Nurse

A graduate of a nursing school who has a diploma, Associate degree, Bachelors degree, or Masters degree in Nursing and is licensed to practice nursing through successful completion of a state board of nursing examination for registered nurses. For the purpose of this research study, the terms nurses and registered nurses are used interchangeably throughout this document. Licensed practical nurses and licensed vocational nurses are not included in this study.
Physician

A graduate of a medical program who has a Doctor of Medicine or Doctor of Osteopathy degree and is legally qualified to practice medicine. This could be a general practitioner or specialist (internist, surgeon, etc.)

ASSUMPTIONS

1. Subjects will accurately report perceptions on measuring instruments used in this study.
2. Subjects will respond honestly on the measuring instrument.
3. Subjects will be motivated to learn how to counsel their patients on smoking cessation by virtue of their voluntary participation in the smoking cessation education presentation.
4. Subjects' own smoking behavior will be validated through the use of an EC50, a carbon monoxide monitor.
5. Subjects will not discuss pretest, posttest or treatment between groups.

DELIMITATIONS

1. The quasi-experiment will be conducted using intact groups which will only allow for generalizations to the population studied.
2. Subjects for this study will consist of volunteer registered nurses from the public health departments in several northern Georgia health districts who are employed by the State of Georgia between May 1989 and September 1989.

3. Individual scores will be held anonymous. Only group scores will be used for the purpose of this study.

4. The researcher will inform the treatment group of the importance of recording their interventions in the nurses' notes. The control group will not receive this information. A change in behavior may be as a result of the increased awareness of the importance of documentation and not from a change of knowledge or attitude.

CONCLUSIONS

The largest group of health care professionals in this country is the nurse, yet often times the nurse has not fully expanded his/her role to encompass an area of health promotion and disease prevention. This expanded role could make an immediate and significant impact on the public's awareness of the dangers of cigarette smoking.

Anti-smoking campaigns and smoking cessation counseling are conducted to improve peoples' lives and save money. The campaigns need not be lengthy, expensive, or overly detailed, but they can be carried out by all health care
professionals using the opportunities available which are numerous. It is estimated that health care professionals in this country see approximately 70% of the population at least once during any calendar year (Belmont, 1988). Each visit represents an opportunity for smoking cessation counseling. The many public health nurses of this nation have numerous opportunities with individuals and with groups, yet these opportunities may not always be used to conduct important tasks such as smoking cessation counseling.

**ORGANIZATION OF THE STUDY**

This research effort is divided into five chapters. Chapter 1 presented the background and setting for the study, as well as a statement of the problem, the significance of this problem, the research and null hypotheses, definitions, assumptions and limitations associated with this study.

Chapter 2 is primarily a review of related research and theory and is divided into seven major subsections. The first four segments are on nurses and smoking/smoking cessation. These sections are followed by two sections focusing on the role of physicians, dentists and pharmacists. The last segment of this chapter presents a broad overview of the smoking cessation issue.
Chapter 3 reviews the methodology of the study. This includes the identification of the sample, the study design, subject selection, measures of the outcome, the conditions of the testing, the treatment, data source/instrumentation and, lastly, the analysis of data presentation.

Chapter 4 presents the analysis of the quantitative data. This chapter will make substantial use of tables as an explanatory aid. Interpretation of the various information gathered and of the appropriate statistical tests performed will be made in this chapter.

The final chapter in this research study will summarize the findings, arrive at conclusions, make implications gathered through this study and present recommendations by the author for any further research efforts in similar areas.
CHAPTER II
RELATED RESEARCH AND THEORY

INTRODUCTION

This chapter will examine the role of health care professionals, primarily nurses, in smoking cessation counseling. The four areas of research literature pertaining to nurses begins in the first section of this chapter. Nurses, historically, have had a high rate of smoking. The smoking behavior of nurses is examined in the first section of this chapter. The next section investigates how nurses handle their responsibilities as role models for their health behavior. The third and fourth sections in this chapter outline the nurses' duties as counselors and assess their knowledge of cigarette smoking and its relationship to health. As will be shown, little research has been undertaken to examine any claims as to nurses' abilities as counselors or their knowledge of smoking cessation.

The preponderance of research and literature related to smoking cessation counseling centers on the physicians' role. The next segment of Chapter 2 examines the literature surrounding physicians and smoking cessation counseling which will be followed by a section reviewing the role of
dentists and pharmacists in smoking cessation counseling. Finally, an overview of smoking cessation will be presented.

**Nurses' Smoking Behavior**

There have been numerous studies concerned with the large number of nurses who smoke. A study by the Center for Disease Control (CDC) in 1975 reported 38.9% of nurses smoked which was greater than the rate of smoking in women in the general population (28.9%). The same study reported the rate of smoking in physicians (21%), dentists (23%), and pharmacists (28%) (CDC, 1975).

A study in England reported 48% of hospital nurses smoke (Office of Population Census and Surveys, 1977). In 1981, a random sample of three percent of Registered Nurses (R.N.s) in Connecticut showed 25% smoke (Morra & Knohf, 1981). Stewart and Rosser (1981) found 25.8% of nurses in Rhode Island were smokers. A Michigan study found 23.6% of nurses were smokers (Vaughn & Tagliacozzo, 1982).

The Massive Nurses' Health Study (1983) conducted by the *American Journal of Nursing* (AJN), comprised of female R.N.s between the ages of 37 and 63 living in 11 states with the greatest population of R.N.s, reported the number of cigarette smokers rose from 24.3% before 1976 to 34.5% at the time of the survey (AJN, 1983).

Spencer (1984), in a study conducted in England and Wales of nurses who smoke, found 40% of the nurses smoke.
He further broke this number into subspecialties and found 28% of community health nurses smoke, 39% of the general duty nurses smoke and 52% of the mental health nurses were smokers.

In a 1986 study, Becker also reported a smoking rate of 40% among all hospital nurses. There is some evidence from previous research that nursing students are more likely to start smoking during their education than students in other professions (Small & Tucker, 1981). Coutts (1979) reported nurses who are educated in academic settings are less likely to be smokers than those who train in hospitals. Elkind (1980) reported four reasons why nurses smoke. These reasons are as follows: low awareness among many nurses about the health hazards of smoking, lack of opportunities for nurses to act in the health exemplar role which implies not smoking, changes in the role of women in society which encourages women to smoke as a way of achieving equal status with men, and the peculiar characteristics of the hospital environment and the process of nursing.

Jacobson (1981) reported that 62% of the nurses who participated in a survey would like to stop smoking and 72% had previously tried to quit. Reasons for stopping are listed in order of most to least common response: too expensive, increase fitness, makes them less attractive, possible disease complications and a desire to set a good example for patients.
A study by the American Health Foundation (1989) which found that registered nurses smoke at a rate that exceeds that of other health professionals, women professionals, and women in general. Research shows that nurses who smoke are less likely to counsel their patients about the hazards of smoking (Belmont, 1988). There is some controversy as to whether nurses are equaling up with the other health professionals' quit rate (Belmont, 1988).

A number of reports in the 1970s suggest that smoking rates for nurses were about 30% to 35%, double the rate of other medical care professionals. More than half of these nurses initiated regular smoking while attending nursing school or after entering the work force (Belmont, 1988). Evidence here shows that the attitudes of nurses who smoke differ from those of nonsmokers with respect to a willingness to see the link between smoking and disease. These two groups also differ with regards to the probability that they will counsel patients about the health risks associated with smoking.

Because the predominance of literature suggests the prevalence of smoking among nurses remains higher than that among members of other health professions, a study was designed to evaluate whether competition among nursing groups would be an effective way of recruiting nurses into a worksite self-help quit-smoking program. The results of that study indicated that during the 2-week period of
competition, no nurses participated in the program conducted in the hospital environment (Brown & Kiss, 1987).

Spencer (1983) noted cigarette smoking by nurses influences their effectiveness in a smoking cessation information giving task. He found that those nurses who smoke cigarettes are less effective in this area which creates the need for managerial decisions about which nurses should be used for such work.

The prevalent research in the literature supports the claim that nurses have a higher percentage of smokers than do other groups of health care professionals. It has also been suggested that nonsmokers make more effective counselors. To accomplish a planned change on the part of the nurses to stop their smoking behavior requires a well-thought-out effort on the part of the nurse to make something happen. Planned change also involves problem-solving and decision-making skills as well as interpersonal competence (the ability to work well with others in groups and on a one-to-one basis). The ability to identify and carry out planned change is an integral part of the role of the professional nurse (Welch, 1979).

One article which takes a position different than the vast majority of literature research was published in the Research in Nursing and Health journal (1986). In a study of 823 nursing students, investigators reported that nurses have a decreased proportion of current smokers, an increased
proportion of never smokers, and an increased quit smoking rate. The smoking cessation method used most frequently by successful quitters was "cold turkey". It should be noted that this study relied on information obtained through self-report (Feldman & Richard, 1986).

Most studies outlined in the literature are based upon self-report. However, validity of self-reports of smoking behavior remains the leading problem in the evaluation of cessation results. Numerous investigative reports have shown that up to one-fourth of the people claiming abstinence were not telling the truth (Schwartz, 1987). There are, however, physiological tests which can be used to validate abstinence of smoking.

Various laboratory procedures available for testing exposure to smoking are finding greater use over the last few years. These tests are based on analysis of carbon monoxide levels in the blood or expired air samples. The tests are also based on analyses of plasma, urinary, or sputum nicotine or its derivative, cotinine (Schwartz, 1987). Most of these tests are expensive, in terms of both equipment and laboratory time, invasive, or inconvenient, resulting in subject noncompliance (Irving, Phil, Clark, Crombie, & Smith, 1988). For these reasons, the carbon monoxide testing in expired air samples was the choice for use in this particular research effort.
Carbon monoxide displaces oxygen in the blood to form carboxyhemoglobin (COHb). Levels of COHb can be measured from blood samples or more easily from non-invasive breath samples. The concentration of carbon monoxide in end expired air after breathholding correlates closely with blood carboxyhemoglobin concentrations (Jarvis, Belcher, Vesey, & Hutchison, 1986).

NURSES AS ROLE MODELS FOR HEALTH

Role modeling is part of the socialization process of any system; it is one of the methods by which nurses can demonstrate good health behaviors to their families, their clients and to the general public (Dalton & Swenson, 1986). Since nurses are so often the most immediate source of information which patients can approach, patient teaching is likely to become an even more important function of their practice. As role models, research shows that nurses can only help their patients by practicing what they teach (Woody, 1984).

Several studies have identified specific behaviors associated with nurses as role models. Smith (1979) stated nurses are suited for role modeling because of their large numbers and their contacts with all levels of society. Aucoin (1986) concluded nurses as role models could be crucial in effecting change in the smoking behavior of the general population. The study by Morra and Knobf (1981)
used a survey format in an attempt to identify attitudes of nurses relating to role modeling.

There was a significant difference found in the literature between smoking nurses and non-smoking nurses. Non-smoking nurses are more likely than current smoking nurses to counsel clients and family members against smoking. This finding concurs with the higher proportions of non-smoking nurses than smoking nurses that agreed smoking was a major cause of cancer and other health problems (Oisen & Love, 1985). Significantly fewer nurses who smoked agreed nurses should set a good example. The National Conference on Smoking and Health (1982) highlighted the need to increase the awareness of health professionals', and particularly of nurses', role as exemplars in influencing the public's smoking behavior.

Since nurses make up more than half the employees in the health occupation, failure on the part of the nursing profession to act as non-smoking exemplars has a potentially negative impact on patients and the public. Smoking among nurses is a particular problem because of the nurse's sustained contact with patients.

While attitudes and behaviors are difficult to change, nurses could be more responsible for role modeling behaviors while providing health education and health care to the public. Nurses could counsel patients to change their behavior in order to decrease hospitalization and health
care costs associated with the complications of smoking (Dalton & Swenson, 1986).

There are several ways that nurses can participate in community antismoking activities: in schools, as part of health education courses; in support of clean indoor air acts; in support of no-smoking areas on public transportation; and in a variety of other roles as community leaders (Love & Olsen, 1985).

**NURSES AND COUNSELING**

The American Health Foundation asked the question "What can nurses and other health care professionals do to counter the allure of smoking among their patients?" They answer their own question by stating through patient education, counseling the smoker to quit, follow-up, and advocacy for nonsmoking environments, the nurse can join many others in the campaign for a tobacco-free America by the Year 2000 (American Health Foundation [AHF], 1989).

Nurses have traditionally been oriented toward health enhancement and patient education. Nurses have more contact with health care recipients than any other health care provider. Nurses have many clinical opportunities to talk about how smoking affects patient health and can thus play a critical role in reducing all smoking (AHF, 1989). The American Health Foundation (1989) strongly contends that as nonsmokers themselves, nurses model appropriate health
behaviors for patients.

Greater smoking cessation occurs as interventions become more intensive and contacts more frequent. Adding modalities such as counseling, self-help booklets, and nicotine-containing chewing gum appears to augment the effectiveness of advice alone. Alexander (1988) says the recognition of smoking as a significant health problem is the first step of an effective anti-smoking message. She also states the actual anti-smoking message to the patient needs to be clear and straightforward.

Fuhs (1976) stated the hospital nurse is the most logical person to assist the patient in his endeavor of smoking cessation because the nurse spends a large amount of time with the patient and is seen by the patient as a person with high credibility. However, studies have found nurses and other health professionals are not actively counseling patients in smoking cessation. In a survey by Cohen (1979) of physicians, nurses, dentists, public health administrators, and health educators, current cigarette smokers were likely to disagree that health professionals should be actively involved in public education about smoking. She further stated that despite the recognition of the health dangers of smoking, the most knowledgeable and influential professions are still not actively engaging in efforts against smoking.
Spencer (1984) found 81% of the nurses who smoked and 92% of the nonsmoking nurses encouraged people to give up or cut down on cigarette smoking. Another study from England reported 92% of the nurses thought nurses should participate in smoking counseling but 65% claimed nurses are not effective in their counseling (Sanders, Stone, Fowler, & Marzillier, 1986).

Goldstein et al. (1987) found the role of the nurse in providing smoking cessation counseling has not been well documented. Their study found 61% of the nonsmokers believed they should counsel patients versus 26% of the smokers. This study identified barriers to counseling as follows: 43% do not know how, 27% stated counseling is not rewarding, 8% stated counseling takes too much time and only 14% stated they had received formal education in smoking counseling.

The five-step nursing process can be used to address the special circumstances of each individual's smoking behavior. The five steps are: assess, diagnose, plan, intervene, and evaluate (AHF, 1989). Step one entails determining the client's readiness to quit and explores past attempt(s), present motives, and resources available for quitting. Nursing diagnosis encompasses analyzing the data collected and identifying the patients' specific problems. Only then can a plan to stop smoking be developed with a realistic target quit date. The nurse must begin with the

Quitting smoking is not an easy undertaking for anyone, but the nurse can be instrumental in assisting the patient in the following ways: a) help the patient make the decision to quit; b) provide a smoke-free environment for the patient; and, c) help the patient become a nonsmoker by: providing diversionary activities; supplying finger foods to munch on; encouraging increased fluid intake; discouraging the use of caffeinated beverages; and assisting patients to change their routine at usual smoking times. The nurse is also encouraged to use any and all other available resources at his/her disposal such as the American Lung Association and the American Cancer Society (Knudsen, Schulman, Fowler, & VanDer Hoek, 1984).

The December 1985 issue of Cancer Journal highlights four nursing goals in smoking prevention and cessation. The first goal is to organize health care team functions to monitor policy compliance, identify smokers, provide literature, counsel smokers, keep resource files, and participate in community antismoking activities (Love & Olsen, 1985).

The second nursing goal is to have a medical records system to facilitate staff work. This entails keeping a medical history database, producing detailed smoking history
forms, and providing a health maintenance plan flow sheet for smokers. Goal number three defines specific preventive behaviors and attitudes for the staff and for the patients. The final goal is for continuing education for the staff.

Holt and Richards (1988) advocate individualizing the message to the patient. The health counselor should not use the same cigarette counseling method with a high school girl, a steel worker, and an executive already showing symptoms of heart disease. Each patient should be treated as an individual and, as such, the counseling method geared toward that individual. The authors also point out that it is vital to demythologize certain beliefs about smoking such as that low-tar cigarettes are in any way safer. In every case, dialogue must be practiced over and over again and individualized to the patient.

The basic challenge is how to conduct a counseling session with a smoking patient in the very short time available for the typical consultation. Newman (1983) contends the technique used should raise a series of issues, in a systematic and planned manner, leading the patient through a series of decisions to come face-to-face with the options of quitting. All this needs to be done in a supportive manner and in a short period of time.

Counseling behavior should not be a confrontation between nurse and smoker. The best counselors use active listening, neutral, open-ended questions, and information
about alternatives to smoking. To be an effective counselor, the nurse will need to adopt all of these approaches to their patients' own unique situation (AHF, 1989).

The majority of smoking cessation programs today employ behavior modification techniques, which may be adequate for some smokers. But treating the symptom, smoking, does not address the underlying problems that cause the smoking behavior in the hard core cardiac rehabilitation population (Nevin, Lynch, Kropf, & Lamb, 1987). Perhaps treatment emphasizing affective, cognitive, stress, and anxiety management approaches would be valuable adjuncts to well established behavioral approaches.

NURSES KNOWLEDGE OF CIGARETTE SMOKING AND ITS RELATIONSHIP TO HEALTH

There are conflicting findings reported in the literature regarding nurses' knowledge about smoking and its relation to health. A 1980 U. S. Public Health Service report found student nurses are as knowledgeable as medical students about the dangers of smoking (USPHS, 1980). Elkind (1980) summarized studies from 1979 to 1980 which found nurses' knowledge of the effects of smoking to be adequate. In a survey of nurses in western New York (Wagner, 1985), nurses who were currently smoking were the least likely to see smoking as a major or contributing cause
of disease. Smoking and Health, a report by the Surgeon General's office (1979), reported nurses may be aware of the threat to health but feel, as women, they are categorized as low risk groups. They also feel cancer, heart attacks, and emphysema are more common in men.

Sanders, Stone, Fowler, and Marzillier (1986) reported nurses feel they have a need for more and better smoking education. Seventy-seven percent of the nurses in their study were interested in attending seminars and stated they desired more information about smoking, techniques for stopping and better counseling skills.

The fragmentary and inadequate nature of nurses' knowledge in smoking cessation indicates nurses are able to improve their knowledge of certain aspects of smoking and to respond positively to the provision of useful and accessible information (Haverty, MacLeod, & Elliot, 1987). Improvements in knowledge were principally found to be disease-oriented, rather than in the areas of physiological effects or skills in talking to people about smoking. Haverty et al. assert it is in these vital areas that nurses continue to lack the confidence and skills necessary to begin to fulfil their potential. This study, once again, demonstrates the need to develop nurses' education and training in smoking cessation education in order that they become not only more able to assimilate factual information, but also more able to expand their area of expertise and fulfil their potential health
education role.

Sanders (1985) states that though nurses believe in the concept of their role as health educators regarding smoking, they do not appear to act on this belief. Suggested reasons include lack of knowledge about the effect of smoking, lack of teaching and development of communication and education skills, and lack of emphasis on health as opposed to illness in their basic training (Sanders, 1985).

Orlandi (1987) outlined barriers to nurses' gaining the knowledge they need in order to effectively counsel smoking patients. The barriers are listed as: information availability, beliefs regarding effectiveness, organizational priorities, behavioral intervention skills, emphasis on training programs, financial reimbursement, inappropriate expectations, pro-innovation bias, and lack of standardization. He also states barriers could be due to a lack of relevance to sociocultural norms or quality control issues (Orlandi, 1987).

Though these first four sections of this chapter accented the nurses and their role in smoking cessation counseling, the majority of the research has been performed using physicians. Some of the key work with physicians and their role in the smoking cessation counseling issue will now be examined.
ROLE OF PHYSICIANS

Fisher and Rost (1986) argue that the difficulties individuals experience in quitting smoking are best understood when placed within the context of the billion dollar marketing of an addictive product. They feel through brief clinical counseling, physicians can help almost all of their smoking patients move toward becoming a nonsmoker by trying to quit or, at least by giving greater thought to doing so. Numerous effective resources are available for the clinician who wishes to deal responsibly with the most important preventable cause of morbidity and mortality in the approximately 30 percent of patients who smoke (Fisher & Rost, 1986).

Impressive as current results can be, when the physician is willing to spend appropriate and necessary time, effort, and energy, current research indicates that our basic neurochemical understanding of cigarette smoking should improve substantially. Our understanding should also lead to even more effective treatment interventions in the next 10 years (Sachs, 1986).

It is not known what proportion of physicians routinely advise their smoking patients to quit, but data from the United States and the United Kingdom suggest that only 25-35% may routinely follow this practice (Newman, 1983). More than 70% of heavy smokers state they would stop smoking if urged to do so by their physician, but claim that this
recommendation has never been communicated to them (Dismuke & Miller, 1983). Well-structured smoking cessation counseling by a physician is likely to produce a quit rate of 20 percent (Secker, Walker & Flynn, 1983). Studies suggest as little as 30 to 45 seconds of simple physician advice can lead 4 to 13 percent of smokers to quit smoking (Greenwald, 1985).

Sachs (1984) found simple medical advice is probably the single most cost-effective therapy to help patients overcome the smoking habit. One study (Wells, Lewis, Leake, Schleter, & Brook, 1986) found the physicians most likely to counsel smokers, regardless of the presence or absence of diseases associated with smoking, are cardiologists, pulmonary specialists, nephrologists, and generalists trained in a primary care residency funded by the Robert Wood Johnson Foundation or Health Resources Administration. Most physicians practice tertiary prevention by counseling a high percentage of smokers with heart or lung disease.

A study of residents in primary care specialties found more than 90% of the residents thought physicians are responsible for smoking cessation counseling. However, 25% or fewer of the residents reported discussing obstacles to quitting, setting a quit date, prescribing nicotine gum, scheduling follow-up visits, or providing self-help materials (Kenney, 1988).
An estimation by the World Health Conference on Smoking and Health noted if every general practitioner advised their patients to quit smoking, the result would be 500,000 ex-smokers annually (Ledwith, 1983). Perhaps the lack of a model for this practice and the ineffectiveness voiced by physicians decrease the possibilities of this happening. Family physicians are able to approach many patients who smoke but are often hesitant to help them quit. Lack of knowledge about effective interventions is a major reason for this hesitancy (Wilson et al., 1987).

A physician's office is an excellent place to conduct smoking cessation counseling due to: 1) the physician's role as a healer; 2) the patient's position as a "captive audience"; and 3) repeated documentation that long-term results are impressive (Hathaway & Hughes, 1983). Iverson (1987) states physicians should create an office environment supportive of nonsmoking, deliver a nonsmoking message to smoking patients, counsel patients on strategies of quitting and distribute self-help materials. However, Boulton and Williams (1983) found that only a small fraction of the opportunities available for giving advice about smoking were used and even less frequently was written material given to supplement patient information. In a study of patients from various university-based outpatient clinics only 50% of the smokers without identified smoking-related problems and 58% of the smokers with smoking-related health problems said
they had been advised by their physicians to stop smoking (Ockene & Williams, 1987).

A study on physicians' effectiveness in smoking cessation counseling which centered on smoking vs. nonsmoking physicians was reported in the *American Journal of Preventive Medicine* in 1987. In that report, it was found that patients seen by a physician who was a cigarette smoker were less likely to report stop-smoking advice than patients seen by a nonsmoking physician. Selectivity in the types of patients advised to quit smoking appears to reflect the physicians' personal judgments about the patients' likelihood of following their advice (Cummings, Giovino, Sciandra, Koenigsberg, & Emont, 1987).

Hathaway and Hughes (1984) found that, in general, physicians appear to lack adequate knowledge of effective smoking cessation techniques and have inadequate training in counseling skills. Ockene et al. (1988), in a survey of Massachusetts physicians' intervention practices, found that physicians' willingness to intervene with smokers would increase if they felt confident of their ability to have a positive effect on smoking habits, yet medical school and residency training do little to promote the skills needed in this area.

In a survey sent to 201 members of a western county medical society, only 21% indicated they felt they knew how to counsel, and only 12% felt they were effective as
counselors. One continuing education program entitled "Quit for Life", in a California experiment conducted on eighty-one internists, substantially changed the way physicians counseled smokers. As a result, more patients who wanted to quit smoking achieved long-term abstinence (Cummings et al., 1989).

The most effective physicians should be involved in all three stages of quitting: motivation, behavioral change, and maintenance (Fletcher, 1985). The literature shows there have been a number of studies which have focused on physician intervention to modify a patient's smoking behavior. An intervention program at the Varian Corporation assigned the employees which were screened as high risk for heart disease to either physician advice or two other treatments (Kiefhaber & Goldbeck, 1984). Only a three-month follow-up was conducted, but the study indicated that physician advice did as well as individual counseling or behavioral treatment.

Two separate studies proved advice and warnings by a physician during employee examinations were highly effective. One study conducted on 1493 London business executives and the other study on 543 Columbus, Ohio business leaders show with minimal effort on behalf of the physician, 13 to 19 percent of their smoking patients quit smoking for two years (Richmond, 1984). Another study performed on naval shipyard workers showed the number of
smokers who quit after a 3-5 minute behavioral counseling session was double the number who quit after only receiving a warning by the physician (Li, Coates, Kim, & Ewart, 1983). Further studies stressed the importance of pointed emphasis by physicians. A group of 8 studies of heart disease patients had 14-28 percent quit rates after simple advice, while 36 to 62 percent stopped subsequent to the receipt of intensive physician counseling (Schwartz, 1987).

Ockene et al. (1988) conducted research using 77 general medicine and family medicine residents who received a three-hour training program which taught a patient-centered counseling approach to smoking cessation. Using a pretest-posttest design, the residents who completed a training program showed a significant increase in knowledge and perceived themselves as having significantly more influence on their patients who smoke.

Holbrook (Marwick, 1986) urges physicians to develop some skills in questioning and guiding the patient about smoking by taking a good smoking history, instructing in coping behaviors, presenting health risks assessments brought on by smoking, and combining all of this into a program tailored to the individual patient that will help him or her to quit and stay with it. Above all, Holbrook urges physicians to try the simple, inexpensive things first.
One study of 70 community general practices tested the effectiveness of three different smoking cessation counseling practices. One group of patients only received the normal care, the next group received regular care plus offered nicotine gum to their smoking patients, and the last group offered detailed stop smoking advice and gum. The last group showed better results after a one-year follow-up was performed on each of the groups (Wilson et al., 1988).

Physicians have numerous aids at their disposal which will help them in their fight against smoking. The National Cancer Institute, American Cancer Society, American Lung Association and American College of Chest Physicians, to name only a few, supply self-help materials and physician kits to increase the physician's ability to make a significant impact on curbing their patient's smoking behaviors. The National Heart, Lung, and Blood Institute has a physician's guide, entitled Clinical Opportunities for Smoking Intervention: A Guide for the Busy Physician, to help hypertensive patients stop smoking.

Many physicians are banding together to fight the battles against unhealthy lifestyles such as Doctors Ought to Care (DOC). DOC was launched in 1977 as a coalition of health professionals aimed at promoting good health and curbing such lethal lifestyles as cigarette smoking (Blum, 1980). Today, DOC has over 2000 physicians as members and has extensive media and speaking programs set up to get
their messages across to the public (Schwartz, 1987).

Physicians can play an important role in smoking cessation because they have frequent contact with smokers and because most smokers believe that a physician's advice is important in the decision to quit (Anda, Remington, Sienko, & Davis, 1987). However, most smokers do not perceive physicians to be even minimally involved in their efforts to quit. Physicians need to increase their efforts in counseling smokers to quit before smoking related diseases result, especially for smokers with additional risk factors for cardiovascular disease (Anda et al., 1987).

This review of literature strongly suggests the role the physician plays, or should play, in smoking cessation counseling is significant. Knowledge of factors that affect the provision of advice to stop smoking can be used to enhance the physician's role in smoking intervention.

Though research heavily spotlights on physicians' and their smoking cessation counseling behaviors, techniques, and skills, there is some literature to support the importance of other health care professionals, especially dentists. The following section focusses on the role of the dentists and pharmacists and how they can affect the smoking behaviors of their patients.
DENTISTS AND PHARMACISTS

Although physicians gain the most attention in the literature concerning smoking cessation, several other health care professionals can and do make significant impacts. Dentists and pharmacists have almost as much daily contact with the public as physicians and, as such, have ideal opportunities to counsel or in some way positively affect smokers' behaviors.

O'Shea and Corah (1984) reported that dentists lead the general population in abstaining from smoking. As such, they can serve as nonsmoking role models, provide information on hazards of smoking, advise and refer patients to cessation programs. The number of dentists who smoke is declining. In addition, most dentists agree that dentistry should be involved in smoking cessation counseling, but up to a third do not advise patients about smoking. The data available also suggest needs for continuing education regarding smoking counseling strategies (Geboy, 1989).

It is estimated that over 30 million persons in this country visit the dentist each year, so dentists have excellent and ample opportunities for persuasive communication. A survey of 157 dentists (8 percent smokers) showed 71 percent reported they advise their patients who smoke to kick the habit. Discussion of the negative health effects from smoking was the most widely used measure of antismoking counseling by the dentists.
Christen and Glover (1985) contend dentists are ideally suited to counsel patients on the clinical oral effects of tobacco such as offensive bad breath or halitosis, hairy tongue, periodontal disease, abrasion and discoloration of the teeth, tissue changes, delayed wound healing, sinusitis, leukoplakia, and cancer. Dentists can help people quit smoking because they are experts in oral health, are accustomed to counseling about oral preventive health, and have broad exposure to the general populace (Gerbert, Coates, Zahnd, Richard, & Cummings, 1989).

Brief counseling by dentists has proven an effective antismoking measure, yet the number of dentists who routinely practice smoking cessation counseling is low. Dentists attribute their lack of counseling to poor insurance coverage, insufficient time, lack of training, and fear that patients might leave their practices if urged to quit (Gerbert, 1989). In a research effort conducted on 251 dentists in Vermont, survey respondents estimated spending an average of 2.4 minutes addressing cigarette smoking issues, yet 40% provided no guidance regarding smoking behavior change (Secker, Walker, Solomon, & Hill, 1989). Although smoking cessation measures taken by dentists are not likely to convert more than one or two percent/year, efforts to promote smoking cessation can have an appreciable impact over time (O'Shea & Corah, 1984).
Pharmacists are another large group of health professionals who can play a vital role in the behavior changes of the smoking public. It is estimated that 25 percent of all cigarette purchases are made in pharmacies, and eight percent of chain drugstore profits (6.2% of all drugstore purchases) are derived from cigarette sales (Richards, 1985). Tobacco manufacturers provide many pharmacies with monetary "rewards" for allowing prominent shelf space to be reserved for their cigarettes and advertisements to catch the public's eye. It is felt these pharmacists who promote tobacco use suffer from severe tunnel vision and set an extremely poor example for the public (Cyr, 1984).

A 6-week anti-smoking campaign in West Midlands, Texas found that a high proportion of pharmacists (73 percent, with a sample size of 77) felt that trying to persuade people to stop smoking is part of their job (Panton, 1984). A study in Kentucky indicated first-year pharmacy students are more oriented toward nonsmoking than practicing pharmacists residing in Kentucky. Non-smokers in the study were far more oriented toward promoting cessation than the smokers in the group (Whitley, Conkley, & Montagne, 1982).

The final section of this chapter is an overview of smoking cessation. Different views on smoking cessation will be presented.
SMOKING CESSATION OVERVIEW

In reviewing the literature on smoking cessation and associated programs, the overriding impetus is placed on the goal of the programs and the behavior modification techniques. If total abstinence from further cigarette smoking is the target, as Dr. C. Everett Koop stated as the goal for a smoke free society by the year 2000, then achievement may require several attempts. Schachter (1982) implied the major goal of any cessation program may not be necessarily to have all clients leave the program abstinent, but perhaps, more pragmatically, to have all clients leave the program with the skills and the knowledge of how to quit. Emphasizing to patients that quitting is under their control, that stopping smoking is a skill that can be learned, and that, like any other skill, quitting takes practice may help engender a willingness on the patient’s part to keep trying to quit by continuing to use the techniques taught in the smoking cessation program.

One must look at a number of factors when investigating the literature for reasons why individuals smoke cigarettes. Cigarette advertising is a two billion dollar a year industry and growing. There is a subliminal attractiveness to many cigarettes as seen in the names on the market such as Merit, True, Real, and Now, smoked by slim, elegant women, rugged cowboys, or relaxed young couples (Richards & Blum, 1987).
Perhaps the most important question to be asked of someone who smokes is "What brand do you buy?". Since, as is shown by these and other brands on the market, cigarettes are marketed to appeal to a certain group of people or to help create particular images, the brand used will give clues to the patient's current or desired self-image. These images can then be used as part of the cessation (or demarketing) strategy, in which it should be pointed out that the short-term and long-term results of smoking are exactly opposite to those created for the brand through advertising (Richards and Blum, 1987).

Not only are there inherent and proven health risks associated with cigarette smoking, but the costs of cigarette smoking to employers is staggering. The figures for costs per employee for the adverse effects of cigarette smoking have been estimated to run from $345 to $5,600 (Stachnik & Stoffelmayr, 1983). These figures include incremental absenteeism, excess medical care, premature mortality and disability, excess fire and industrial accident risks, incremental lost time due to the smoking ritual, property damage, and the costs of passive smoking.

A study published in the Journal of the American Medical Association in 1989 (Cummings, Rubin, & Oster, 1989) found the cost effectiveness of brief smoking cessation advice during routine office visits ranges from $705 to $899 per year of life saved for men and from $1204 to $2058 per
year for women. Follow-up visits about smoking appear to be similarly cost-effective. This study showed physician counseling against smoking, therefore, is at least as cost-effective as several other preventive medical practices and should be a routine part of health care for patients who smoke (Cummings et al., 1989).

In spite of the overwhelming scientific data regarding the harmful effects of cigarette smoking, physicians, nurses, and other health professionals have not been at the forefront of smoking prevention. The American Medical Association, the standard of organized medicine in this country, as recently as 1980 owned over a million dollars in tobacco stock in its retirement fund (Burchard, 1984). Only in recent years have cigarette advertisements, such as "more scientists and doctors smoke Kent than any other cigarette", been removed from many of the more well-revered health care journals. Such adverse publicity and obvious conflict of interest is not good for organized health care nor is it good for the public's perception of these health care professionals (Burchard, 1984).

Peer pressure forces some people into embarking on the unhealthy habit of smoking cigarettes. Persuasion, the most common method of behavior modification, is the force behind peer pressure and behind most advertising, and involves influencing a person to an action or belief through an overt appeal to reason or emotion (Gamboa, 1985).
Credibility is essential to persuasion. For health care professionals, the ability to persuade patients to stop using tobacco products may depend, to a large extent, on assuming the role of a health authority. In this role, the professional should be a nonsmoker, well versed in the facts related to tobacco use, have good oral health, dress and speak professionally, and demonstrate patience and tolerance while maintaining the advisory position. It should be highlighted that persuasive communication is more effective when the patient's psychological background is known (Gamboa, 1985).

Physicians and nurses have a crucial role in helping patients to stop smoking since they have frequent contact with smokers and because most patients are strongly influenced by their counsel. One of the principal methods of helping a smoking patient is through the enlistment of the office staff (i.e., technicians, nurses, nurses aides, etc.) to show a sympathetic interest in the patient's problem. In a survey of 39 controlled studies of stop-smoking methods, it was determined that a team approach provides a higher quality message and enhances a sense of concern for the patient. It was also found that one-on-one counseling is the most effective approach to ending a patient's smoking habit (Patient Care, 1987).

The counseling techniques used by health professionals may be grouped into two categories: a) personalized
messages, and b) tailored, behavioral activities performed over varying periods of time (Hataway & Hughes, 1984). Personalized messages tend to be factual statements of personal hazards of smoking. These messages are usually coupled with imperative comments which emphasize the negative health effects to the patient if cigarette smoking is continued. Tailored, behavioral activities go beyond simple, direct messages. They involve a series of specific, patient-tailored, behavior modifying activities which the patient should be involved with in order to assist that person in his/her attempt to discontinue smoking or prevent resumption of smoking. These activities are instrumental in reducing "side effects" which often appear after quitting smoking.

One other treatment which many physicians use in their practice for an aid in patient smoking cessation is the prescription of nicotine gum. There is, however, widespread disagreement within the health care community over when to use the gum or even if the gum is helpful at all. Regardless of the outcome of this debate, nicotine gum is used and its efficacy seems to be due to its ability to relieve withdrawal symptoms (Hughes & Miller, 1984). Successful use of the gum depends on appropriate instructions, expectancies, and adjunct therapies. How effective the gum will be when used in general practice, to whom it is best to prescribe the gum, and what proportion of
smokers will become dependent on the gum remain unclear.

One study (Cohen, Stookey, Katz, Drook, & Christen, 1989) examined the use of nicotine gum and its relevance/importance in a smoking cessation program. Four separate groups were used—two of which used nicotine gum and each of those groups had higher success rates than a group that solely used lectures or the group that only used counsel-reminder stickers on their charts.

Some health care professionals have resorted to the use of contingency contracting as a promising intervention strategy for enlisting patient cooperation, particularly with regard to long-term treatment regimens. A contingency contract is a specific negotiated agreement that provides for the delivery of positive consequences or reinforcers contingent upon desirable behavior (Janz, Becker, & Hartman, 1984).

Contingency contracting depends on four important aspects which are critical to achieving success. The client must be actively involved in the selection of both behaviors and reinforcers. Each element of the contract must be accepted fully by all relevant parties. Also, complex behaviors should be broken down into small, achievable components (or successive approximations) that progressively move the client toward the ultimate goal, and each small step should be reinforced. Lastly, the contract should be modifiable by negotiation among the parties involved (Janz
et al., 1984).

Regardless of what smoking cessation strategy is undertaken by the health care professional and their patient, it should be realized that cigarette smoking lends itself to a variety of behavioral strategies and tactics. There is no single behavioral treatment program for smoking cessation. Some features characterize most programs, however, and may be said to impart a behavioral essence. These features include: a) the use of systematic self-monitoring or personal record keeping for both treatment and evaluation purposes; b) the explicit use of self-management or self-control strategies, whereby participants are taught coping skills for their smoking; and c) the use of homework assignments to practice skills presented during treatment sessions (Lichtenstein & Mermelstein, 1984).

The main thrust in health education is, or at least should be, to prevent or delay the onset of smoking. When the health care professionals do not feel they have the necessary skills to counsel, and the literature overwhelmingly shows they do not, then the education must begin in the schools.

A large study undertaken in the Utah public schools by the Utah Department of Health centers on the first component of the curriculum which is health information. Students receive a solid foundation on the cigarette's role in later development of cancer, emphysema and heart disease. A much
greater emphasis, however, is placed on the immediate health, economic, aesthetic and social effects of inhaling a single cigarette (Mason & Lindsay, 1983).

Mason and Lindsay (1983) contend the second component of the smoking curriculum is resistance to persuasion. Students are taught how to most effectively reduce or counter peer pressure to smoke. They learn a variety of appropriate responses and then practice resisting peer pressure in classroom role-playing situations.

The final component of the smoking curriculum is decision-making skills. Students are first taught skills in how to make any kind of generic decision, then progress to the issue of decision-making on the personal issue of smoking. Students trained in these skills typically identify more social, economic, aesthetic as well as health reasons for not smoking than do students who receive traditional curricula.

One study in the literature developed three stages of quitting smoking while another hypothesized five separate stages of smoking. Fletcher (1985) pinpoints the three stages of quitting as motivation, behavioral change and maintenance. Patients are, by and large, motivated as research has indicated that up to 80% of smokers want to quit (Mason & Lindsay, 1983). Behaviorally, if the patient appears ready to try to quit, get him or her to make the commitment in writing, agree on a date for quitting, talk
about nicotine withdrawal, provide self-help material or suggest trying a smoking-cessation clinic and remind him or her that you will inquire about progress during follow-up visits (Fletcher, 1985). The final, and perhaps most important, stage of smoking cessation is maintenance, yet it is frequently the one most often ignored. Maintenance implies monitoring the patient, providing encouragement, and obtaining help where necessary, all to ensure the patient remains a faithful abstainer from cigarette smoking (Fletcher, 1985).

Prochaska and DiClemente (1983) applied an integrative model of change to the study of 872 subjects changing their smoking habits on their own. These subjects represent the following five stages of change: precontemplation, contemplation, action, maintenance, and relapse. Precontemplation is the stage in which people are unaware of having problems stopping smoking or for other reasons are not thinking seriously about changing. In the contemplation stage, people become aware that a personal problem exists. Action is the stage in which people change their overt smoking behavior and the environmental conditions that affect their behavior. The maintenance stage is when people work to continue the gains attained during action and to prevent relapse to their more troubled level of functioning. Relapse is the flip side of maintenance where people return to the problematic behavior of smoking (Prochaska &
DiClemente, 1984).

In a number of studies, there were certain determinants of who is successful at quitting smoking. One eight-year effort (Kabat & Wynder, 1987,) focused on factors associated with quitting smoking examined in over 5,000 male and female ever-smoking patients hospitalized with non-tobacco-related conditions between 1977 and 1985. The quit rate was higher in males than females, and in both sexes the quit rate increased with increasing age, education level, and occupational level. Jews had higher quit rates than non-Jews, Whites had higher quit rates than Blacks, and divorced or separated patients had lower quit rates than those who were not.

Though it appears from the literature that the health community knows so much about such an epidemic as cigarette smoking, there is not near enough prevention and health promotion being performed as an aid to reach the Surgeon General's goal of a smoke-free America by 2000. It is estimated that if smokers require medical care at least as frequently as nonsmokers and if physicians advise them (during routine care) to quit smoking, some 38 of the 54 million smokers could be reached in a single year (Coates, Ewart, & Kim, 1987). The literature convincingly supports the claim that physicians, nurses, and other health professionals are not advising their patients to give up cigarette smoking partly because they doubt their own
counseling effectiveness.

SUMMARY

The literature review in this chapter included: (1) nurses' smoking behavior, (2) nurses as role models for health, (3) nurses and counseling, (4) nurses' level of knowledge of cigarette smoking and its relationship to a person's overall health, (5) the role of physicians, dentists and pharmacists in smoking cessation counseling, and (6) an overview of smoking cessation.

The literature review examined the poor record nurses have regarding their own smoking behavior. It also showed that nurses are, and should be, role models for the public to look to for guidance and someone to emulate, yet the unsatisfactory smoking habits of nurses can only serve to weaken their role in educating their patients. The chapter highlighted the ability of nurses to counsel their patients effectively, and their overall knowledge of cigarette smoking and how cigarette smoking plays such an impact on their patients' health.

As was mentioned throughout the chapter and as is evidenced by the literature research conducted to date, the vast majority of the research has been done with physicians. The role of the nurse in smoking cessation counseling is in its infancy, and therefore the purpose of this study. Much of the work on smoking and nurses has been undertaken with
the nurses' own smoking behavior as the basis for that research. This study focuses on the effect the nurse has on his/her patient in the role as smoking cessation counselor, an area of research which has thus far been virtually unexamined.
CHAPTER III

METHODOLOGY

The purpose of this study was to examine the effects of a smoking cessation counseling educational program on nurses' knowledge of the influence of cigarette smoking on health and the effects on their attitudes concerning nurse-delivered smoking interventions. This methodology chapter will describe the procedures that were used in this research effort to achieve this purpose. Components of the chapter include: (1) study design, (2) population and sample, (3) treatment, (4) instrumentation, (5) pilot study, and (6) statistical testing procedures.

STUDY DESIGN

Campbell and Stanley's (1963) Design Number Ten, the nonequivalent control group design, was chosen for this research. The diagram of the design is shown in Figure 4.

O  X  O

---------

O  O

FIGURE 4: Schematic Design of the Study;
(Campbell & Stanley, 1963)
In Figure 4, the "O" represents the dependent variables of knowledge, attitude, and behavior which are measured by the pretest (Appendix B), posttest (Appendix C) and the chart audit (Appendix D). The "X" represents the independent variable, a four-hour inservice education program (Appendix A).

In the nonequivalent control group design, the control group and experimental group do not have random selection of subjects to group. The groups are made up of naturally assembled collective which, in this case, are health districts. The pretest is administered to help control for difference between groups since random selection of subjects to groups is not possible. The assignment of the independent variable (Appendix A), the four-hour inservice, was done randomly.

Since the nurses were not randomly assigned to groups, a pretest (Appendix B) was given to assess their knowledge of the influence of cigarette smoking on health, their attitudes concerning nurse-delivered smoking interventions and their own health habits.

The treatment was randomly assigned to one-half of the group. By using the nonequivalent control group design, problems with internal validity, including history, maturation, testing and instrumentation, were controlled. There was the potential for a problem with intersession history since the treatment and control groups were possibly
in contact with each other. The experimenter tried to control for intersession history by asking subjects not to discuss the treatment; however, the experimenter had no way of guaranteeing this. The slide/script format was used to avoid the intersession history problem associated with having different information given during the presentations.

There was no way of controlling for the nurses who may have a different degree of knowledge based on prior work experience or other types of nursing education. However, a t-test was administered and found there was no significant difference between the control and treatment groups on the pretest. The special responsiveness of one of the groups to an extraneous event or to practice may stimulate an effect on X which was not controlled.

The nonequivalent control group design does create a problem with external validity. The effects of the observed X may be specific to groups who take the pretest. The other threats to external validity of interaction of selection and X and reactive arrangements are not controlled and will limit the generalizability to the nurses in the sample (Campbell & Stanley, 1963).

**POPULATION AND SAMPLE**

The criteria established by the researcher for the subjects in the research was that each subject must be a registered nurse employed as a public health nurse in the
state of Georgia. Due to the wide dispersement of public health nurses and for convenience, the researcher limited the geographic area of study to northern Georgia health districts (Appendix E).

The population for the study is 256 registered nurses in four public health districts in northern Georgia. The population was identified by sending a letter (see Appendix F) to 10 nursing coordinators in 10 different areas of northern Georgia (see map, Appendix E). A follow-up phone call to each nursing coordinator identified five districts that would be willing to participate in the study. In the following discussion, the identifying number of each district has been replaced with a letter in order to assure anonymity for the subjects.

District A, an urban district, has one nursing coordinator, two assistant coordinators, and eight supervisors with twenty-two separate health centers. There are 122 registered nurses employed in district A. The nursing coordinator asked the eight nursing supervisors in the district to indicate if they were interested in participating in the research and one supervisor indicated interest.

The other four districts identified as Groups B, C, D, and E, are administered differently. There is one nursing coordinator for the district and a nursing supervisor in charge at each health department in the district. Groups B,
C, D, and E consist of both rural and urban areas. There are 28 registered nurses in area B which has five different health centers in one county. District C is composed of six counties with eight different health centers and employs 40 registered nurses. District D employs 90 nurses, including 18 supervisors, and is made up of thirteen counties with fifteen different health centers. District E employs forty-eight registered nurses in ten counties with fourteen different health centers. The nursing coordinators in districts B, C and E indicated that they would give all of the registered nurses in the district the opportunity to participate in the research. The coordinator in district D planned to ask only the supervisors in the district to serve as research subjects.

The districts were divided into treatment and control groups by using a random number table (Beyer, 1968). Groups A, B, and C were identified as treatment groups and Groups D and E were identified as control groups. After assigning the areas to treatment groups and control groups, each nursing coordinator was contacted to set up a time and date for the inservice and/or testing. The researcher attempted to establish dates as close together as possible to try to reduce the internal validity threat of history.

The first day of meeting with group A was July 10, 1989, and the number of subjects expected was 15. However, due to illnesses and vacations the number of registered
nurses present was 9. All nurses who attended the inservice consented to be subjects in the research (see Appendix D).

On July 6, 1989, the nurse coordinator from group D contacted the researcher and informed her that the staff meeting which had been scheduled for July 24, 1989 had been rescheduled and the next staff meeting would be held on August 30, 1989. At this time, the researcher identified a need to find additional subjects in order to increase the statistical power of the study due to the fact that the researcher had a conflict with the rescheduled date for group D and the number of subjects in group A was less than had been anticipated.

The nursing coordinator from district A, who had originally asked her supervisors to indicate interest in participating in the research, was contacted and asked if she could identify other areas in her district that may serve as control and treatment groups. Three areas were identified with two willing to serve as control groups and one willing to serve as a treatment group. These additional areas are identified as groups A1 and A2 for the control groups and group A3 for the treatment group. A 1 X 4 ANOVA test comparing the randomly assigned groups to the groups which were added after the random assignment was administered to see if there was any difference in the groups. No significant difference was found [$F(3) = 1.284; p = 0.284.$]
On July 19, 1989, scheduled inservice with group B was conducted. Twenty-one subjects were expected, however, only 17 were present. All nurses in attendance consented to being subjects in the research. The inservice for group A3 was held on July 20, 1989 and all nine registered nurses present consented to serving as subjects in the research. The final treatment day was July 21, 1989 and all 18 nurses present consented to serving as subjects in this research. However, one participant from group C was late and was unable to complete her pretest. Therefore, she was not used as a subject.

Control group E does not hold scheduled meetings as a district. Instead, the nursing coordinator meets with nurses in the 10 different counties on a regularly scheduled basis. The researcher attended the staff meetings with the nursing coordinator and all registered nurses present for each of the staff meetings consented to serve as subjects in the research. The dates of the staff meetings and the number of subjects at each meeting is shown in Table 2.

For control groups A1 and A2, nurses from the area met in one location and the researcher attended the area staff meeting. Control group A1 met on July 13, 1989, at which time 11 registered nurses were present and 10 consented to serve as subjects in the research. Control Group A2 met on August 14, 1989 and 11 registered nurses were present, nine of which consented to serve as subjects. The inservice for
treatment group A2 was held on July 20, 1989 and all nine registered nurses present consented to serve as subjects in the research.

**TABLE 2: Subjects Attending Control Group E Meetings**

<table>
<thead>
<tr>
<th>DATE</th>
<th>NUMBER OF SUBJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 7, 1989</td>
<td>3 registered nurses</td>
</tr>
<tr>
<td>July 11, 1989</td>
<td>2 registered nurses</td>
</tr>
<tr>
<td>July 12, 1989</td>
<td>4 registered nurses</td>
</tr>
<tr>
<td>July 14, 1989</td>
<td>6 registered nurses (2 locations)</td>
</tr>
<tr>
<td>July 27, 1989</td>
<td>7 registered nurses (4 locations)</td>
</tr>
<tr>
<td>July 28, 1989</td>
<td>1 registered nurse</td>
</tr>
<tr>
<td>August 8, 1989</td>
<td>8 registered nurses (2 locations)</td>
</tr>
</tbody>
</table>

The total population of registered nurses in Districts A, B, C, and D is 238. The total number of subjects in this study is 105. A count of fifty-two subjects are in the treatment group and fifty-three subjects are in the control group.

**TREATMENT**

The treatment, a four-hour slide/lecture(Appendix A)/role play inservice was held during the regular working hours for all of the subjects. The nurses received their regular salary for the inservice and did not receive any additional compensation from the researcher. The date of the inservice was decided by the nursing coordinator in each
district. The nursing coordinator was responsible for arranging schedules so that the nurses attending the inservice did not have other responsibilities during the inservice. The information in the inservice was discussed with two experts on smoking cessation to ensure inclusion of the necessary components of cessation counseling.

The inservice consisted of six parts: informed consent, a pretest, a slide presentation, a discussion of quitting strategies, role play and the posttest. Each participant in the treatment groups received a folder containing an informed consent (Appendix G), a pretest (Appendix B), a posttest (Appendix C), a pen and pencil, and two handouts (Appendix H), and vignettes for role play (Appendix I).

The inservice started with a description of the research and a time for questions from the participants regarding the expectations of this research. After discussion, each participant was asked to sign the informed consent form (Appendix G). One person failed to sign the consent form and was deleted from the study. The pretest (Appendix B) was administered and took the participants an average of eighteen minutes to complete.

The slide/lecture presentation was a two-hour presentation (Appendix B) using slides from "A Physician Talks About Smoking: A Slide Presentation" (HHS, 1985) and from slides developed by the researcher. The researcher
used a prepared script (Appendix A) during the presentation to insure uniformity of the presentations.

After the slide/lecture presentation there was a ten minute break. During the break, the participants were asked to exhale into the EC50 (carbon monoxide monitor) to measure their carbon monoxide level of end-expired air. This was done to validate the subjects' own smoking behavior.

The last of the presentation concentrated on smoking cessation counseling strategies for nurses. Each nurse received the handout (Appendix H) developed from the Cancer Information Smoking and Health Fact Sheet. The handout was discussed by the researcher and the participants were encouraged to use the information when they are working with patients who smoke.

The second handout, "Counseling Intervention" (Appendix H) was developed by Dr. Judith Ockene for physicians and has been used in the "Physician Delivered Smoking Intervention Project" research conducted by Dr. Ockene. Counseling-interventions used by Ockene et al. (1988) were a major focus of the inservice. Guided questions and elicitation of feelings revolved around six major content areas, including: (1) design and motivation to change smoking behavior; (2) experience with smoking cessation; (3) factors that inhibit smoking change (barriers); (4) resources for change (strengths); (5) plans for change, and; (6) methods that may deal with factors which may interfere with these plans. The
goal of the counseling intervention was to develop positive self-efficacy in the patient by identifying skills and resources necessary to stop smoking and feel confident in his or her ability to do so. The counseling intervention was adapted to apply to nurses and used with Dr. Ockene's permission. The nurses who attended the inservice were encouraged to chart their interventions and to use the contract developed by Dr. Ockene whenever possible.

The final part of the presentation consisted of role playing. The intention of the researcher was to demonstrate cessation counseling by using one of the vignettes developed for role playing by the researcher (see Appendix I). Then, the researcher planned to ask the participants to divide into groups of three with one person assuming the role of the nurse, one to act as the patient, and the third to be an observer with each person participating in all three roles. At the first inservice (Group A), the nurses were quite reluctant to participate in role playing exercise so the researcher demonstrated the counseling intervention using role playing. The remaining three inservices were conducted the same way to decrease the effect of intersession history.

After the presentation, the participants completed the posttest (Appendix C) which took approximately twelve minutes to complete. The posttest was completed on the same day as the pretest in order not to lose subjects to attrition.
The control groups were tested at fourteen different locations on nine different dates. The researcher attended the staff meeting in each area and prior to the start of each staff meeting the researcher explained the research and obtained informed consent from each participant. The pretest was then administered. After the staff meeting, the subjects completed the posttest. The CO level on each subject was taken either after the pretest or during the break of the staff meeting. The pretest and posttest were administered on the same day in order not to lose subjects to attrition.

**INSTRUMENTATION**

The pretest/posttest instrument measured nurses' knowledge of the influence of cigarette smoking on health, their attitudes concerning nurse-delivered smoking interventions, and their own smoking habits. The pretest-posttest instrument was developed adapting three previously used tools.

The first portion of the instrument was developed by Wells et al. (1984) for the purpose of testing the conceptual model shown in Figure 1 to test how physician's attitudes will affect their counseling of patients about the patients' smoking habits. The instrument, called Physician's Attitudes in Counseling About Smoking (PACS), is shown in Appendix G. The instrument was developed through
a synthesis of prior research and included 40 items which represented four attitude dimensions. These dimensions were motivation to counsel, perceived health risk of smoking, perceived skills in counseling, and perceived costs and benefits of counseling. The PACS was initially tested on a population consisting of male physicians who were members of a western county medical society in 1978. A fifty percent random sample resulted in a seventy-six percent response rate with a sample size of 151.

In the PACS questionnaire, the items were structured as statements of opinion. Twenty-six of the items have five responses ranging from "strongly agree" to "strongly disagree". Fourteen of the items used a seven point bi-polar adjective scale. The questionnaire was balanced in terms of negative and positive wording of items. The scoring of the following items: 3, 5, 6, 8, 11, 15, 18, 22, 25, 26, 28, 30, 31, 32, 33, 34, 36, 38, 39, and 40 was reversed so that a high score would indicate an attitude favorable to counseling.

Most items on the test asked for general responses rather than for personal responses to decrease the defensiveness of the respondent. To test the validity of this method, Wells et al. (1984) constructed six pairs of items to measure the same attitude but to differ in terms of the referent. On some responses, the physician referred to themselves personally and on some responses they referred to
physicians in general. An example of this is the two following items from PACS: "Most physicians are not effective at helping patients stop smoking" and "I am quite effective in getting patients to stop smoking". The authors set the alpha level at <.001 for these items and the Pearson Product Moment showed a significant correlation for all six pairs of items.

The analysis of the response resulted in the development of ten subscales and three global scales which were found to be consistent with the four attitude dimensions. An additional dimension, ability of patients to change, was added. The ten subscales established by the authors of PACS by a confirmatory factor analysis included: importance of counseling, health risks of smoking, safety of stopping smoking, skill in personal counseling, effectiveness of smoking counseling, confidence in counseling ability, gratification of smoking counseling, no income loss due to counseling, ease of smoking counseling, and ability of patients to change smoking habits.

A factor analysis using subscales was performed and three global scales were formed, including motivation to counsel, skills in counseling, and no costs in counseling. The first global scale meaning as assigned by the authors is "smoking counseling is important and safe; there is a high risk from smoking". The second global scale means that "physicians are skilled in counseling about smoking". The
third global scale means "counseling is convenient, results in no income loss and is not difficult".

Reliability of this instrument was tested by Cronbach's Alpha. Validity was evaluated by examining the internal structure of measure, item discriminant validity (a test of whether item groupings are appropriate), and construct validity. The analysis of reliability and validity of subscales and global scales supported the scale structure of the global scales and nine subscales. One subscale, perceived skills in personal counseling, was borderline. The authors reported in a later paper (Lewis, Wells, & Ware, 1986) that the value of Cronbach's Alpha for internal reliability ranged from .7 to .83. Guttman's Scalogram analysis of the indications and aggressiveness counseling scales revealed coefficients of reproducibility from .93 to .99 and coefficients of scalability from .72 to .97. The Cronbach's Alpha on the subjects (nurses) in this study was .78.

Items 4, 6, 9, 29, 33, and 36 from PACS were not used as the authors felt that these six items were poorly understood by respondents either because they were a poor measure of the dimensions or because the dimensions did not reflect physicians' attitudes regarding smoking. Two other items, 20 and 33, were also excluded from subscale formation as they loaded on more than one factor. However, questions 20 and 33 were used in global scale and analysis. The
authors suggested that all eight of the excluded items be retained and used in future research.

The PACS questionnaire was used for the first 42 questions in the pretest and in the posttest for the nursing population. Questions numbered 21 and 30 from PACS were deleted from the original questionnaire as they pertained to the effect that counseling makes on a physician's income. Counseling will not affect the income of the subjects in this study as all have salaried incomes. Each use of the term "physician" was replaced with the term "nurse".

The second instrument, the Health Habit Counseling Questionnaire (HHCQ) (Appendix K), used in constructing the pretest was also developed by Wells et al. (1984). The HHCQ was developed based on the conceptual model shown in Figure 5.

**FIGURE 5:** Model Used to Develop HHCQ (Wells, Ware & Lewis, 1984)
The model includes three dimensions of counseling: the indications for routine counseling, the techniques for counseling and the aggressiveness of the counseling style. The dimensions "aggressiveness" and "indications" were measured by eight subscales. The authors report the reliability and discriminant validity for all subscales to be excellent. The validity of counseling scales as measures of actual counseling practices was supported by subsequent studies comparing physician's responses with self-reported log diaries kept by the physicians of patient encounters and with patient's reports of physician counseling (Lewis, Wells, & Ware 1986).

The authors used the same population to test the HHCQ instrument that they used to test the PACS instrument. The authors expected to find that the physicians in the sample counseled patients more about smoking and weight than about alcohol and exercise and their findings supported this expectation.

The third instrument (Appendix L) was used by Ockene et al. (1988) in "A Residents Training Program for the Development of Smoking Intervention Skills". To assess the influence of the training program on residents' knowledge and attitudes toward smoking and smoking cessation, an instrument was developed which contained twelve multiple choice test questions. Content validity of this tool was determined by a panel of experts. Seven questions written
by the researcher were added to the thirteen questions in order to better assess the subject's knowledge. Content validity of the questions added by the researcher was determined by a panel of experts.

A carbon monoxide (CO) monitor was used to validate the smoking status of the subjects. The level of CO in expired alveolar air after breath holding is well correlated with carboxyhemoglobin (Wald, Idle, Boreham, & Bailey, 1981) and, therefore, provides a convenient, noninvasive, rapid measurement of the subjects' cigarette smoking status.

An EC50 analyzer, a small battery powered device, was used to collect CO levels on all participants. In a study comparing the EC50 to an ecolyzer, Irving et al. (1988) found the EC50 to be more stable and less sensitive to breath alcohol than the ecolyzer. Irving et al. (1988) further reports that the combination of the cost, ease of use, portability and digital display make the EC50 attractive for field studies and other clinical uses.

The protocol used by Jarvis (1980) and Irving et al. (1988) was followed for collecting the CO level on the subjects. On each day of measurement, the analyzer was calibrated with a gaseous mixture containing 50 ppm of CO purchased from the distributor of the monitor, Vitalograph, Inc. The manufacturer's directions were followed for calibration. Each subject was directed to inhale fully, by taking a deep breath, holding for twenty seconds, if
possible, and then exhaling rapidly and forcefully into the disposable mouthpiece. Some subjects were unable to hold their breath for the full twenty seconds and, in these cases, they were asked to hold their breath for as long as possible before blowing into the mouthpiece.

All but one subject participated in the CO measurement. The one subject who did not participate stated that she had been a smoker at one time but she had not smoked in over five years.

The manufacturer's suggested CO level for nonsmokers is a 2-10 reading on the EC50 and for smokers the CO level should measure ten or greater on the monitor. The half-life of CO is four to five hours and CO will remain in the blood for twenty-four hours although the exact time will depend on several factors such as amount of physical activity, sex of the person, severity of inhalations and amount smoked (Carbon Monoxide Monitor Operating Manual). For the purpose of this study, subjects with 10 ppm and greater were considered smokers. It was recognized that since the CO measurement was taken in the workplace where smoking was not allowed, the level of CO was not as great as perhaps it would be in an environment where smoking was allowed.

Documentation of nursing activities, including counseling, is routinely required in the nurse's notes. Documentation of cessation counseling was evaluated by means of a random chart audit. The chart audit included six
criteria which were presented in the inservice as being important in cigarette counseling cessation. These six items were: assessment for smoking at each visit, smoking history, counseling on the negative effects of smoking, counseling on tips for cessation, providing written information on smoking cessation, and a request for a follow-up appointment to monitor smoking status (Appendix D).

Subjects for the chart audit were identified by using random number tables. A random selection of twenty percent of the total number of subjects, ten percent of the control group and ten percent of the treatment group, was made. Ten charts on smoking patients who had been seen by each of the randomly selected subjects were evaluated using the chart audit form found in Appendix D.

In the treatment group, five charts on smoking patients from six weeks prior to the inservice and five charts on smoking patients six weeks after the inservice were randomly selected on each subject for a total of ten charts per subject. In the control group, five charts on smoking patients during the six week period prior to the testing date and five charts on smoking patients during the six week period after the testing date were randomly selected for each subject for a total of ten charts per subject.

The charts were randomly selected by identifying the dates to be included in the audit. Appointment sheets from
each date were collected and a random number table was used to identify a day to review charts. For example, if a three were chosen, every third day of the included dates was used to pull charts to see if the patients seen on that date were identified as smokers. If the patient was identified as a smoker, the audit form was completed on the patient. This process was followed until ten charts were identified for the twenty subjects. The twenty subjects chosen for the chart audit were from 14 different health centers.

Three subjects who were randomly selected only see pediatric patients and these subjects were replaced with randomly selected subjects from the same district who see adult patients. In twelve of the health centers, the only readily identifiable smokers were those examined in family planning and prenatal clinics. Therefore, patients from these clinics make up eighty-two percent of the charts which were audited. In addition to family planning and prenatal clinics, three health centers see patients with hypertension and one center sees patients with episodic illnesses. Patients from these centers who were identified as smokers were included in the chart audit.

The researcher audited 170 charts and a public health nurse consultant in one of the districts audited 30 of the charts. In order to establish interrater reliability, twenty charts were audited by both persons at different times. There were seven items assessed on each of the
twenty charts for a total of 140 items. Three items out of the 140 were audited differently by the nurse consultant and the researcher. A Spearman correlation coefficient on the 20 charts audited by the consultant and the nurse researcher was .828.

All chart audits were carried out six weeks or longer after the inservice or testing date. The subjects had no prior knowledge of the chart audit in order to reduce the Hawthorne Effect (Bracht & Glass, 1968). The supervisors were informed of the chart audit prior to granting permission to carry out the research in each district. The supervisor of each district gave written permission for the chart audit to the researcher (Appendix M). The chart audit without informed consent was included in the protocol for The Ohio State University's Biomedical Science Human Subjects Review Committee (Appendix N) and the Human Assurance Committee at the Medical College of Georgia (Appendix O). Both committees approved the protocol (Appendices P, Q).

**PILOT STUDY**

A health district in Virginia, consisting of twenty-two public health nurses serving a six county, two city area encompassing rural and urban settings was chosen as the population for the pilot test. Two county health departments in this district agreed to participate in the
pilot study. The Virginia nurses were chosen as they very closely parallel the nurses in the population in terms of education level, role and function. Also, the researcher had a personal contact with a nurse in this district. A cover letter and a test (Appendix R) were distributed to twenty-two nurses in two locations. The nurses were asked to respond to questions regarding the time it took to take the entire test as well as the time it took to complete a specified portion of the test. They were also asked if there were any questions which were in any way unclear to the participant.

Seventeen tests (77.5% return rate) were returned to the researcher. The average time it took to complete the test was forty-two minutes; however, some respondents stated it took greater than an hour to take the test. Other responses included comments such as "I did not know how little I know on this subject" and "I now recognize a need to learn more about this". There were no questions identified as being poorly or not understood.

Statistical analyses on the pilot test were limited due to the small number of responses. A factor analysis was attempted but not found valid due to the small number of responses. A Cronbach's Alpha on the entire attitude questionnaire was found to be .48. The low alpha was thought to be related to the small number of responses.
Due to multiple responses, the researcher had difficulty scoring questions from the HHCQ portion of the pretest. Dr. Charles E. Lewis, one of the authors, was consulted regarding this concern and he stated that these questions had not been considered in the analysis of their data. Therefore, questions 63, 68, 73, and 78 were deleted from the pretest. Other questions which were deleted from the pretest were those which asked for one response yet repeatedly received multiple responses from the pilot subjects. These questions included 65, 66, 70, 71, 75, 76, 81, and 82.

Other changes made in the pilot test included improvements to enhance readability. Printing the directions in lower case letters made the instructions more clearly readable. Replacing "his/her" with "they", replacing "he/she" with "he", and the deletion of unnecessary sentences in the directions all made for a more easily understood test.

Questions 67, 72, 77, and 83 were separated into two questions each to obtain the same information previously requested from a single response question. The box in questions 85 - 90 was deleted and the same response was placed in a Likert format. Also, question number 105 and 106 were combined into one question.
Internal validity of the instrument which measured attitude was determined by establishing the Cronbach's Alpha Coefficient on the attitude test (alpha = .78). The analysis of covariance using the pretest scores as the covariate was used to determine the effect of the treatment (Campbell & Stanley, 1963).

Frequency distributions were used to identify the number of smokers, amount smoked, the number currently trying to stop smoking, and the average age of smoking onset. Frequency distributions were also used to report the average age of subjects, the breakdown of race, the average number of years employed as a nurse, the average number of years employed in a health department, the percent of time spent in direct patient care, the basic nursing preparation of the nurses and the highest educational level attained by the subjects. Analysis of variance (ANOVA) and chi square were employed to examine the difference between the control and treatment groups on the demographic distribution.

**SUMMARY**

This chapter summarized the methodology procedures used in this research study. The components of the chapter included: (1) study design, (2) population and sample, (3) treatment, (4) instrumentation, (5) pilot study, and (6) statistical testing procedures.
Campbell and Stanley's Design Number Ten was used in this study of 105 public health nurses in four public health districts in northern Georgia. The treatment was a four-hour slide/lecture/role play inservice and the pre/posttest instrument was adapted from a similar instrument used in a study conducted by Wells, Ware, and Lewis (1984). Prior to beginning the study, a pilot study was conducted using public health nurses in a Virginia health department. The analysis of covariance using the pretest scores as the covariate was used to determine the effect of the treatment on attitude and knowledge (Campbell & Stanley, 1963). An ANCOVA was also employed to assess the effect of the inservice on cessation counseling. The charts audited during the six weeks before the intervention were used as a covariate.
CHAPTER IV
DATA ANALYSIS

The purpose of this study was to determine the effects of a smoking cessation counseling inservice education program on a group on public health nurses. The subjects' attitudes toward counseling were measured by PACS found in Appendix J (Wells et al., 1984). Their health habits were measured by using the HHCQ found in Appendix K (Wells et al., 1986). The subjects' knowledge was measured by the instrument developed by Ockene et al. (1988) (Appendix L). The subjects' counseling practices were measured by a chart audit form. The statistical program SYSTAT (Wilkinson, 1988) was used to complete statistical analysis in this research and all statistical tests used an alpha level of .05.

This chapter begins with an in-depth analysis of the demographic profile of the subjects. Following this section of analysis, comparisons between the treatment and control groups are examined. The last segment of this chapter is an interpretation of the testing of the null hypothesis.


STUDY SAMPLE

The study sample included 105 registered nurses from four public health districts in north Georgia. All of the subjects were female. There were 80 Caucasians, 20 Blacks, 1 Indian (Native American), and 4 respondents who did not indicate their race (Figure 6). The racial breakdown for the treatment and control group is shown in Figure 7. A chi-square statistical test showed no difference between the groups \( \chi^2(3)=3.841 \ p=0.279 \).

Subjects ranged in age from 24 to 60 with a mean age of 44.3 years. The age of the subjects in the treatment group ranged in age from 24 to 60 with the mean age of 44.6 years. The range for the subjects in the control group was from 25 to 59 years and the mean age of this group was 44.0 years. An independent t-test found there was no significant difference between the groups on age \( t(4)=7.736 \ p=0.102 \).

A chi-square statistical test found no significant difference between the groups on their basic nursing preparation \( \chi^2(4)=7.736 \ p=0.102 \). For the purpose of this study, basic means the subjects' initial nursing education. The majority (55%) in each group received a diploma as their basic nursing preparation. The basic nursing preparation is shown in Figure 8.

Nine percent of the treatment group and nine percent of the control group received a master's degree. Again, no significant difference was found between the groups on their
FIGURE 6: Racial breakdown of subjects participating in a smoking counseling educational program for nurses; n = 105
FIGURE 7: Comparisons of race of subjects in smoking cessation counseling education program for nurses; n = 105
FIGURE 8: Comparisons of the basic nursing preparation of subjects participating in the cessation counseling program; n = 105
highest education level completed in nursing $\chi^2(3) = 4.734$ $p = 0.192$. The difference between the treatment and control groups on their highest level completed in nursing is similar to the difference seen in their basic nursing preparation. The control group had more nurses with a diploma as their highest level of education and the treatment group had more nurses with a bachelor's degree as their highest level of education (Figure 9).

Forty-five percent of the nurses in both the treatment groups and the control groups had worked in health department settings for more than ten years (Figure 10). A chi-square was used to test for differences in years of experiences between the groups and was found to be nonsignificant $\chi^2(4) = 3.001$ $p = 0.558$.

The differences between the groups in the number of years employed in a nursing position was found to be significant $\chi^2(3) = 12.636$ $p = .005$. However, one-fifth of the fitted cells was sparse with less than five per cell so the significance of the tests was thought to be suspect (Wilkinson, 1988). A comparison between the treatment and control groups on the number of years employed in a nursing position is shown in Figure 11.

Greater than forty percent of the subjects in both groups spend more than fifty percent of their time in direct patient care (Figure 12). A chi-square showed there was no significant difference between the groups on the time spent
FIGURE 9: Highest education level attained by nurses participating in smoking cessation counseling program; n = 105
FIGURE 10: Comparisons of duration of employment (by health dept.) of subjects in cessation counseling program; n = 105
FIGURE 11: Comparisons of length of employment of nurses participating in the cessation counseling program; n = 105
FIGURE 12: Time giving direct patient care by nurses participating in smoking cessation counseling program; n = 105
in direct patient care $\chi^2(4)=5.334 \ p=0.255$.

The average number of patients seen per day for both groups combined was 13.25. The average number of patients seen per day in the treatment group was 15 and the average number for the control group was 12.5. A t-test showed there was no significant difference between the groups on the average number of patients seen $t(97)=1.194 \ p=0.299$.

The majority of the patients seen by the subjects are females. The subjects were asked to respond to a question which asked "What percentage of your patients are male?" and seventy-four percent of the sample nurses in both groups responded 0-25% (Figure 13). The chi-square statistic showed there was no significant difference between the treatment and control groups on the percentage of male patients they see $\chi^2(5)=7.191 \ p=0.207$.

Fifty-eight percent of the subjects stated that more than half of their patients are 25 years old or younger (Figure 14). The subjects were asked to respond to a question which asked "What percentage of your patients are 25 years old or younger?". There was no significant difference between the control and treatment groups on this question $\chi^2(4)=6.958 \ p=0.138$.

Thirty-one subjects had received information about smoking cessation in nursing school or through a workshop (Figure 15). There was no significant difference found between the two groups on receiving prior information on
FIGURE 13: Number of male patients of nurses participating in smoking cessation counseling educational program; n = 105
FIGURE 14: Patients 25 years or younger of nurses participating in smoking cessation counseling educational program; n = 105
FIGURE 15: Prior smoking cessation information of nurses participating in cessation counseling program; n = 105
smoking cessation $\chi^2(2) = 2.647, p = 0.266$. The subjects who had received information about smoking cessation in nursing school or in a prior workshop were compared to the subjects who had received no prior information on attitude and knowledge variables. There was a significant difference on attitude between the groups who had received prior information on smoking cessation counseling and those who had not $t(101) = 2.542, p = 0.013$. The nurses who had received smoking cessation counseling instruction displayed a more favorable attitude toward smoking cessation counseling than those nurses who had received no prior smoking cessation counseling instruction. No significant difference on knowledge between the nurses who had previous information on smoking cessation and the ones who had not had previous information was found $t(100) = -0.651, p = 0.517$.

There were a total of 21 subjects who responded positively to question number 87 on the pretest which assessed their smoking status. Eight smokers were in the control group and thirteen were in the treatment group. Using ten parts per million (ppm) or greater carboxyhemoglobin reading on the EC50 to validate smoking (Jarvis et al., 1986; Irving et al., 1988), three subjects who responded negatively to the smoking assessment question measured ten ppm or greater on the EC50. For the purpose of this study, they will be considered smokers. Therefore, there were a total of 24 subjects who were smokers. The
smokers' attitudes, knowledge and counseling practices were compared to the nonsmokers. A t-test comparing smokers' attitudes to nonsmokers' attitudes on the pretest demonstrated no significant differences between the two groups $t(103)=.117 \ p=.907$. A t-test comparing smokers' knowledge to nonsmokers' knowledge on the pretest demonstrated no significant difference $t(102)=1.291 \ p=.199$. A comparison was not made between smokers' counseling practices and nonsmokers' counseling practices as the distributions of smoking subjects whose charts were audited were too small to allow for further examination of data.

The control and treatment subjects were compared on attitude toward counseling, knowledge of counseling and counseling practices. The first forty-two questions of the pre and posttests (PACS) measured the subjects' attitude toward smoking. Questions 3, 5, 6, 8, 11, 15, 18, 21, 24, 25, 27, 29, 30, 31, 32, 34, 36, 37 and 39 were transformed so that a high score would indicate an attitude favorable to counseling (Wells et al., 1984). In order to calculate the attitudinal measure, responses to the 42 questions were summed. These totals were subjected to an ANCOVA using the pretest scores as covariates. The ANCOVA showed a significant difference in group differences in posttest attitudes $F(1,102)=33.327 \ p=0.001$ (Figure 16).

In order to assess nurses' knowledge, questions 43-62 (Ockene et al., 1988) were used. In this assessment, a
FIGURE 16: Subjects' attitude to smoking cessation counseling; n = 105
correct answer by the subjects on the test was assigned a "1" and an incorrect answer was assigned a "0". The 20 questions were summed and an ANCOVA using the pretest scores as the covariates were employed. The group differences in knowledge on the posttest were significant \( F(1,102)=13.560 \ p=0.001 \) (Figure 17).

Two hundred randomly selected charts from twenty randomly selected subjects, ten from the treatment group and ten from the control group, were used to identify changes in counseling behaviors after the treatment. Each chart was a record of a patient's health care received in the health department. Therefore, the chart audit examined twenty separate charts for each subject (nurse). The charts used in the audit had to fall within two time periods. Ten of the subjects' charts had to be from smoking patients seen during the six-week period prior to the treatment and ten of the subjects' charts had to be from smoking patients seen by the subject during a six-week period following the treatment. The audit form shown in Appendix D was used on each separate chart audit. The "yes" response was assigned a value of "1" and the "no" responses were assigned a "0". The responses were totaled and an ANCOVA showed there was no significant difference between the groups on the charts audited prior to the treatment \( F(1,16)=4.378 \ p=0.597 \). The ANCOVA showed a significant difference after treatment \( F(1,17)=35.471 \ p=0.001 \) (Figure 18).
FIGURE 17: Subjects' knowledge of health hazards of smoking; n = 105
FIGURE 18: Subjects' smoking cessation counseling behavior; n = 20
The researcher made anecdotal notes during the chart audit. Charts from family planning and prenatal patients made up 82% of the audited charts. Twenty-one of the charts from family planning patients who smoked and who were prescribed birth control pills had "no contraindications to OC" written on the chart. "OC" is the abbreviation for oral contraceptive. All hypertensive, family planning, and prenatal charts contained flow sheets which were completed by the public health nurse each visit. One district, which contained two treatment groups and two control groups, had smoking cessation or cessation counseling on the family planning flow sheet. In a separate health district, smoking cessation was included on the patient education flow sheet for family planning and prenatal patients. However, these educational flow sheets were not completed by the public health nurse with any apparent regularity.

In one district which received the treatment, the researcher was told that since the treatment had been given, an informational brochure which contained information on the risks of smoking and oral contraception, and strategies for quitting smoking, had been developed and is currently given to each family planning patient.

The subjects were compared on the highest education level achieved and their knowledge, attitudes and number of patients seen. Those of different educational level did not exhibit statistically significant different attitudes $F(3,100)=1.057 \ p=.115$. There was also no difference in
knowledge of the health hazards related to smoking observed $F(3,100)=1.172 \ p=0.324$. However, there was a difference for those with different educational level and the number of patients seen $F(3,95)=3.052 \ p=0.032$. The subjects with advanced degrees saw fewer patients than those without an advanced degree. Those nurses with higher levels of education held administrative positions.

The length of time employed was compared with the attitude on the pretest. An ANOVA revealed no difference between those employed for greater periods of time and those employed for less time $F(3,100)=1.057 \ p=0.371$.

The smoking subjects (those nurses in this study identified as smokers) were asked if they were currently trying to reduce or stop smoking. Of the twenty subjects who responded to this question, fifteen subjects responded positively. The smoking subjects were also asked if they had switched to low tar cigarettes, cigars or pipes. Twenty-one of the subjects responded to this question and 13 subjects answered affirmatively.

**INTERPRETATION**

This section will include an interpretation of the data analysis. The null hypotheses for this study and their corresponding statistical testing results were as follows:

1. There will be no difference in the level of knowledge of the influence of cigarette smoking on
health for registered nurses who participate in a smoking cessation counseling educational program (treatment) as measured by scores on the pre/posttest than for registered nurses who do not participate in the smoking cessation counseling educational program. \[ F(1,102) = 13.560; \ p = 0.001 \]

2. **There will be no difference in the attitudes concerning nurse-delivered smoking interventions from registered nurses who participate in a smoking cessation counseling educational program as measured by pre/posttest scores than for registered nurses who do not participate in the smoking cessation counseling educational program. \[ F(1,102) = 33.327; \ p = 0.001 \]**

3. **There will be no difference in the counseling practices of nurses who participate in a smoking cessation counseling educational program as measured by random chart audits than for nurses who do not participate in the program. \[ F(1,17) = 35.471; \ p = 0.001 ]**

4. **There will be no difference in the attitude toward counseling patients about smoking cessation for registered nurses who smoke as measured by pre/posttest scores than for registered nurses who do not smoke. \[ t(103) = .117; \ p = .907 ]**
Data analysis for null hypothesis one showed a significant difference between the control and treatment groups. Nurses who participate in an educational program on smoking cessation counseling appear to have more knowledge of health hazards related to smoking than nurses who do not participate in such a program. Because of random assignment of the independent variable, the four-hour inservice, to intact groups and the use of ANCOVA, the statistical significance in knowledge of the health hazards of smoking behavior in the groups could be attributed to the educational program and not on knowledge gained prior to this study. The fact that less than one third of the sample (nurses) had had previous smoking cessation counseling information in a prior class or course is important to consider.

The lack of knowledge may be attributed to the absence of prior training in smoking cessation. The significant difference in knowledge seen on the pre and posttest reflect the fact that these nurses can increase their knowledge by attending an inservice education program. Since smoking has been found the number one preventable cause of death in this country, it is important that information on smoking cessation be included in all nursing school curriculums.

The finding in hypothesis one also corresponds with those of Hathaway and Hughes (1984) who found that, in general, physicians lack knowledge of effective smoking
cessation techniques and have inadequate training in counseling skills. Ockene (1988) used a pretest/posttest design and looked at the impact of a three-hour training program on seventy-seven general medicine and family medicine residents and found that the training program made a significant difference in their knowledge of the health hazards of smoking and in the perception of their influence on their patients who smoke. Ockene further states that medical school and physicians' residency programs do little to promote skills needed in smoking cessation counseling.

Data analysis for null hypothesis two also showed a significant difference between the control and treatment groups. Nurses who participate in an educational program on smoking cessation counseling appear to have a more favorable attitude concerning the effect of their nurse-delivered smoking intervention on the patients' smoking habits than those nurses who did not participate in such a program. Because of the random assignment of the independent variable to intact groups and the use of ANCOVA, the statistically significant difference in the nurses' attitude towards smoking cessation counseling could be attributed to the education program and not on attitudes developed prior to this research study.

There is no way to isolate which part of the inservice program had the greatest impact on the nurses' attitudes toward counseling before and after the program. However,
increasing their knowledge in counseling techniques was one potential cause of the change in attitudes. This finding corresponds with Ockene's (1988) study, a three-hour program for residents consisting of: epidemiologic evidence of cigarette smoking and chronic disease; results of research showing physicians as smoking interveners; and, viewing and discussion of videotaped smoking interventions. These three components of the study had a significant positive effect on the resident's attitudes towards their ability to affect their patient's smoking behavior. Physicians' attitudes toward intervention practices would increase if they felt confident of their ability to have an effect.

Data analysis for the third null hypothesis showed a significant difference between the treatment and control groups. Nurses who participated in an educational program on smoking cessation counseling assessed for smoking habits and practiced smoking cessation counseling interventions more frequently than those nurses who did not participate in such a program. Because of the random assignment of the independent variable to intact groups and the use of ANCOVA, the statistically significant difference in the frequency of smoking cessation counseling practices by nurses could be attributed to the educational program and not on their counseling practices prior to this study. The random selection of nurses used in the chart audit and the random selection of charts from smoking patients further
substantiated the statistically significant differences present.

The fact that an increase of knowledge and a change in attitude will have a positive impact on nurses' behavior is significant. There were no studies identified in the nursing literature that looked at counseling behavior after any type of intervention. In a study that did not include an intervention, Wells et al. (1986) did have physicians indicate whether or not they counseled each patient seen over a three-day period about smoking or exercise. Wells et al. also used the PACS (Appendix A) questionnaire and the HHCQ (Appendix K) as measurement tools. The findings were that the physicians with higher scores on counseling scales were more likely to indicate in their log diary that they conducted cessation counseling.

The null hypotheses may then be rejected for hypothesis one, two and three. The fourth null hypothesis cannot be rejected as there was no significant difference between smokers' and nonsmokers' attitudes on the pretests and posttests. This is different from findings of Spencer (1983) who stated that cigarette smoking by nurses made them less effective in a smoking cessation information-giving task. Cummings' et al. (1987) findings were similar to Spencer's in that he found that patients who were seen by a physician who is a cigarette smoker were less likely to report stop-smoking advice than patients seen by nonsmokers.
Lewis (1989) indicated, in a verbal communication, the attitude and counseling practices of physicians who had quit or tried to quit smoking are similar to those who do not smoke. The fact that 75% of the responding smoking subjects were currently trying to reduce or stop smoking may help explain why there was no difference between smokers and nonsmokers on attitude as measured in this study.

The conceptual framework for the study, which was adapted from Wells et al. (1986), is in the model on page nine of this document. The findings of this study confirm the influence of knowledge and attitude on smoking cessation counseling practice. There is insufficient data on the influence of smoking practice by the nurses in the study since less than one-fourth of the subjects smoked and 75% of the smokers were trying to quit.

**SUMMARY**

This chapter reports the results of the analysis of data and their interpretation. The SYSTAT (Wilkinson, 1988) program developed for quantitative statistics was used.

Frequency distributions, chi-squares and t-tests were used to test for group differences on demographic characteristics. The frequency distributions were represented in Figures 6-18. The demography of the groups was also discussed, including sex, race, age, level of education, years employed in health departments, number of
years worked in nursing, amount of time in direct patient care, average number of patients seen per day, and the sex and age of their patients. Based on these analyses, no statistical significant differences were detected between the treatment and the control group in terms of the demographic variables surveyed.

The ANCOVA statistic was employed to measure differences between the treatment and the control groups on attitude and knowledge using the pretest as the covariate (Campbell and Stanley 1963). Significant differences between groups were found in the measures of attitude and knowledge. The treatment groups had greater knowledge of the health hazards related to smoking. The treatment group appeared to have a more positive attitude concerning the effort of nurse-delivered smoking interventions on patients' smoking habits.

Twenty nurses in this study were randomly selected, ten from the treatment group and ten from the control group, for a chart audit which was used to assess for smoking cessation counseling behavior change. An ANCOVA was used to measure the group differences in smoking cessation counseling behavior and a significant difference was found between the groups. The nurses in the treatment group assessed for smoking habits and practiced smoking cessation counseling interventions more frequently than those nurses in the control group.
Data analysis for the first three null hypotheses showed significant difference between the control groups and treatment groups. Specifically, there was a statistically significant difference between the groups on the nurses' knowledge of the health hazards of smoking (null hypothesis #1), the nurses' attitude concerning the effect of smoking intervention on patients' smoking habits (null hypothesis #2), and the nurses' frequency of assessment for smoking habits and practice of smoking cessation counseling intervention (null hypothesis #3). The fourth null hypothesis, which examined the attitude towards smoking cessation counseling between smoking nurses and nonsmoking nurses, was not rejected.
CHAPTER V
SUMMARY, CONCLUSIONS, IMPLICATIONS, AND
RECOMMENDATIONS

Four components will be included in this chapter. The summary of the study will be given, followed by the conclusion drawn from the data analysis. Implications of the findings will be presented and, lastly, recommendations for future research will be included.

SUMMARY

The purpose of this study was to determine the effects of a smoking cessation counseling education program on nurses' knowledge of the influence of cigarette smoking on health, their attitudes concerning nurse-delivered smoking interventions, and their counseling practices.

The population for the study is 256 registered nurses in five public health districts in northern Georgia. The population was identified by sending a letter to 10 nursing coordinators in 10 different public health districts in northern Georgia (Appendix E). A follow-up phone call to each nursing coordinator identified districts that would be willing to participate in the study. The total number of

112
subjects in this study is 105. A count of fifty-two subjects are in the treatment group and fifty-three subjects are in the control group.

Campbell and Stanley's (1963) design number ten, the nonequivalent control group design, was used as the design for the study. Design ten was chosen since the groups were intact groups and the subjects could not be randomly assigned to the groups. The groups were randomly assigned. One of the groups had a schedule change and was unable to participate during the scheduled time and one group had a smaller sample of nurses than was expected. Therefore, three groups were added to the original sample and a 1 X 4 ANOVA using the pretest was employed to assess for differences between the groups that were randomly assigned and the groups which were added later. There were no significant differences found between the groups.

The null hypotheses for this study were:

1. There will be no difference in the level of knowledge of the influence of cigarette smoking on health for registered nurses who participate in a smoking cessation counseling educational program (treatment) as measured by scores on the pre/posttest than for registered nurses who do not participate in the smoking cessation counseling educational program.
2. There will be no difference in the attitudes concerning nurse-delivered smoking interventions from registered nurses who participate in a smoking cessation counseling educational program as measured by pre/posttest scores than for registered nurses who do not participate in the smoking cessation counseling educational program.

3. There will be no difference in the counseling practices of nurses who participate in a smoking cessation counseling educational program as measured by random chart audits than for nurses who do not participate in the program.

4. There will be no difference in the attitude toward counseling patients about smoking cessation for registered nurses who smoke as measured by pre/posttest scores than for registered nurses who do not smoke.

Data analysis for the first three null hypotheses showed a significant difference between the control groups and treatment groups. Specifically, there was a statistically significant difference between the groups on the nurses' knowledge of the health hazards of smoking, the nurses' attitude concerning the effect of smoking intervention on patients' smoking habits, and the nurses' frequency of assessment for smoking habits and practice of smoking cessation counseling intervention. The fourth null
hypothesis, which examined the attitude towards smoking cessation counseling between smoking nurses and nonsmoking nurses, was not rejected.

Instrumentation included a pre/posttest format which measured attitude PACS (Wells et al., 1984) (Appendix J), knowledge (Ockene et al., 1988) (Appendix L), and health counseling behavior HHCQ (Wells et al., 1984) (Appendix K). All of the above mentioned tests were originally used with physicians and, for the purposes of this study, were adapted to be used with nurses. An EC50 Carbon Monoxide Monitor was used to validate the smoking status of the subjects. A chart audit (Appendix D) was used to measure the smoking cessation counseling behavior of the subjects.

The treatment, a four-hour slide/lecture/role play inservice, was held during the regular working hours on four different dates for the treatment group. The nursing coordinators were responsible for arranging schedules so that the nurses attending the inservice did not have other responsibilities during the inservice. The information in the inservice was discussed with two experts on smoking cessation to ensure inclusion of the necessary components of cessation counseling. The pretest was administered immediately preceding the inservice presentation and the posttest was administered immediately after the inservice presentation.
The control groups were tested at fourteen different locations on nine different dates. The researcher attended the staff meeting in each area and, prior to the start of each staff meeting, the researcher explained the research and obtained informed consent from each participant. The pretest was administered after informed consent was given. The posttest was administered immediately following the staff meeting.

An ANCOVA was employed to assess for differences between the control groups and treatment groups on attitude and knowledge. This statistic is used when random assignment of subjects to groups is not possible as the ANCOVA statistically controls for differences between groups (Campbell and Stanley, 1963). The pretest was used as a covariate.

The charts used in the audit had to fall within two time periods. Five of the subjects' charts had to be from smoking patients seen during the six-week period prior to the treatment and five of the subjects' charts had to be from smoking patients seen by the subject during a six-week period following the treatment. An ANCOVA was used to measure the differences between the control groups and treatment groups. Demographic data were analyzed using frequency distributions, t-tests, chi-squares and ANOVAs. Study data were analyzed using the SYSTAT (Wilkinson, 1988) statistical package.
CONCLUSIONS

Based on the quantitative data and analyses using the SYSTAT (Wilkinson, 1988) statistical program on the pretests and posttests, null hypothesis one, two, and three may not be accepted at the alpha = .05 confidence level. This study did not reject the hypothesis that there is no difference in the level of knowledge of the influence of cigarette smoking on health for RNs in the treatment and control groups. It also means a rejection of any difference in the attitudes concerning nurse-delivered smoking from RNs who participated in the smoking inservice and those who did not participate in the inservice. The study rejects the hypothesis that states there will be no difference in the counseling practices of nurses who participate in a smoking cessation counseling program than for nurses who do not take part in the program. However, the fourth null hypothesis is accepted at the alpha = .05 confidence level. Accepting the fourth null hypothesis means there exists no significant difference between nurses who smoke and nurses who do not smoke on attitudes toward counseling patients about smoking cessation.

IMPLICATIONS

Due to the design of this study, the findings can only be generalized to the study population. However, there are some implications which may be made. There are only 24
smokers in the group of 105 subjects. This is less than the estimated national average of 30% (HHS, 1987) but greater than the average of other health care professionals (10%) (Schwartz, 1987). Three of the subjects in the study measured as smokers on the EC50 but denied smoking on the pretest. One person refused to have her carboxyhemoglobin level measured but stated she was not a smoker. This is less than the estimated 25% inaccuracy of self-report as reported by Schwartz (1987) but more than the researcher anticipated in view of the fact that the subjects knew that their smoking status would be validated at the time they answered the questions regarding their smoking behavior. Only twenty-nine percent of the participants had ever received information on smoking cessation counseling.

Again, the results of this study cannot be generalized to a larger population but the significant difference that was observed in the smoking cessation counseling of the group who received the inservice may raise questions as to what the smoking cessation counseling behavior would be if a greater number of nurses were trained in smoking cessation counseling. Nurses make up the largest number of practicing health care professionals (AHF, 1989) and smoking cessation counseling should be an integral and standard part of every nurse's education. If physician counseling is as effective as other modes of therapy in smoking cessation (Schwartz, 1987), there is reason to believe that nurses can be equally
effective in cessation counseling.

One of the implications of this study is that if nurses realize that receiving information on smoking cessation counseling could improve their counseling behavior, perhaps they would be more open to the information. One nursing supervisor contacted regarding possible participation in this study stated that her nurses did not have time to do smoking cessation counseling and one nurse attending the inservice also made a very similar statement. The goal of a smoke-free nation will never be realized if the practicing health care professionals assume this posture.

RECOMMENDATIONS

The results of this study lead to the following recommendations for future research and practice:

1. The educational inservice given to the treatment groups lasted only four hours and contained an abundance of information necessary for understanding the nurses' role in smoking cessation counseling. A future research effort should examine the nurse's role in more depth through a longer workshop with less concentration on lecture and more of an emphasis on audience interaction/participation in the learning process.

2. The chart audit should be conducted at a one-year interval to test for long term learning and integration of
education into practice.

3. Patients should be tracked and their smoking status should be validated through the use of a carbon monoxide monitor or other similar smoking validation device to assess the quit rate of the patients counseled by the subjects.

4. Future studies should posttest the subjects after a one-year time period allowing for integration of skills into nursing practice. This may prove more effective than posttesting immediately after learning the information.

5. A design allowing for random selection of subjects and random assignment of subjects to groups should be employed to allow for greater generalizability.

6. Due to the limitations placed upon the researcher by the health districts and the wide geographical region covered, incorporation of qualitative research techniques (e.g., personal interviewing) into the quantitative efforts were not undertaken in this study. Inclusion of qualitative research into future studies would possibly enhance the study.

7. Stronger statistical power in the testing through the selection of a larger sample size over a broader geographical region would also make for a more generalizable study.

8. Increasing the sample size of the subjects to use in the chart audit to insure a larger number of smokers would allow for testing the hypothesis that smoking subjects are less
likely to do smoking cessation counseling than are nonsmoking subjects.

9. A similar or identical study could be conducted using other nursing groups as subjects (e.g., nurse practitioners, hospital nurses, etc.). The results of that study could be used as stand-alone research, and/or it could be compared with this and/or other studies of a very similar nature. If further research continues to show a significant difference is made by educating the nurses, a smoking cessation educational program should be examined for possible institution into all schools of nursing and service facilities.

10. All patient flow charts, regardless of problem or intervention, should add assessment and intervention for smoking to better ensure the occurrence of smoking cessation counseling.

11. Nurses should record all smoking cessation counseling on the patients' charts.
APPENDIX A

INSERVICE EDUCATION SLIDE/TAPE PRESENTATION
The National Cancer Institute reports clinical studies have found that patients whose doctors deliver a brief stop-smoking message are 2 to 10 times more likely to quit than are patients who receive no such advice. Studies further show that the more time, enthusiasm and follow-up by the physician will yield even better quit rates in patients.

A study by Meyer and Henderson (1974) found that physicians' advice did as well as individual counseling and behavior treatment. Schwartz (1987), a researcher in smoking cessation, gives even more evidence of physician's successful counseling rate.

When I started realizing how effective physicians are, I began wondering how effective nurses are and what do you think I found?

I did find a lot of literature on nurses' own smoking behavior.... why nurses smoke, which nursing speciality smokes the most, which specialty smokes the least, etc., but I found very little on nurses and cessation counseling.
GOLDSTEIN (1987) STUDY OF RNs

52% surveyed believed they should counsel all patients who smoke.

35% state they actually counsel

FIGURE 19: Goldstein study of RNs, A
One study that was done here in Georgia at the Medical College by Goldstein et al. (1987) was reported in the literature. This study found that 52% of the nurses believe they should counsel and 35% state they actually counsel.

If smoking is the #1 avoidable cause of death, why are more nurses not counseling on smoking cessation?
BARRIERS TO COUNSELING

* Perception by nurses that counseling is not effective

* Failure of physicians to request this care

* Lack of knowledge in smoking cessation counseling
The Goldstein study also identified some barriers to counseling which were:

* perceptions that counseling is not effective.
* failure of physician to request this care, and
* the nurse's lack of knowledge in this area.
50% of the nurses say they avoid counseling because they do not know how

Only 14% have received formal training in cessation counseling

FIGURE 20: Goldstein study of RNs, B
In this same study by Goldstein, one-half of the respondents say they avoid counseling because they do not know how and only 14% of the nurses have received any type of formal training in smoking counseling skills.
Cigarette smoking is the chief avoidable cause of death in our society
January 11, 1989 marked the 25th anniversary of the Surgeon General's report which identified a causal relationship between cigarette smoking and lung cancer. Since that time, there has been an overwhelming body of evidence from over 50,000 studies which have determined that smoking is the largest preventable cause of premature death and disability.

Many people have stopped smoking since 1964 as the number of smokers in the population has dropped from 42% to 30%.
Approximately 30% of the population, or 54 million Americans, SMOKE
However, 54 million Americans still smoke, which is approximately 30% of the adult population.
Who smokes cigarettes, how much, and why?
Now, I am going to talk to you a little about the demographics of smoking.
FIGURE 21: Percent of population who smoke
Between 1965 and 1985, the percent of male smokers dropped from about one-half to one-third of the population, which represented a 34% reduction. In the same time period, the drop in female smokers was only 19%.

This means we still have more male smokers, but the quit rates for males is much greater. The fastest growing population of cigarette smokers is women under 35 years of age.

According to the July 1989 Nation's Health, "The tobacco industry's marketing campaigns are targeted at women. Women who smoke are unrealistically displayed as attractive, healthy and independent when in actuality they are falling prey to a highly addictive nicotine dependence. As tobacco sales decline in North America, US companies are looking to Asia for future growth. As a result, there has been an increase in smoking prevalence rates among women in nations such as Japan, Taiwan, and South Korea where, traditionally, women have not smoked."
* A smaller percentage of college graduates smoke than persons with less education

* A smaller percentage of white collar workers smoke than blue collar workers

* A smaller percentage of whites than blacks smoke, although blacks smoke fewer cigarettes daily
If we look at smoking demographics in relation to education, occupation and race, it is known that, on average, fewer college graduates smoke than persons with less education, fewer white collar workers than blue collar workers smoke, and fewer whites than blacks smoke, although blacks smoke fewer cigarettes daily.

The population I just described is the population that has been successfully targeted by the tobacco companies.

I think those of us in public health will also recognize the population I just described as being very similar to the public we serve.
TEENAGERS

* In the U.S., approximately 2 million teens smoke

* 18.7% of high school seniors smoke every day

* Female teens are more likely to smoke than male teens (20.5% vs. 16.0%)

* From 1965 to 1985, percentage of high school seniors who smoked decreased from 29.0% to 18.7%
I know that many of you work with kids and certainly this is the best place for us to practice prevention. Any real chance to achieve a smokeless society rests on our ability to persuade young people not to take up smoking.

If we look at the demographics for teenagers, we see that in the U. S. approximately 2 million teenagers smoke cigarettes.

18.7% of high school seniors smoke every day, and females are more likely to smoke than males.
From 1965 to 1985, percentage of high school seniors who smoked decreased from 29.0% to 18.7%
The good news is that between 1965 and 1985 the percentage of high school seniors who smoked has declined from 29% to 18.7%. However, since 1985 the drop has only been .6% to 18.1%.

In a study which has followed teenagers for 16 years, it was found that the percentage of teenagers who perceive a risk of smoking one pack a day has increased to only 69%.

Despite all that has been learned since the first Surgeon General's report in 1964, his 1989 report stated that there are fewer legal restrictions on children's access to tobacco products now than there were in 1964.

In the spring, the USA Today reported that the Oak Park, Illinois village board was considering "a ban on cigarette vending machines" to comply with the state law against selling cigarettes to those under 18.

According to the 1987 Vending Times survey, there are over 700,000 cigarette machines in the US.

In addition to smoking, the teenage male population is now faced with another serious health problem and that is the use of smokeless tobacco, which I will not cover today since I am concentrating on cigarette smoking.
Out of 1,000 kids who smoke, 750 come from families where one or both parents smoke.
Out of 1000 kids who smoke, 750 come from families where one or both parents are smokers. The most important reason why people smoke cigarettes is our acceptance of smoking. Our children grow up in a world where cigarettes are sold everywhere, where cigarettes are smoked by respected and admired people, and where, at least until very recently, there were almost no restrictions against smoking in homes and stores, in public places, on school property, or even in doctor’s offices and hospitals.

Dr. C. Everett Koop, the recently retired Surgeon General, has pointed out that rebellion is blamed for a lot of teenage problems, but smoking is not usually associated with rebellion. As shown here, the great majority of young people who smoke are simply following their parent’s example.
Cigarette smoking is the chief avoidable cause of death in our society
Cigarette smoking is the chief avoidable cause of death in our society. It is a disease which accounts for some 390,000 premature deaths every year. This is one death out of every six occurring in the United States each year.
FIGURE 22: Annual deaths: Cigarette smoking vs. Automobile accidents
For the sake of comparison, motor vehicle accidents account for approximately 50,000 deaths each year. Cigarette smoking accounts for 390,000 deaths.
How cigarettes cause disease
We will now be looking at how cigarettes cause disease.

On Jan 1 of this year, Oregon was the first state to institute listing tobacco as a cause of death on a death certificate. Examining doctors are asked “did tobacco contribute to the death and the answers are ‘yes’, ‘no’, ‘probably’ and ‘unknown’. Other states that are considering this, none of which are in the southeast, are California, Maryland, Massachusetts, Nebraska, New York, Utah and Washington.

It is thought this may help in litigation against tobacco companies. However, tobacco companies say a death certificate without an autopsy does not mean much.
Some of the substances in tobacco smoke

- Benz(a)anthracene
- Benzo(b)fluoranthene
- Benzo(a)pyrene
- Cadmium and certain cadmium compounds
- Dibenz(a,h)acridine
- Dibenz(a,h)anthracene
- 7H-Dibenzo(c,g)carbazole
- Dibenzo(a,j)acridine
- Dibenzo(a,h)pyrene
- Dibenzo(a,i)pyrene
- Indeno(1,2,3-cd)pyrene
- 2-Naphthylamine
- N-Nitrosodiethylamine
- N-Nitrosonornicotine
- N-Nitrosopiperidine
- N-Nitrosopyrrolidine
- 2,3,7,8-Tetrachloro-dibenzo-p-dioxin
SOME OF THE SUBSTANCES IN TOBACCO SMOKE

Cigarette smoke is a mixture of some 4,000 different chemical substances.

Smoke consists of two parts:

1. gas or vapor
2. particulate or tar

Here are some of these substances which the United States Toxicology Program identifies as "either known to be carcinogens or which may be reasonably anticipated to be carcinogens"
Ciliotoxins and irritants in gas phase of tobacco smoke

Hydrocyanic acid

Acrolein

Ammonia

Formaldehyde

Acetaldehyde
CILIOTOXINS AND IRRITANTS IN GAS PHASE OF TOBACCO SMOKE

Here is a list of ciliotoxins and irritants found in tobacco smoke which can produce eye, nose and throat irritation.

We nurses know that cilia are tiny hair-like projections which help to sweep dirt and waste products out of the lungs. When impaired by exposure to cigarette smoke, the cilia cannot perform this cleansing process and excess mucus accumulates, contributing to "smoker's cough".
A smoker's levels of nicotine over 48 hours

Blood nicotine concentration
(NG/ML)

FIGURE 23: A smoker's level of nicotine over 48 hours
A SMOKER'S LEVELS OF NICOTINE OVER 48 HOURS

Nicotine is a critical substance in cigarette smoke. It is implicated in the onset of heart attacks and cancer, but its most important role is reinforcing and strengthening the desire to smoke. It acts in much the same way as cocaine, ethanol, and morphine act in the compulsive use of cocaine, alcoholic beverages, and opium.

For many smokers, the first cigarette in the morning produces a feeling of euphoria and satisfaction. For the rest of the day, the smokers try to maintain this feeling - or try to avoid distress at the loss of this feeling - by manipulating their intake of tobacco smoke by smoking at fairly regular intervals, inhaling more or less deeply, and taking more or fewer puffs.

This slide shows this cycle - the rapid increase in nicotine levels beginning in the morning, reaching their zenith just before sleep at night, then subsiding until morning, and then beginning to rise again the next day with the day's first cigarette.
A smoker's levels of carbon monoxide over 48 hours

Carboxy-hemoglobin (%)

FIGURE 24: A smoker's level of carbon monoxide over 48 hours
A SMOKER'S LEVEL OF CARBON MONOXIDE OVER 48 HOURS

The body's intake of carbon monoxide follows a pattern very similar to that of nicotine, rising quickly in the morning, continuing to rise during the day, and subsiding at night.

Carbon monoxide makes up nearly four percent of cigarette smoke. When it is inhaled, it combines with hemoglobin in the blood to form carboxyhemoglobin which interferes with the body's ability to obtain and utilize oxygen. Carbon monoxide is implicated in many of the disease processes associated with cigarette smoking, including harmful effects on the development of the fetus. Like nicotine, carbon monoxide is poisonous in heavy concentrations. It takes 1 week to flush nicotine and carbon monoxide out of the body.

Smokers have levels of carboxyhemoglobin from 2 to 15 times higher than nonsmokers. This is what I am measuring today.
Mortality ratios by number of cigarettes smoked

<table>
<thead>
<tr>
<th>Category</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonsmoker</td>
<td>1.0</td>
</tr>
<tr>
<td>Less than 10 per day</td>
<td>1.29</td>
</tr>
<tr>
<td>10–20 per day</td>
<td>1.67</td>
</tr>
<tr>
<td>21–39 per day</td>
<td>2.03</td>
</tr>
<tr>
<td>40 or more per day</td>
<td>2.36</td>
</tr>
</tbody>
</table>

**Figure 25:** Mortality ratios by number of cigarettes smoked
MORTALITY RATIOS BY NUMBER OF CIGARETTES SMOKED

Cigarette smoking is "dose-responsive"; the greater the exposure, the greater the risk. Exposure is determined by the number of cigarettes one smokes, how long one has smoked, how deeply the smoke is inhaled, and at what age one began to smoke.

People who smoke, smoke a lot. The average is 31 cigarettes a day.
Life tables, 35-year-old men smokers vs. nonsmokers

FIGURE 26: Life tables, 35-year-old men smokers vs. nonsmokers
LIFE TABLES, 35-YEAR-OLD MEN
SMOKERS VS. NONSMOKERS

The clearest way to appreciate the health consequences of smoking is by comparing the death rate of people who smoke with the death rates of people who don’t. At every age, proportionately more smokers die than nonsmokers.

The difference is greatest for men under the age of 65, where the smoker’s risk of dying is twice that of the nonsmoker’s. These differing death rates have a cumulative effect over the years.

Here we see the survival rates of male smokers and nonsmokers beginning at age 35. As will be seen, by the time the two groups of men reach age 55, 10 percent of the smokers are dead, but only 4 percent of the nonsmokers. By age 65, it is 28 percent of smokers, but 10 percent of the nonsmokers who are dead; by age 75, 50 percent of the cigarette smokers, but only 25 percent of the nonsmokers.

These figures come from the State Mutual Life Insurance Company, which was the first large life insurance company to offer reduced rates to people who don’t smoke. Now, most companies have such policies.
Cigarette consumption and lung cancer deaths

![Graph showing the increase in cigarette consumption and lung cancer deaths over time. The x-axis represents the years from 1900 to 1984, and the y-axis represents billions of cigarettes and deaths. The graph shows a significant increase in both consumption and deaths as time progresses.]

FIGURE 27: Cigarette consumption and lung cancer deaths
CIGARETTE CONSUMPTION AND LUNG CANCER DEATHS

It was not until around 1915 that people began buying cigarettes in large numbers, and not until around 1935, 20 years later, that lung cancer began to appear as a major cause of death. The 20-year interval is explained by the long period of time it can take for a cigarette smoker to develop lung cancer.

Until now, cigarette sales and lung cancer deaths have been running pretty much in parallel. In 1915, people smoked 18 billion cigarettes and in 1935, 4,300 people died of lung cancer. In 1984, people bought 600 billion cigarettes and 121,000 died of this disease.

Cigarette consumption is now beginning to turn down. So hopefully, in about 20 years, we can expect lung cancer death rates to begin turning down as a consequence.
Lung cancer deaths, smokers vs. non-smokers

Deaths per 100,000 men

\[\begin{array}{ccc}
\text{Ages 45–64} & 11 & 87 \\
\text{Ages 65–79} & 23 & 262 \\
\end{array}\]

\text{Smokers}  \quad \text{Nonsmokers}

\text{FIGURE 28:}  \text{Lung cancer deaths, smokers vs. non-smokers}
LUNG CANCER DEATHS
SMOKERS VS. NONSMOKERS

Smokers are ten times as likely to die of lung cancer as nonsmokers. The odds are even higher, as much as 20 to 1, for people who smoke a lot, or inhale deeply, or who have been smoking a long time. The odds go down when people quit smoking, so that after 15 years it is almost as though they had never smoked.

Lung cancer is only one cancer associated with cigarette smoking; others are cancers of the larynx, oral cavity, esophagus, bladder, pancreas, kidney, stomach, uterus, and cervix. Altogether, 130,000 cancer deaths, or 30 percent of all deaths from cancer, are caused by smoking.

Yet, in the 1989 Surgeon General's report on smoking, it is reported that 28% of smokers did not believe that most lung cancer deaths are caused by smoking. Once again, people don't perceive a threat.
Lung and breast cancer deaths

Deaths per 100,000 women

Breast cancer

Lung cancer

FIGURE 29: Lung and breast cancer deaths
LUNG AND BREAST CANCER DEATHS

Men began smoking intensively during World War I and women during World War II. (Lung cancer was virtually unknown in the early 1900s). Men's cancer death rates began to rise in the 1930s and women's in the 1960s. Lung cancer has now surpassed breast cancer as the chief cause of cancer death in women. Lung cancer is, and has been, the chief leading cause of cancer death in men since 1950.
Risk factors for coronary heart disease

Incidence per 1000

Factors
Smoking
Elevated cholesterol
Hypertension

FIGURE 30: Risk factors for coronary heart disease
RISK FACTORS FOR CORONARY HEART DISEASE

I have said that cigarette smoking causes 130,000 cancer deaths in the U.S. each year. It causes nearly 200,000 deaths from coronary heart disease. Therefore, smoking causes more than 300,000 deaths in the U.S. each year.

As you know, there are three major preventable risk factors for coronary heart disease - cigarette smoking, high blood pressure and elevated cholesterol. Smoking doubles one's chances of heart disease. Combine smoking with cholesterol or hypertension and the risk goes up four times. Put all three - smoking, elevated cholesterol, and hypertension - together, and the risk goes up eight times.

Smoking poses a special risk of coronary heart disease for women. Those who smoke and use oral contraceptives are ten times as apt to suffer a heart attack as women their age who do not smoke and do not use oral contraceptives.
COLD deaths
smokers vs. nonsmokers

<table>
<thead>
<tr>
<th>Deaths per 100,000 persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
</tr>
<tr>
<td>400</td>
</tr>
<tr>
<td>300</td>
</tr>
<tr>
<td>200</td>
</tr>
<tr>
<td>100</td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

Smokers

Nonsmokers

Age group

FIGURE 31: COLD deaths, smokers vs. nonsmokers
Coronary heart disease deaths, smokers vs. nonsmokers

Deaths per 100,000 men

<table>
<thead>
<tr>
<th>Ages 45–54</th>
<th>Ages 55–64</th>
<th>Ages 65–74</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>542</td>
<td>1400</td>
</tr>
<tr>
<td>422</td>
<td>996</td>
<td>2025</td>
</tr>
<tr>
<td></td>
<td>1000</td>
<td>2500</td>
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<td>600</td>
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<td>100</td>
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<td></td>
<td>0</td>
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</tbody>
</table>

Nonsmokers | Smokers

FIGURE 32: Coronary heart disease deaths, smokers vs. nonsmokers
CORONARY HEART DISEASE DEATHS
SMOKERS VS. NONSMOKERS

Earlier, I showed the risks of lung cancer for men who smoke and those who don't. Here is the same comparison, this time for coronary heart disease.

Smokers have a much higher incidence of coronary heart disease, especially younger smokers. Men from 45 to 54 years of age are nearly three times as likely to die of heart attack as men the same age who do not smoke.

Cigarette smoking contributes both to the development of atherosclerotic plaques and to the clinical manifestations of atherosclerotic disease. This year's Surgeon General's report was the first to say there is an association between cigarette smoking and cerebrovascular disease. It also said cigarette smoking is the most powerful risk factor for atherosclerotic peripheral vascular disease.

Once smokers quit, the risk of heart disease begins to drop; after 10 years, for pack-a-day smokers, the risk is no greater than for those who have never smoked.
COLD DEATHS
SMOKERS VS. NONSMOKERS

And now we look at deaths from chronic obstructive lung disease (COLD), which includes chronic bronchitis and emphysema. It primarily affects middle-aged and older people.

As shown here, deaths from COLD are 10 times more likely to occur among smokers than nonsmokers.

Emphysema occurs more commonly in men than in women, but it is increasing among women. In the past 10 years, its incidence has nearly tripled among young women and more than doubled among older women.

* Severity of emphysema among smokers increases with the number of cigarettes smoked per day and duration of the smoking habit.

* Smokers have a higher frequency of respiratory symptoms (e.g., cough, phlegm, wheezing) than nonsmokers.

* Measures of lung expiratory airflow show a steeper decline for smokers than for nonsmokers, with increasing age.
Risks from smoking during pregnancy

Spontaneous abortion

Preterm births

Full-term low birth weights

Perinatal deaths

TABLE 33: Risks from smoking during pregnancy
RISKS FROM SMOKING DURING PREGNANCY

This slide demonstrates that smoking during pregnancy increases the rate of spontaneous abortion, preterm births, low-weight babies and fetal and infant deaths.
ADDITIONAL RISKS FROM SMOKING DURING PREGNANCY

* Lower birth weight which is a dose response

* Reduction in fetal growth

* Increased risk of:
  ** abruptio placentae
  ** placenta previa
  ** bleeding early/late in pregnancy
  ** premature rupture of membranes
  ** preterm deliveries
Pregnancy Complications

* A dose-response association exists between maternal smoking and reduced birth weight.

* Maternal smoking may retard fetal growth, leading to a reduction in body length, and a reduction in the chest and head circumferences.

* Increased risk of abruptio placentae, placenta previa, bleeding early or late in pregnancy, premature rupture of membranes, and preterm deliver.

* Up to 14% of all preterm deliveries in the U.S. may be due to maternal smoking.

* Several studies have shown that children of mothers who smoke have slight, but measureable, deficiencies in physical growth and intellectual and emotional development.
SMOKING AND FERTILITY

* Male & female smokers have increased risk of infertility

* Tobacco smoke alters sperm production and motility

* Tobacco smoke lowers testosterone levels

* Women smokers have greater likelihood for irregular menses
  ** In lab animals, ovulatory response is altered
  ** In rats, smoking lowers sexual activity
FERTILITY

Recent studies suggest that smoking is associated with increased risk of infertility in both women and men.

In women, smoking is associated with greater likelihood of irregular menses. Experimental studies in animals show that ovulatory response is altered due to exposure to tobacco smoke.

In men, sperm production and motility appear to be altered by tobacco smoke.

Cigarette smoke lowers testosterone levels.

In rats, smoking lowers sexual activity.
MENOPAUSE AND SMOKING

Smoking lowers the age of spontaneous menopause
AGE OF MENOPAUSE

Smoking lowers the age of spontaneous menopause

Early menopause in smokers may be related to ovotoxins in cigarette smoke or to the effects of smoke on hormone regulatory mechanisms
OTHER RISKS ASSOCIATED WITH SMOKING

* Peptic ulcer

* Duodenal ulcer

* Fires

* Accidents

* Disability

* Absenteeism
OTHER RISKS ASSOCIATED WITH SMOKING

*Peptic Ulcer

Cigarette smoking is significantly associated with the incidence of peptic ulcers.

Smoking increased risk of dying from peptic ulcers by about 2-fold

*Duodenal Ulcer

Deaths from duodenal ulcer are 2 to 4 times more common in smokers than nonsmokers.

*Fires, Accidents, Disability, and Absenteeism

Smoking is estimated to account for 10% of fire losses in the U.S. In 1980, smoking caused between 400 and 600 million dollars in fire losses.

Smokers have twice the accident rate of nonsmokers.

Smokers are more likely to experience early disability from the workplace.

Smokers have higher rates of absenteeism than nonsmokers by about 2 days per year.
A nonsmoker's exposure to cigarette smoke

Respirable Suspended Particulates (ug/m³)

- Cocktail party: 351
- Bar and grill: 589
- Firehouse bingo: 417
- Bowling alley: 202
- Hospital waiting room: 187

NAAGS primary level

FIGURE 34: A nonsmoker's exposure to cigarette smoke
Cigarette smokers are not the only ones exposed to cigarette smoke. Nonsmokers suffer from cigarette smoke, too.

The February 1989 edition of the American Journal of Public Health states that evidence is strong enough now to suggest that passive smoking is responsible for 3,000 - 15,000 premature deaths per year.

* Passive smoke is a common indoor air pollutant consisting of sidestream and secondhand smoke:
  - sidestream from burning end of cigarette
  - secondhand is that exhaled by a smoker

* Passive smoke contains the same toxic substances found in mainstream smoke (that which is drawn through cigarette)

Contaminants from tobacco smoke are found wherever people are permitted to smoke. In one study, levels of particulate matter from cigarette smoke were found in every one of 19 different environments where smoking was taking place, including restaurants and public areas. Short-term concentrations exceeded levels of National Ambient Air Quality Standards by factors ranging from 1.2 to 10 and more.

Increasingly, Governments and employers are establishing regulations which protect nonsmokers.
PASSIVE SMOKE EFFECTS ON CHILDREN

* A smoker has nicotine in breastmilk

* Increased prevalence of respiratory symptoms

* Increased frequency of:
  ** bronchitis
  ** pneumonia
  ** middle ear effusions
  ** asthma

* Decline in measurable lung function
HEALTH EFFECTS: CHILDREN

Babies who are breastfed by smoking mothers receive nicotine in their milk.

Children of parents who smoke, especially if their mothers smoke, have an increased prevalence of respiratory symptoms, and increased frequency of bronchitis, pneumonia, middle-ear effusions and asthma.

This is obviously what circuit court judge Owen Wise had in mind this past spring when he ordered a 3-year old Denton, MD girl with chronic asthma placed in a foster home because her parents ignored medical advice to stop exposing her to cigarette smoke.

Children of smoking parents have small, but measurable, declines in lung function, relative to unexposed children; long-term effects are unknown as yet.
PASSIVE SMOKE EFFECTS ON ADULT

* Eye irritation
* Headache
* Nasal irritation
* Coughing
* Sneezing
* Precipitates and aggravates allergic attacks
* Decline in lung function
* If married to heavy smoker, two-fold increase in lung cancer
* Increased risk of cancer
HEALTH EFFECTS IN ADULTS

Acute passive smoke exposure often causes eye irritations in healthy adults; others report symptoms such as headaches, nasal irritation and coughing or sneezing episodes.

For those with respiratory allergies, exposure to passive smoke precipitates or aggravates allergic attacks and associated symptoms.

Long-term exposure to passive smoke has been shown to result in small declines in lung function.

Non-smokers married to heavy smokers have a 2-fold increased risk for lung cancer.

Adult non-smokers exposed to passive smoke during both childhood and adulthood may have an increased risk for cancer at all body sites.

In adults, the problems with passive smoking has been addressed for many years in some places. Ten years ago when we lived in CA, there were smoking/nonsmoking places in all restaurants - even fast-food restaurants. It seems to have caught on slower in the southeast.

We were visiting my husband's parents in Richmond, VA a few weeks ago during the same time the Methodist Conference was being held in VA Beach. According to the papers, the most hotly debated/controversial resolution was the one urging clergy to encourage their parishioners to stop smoking. One minister interviewed for the paper said he would have trouble with this since most of the funds that run the church come from the tobacco industry.
1985 - $22 billion of total health care costs directly related to smoking

- Cost of smoking to total economy was $65 billion
It is important for those of us who live in the Southeast to remember that cigarettes contribute to the economy, but the economic burdens caused by cigarettes are much greater than whatever economic contributions they can make.

1985 - $22 billion of total health care costs related to smoking
- Cost of smoking to total economy was $65 billion

It is interesting to look at the current legislation in the House and Senate and see where the people are from that are sponsoring the legislation

LEGISLATION
- Smoke-free policies
- Legislation before Congress

HOUSE: Waxman (D - CA)
Stack (D - CA)
Durbin (D - IL)

Recently, legislation was proposed to ban smoking in nearly all hospitals by making the ban a condition for receiving Medicare and Medicaid payments
SENATE:  Bradley (D - NJ)
        Benjamin (D - NM)
        Chafee (R - RI)

        Introduced a bill that would cause tobacco
        advertisers to no longer be able to deduct their
        costs (The tobacco companies spend $2.4 billion
        each year on advertising and marketing)

        The trio also wants the cigarette labels to read
        "Smoking is addictive; once you start, you may not
        be able to stop"

        They state the government must speak in one
        consistent voice that says tobacco kills.
LOW TAR AND NICOTINE CIGARETTES
Now I would like to mention two things smokers may do to try to decrease the effects of smoking. One is a switch to low tar and nicotine cigarettes.

LOW TAR AND NICOTINE CIGARETTES

* Over 60% of the cigarettes consumed in the U.S. today are the low tar variety (<15 mg tar)

* Smokers who switch from higher to lower yield cigarettes exhibit changes in smoking behavior by:
  - increasing number of puffs per cigarette
  - increasing the volume of the puff
  - inhaling deeper and longer

* The long-term effect of low tar and nicotine cigarettes on development of lung disease is difficult to study because of considerable variation among smokers with respect to volume and duration of inhalation

* Filter-tipped, lower tar and nicotine cigarettes produce slightly lower rates of lung cancer than do their higher tar and nicotine predecessors. However, smokers of low tar and nicotine cigarettes have much higher lung cancer incidence than do nonsmokers.
PIPES AND CIGARS
PIPES AND CIGARS

* Pipe and cigar smoker mortality rates for oral cavity cancers often equal or exceed those of cigarette smokers.

* Mortality effects are complex when pipes and cigars are smoked in combination with cigarettes, and also when cigarette smokers quit and shift to pipes and cigars; ex-cigarette smokers tend to retain the habit of inhaling while smoking pipes and cigars.

* Nicotine content is similar in cigar and cigarette smoke particulates; however, at least four potential carcinogens are more concentrated in cigar smoke than cigarette smoke.

* Some smoke constituents in pipe smoke may be 5 - 10 times more concentrated than those of cigarette smoke.
1,000 people try to quit

**First try**  
Succeed: 172  
Fail: 328  
Total quitters: 172

**Second try**  
Succeed: 537  
Fail: 725

**Third try**  
Succeed: 381  
Fail: 272

**Fourth-sixth try**  
Succeed: 265  
Fail: 321

**Seven or more tries**  
Succeed: 132  
Fail: 287

**Total quitters (cumulative)**

**Figure 35:** Failure rates for people trying to quit
1,000 PEOPLE TRY TO QUIT

We come now to the question of why, in the face of overwhelming evidence of risk, people are still smoking cigarettes.

There are at least three potential reasons: the addictive nature of smoking, the constant pressure of advertising and promotion, and our social acceptance of smoking.

Cigarette smoking can be addictive, as this slide shows, in the smoking histories of 1,000 typical smokers.

At the top of the chart, 1,000 people are shown who are trying to quit for the first time. Of these, 172 succeed and 828 fail. Some of the losers give up; the others go back and try again. On the second try, 53 succeed and 537 fail. This process continues until after seven or more tries, 387 people of the original 1000 are no longer smokers.

It is possible to quit, and more than 37 million people have done it, but it can be difficult and it can take many, many tries.
ONE-THIRD of all smokers try to quit each year

10% of those who attempt smoking cessation are successful
There are still over 54 million people, or 30% of the adult population, in America who smoke. One third of the smokers attempt to quit every year with only 10% of these being successful for at least a year.

The fitness fad of Americans has prompted the development of many smoking cessation programs. Comparison of success rates for all of these programs is difficult, at best. These differing techniques are able to claim success rates on half-hearted evaluations which were made at various stages in time which add up to be meaningless and irrelevant statistics.
EVALUATION OF SMOKING CESSATION

Difficult due to

** Recidivism (Relapse)

** Inaccurate self-reporting
In an attempt to make meaning out of these various claims of success, Dr. Jerome Schwartz did and extensive review of cessation programs and published his findings in the book — *Review and Evaluation of Smoking Cessation Methods*.

Two findings Dr. Schwartz found which were applied to all cessation programs in the book were:

1. The fact that recidivism, or relapse, is high in all programs. Up until the publication of this book in 1987, it used to be thought that a follow-up period of one year was enough to identify relapse, but now two years is considered a better evaluation time frame.

2. The second problem identified with evaluation of a program is inaccuracy of self-report. When validation of self-report has been done, it has been discovered that up to one-fourth of those who "claim" abstaining may not be telling the truth.

In general, there are five ways of breaking the cigarette smoking habit. These are:

1. Doing it on your own with minimal instruction
2. Attending a quit clinic, class or group
3. Working directly with a professional
4. Participating in a large research trial or community program
5. Being a subject in a behavioral lab.
METHODS FOR SMOKING CESSATION

* Acupuncture
* Aversive conditioning
  ** Rapid smoking
  ** Satiation
  ** Electric shock
  ** Negative imagery
* Drug therapy
* Gradual reduction / Nicotine fading
* Group behavior modification
* Hypnosis
* Mass media
* Self-help booklets
* Professional advice
  ** Dentist
  ** Nurses
  ** Pharmacists
  ** Physicians
* Community programs
I now want to address some of these methods more specifically.

Methods For Smoking Cessation

**Acupuncture** is based on the Chinese science of connections in the body. Two of the more common sites for puncture are the nose and ear. Evaluation studies of these are poorly done and the reported high success rates are based on estimates.

**Aversive Conditioning** reports a 30-50% quit-rate. It includes:

* Rapid smoking – performed in a lab setting, involves blowing warm, stale smoke in a subject’s face while they smoked at a more rapid rate, generally inhaling every six seconds, until intolerance. Problems with this include an increase in the cardiopulmonary system which requires a careful patient screening. Evaluations of this method are questionable.

* Satiation – subjects are required to increase the number of cigarettes, not the rate. Usually the subjects are asked to triple the baseline smoked. This is generally done at home and therefore it is difficult to monitor compliance.

* Electric Shock which is usually performed in a lab and a small electric shock is administered each time the subject inhales cigarette smoke.
* Negative Imagery – the smoker is asked to imagine receiving negative stimulation while associating cigarettes with aversive thoughts. The subject is also asked to imagine positive consequences when thinking of not smoking.

Drug Therapy – includes over-the-counter drugs, such as Bantron and Nikoban, and prescription drugs such as Nicorette. They have been developed as a nicotine substitute. Nicorette has been effective in motivated clients, though a big question is how long to keep taking the medication.

In the case of Nicorette, studies have shown greater cigarette abstinence if taken for 6 to 12 months. Nicorette improves the cessation rate for heavily addicted people. Caution must be taken since nicotine is an addictive drug. Sometimes drugs are also prescribed to help with the withdrawal symptoms seen in cessation.

Group Behavior – based on the thought that smoking is the result of internal and external stimuli and the smoker is made more aware of this by keeping a diary, rewarding positive behavior, and setting a target quit date. The success rate is from 5 - 15% at the one year point.
Mass Media – some of the famous community studies, such as the Stanford Three, Stanford Five and the North Karelia, have found that mass media smoking cessation treatment groups have greater cessation results than the cities with no mass media efforts.

Self-Help Booklets – used in conjunction with professional advice, have shown a greater cessation rate than physicians’ advice alone.

Nicotine Fading – a gradual reduction usually in settings instructed to gradually reduce with a target quit rate. Also involves switching brands in graduated lower increments of tar and nicotine. Reducing dependence on drug making quitting easier.

Hypnosis – based on a heightened susceptibility associated with trance, or on the mind-body integration obtained from periodic meditative “time outs”. There are few comprehensive studies available on its effectiveness, although it appears strong enough to warrant further well-controlled research.
COMMUNITY PROGRAMS

* American Cancer Society
  Fresh Start

* American Lung Association
  Freedom From Smoking

* National Cancer Institute
  Quit For Good

* American Heart Association
  Calling It Quits
Community Programs include:

<table>
<thead>
<tr>
<th>TITLE</th>
<th>PROGRAM</th>
<th>LENGTH OF PROGRAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Cancer Society Fresh Start</td>
<td>Positive reinforcement and small group discussion are emphasized. Group size is generally 10-15 people.</td>
<td>4 one-hour sessions</td>
</tr>
<tr>
<td>American Lung Association Freedom From Smoking</td>
<td>Based on behavior modification techniques led by trained facilitators. Program includes method to help smokers quit and emphasizes maintenance of new nonsmoking lifestyle.</td>
<td>8 one-hour sessions</td>
</tr>
<tr>
<td>National Cancer Institute Quit For Good</td>
<td>Two-part self-help guide for quitting and staying smoke-free.</td>
<td>self-help</td>
</tr>
<tr>
<td>American Heart Association Calling It Quits</td>
<td>A self-help guide for quitting and staying smoke-free.</td>
<td>self-help</td>
</tr>
</tbody>
</table>

Even with all of these smoking cessation programs, it is known that those who quit on their own and those who quit "cold turkey" are the most successful with between a 16 - 20% quit rate after 1 year.

But, it is unknown how many attempts or other strategies they tried first.
PHYSICIAN'S ADVICE

* Quit rate is thought to be high

* Approximately 38 million smokers in the U.S. visit a doctor each year. If all doctors counseled all of their patients who smoked, even if the success rate was just 4%, then this would yield a 1.5 million quit rate
NURSE'S ADVICE
The number of smokers who see nurses each year is unknown, but if we look at the smoking demographics it is plausible that many smokers who see public health nurses do not see doctors.

What would this do to the quit rate?

I now want to talk to you specifically about hypothesizing why some people are successful and what you can do to help increase the success of your patients' smoking cessation methods.

Even with all of these methods for smoking cessation, it is known that those who self-select to quit "on their own" and those who elect to quit "cold turkey" are the most successful with a 16% to 20% quit rate at 1 year.
HEALTH BELIEF MODEL

Perceived threat

Perceived vulnerability

Perceived benefits of taking action vs. taking no action
In the early 1950s, when the first massive immunization program was developed, it was thought that people would come in droves to receive their immunizations. However, this did not prove to be the case.

At that time, two people who worked with the Public Health Service, Geoffrey Hochbaum and Irving Rosenstock, started conducting research to identify why people don’t practice preventive medicine. They developed the Health Belief Model.

HEALTH BELIEF MODEL

1. Perceived threat

2. Perceived vulnerability

3. Perceived benefits of taking a particular action which outweighs barriers to this action
THE HEALTH BELIEF MODEL

FIGURE 36: The health belief model
BANDURA'S SOCIAL LEARNING THEORY

SOCIAL COGNITIVE THEORY
Recently, Rosenstock, Stretcher, and Becker have added Self-Efficacy from Bandura's Social Learning/Social Cognitive Theory to the Health Belief Model.
SELF-EFFICACY

An individual feels personally capable of adopting a new behavior
Self-Efficacy – an individual feels personally capable of adopting new behaviors
PERSON → BEHAVIOR → OUTCOME

Efficacy Expectations

Outcome Expectations

BANDURA'S MODEL

FIGURE 37: Bandura's model
SMOKING ASSESSMENT

* Presence of smoking behavior

* Age of initiation

* Daily consumption

* Type of cigarettes

* Patterns of smoking behavior

* Failed attempts at cessation
In order for a woman (person) to quit smoking (behavior) for health reasons (outcome), she must believe that cessation will benefit her health (perceived benefits or outcome expectation) and that she is capable of quitting.

I think this diagram can also represent the nurses' counseling behavior.

In order for a nurse (person) to practice cessation counseling (behavior), she must believe that the cessation will benefit her patients' health (perceived benefits or outcome expectations) and that she is capable of counseling.
In looking at a smoking cessation strategy that you can use in your counseling, you must first assess each patient you see for smoking behavior. This slide gives suggestions for things which should be included in your assessment.
COUNSELING INTERVENTION

ADVISE PATIENT TO STOP SMOKING
USE COUNSELING TECHNIQUE TO DETERMINE MOST APPROPRIATE METHOD FOR CESSION
SET AGREEMENT WITH PATIENT FOR CESSION
PROVIDE BOOKLET OF STOPPING SMOKING TIPS
IF REQUESTED, GIVE PATIENT LIST OF COMMUNITY SMOKING CESSION RESOURCES
REQUEST RETURN VISIT IN 1-2 WEEKS (OR PHONE CONTACT IF UNAVAILABLE) TO CHECK PROGRESS AND REINFORCE VISIT
INFORM PATIENT OF PERIODIC TELEPHONE CONTACTS
REMINDS PATIENT TO MAKE FOLLOW-UP APPOINTMENT

Sample Intervention:

"I notice that you are a cigarette smoker. Smoking is harmful to your health. In many cases, the harmful effects of smoking can be reversed. As your nurse, I must advise you to stop smoking. (Personalize to patient).

How do you feel about being a cigarette smoker?
Have you thought about stopping?
What reasons would you have for stopping?
Have you ever stopped smoking?

YES

When was the last time?
How did you stop?
Any problems
How long did the problems last?
What helped you?
How did you feel?
How did you feel about yourself?

NO

Have you ever made any other changes? How?
When? Any problems?

Would you like to stop smoking?
Do you think you could stop now?
What would be possible problems or barriers to stop?
What could help you?
Would you be willing to develop a plan to stop smoking?

YES

Write Agreement for Cessation with Patient.
Give booklet on tips for stopping smoking.
Review factors that may interfere with plan.
Request return visit in 1-2 weeks (or phone contact if unavailable) to check progress.
Inform patient that someone will be contacting them periodically by phone to see how he/she is doing.

NO

Would you be willing to cut down on your smoking?
If yes, write agreement for stopping smoking.
Give booklet on tips for stopping smoking.
Review factors that may interfere with plan.
Request return visit in 1-2 weeks (or phone contact if unavailable) to check progress.
Inform patient that someone will be contacting them periodically by phone to see how he/she is doing.
This slide is like the material in your packet. If you will take this out we will discuss this strategy.
APPENDIX B

PRETEST
PRETEST

Numbers 1-24 are a series of statements that deal with aspects of health and smoking. Please indicate the extent to which you agree or disagree with each statement by circling one number corresponding to the scale for each statement.

| STRONGLY AGREE | = 1 |
| AGREE          | = 2 |
| NOT SURE       | = 3 |
| DISAGREE       | = 4 |
| STRONGLY DISAGREE | = 5 |

1. For most patients, once a smoker always a smoker.
   1  2  3  4  5

2. Nurses meddle too much in their patients’ lives by telling them to stop smoking.
   1  2  3  4  5

3. In general, nurses know exactly how to elicit personal information from patients.
   1  2  3  4  5

4. Stopping smoking does not really prevent heart disease in the long run.
   1  2  3  4  5

5. I am quite effective in getting patients to stop smoking.
   1  2  3  4  5

6. Talking with patients about their personal lives is really enjoyable.
   1  2  3  4  5

7. Counseling patients about smoking is difficult to do well.
   1  2  3  4  5
<p>| | | | | |</p>
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</thead>
<tbody>
<tr>
<td>8.</td>
<td>Most nurses are completely confident of their ability to help patients change their smoking habit.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9.</td>
<td>Many nurses are not interested in the smoking habits of their patients.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10.</td>
<td>Most nurses feel helpless when it comes to changing patients' smoking habits.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11.</td>
<td>I usually know how to obtain personal information from patients.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12.</td>
<td>Counseling patients about smoking is not all that important, compared to most other aspects of nursing practice.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13.</td>
<td>Most nurses are not effective at helping patients stop smoking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14.</td>
<td>Counseling about smoking is a thankless and ungratifying job.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15.</td>
<td>Cigarette smoking is extremely dangerous to one's health.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16.</td>
<td>Counseling patients about smoking is time-consuming.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17.</td>
<td>Nurses should feel no obligation to avoid smoking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
18. **Nurses know how to use information about patients' smoking to help them stop smoking.**
   
<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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19. **For some patients, reducing a smoking habit has significant harmful consequences.**
   
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</table>

20. **Nurses ought to take a more aggressive approach to get patients to stop smoking.**
   
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<th></th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</table>

21. **When most patients stop smoking, their health greatly improves in the long run.**
   
<table>
<thead>
<tr>
<th></th>
<th>1</th>
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<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

22. **Most nurses do not know what information to obtain from patients to help the patient stop smoking.**
   
<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

23. **Nurses have no obligation to convince patients to stop smoking.**
   
<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
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<td></td>
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</tbody>
</table>

24. **I feel an obligation as a nurse to not smoke.**
   
<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

Please answer the following questions by circling the number indicating your response.

25. **In general, how effective do you feel nurses are in getting patients to stop smoking?**

<table>
<thead>
<tr>
<th>Extremely effective</th>
<th>Not at all effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
</tbody>
</table>
26. When patients reduce their smoking, how likely are they to experience harmful consequences?

<table>
<thead>
<tr>
<th>Very likely</th>
<th>Not at all likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 3 4 5 6 7</td>
</tr>
</tbody>
</table>

27. How much do you feel nurses have the right to tell patients to change their personal habits, such as smoking?

<table>
<thead>
<tr>
<th>Entirely within their rights</th>
<th>Not at all within their rights</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

28. A patient who has smoked 1 pack/day for 20 years stops smoking. How much less likely do you believe he is to acquire heart disease in the long run than had he continued to smoke?

<table>
<thead>
<tr>
<th>Just as likely to acquire heart disease</th>
<th>Much less likely to acquire heart disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

29. How much risk to the future health of your patients do you believe is associated with smoking 1 pack/day for 20 years?

<table>
<thead>
<tr>
<th>Severe risk</th>
<th>No risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

30. How likely is it that a patient who smokes can stop smoking, by any means?

<table>
<thead>
<tr>
<th>Extremely likely</th>
<th>Extremely unlikely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

31. When a patient who has smoked 1 pack/day for 20 years stops smoking, how much do you think the patient's future health will be benefited?

<table>
<thead>
<tr>
<th>Great benefit</th>
<th>No benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
Circle one number that indicates your feeling concerning counseling patients about smoking.

32. **Important**
   - 1
   - 2
   - 3
   - 4
   - 5
   - Not Important
     - 6
     - 7

33. **Difficult**
   - 1
   - 2
   - 3
   - 4
   - 5
   - Easy
     - 6
     - 7

34. **Enjoyable**
   - 1
   - 2
   - 3
   - 4
   - 5
   - Unenjoyable
     - 6
     - 7

35. **Time-consuming**
   - Not at all time-consuming
     - 1
     - 2
     - 3
     - 4
     - 5
     - 6
     - 7

For each of the following dimensions, circle one number that indicates what you think most nurses feel when counseling patients about habits like smoking.

36. **Confident**
   - 1
   - 2
   - 3
   - 4
   - 5
   - Uncertain
     - 6
     - 7

37. **Effective**
   - 1
   - 2
   - 3
   - 4
   - 5
   - Ineffective
     - 6
     - 7

38. **Knowledgeable**
   - 1
   - 2
   - 3
   - 4
   - 5
   - Unknowledgeable
     - 6
     - 7

Below are four clinical situations, and you are asked to indicate how likely the patient is to follow the nurse's advice in each.

39. An overweight patient is told to reduce by his/her nurse, who is overweight. In general, how likely is the patient to follow the advice?

<table>
<thead>
<tr>
<th>Extremely likely</th>
<th>Extremely unlikely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
40. An overweight patient is told to reduce by his/her nurse, who is thin. In general, how likely is the patient to follow the advice?

Extremely likely | Extremely unlikely
--- | ---
1 | 2 | 3 | 4 | 5 | 6 | 7

41. A patient is told to stop smoking by his/her nurse, who is known to be a smoker. In general, how likely is the patient to follow the advice?

Extremely likely | Extremely unlikely
--- | ---
1 | 2 | 3 | 4 | 5 | 6 | 7

42. A patient is told to stop smoking by his/her nurse, who is a nonsmoker. In general, how likely is the patient to follow the advice?

Extremely likely | Extremely unlikely
--- | ---
1 | 2 | 3 | 4 | 5 | 6 | 7

**GENERAL KNOWLEDGE**

Choose the one best answer for each of the following questions.

43. The Freedom From Smoking cessation program is sponsored by the:

a. American Lung Association
b. American Cancer Society
c. National Institute of Health
d. National Cancer Institute
44. Research on smoking cessation has led to the following conclusion:
   a. When attempting cessation, it is best to gradually reduce the number of cigarettes smoked in order to decrease withdrawal syndrome.
   b. When attempting cessation, people who quit "cold turkey" are the most successful.
   c. The best form of cessation depends on the amount and duration of smoking.
   d. There has not been sufficient research to draw any conclusions.

45. Research has shown that validation of smoking behavior following cessation interventions is most acceptable in which of the following time periods.
   a. 3 months
   b. 6 months
   c. 1 year
   d. 2 years

46. Research has shown causes for relapses include:
   a. social pressures
   b. coping with negative emotional states
   c. coping with interpersonal conflict
   d. all of the above

47. The primary setting for smoking relapse was:
   a. in the home
   b. at work
   c. in restaurants
   d. at parties

48. The fastest growing population of cigarette smokers is:
   a. Men under 35 years of age
   b. Men over 35 years of age
   c. Women under 35 years of age
   d. Women over 35 years of age
49. Which of the following types of cancer has the incidence risen most sharply over the last 50 years for adult males?

a. Stomach  
b. Lung  
c. Prostate  
d. Bladder  
e. Esophageal

50. What percentage of the smoking population will try to "kick the habit" each year?

a. 10%  
b. 25%  
c. 33%  
d. 50%  
e. 75%

51. Which of the following is not a method of facilitating smoking reduction and cessation?

a. Hypnosis  
b. Acupuncture  
c. Rapid smoking  
d. Diuretics  
e. Electric shock

52. The percentage of smokers who quit smoking and maintain cessation after one year is:

a. less than 10%  
b. between 10% and 20%  
c. 20%  
d. 40%
53. Relative to non-smokers, how much greater is a smoker's chance of developing lung cancer?
   a. Twice
   b. Three times
   c. Five times
   d. Ten times

54. Which of the following types of cancer has the incidence risen most sharply over the last twenty years for adult females?
   a. Stomach
   b. Breast
   c. Ovarian
   d. Lung
   e. Leukemia

55. Relative to non-smokers, how much greater is a smoker's chance of developing heart disease?
   a. Twice
   b. Three times
   c. Five times
   d. Ten times

56. How many deaths each year from Coronary Heart Disease are attributable to cigarette smoking?
   a. 25,000
   b. 100,000
   c. 200,000
   d. Over 200,000

57. Acute responses to cigarette smoking include increases in:
   a. Heart rate
   b. Blood pressure
   c. Coronary artery flow
   d. Cardiac oxygen demand
   e. All of the above
58. How long does it take to flush carbon monoxide and nicotine from a smoker's body once the smoker has quit smoking?
   a. One week
   b. One month
   c. Three months
   d. One year

59. The number of adult cigarette smokers (17 years and over) in the U.S. in 1980 was about:
   a. 5 million
   b. 21 million
   c. 35 million
   d. Over 50 million

60. Approximately what percentage of the U. S. adult population smoke cigarettes?
   a. 10%
   b. 20%
   c. 30%
   d. 40%
   e. None of the above

61. Aversive measures for smoking cessation include all of the following except:
   a. acupuncture
   b. electric shock
   c. breath holding
   d. rapid smoking

62. Smoking is known to cause all of the following except:
   a. altered sperm production and motility
   b. increased testosterone levels
   c. irregular menses
   d. increased risk of infertility in both sexes
Next is a section on how you counsel patients about health habits.

SMOKING

63. For those patients who smoke, how often do you bring up the subject of stopping or reducing their smoking, on the average? (circle one only)

   a. Never
   b. Initial visit only
   c. Every few years or so
   d. About once a year
   e. 2 to 3 times a year
   f. More than 3 times a year

64. For those patients who smoke and have heart disease, how often do you bring up the subject of stopping or reducing their smoking, on the average? (circle one only)

   a. Never
   b. Initial visit only
   c. Every few years or so
   d. About once a year
   e. 2 to 3 times a year
   f. More than 3 times a year

65. For those patients who smoke and have chronic lung disease, how often do you bring up the subject of stopping or reducing their smoking, on the average? (circle one only)

   a. Never
   b. Initial visit only
   c. Every few years or so
   d. About once a year
   e. 2 to 3 times a year
   f. More than 3 times a year
WEIGHT

66. For those patients who are **overweight**, how **often** do you bring up the subject of their losing weight, on the average? (circle one only)

   a. Never
   b. Initial visit only
   c. Every few years or so
   d. About once a year
   e. 2 to 3 times a year
   f. More than 3 times a year

67. For those patients who are **overweight** and **have heart disease**, how often do you bring up the subject of their losing weight, on the average? (circle one only)

   a. Never
   b. Initial visit only
   c. Every few years or so
   d. About once a year
   e. 2 to 3 times a year
   f. More than 3 times a year

68. For those patients who are **overweight** and **diabetic**, how often do you bring up the subject of their losing weight, on the average? (circle one only)

   a. Never
   b. Initial visit only
   c. Every few years or so
   d. About once a year
   e. 2 to 3 times a year
   f. More than 3 times a year
EXERCISE

69. For those patients who have poor exercise habits, how often do you bring up the subject of increasing their exercise, on the average? (circle one only)

a. Never  
b. Initial visit only  
c. Every few years or so  
d. About once a year  
e. 2 or 3 times a year  
f. More than 3 times a year

70. For those patients who have poor exercise habits and heart disease, how often do you bring up the subject of increasing their exercise, on the average? (circle one only)

a. Never  
b. Initial visit only  
c. Every few years or so  
d. About once a year  
e. 2 or 3 times a year  
f. More than 3 times a year

71. For those patients who have poor exercise habits and chronic lung disease, how often do you bring up the subject of increasing their exercise, on the average? (circle one only)

a. Never  
b. Initial visit only  
c. Every few years or so  
d. About once a year  
e. 2 or 3 times a year  
f. More than 3 times a year
ALCOHOL

72. For those patients who *drink alcohol to excess*, how often do you bring up the subject of their reducing or stopping their drinking, on the average? (circle one only)

a. Never  
b. Initial visit only  
c. Every few years or so  
d. About once a year  
e. 2 to 3 times a year  
f. More than 3 times a year

73. For those patients who *drink alcohol to excess and have heart disease*, how often do you bring up the subject of their reducing or stopping their drinking, on the average? (circle one only)

a. Never  
b. Initial visit only  
c. Every few years or so  
d. About once a year  
e. 2 to 3 times a year  
f. More than 3 times a year

74. For those patients who *drink alcohol to excess and have liver disease*, how often do you bring up the subject of their reducing or stopping their drinking, on the average? (circle one only)

a. Never  
b. Initial visit only  
c. Every few years or so  
d. About once a year  
e. 2 to 3 times a year  
f. More than 3 times a year
This section of the questionnaire concerns your own health and health habits.

GENERAL HEALTH

75. In general, how would you describe your health? (circle one only)
   a. Perfect
   b. Excellent
   c. Good
   d. Fair
   e. Poor

Below are a list of statements about your own health. Please indicate the extent to which you agree with each statement (using the scale below) by circling your response to each statement.

   STRONGLY AGREE   = 1
   AGREE             = 2
   NOT SURE          = 3
   DISAGREE          = 4
   STRONGLY DISAGREE = 5

76. It seems that my health is greatly influenced by chance.
    1  2  3  4  5

77. I can only maintain my health with the help of others.
    1  2  3  4  5

78. If I take the right actions, I can stay healthy.
    1  2  3  4  5

79. Other people play a big part in whether I stay healthy or become sick.
    1  2  3  4  5

80. When I stay healthy, I'm plain lucky.
    1  2  3  4  5

81. The main thing which affects my health is what I myself do.
    1  2  3  4  5
HEALTH HABITS

Choose one answer for each of the following statements or questions.

82. About how many hours do you spend, in an average week, in strenuous leisure time activities (e.g., jogging, running, handball, vigorous swimming)? (circle one)
   a. None, don't do strenuous activity
   b. 1 hour or less
   c. 2 to 3 hours a week
   d. 4 to 5 hours a week
   e. 6 to 10 hours a week
   f. More than 10 hours per week

83. Which one of these statements best describes your physical activity, in general? (circle one)
   a. Not very active physically, usually just sitting or walking
   b. Fairly active physically, moderate or strenuous activity several times a week
   c. Quite active physically, at least moderate activity every day
   d. Extremely active physically, strenuous activity most days

84. Do you think you get enough exercise now? (circle one)
   a. Yes    b. No

85. Are you currently trying to increase your physical activity?
   a. Yes    b. No

86. In the past, have you made a fairly serious attempt to increase your physical activity?
   a. Yes    b. No
SMOKING

87. Do you smoke cigarettes now? (circle one)

a. Yes                   b. No (if no, skip to item #92)

88. During how many years have you smoked cigarettes regularly? (circle one)

a. Less than 2 years
b. 2-5 years
c. 6-10 years
d. 11-15 years
e. 16-20 years
f. 21-25 years
g. 26-30 years
h. 31-35 years
i. 36-40 years
j. More than 40 years

89. On the average, about how many packs of cigarettes a day do you currently smoke now? (circle one)

a. 1 pack a day or less
b. About 1-1/2 packs a day
c. About 2 packs a day
d. More than 2 packs a day

90. Are you currently trying to reduce or stop smoking?

a. Yes                   b. No

91. Have you switched to low tar cigarettes, cigar or pipe?

a. Yes                   b. No

92. Have you ever smoked cigarettes fairly regularly?

a. Yes (if yes, continue to item #93)
   b. No (if no, skip to item #96)
93. During how many years did you smoke cigarettes regularly? (circle one)
   a. Less than 2 years
   b. 2-5 years
   c. 6-10 years
   d. 11-15 years
   e. 16-20 years
   f. 21-25 years
   g. 26-30 years
   h. 31-35 years
   i. 36-40 years
   j. More than 40 years

94. On the average, about how many packs a day did you use to smoke? (circle one)
   a. 1 pack a day or less
   b. About 1-1/2 packs a day
   c. About 2 packs a day
   d. More than 2 packs a day

95. How long has it been since you smoked cigarettes regularly? (circle one)
   a. 6 months or less
   b. 7 months to a year
   c. 1 year to 2 years
   d. 2 years to 5 years
   e. More than 5 years

WEIGHT

96. How tall are you without shoes? How much do you weigh?
    ______feet      _______inches      _______ lbs.

97. Do you think you weigh too much now?
   a. Yes           b. No
98. Are you currently on a diet to lose weight?
   a. Yes  b. No

99. Are you doing any special exercise to lose weight?
   a. Yes  b. No

100. What is the most you have ever weighed? (Women: do not count times when you were pregnant.)
     ___________ pounds

101. Do you think you weighed too much at that weight?
     a. Yes  b. No

102. In the past, did you ever make a fairly serious attempt to lose weight?
     a. Yes  b. No

ALCOHOL
103. When was the last time you had an alcoholic beverage (beer, wine, or liquor) of any kind? (choose only one)
     a. today
     b. yesterday
     c. a few days ago
     d. about a week ago
     e. 2 to 3 weeks ago
     f. a month ago
     g. 2 to 3 months ago
     h. 4 to 6 months ago
     i. 6 to 9 months ago
     j. 9 months to one year ago
     k. more than a year ago
     l. never (skip to #110)
104. Think of the month preceding the last drink you had. How often did you drink alcoholic beverages (beer, wine, or liquor) of any kind during the month? (circle one)
   a. every day
   b. almost every day
   c. 3 or 4 times a week
   d. 1 or 2 times a week
   e. 1, 2, or 3 days a month
   f. not at all

105. During the same month, when you drank wine, about how much did you usually drink in a day? (circle one)
   a. not at all
   b. 1 or 2 4-ounce glasses
   c. 3 or 4 4-ounce glasses
   d. 5 or 6 4-ounce glasses
   e. more than 6 4-ounce glasses

106. During the same month, when you drank hard liquor (like whiskey, vodka, gin) about how much did you usually drink in a day? (circle one)
   a. not at all
   b. 1 to 3 ounces or shots
   c. 4 to 6 ounces or shots
   d. 7 to 10 ounces or shots
   e. 11 to 15 ounces or shots
   f. about 1 pint
   g. more than 1 pint

107. Do you think you drink too much now?
   a. Yes          b. No

108. Are you currently doing anything to cut down on your drinking or stop entirely?
   a. Yes          b. No
109. Have you ever tried to cut down on your drinking, or attempted to stop entirely, in the past?
   a. Yes  b. No

DEMOGRAPHICS AND BACKGROUND

110. Sex
   a. Male  b. Female

111. Race

112. Are you a Registered Nurse (R.N.)?
   a. Yes  b. No

113. How long have you worked in a health department?
   a. <1 year  b. 1-5 years  c. 6-10 years  d. >10 years

114. How many years have you been employed in a nursing position?
   a. <1 year  b. 1-5 years  c. 6-10 years  d. >10 years
115. Have you received information about smoking cessation in nursing school or through a workshop?
   a. Yes          b. No

The next section describes your clinical practice.

116. On the average, how many patients do you see per day? 

117. What percentage of your patients are male? (circle one)
   a. 0-25%
   b. 26-50%
   c. 51-75%
   d. 76-100%

118. What percentage of your patients are 25 years old or younger?
   a. 0-25%
   b. 26-50%
   c. 51-75%
   d. 76-100%

119. What percentage of your work time is spent in direct patient care?
   a. 0-25%
   b. 26-50%
   c. 51-75%
   d. 76-100%

120. What is your age in years? 

121. What was your basic nursing preparation?
   a. Associate Degree
   b. Diploma
   c. Bachelor's
   d. Master's
   e. Doctorate
122. Highest education level completed in nursing?

   a. Associate Degree
   b. Diploma
   c. Bachelor's
   d. Master's
   e. Doctorate
APPENDIX C

POSTTEST
POSTTEST

Numbers 1-24 are a series of statements that deal with aspects of health and smoking. Please indicate the extent to which you agree or disagree with each statement by circling one number corresponding to the scale for each statement.

STRONGLY AGREE = 1
AGREE = 2
NOT SURE = 3
DISAGREE = 4
STRONGLY DISAGREE = 5

1. For most patients, once a smoker always a smoker.
   1  2  3  4  5

2. Nurses meddle too much in their patients' lives by telling them to stop smoking.
   1  2  3  4  5

3. In general, nurses know exactly how to elicit personal information from patients.
   1  2  3  4  5

4. Stopping smoking does not really prevent heart disease in the long run.
   1  2  3  4  5

5. I am quite effective in getting patients to stop smoking.
   1  2  3  4  5

6. Talking with patients about their personal lives is really enjoyable.
   1  2  3  4  5

7. Counseling patients about smoking is difficult to do well.
   1  2  3  4  5
STRONGLY AGREE = 1  
AGREE = 2  
NOT SURE = 3  
DISAGREE = 4  
STRONGLY DISAGREE = 5

8. Most nurses are completely confident of their ability to help patients change their smoking habit.
   1  2  3  4  5

9. Many nurses are not interested in the smoking habits of their patients.
   1  2  3  4  5

10. Most nurses feel helpless when it comes to changing patients' smoking habits.
    1  2  3  4  5

11. I usually know how to obtain personal information from patients.
    1  2  3  4  5

12. Counseling patients about smoking is not all that important, compared to most other aspects of nursing practice.
    1  2  3  4  5

13. Most nurses are not effective at helping patients stop smoking.
    1  2  3  4  5

14. Counseling about smoking is a thankless and ungratifying job.
    1  2  3  4  5

15. Cigarette smoking is extremely dangerous to one's health.
    1  2  3  4  5

16. Counseling patients about smoking is time-consuming.
    1  2  3  4  5

17. Nurses should feel no obligation to avoid smoking.
    1  2  3  4  5
STRONGLY AGREE = 1
AGREE = 2
NOT SURE = 3
DISAGREE = 4
STRONGLY DISAGREE = 5

18. Nurses know how to use information about patients’ smoking to help them stop smoking.
   1  2  3  4  5

19. For some patients, reducing a smoking habit has significant harmful consequences.
   1  2  3  4  5

20. Nurses ought to take a more aggressive approach to get patients to stop smoking.
   1  2  3  4  5

21. When most patients stop smoking, their health greatly improves in the long run.
   1  2  3  4  5

22. Most nurses do not know what information to obtain from patients to help the patient stop smoking.
   1  2  3  4  5

23. Nurses have no obligation to convince patients to stop smoking.
   1  2  3  4  5

24. I feel an obligation as a nurse to not smoke.
   1  2  3  4  5

Please answer the following questions by circling the number indicating your response.

25. In general, how effective do you feel nurses are in getting patients to stop smoking?
   Extremely effective  Not at all effective
   1  2  3  4  5  6  7
26. When patients reduce their smoking, how likely are they to experience harmful consequences?

<table>
<thead>
<tr>
<th>Very likely</th>
<th>Not at all likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

27. How much do you feel nurses have the right to tell patients to change their personal habits, such as smoking?

<table>
<thead>
<tr>
<th>Entirely within their rights</th>
<th>Not at all within their rights</th>
</tr>
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<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

28. A patient who has smoked 1 pack/day for 20 years stops smoking. How much less likely do you believe he is to acquire heart disease in the long run than had he continued to smoke?

<table>
<thead>
<tr>
<th>Just as likely to acquire heart disease</th>
<th>Much less likely to acquire heart disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
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</tbody>
</table>

29. How much risk to the future health of your patients do you believe is associated with smoking 1 pack/day for 20 years?

<table>
<thead>
<tr>
<th>Severe risk</th>
<th>No risk</th>
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<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
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</table>

30. How likely is it that a patient who smokes can stop smoking, by any means?

<table>
<thead>
<tr>
<th>Extremely likely</th>
<th>Extremely unlikely</th>
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<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
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</table>

31. When a patient who has smoked 1 pack/day for 20 years stops smoking, how much do you think the patient's future health will be benefited?

<table>
<thead>
<tr>
<th>Great benefit</th>
<th>No benefit</th>
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<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
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</tbody>
</table>
Circle one number that indicates your feeling concerning counseling patients about smoking.

32. **Important**
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7

33. **Difficult**
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - Easy

34. **Enjoyable**
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - Unenjoyable

35. **Time-consuming**
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7
   - Not at all time-consuming

For each of the following dimensions, circle one number that indicates what you think most nurses feel when counseling patients about habits like smoking.

36. **Confident**
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7
   - Uncertain

37. **Effective**
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7
   - Ineffective

38. **Knowledgeable**
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7
   - Unknowledgeable

Below are four clinical situations, and you are asked to indicate how likely the patient is to follow the nurse's advice in each.

39. An overweight patient is told to reduce by his/her nurse, who is overweight. In general, how likely is the patient to follow the advice?

   "Extremely likely"
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7

   "Extremely unlikely"
40. An overweight patient is told to reduce by his/her nurse, who is thin. In general, how likely is the patient to follow the advice?

Extremely likely    Extremely unlikely
1  2  3  4  5  6  7

41. A patient is told to stop smoking by his/her nurse, who is known to be a smoker. In general, how likely is the patient to follow the advice?

Extremely likely    Extremely unlikely
1  2  3  4  5  6  7

42. A patient is told to stop smoking by his/her nurse, who is a nonsmoker. In general, how likely is the patient to follow the advice?

Extremely likely    Extremely unlikely
1  2  3  4  5  6  7

GENERAL KNOWLEDGE
Choose the one best answer for each of the following questions.

43. The Freedom From Smoking cessation program is sponsored by the:

a. American Lung Association
b. American Cancer Society
c. National Institute of Health
d. National Cancer Institute
44. Research on smoking cessation has led to the following conclusion:

a. When attempting cessation, it is best to gradually reduce the number of cigarettes smoked in order to decrease withdrawal syndrome.

b. When attempting cessation, people who quit "cold turkey" are the most successful.

c. The best form of cessation depends on the amount and duration of smoking.

d. There has not been sufficient research to draw any conclusions.

45. Research has shown that validation of smoking behavior following cessation interventions is most acceptable in which of the following time periods.

a. 3 months
b. 6 months
c. 1 year
d. 2 years

46. Research has shown cause for relapses include:

a. social pressures
b. coping with negative emotional states
c. coping with interpersonal conflict
d. all of the above

47. The primary setting for smoking relapse was:

a. in the home
b. at work
c. in restaurants
d. at parties

48. The fastest growing population of cigarette smokers is:

a. Men under 35 years of age
b. Men over 35 years of age
c. Women under 35 years of age
d. Women over 35 years of age
49. Which of the following types of cancer has the incidence risen most sharply over the last 50 years for adult males?

a. Stomach  
b. Lung  
c. Prostate  
d. Bladder  
e. Esophageal

50. What percentage of the smoking population will try to "kick the habit" each year?

a. 10%  
b. 25%  
c. 33%  
d. 50%  
e. 75%

51. Which of the following is not a method of facilitating smoking reduction and cessation?

a. Hypnosis  
b. Acupuncture  
c. Rapid smoking  
d. Diuretics  
e. Electric shock

52. The percentage of smokers who quit smoking and maintain cessation after one year is:

a. less than 10%  
b. between 10% and 20%  
c. 20%  
d. 40%
53. Relative to non-smokers, how much greater is a smoker's chance of developing lung cancer?
   a. Twice
   b. Three times
   c. Five times
   d. Ten times

54. Which of the following types of cancer has the incidence risen most sharply over the last twenty years for adult females?
   a. Stomach
   b. Breast
   c. Ovarian
   d. Lung
   e. Leukemia

55. Relative to non-smokers, how much greater is a smoker's chance of developing heart disease?
   a. Twice
   b. Three times
   c. Five times
   d. Ten times

56. How many deaths each year from Coronary Heart Disease are attributable to cigarette smoking?
   a. 25,000
   b. 100,000
   c. 200,000
   d. Over 200,000

57. Acute responses to cigarette smoking include increases in:
   a. Heart rate
   b. Blood pressure
   c. Coronary artery flow
   d. Cardiac oxygen demand
   e. All of the above
58. How long does it take to flush carbon monoxide and nicotine from a smoker's body once the smoker has quit smoking?

   a. One week
   b. One month
   c. Three months
   d. One year

59. The number of adult cigarette smokers (17 years and over) in the U.S. in 1980 was about:

   a. 5 million
   b. 21 million
   c. 35 million
   d. Over 50 million

60. Approximately what percentage of the U.S. adult population smoke cigarettes?

   a. 10%
   b. 20%
   c. 30%
   d. 40%
   e. None of the above

61. Aversive measures for smoking cessation include all of the following except:

   a. acupuncture
   b. electric shock
   c. breath holding
   d. rapid smoking

62. Smoking is known to cause all of the following except:

   a. altered sperm production and motility
   b. increased testosterone levels
   c. irregular menses
   d. increased risk of infertility in both sexes
APPENDIX D

CHART AUDIT FORM
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<td><strong>Type of Clinic:</strong></td>
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<td><strong>Date of Visit:</strong></td>
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<tbody>
<tr>
<td><strong>123.</strong> Documented smoker</td>
<td>0</td>
<td>1</td>
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<tr>
<td><strong>124.</strong> Assessed for smoking</td>
<td>0</td>
<td>1</td>
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<td><strong>125.</strong> Obtained smoking history</td>
<td>0</td>
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<tr>
<td><strong>126.</strong> Counseled on negative effects of smoking</td>
<td>0</td>
<td>1</td>
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<td><strong>127.</strong> Counseled on tips for cessation</td>
<td>0</td>
<td>1</td>
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<td><strong>128.</strong> Provided written information on smoking cessation</td>
<td>0</td>
<td>1</td>
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<tr>
<td><strong>129.</strong> Requested follow-up appointment to monitor/support desired smoking behavior</td>
<td>0</td>
<td>1</td>
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<td><strong>Other Pertinent Information:</strong></td>
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<td><strong>NOT RECORDED</strong></td>
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APPENDIX E

MAP
FIGURE 38: Georgia map
(Districts included in study outlined in bold)
APPENDIX F

INITIAL LETTER TO DISTRICT NURSING SUPERVISORS
Patty Lowe
113 Perry Street
Lawrenceville, Georgia 30245

Dear Ms. Lowe:

I am a doctoral candidate at Ohio State University working on a Ph.D. in Community Health Education and Preventive Medicine. For my dissertation, I am looking at nurses' counseling behaviors in smoking cessation. In reviewing the literature, I have found a large amount of information on the nurses' own smoking behaviors, but a very limited amount on the nurses' role in smoking cessation counseling.

It is my belief that nurses can have a positive impact on their clients' health behaviors. However, literature has shown that nurses feel inadequate in counseling patients about smoking cessation due to lack of knowledge. Therefore, I would like to conduct a quasi-experimental study which would involve a workshop to teach nurses cigarette cessation counseling. This workshop could be held during one of your in-service education days if that is convenient for you. In order to measure the effect of the in-service, I would need to compare nurses' charting before and after the in-service day. I would also administer a pretest and posttest to nurses participating in the research. My faculty members at Ohio State University also feel it is important for me to see if there is a difference in counseling behaviors between smoking and nonsmoking nurses. I would need to ask the nurses in the pretest if they are smokers and validate this information using a hand held monitoring device at the time of the workshop.

In order to conduct the study, I will need at least 90 nurses to participate. Forty-five nurses will receive the pretest, workshop, posttest, and a chart review. The other half of the sample will be considered control and the nurses in this group would be asked to complete a pretest, posttest, and chart review.
If you consent to my conducting this research in your district, my plans are to randomly assign the different districts to either the control or the treatment groups. After I have conducted the experiment, I would be happy to conduct the workshop for the districts that serve as control groups during the experiment.

I hope you will consider having the nurses in your district participate in my research. The research will have to be approved by the Ohio State Human Subjects Committee prior to conducting the experiment. I will also follow any additional research guidelines which may be required by your health district. I am enclosing a copy of my vitae which includes several references. My committee members at Ohio State University may also be used as additional references. They are:

Dr. Franklin Banks  
School of Medicine

Dr. Moon S. Chen, Jr.  
School of Education

Dr. Mary Ellen Wewers  
School of Nursing

I am employed by the Medical College of Georgia School of Nursing in the Department of Community Nursing. The chairman of the department is Dr. Joyceen Boyle. On the Athens campus, I have worked with Twilla Haynes, M.N., and Carol Smith, D.S.N., faculty in the Community Nursing Department. Please feel free to contact me, my references, or fellow faculty if you have any questions regarding me or my research. My office phone number is (404) 542-7053 and my home phone number is 404-354-6968.

Thank you for your consideration in this matter and I look forward to hearing from you.

Sincerely,

Margaret Clark Graham, M.S.N.
APPENDIX G

CONSENT FORM
The Effects of an Educational Program on Nurse-Delivered Smoking Intervention

Principal Investigator: Margaret Clark Graham, R.N., M.S.N
Doctoral Candidate

I have been invited to participate in a research study which investigates the smoking cessation counseling practices of nurses. I understand that I have been asked to participate because I am a registered nurse practicing in a public health setting. I am one of approximately 90 subjects who have been invited to participate in this study.

This study is designed to measure: the nurse's knowledge of the effects of cigarette smoking on health, the nurse's attitude concerning nurse delivered smoking intervention, the nurse's counseling behavior, and the nurse's health habits related to cigarette smoking.

I will be asked to complete a pretest and posttest which will take approximately 30 minutes each to complete. Only a code number, not my name, will be used as identification on the forms. After I complete the pretest I will be asked to validate my own smoking behavior by exhaling into a Vitalograph carbon monoxide monitor which measures the carbon monoxide concentration in end-expired air. Exhaling into the Vitalograph carbon monoxide monitor will be similar to blowing out a candle. This procedure will be in no way uncomfortable. A clean mouthpiece will be used on the Vitalograph carbon monoxide monitor with each use.
I understand that approximately half of the 90 subjects will be randomly (like by the flip of a coin) chosen to attend a half-day in-service workshop on smoking cessation counseling. Thus, it may happen that I may not be chosen to attend the workshop. I further understand that the results of my tests will never be shared or reported on an individual basis, but that the results of the entire group will be reported.

The study will be conducted during my regular work hours and I understand that I will not be paid anything other than my regular salary for my participation in this study and that I will not have to pay for the tests and the workshop. With the exception of some possible anxiety from test taking, I understand that there are no identified risks in the study. Potential benefits of the study include the possibility of increasing my knowledge and changing my attitudes or behaviors in smoking cessation counseling. I understand that Margaret Clark Graham, M.S.N., can be reached at (h)404-354-6968 or (w)404-542-7053, and will answer any further questions I may have about the study. I understand that the research has been approved by the Medical College of Georgia Human Assurance Committee and that I may contact Dr. George S. Schuster at 404-721-2131 if I have concerns about my rights as a research subject.
My participation in this study is voluntary. I understand, however, that I may revoke my consent and withdraw from the study at any time without penalty. The risks and benefits to me if I decide to participate in this study have been explained. I have had the opportunity to ask questions and these have been answered to my satisfaction.

_________________________  ________________________
Subject                      Date

_________________________  ________________________
Witness                      Date

Margaret Clark Graham, M.S.N.
Principal Investigator
APPENDIX H
INSERVICE EDUCATION HANDOUTS
## QUIT TIPS

<table>
<thead>
<tr>
<th>STAGE OF QUITTING</th>
<th>TIPS</th>
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</table>
| **Getting Ready to Quit** | • It helps to notice when and why you smoke. Make a note each time you smoke. Try to identify the things in your daily routine that make you want to smoke (e.g., morning cup of coffee, after a meal).  
• Change your smoking habits. Keep your cigarettes in a different place, smoke with your opposite hand, don't do anything else when smoking, think about how you feel when smoking.  
• Limit your smoking to certain places, such as in your car or at home.  
• When you want a cigarette, delay having it one minute. Try to think of something to do instead of smoking (e.g., chew gum, drink a glass of water).  
• Buy one pack of cigarettes at a time. Switch to a brand of cigarettes you don't like.  
• Set a date for quitting.  
• Have a friend quit smoking with you. |
| **Quit Day**          | • Change your morning routine. Have breakfast, don't sit in the same place at the kitchen table, stay busy.  
• Get rid of all your cigarettes. Wet them down so your not tempted to get them out of the garbage. Put away your ashtrays.  
• When you get the urge to smoke remember the 4-D's: Drink water, Delay, Deep breathe, Do something else.  
• Carry some substitutes with you, such as gum, hard candy, a toothpick.  
• Tell those around you that you have quit smoking.  
• Reward yourself for getting through the day without smoking (e.g., go to a movie, have your favorite meal, feel proud of yourself). |
| **Maintenance**       | • Don't worry if you are sleepier or more irritable than usual, these symptoms will pass.  
• Try to be more physically active (e.g., take walks, garden, ride a bike).  
• Think about some of the positive aspects of quitting: such as how good you feel about yourself as a nonsmoker, health benefits, the example you set for others around you. Keep a positive attitude, it will help you through the difficult times.  
• When you're in a tense situation try to keep busy, think about ways to solve the problem, tell yourself that smoking won't make the situation any better, and if you can't take it anymore get out of the situation.  
• Eat regular meals to avoid hunger. Feeling hungry is sometimes mistaken for the desire to smoke.  
• Start a money jar with the money you save by not buying cigarettes.  
• Let others know that you have quit smoking — most people will be supportive. Many of your smoking friends may want to know how you quit. Its good therapy to talk about your quitting experience. |
Cancer Information Service  
Smoking and Health Fact Sheet  

STAGES OF QUITTING

<table>
<thead>
<tr>
<th>Pre-Contemplation Stage</th>
<th>Contemplation Stage</th>
<th>Action Stage</th>
<th>Maintenance Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal:</strong></td>
<td>To get the smoker thinking about quitting.</td>
<td>To get the smoker to set a target date for quitting.</td>
<td>To get the person to quit smoking for at least one day.</td>
</tr>
<tr>
<td><strong>Counseling Suggestions:</strong></td>
<td>Provide information on the health risks of smoking. Provide information on the health hazards of passive smoke exposure. Provide information on the cost of smoking.</td>
<td>Provide information on the hazards of smoking and benefits of quitting. Define fears about quitting (withdrawal symptoms, weight gain). Suggest keeping a record of when and where cigarettes are smoked. Suggest ways to reduce smoking (limit access to cigarettes, restrict locations for smoking, buy cigarettes only by the pack). Challenge the smoker to set a date for quitting.</td>
<td>Provide information on the hazards of smoking and the benefits of quitting. Praise the caller for having made the decision to quit. Provide information on cessation programs. Suggest things to do on quit day (throw away cigarettes, change morning routine, oral substitutes). Suggest ways to deal with urges to smoke (4-D's: Delay, Deep breathe, Drink water, Do something else).</td>
</tr>
<tr>
<td><strong>Questions to Ask:</strong></td>
<td>If the caller is seeking information for another person, find out how interested this person is in quitting. Suggest that the smoker call CIS.</td>
<td>Why do you want to quit smoking? Have you tried to quit before? What was the longest period you were off cigarettes? How much do you smoke? Why do you smoke?</td>
<td>Why do you want to quit? Why do you smoke? What things do you plan to do instead of smoking (oral substitutes, nicotine gum)? What do you think will be your biggest problem in quitting?</td>
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Smoking and Health Fact Sheet

WITHDRAWAL SYMPTOMS

When a person quits smoking he/she may experience a variety of symptoms associated with both the physical and psychological withdrawal from cigarettes. The occurrence of most symptoms decreases sharply during the first few days of cessation, followed by a continued, but slower rate of decline in the second and third week of abstinence. For some persons coping with withdrawal symptoms is like “riding a rollercoaster” — there will be good days and bad days. In general, most symptoms pass within two to four weeks after quitting. The most commonly reported withdrawal symptoms include:

IRRITABILITY

Heavy smokers (≥25 cigs/day) are more likely to report this symptom. The irritability people experience after quitting is caused by the body’s craving for nicotine. Nicotine gum helps lessen this symptom. Irritability associated with quitting will lessen over time (average duration 2 - 4 weeks).

FATIGUE

Nicotine is a stimulant so it is not surprising that quitting smoking causes fatigue. Heavy smokers are more likely to feel tired after quitting. Nicotine gum will help lessen this symptom. Fatigue often occurs in the afternoon 2pm - 4pm. This symptom will lessen over time (average duration 2 - 4 weeks).

INSOMNIA

Nicotine affects brain wave functioning and may influence sleep patterns. It is not uncommon in the first few days after quitting for the ex-smoker to wake up frequently during the night. Dreaming about smoking is also common. Coughing after quitting may also contribute to wakefulness. This symptom rarely lasts longer than a week after quitting.

COUGHING, CLEARING THE THROAT, NASAL DRIP, DRY THROAT

These symptoms are not related to nicotine withdrawal. Ex-smoker’s cough is the body’s way of getting rid of the mucus which has blocked the airways and restricted breathing. Dry throat is caused by the fact that the body is no longer producing a lot of mucus to protect the airways from the toxins in cigarette smoke. These symptoms rarely last longer than a few days after quitting.

DIZZINESS

This symptom is not related to nicotine withdrawal. The occasional dizziness that some ex-smokers experience is caused by extra oxygen that the body is getting. This symptom rarely lasts longer than a day or two after quitting.

LACK OF CONCENTRATION

Nicotine does affect brain wave functioning. Recent studies indicate that concentration and problem solving ability is enhanced for a short period (20-30 minutes) following administration of nicotine. Changing a habit as ingrained as smoking takes effort and contributes to problems in concentration. The ex-smoker’s body needs time to adjust to a routine of not having the constant stimulation from nicotine. Most ex-smokers say that concentration is not a problem after a few weeks of cessation.
WITHDRAWAL SYMPTOMS (cont.)

DEPRESSION

It is not uncommon to feel a little depressed after quitting smoking. Some ex-smokers say that quitting smoking is like losing a close friend. Bouts of crying are not uncommon. However, these feelings will pass. Smoking is not the answer; it will probably make things worse because of guilt associated with smoking again.

TIGHTNESS IN THE CHEST:

It is not uncommon for ex-smokers to experience tightness in the chest after quitting. Chest tightness is probably due to the tension created by the body’s need for nicotine. Chest tightness occurs more often in those who report ex-smoker’s cough which may mean that the chest muscles are sore from coughing. This symptom passes within a few days after quitting.

G.I. SYMPTOMS (CONSTIPATION, GAS STOMACH PAINS)

Intestinal movement may decrease for a brief period when a smoker lowers his/her cigarette use. The duration of G.I. symptoms is rarely longer than a week or two after quitting. These symptoms are probably related to nicotine withdrawal.

HUNGER

The craving for a cigarette is often confused with a hunger pang. As a result, many ex-smokers find themselves eating more after quitting. Eating, however, does little to satisfy the craving for a cigarette. Heavy smokers experience feelings of hunger more often after quitting than lighter smokers. Nicotine gum helps lessen feelings of hunger after quitting. This symptom is usually most intense the first week after quitting, and may persist up to several weeks.

CRAVING FOR A CIGARETTE

Cravings for a cigarette are most frequent within the first 2 or 3 days after quitting. It is not uncommon for a person to always be thinking about smoking. The frequency of cravings lessen over time. After 2 or 3 weeks of cessation most ex-smokers say they only have an occasional urge to smoke. However, the occasional urge for a cigarette may be intense and may happen months and years after quitting.

<table>
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<tr>
<th>IMMEDIATE BENEFITS</th>
<th>LONG-TERM BENEFITS</th>
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<tr>
<td>Decline in carbon monoxide level in blood within 8 hours.</td>
<td>Reduction in risk of premature death. After 10-15 years, ex-smoker's risk approaches that of a never-smoker.</td>
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<tr>
<td>Improved respiratory function; smoker's cough diminishes, and excess mucus production begins to subside.</td>
<td>Reduced risk of coronary heart disease after only one year of cessation. After 2-7 years, ex-smoker's risk is similar to a never-smoker.</td>
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<tr>
<td>Sense of taste and smell quickly improves.</td>
<td>Gradual decline in risk of lung cancer; approaches that of a never-smoker after 10-15 years.</td>
</tr>
<tr>
<td>Better oral health; cessation helps to prevent or stabilize dental disease and eliminates smoker's breath.</td>
<td>Gradual decline in risk of larynx cancer, approaching that of a never-smoker after 10 years.</td>
</tr>
<tr>
<td>Stamina and vigor improve as a result of increased oxygen in the system and improved circulation.</td>
<td>Sharp decline in risk of mouth cancer within first few years of cessation; approaches risk of never-smoker after 10-15 years.</td>
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<tr>
<td>Enhanced self image is brought on by a real sense of accomplishment by quitting.</td>
<td>Sharp decline in risk of bladder cancer within first few years of cessation; approaches risk of never-smoker after 7 years.</td>
</tr>
<tr>
<td>Acute effects of nicotine on pulse rate, blood pressure, and body temperature are eliminated within 20 minutes of last cigarette.</td>
<td>Chronic bronchitis and emphysema; cough and phlegm production disappear during first few weeks of cessation. Lung function abnormalities are substantially reversible in those who have not developed significant chronic airflow obstruction.</td>
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<td>Women who stop smoking before the 4th month of pregnancy eliminate the risk of stillbirth and low birthweight caused by smoking.</td>
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<td>Posterior uterine are more likely to heal rapidly and completely in ex-smokers compared to current smokers.</td>
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</table>

*Reference: American Cancer Society.

Dangers of smoking, benefits of quitting, and relative risks of reduced moisture, 1990.
# HOW TO HANDLE A RELAPSE

<table>
<thead>
<tr>
<th>Reasons for Relapse</th>
<th>Things to do Instead of Smoking</th>
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<tbody>
<tr>
<td>Stress</td>
<td>• Tell yourself &quot;Why do I think a cigarette would relax me? Nicotine is a stimulant!&quot;</td>
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<td>• Get out of the situation that is causing the stress. Do something else, go for a walk, get a glass of water.</td>
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<tr>
<td>Withdrawal symptoms</td>
<td>• Remind yourself that the symptoms you experience after quitting are only temporary. Think about the effort you've already put into quitting – don't let it go to waste!</td>
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<td>• When you get the urge to smoke, remember the 4-D's: Delay, Deep breathe, Drink water, Do something else.</td>
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<tr>
<td>Alcohol</td>
<td>• Try not to drink in situations where cigarettes are easy to get.</td>
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<td>• Suck on a swizzle stick.</td>
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<tr>
<td>Boredom</td>
<td>• Telephone someone.</td>
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<td>• Tell yourself &quot;I've been doing a great job; I won't blow it now!&quot;</td>
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**What should I do if I start smoking again?**

• The most important lesson learned by smokers in quitting is that you can't test yourself by having a cigarette or two. If you do start smoking here's what you should do:
  - Recognize that you've had a small setback, but that this doesn't mean you're a smoker again.
  - Learn from your setback. What caused you to smoke again? How did the cigarette taste? Was it as good as you expected? How will you handle the situation next time?
  - Don't look back. Think about the effort you've already invested into quitting and continue with it. Tell yourself "I'm not going to let this effort go to waste, I'm still a nonsmoker!"
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WEIGHT GAIN AFTER QUITTING

Will I gain weight if I quit smoking?

It is true that many smokers gain weight after quitting. A recent study found that 70% of smokers gained weight in the first month after quitting. The average weight gain reported was 5 pounds. Ten percent of smokers lose weight after quitting, and 20% stay the same. Most weight gain that occurs happens in the first few weeks after quitting.

Why do people gain weight after quitting?

Nicotine is a stimulant which affects the body's metabolic rate. When a person quits smoking their metabolic rate slows. If caloric intake and/or activity level is not altered some weight gain is likely after quitting. Also, the craving for a cigarette is often confused with a hunger pang. Many ex-smokers find themselves eating more to satisfy the craving for a cigarette. Heavy smokers (>25 cigs/day) are more likely to gain weight after quitting; probably the result of their greater dependence on nicotine.

Isn't being overweight as dangerous as smoking?

Smoking is far more dangerous than a few extra pounds of weight. To be at the same risk of early death as smoking one pack of cigarettes a day, a person needs to be over 100 pounds above their ideal weight.

How can I prevent gaining weight after quitting?

Excessive weight gain after quitting smoking (>10 pounds) is probably the result of eating more. Exercise and being careful about what you eat is the best way to avoid gaining weight after quitting. Nicotine gum may help lessen weight gain. Some hints for weight control after quitting include:

- Substitute low caloric foods for cigarettes. Raw vegetables, plain crackers, bread sticks, popcorn, sugarless hard candies, and chewing gum are good substitutes.
- Avoid eating too much sugar. Maintaining a stable blood sugar level helps prevent fatigue and depression which often accompanies quitting smoking.
- Drink six to eight extra glasses of water a day. The more liquid you can drink, the faster the nicotine leaches out of your body. Drinking a glass of water is one way to help reduce the cravings for a cigarette.
- Don't panic if you gain a few pounds after quitting, this is normal for most people. Be sensible about what you eat. If you're worried about weight gain, weigh yourself daily. Count calories and exercise.

### NICOTINE GUM*

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
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<tr>
<td>What is nicotine gum?</td>
<td>Nicotine resin chewing gum (Nicorette®) is a sugar-free gum that contains nicotine, the addictive substance in tobacco. In the United States, Nicorette® is available by prescription only and provides a 2 mg dose of nicotine. The 2 mg dose creates blood nicotine levels comparable to half of one cigarette.</td>
</tr>
<tr>
<td>How does the gum work?</td>
<td>When the gum is chewed, nicotine is released and absorbed through the lining of the mouth. The gum helps reduce nicotine withdrawal symptoms, such as cravings, irritability, fatigue, and weight gain. The gum also serves as a substitute for smoking.</td>
</tr>
<tr>
<td>Who should and shouldn't use the gum?</td>
<td>- Heavy smokers (25 cigs/day), who are more dependent on the nicotine from cigarettes, will benefit most from the gum. Nicorette should not be used if you are pregnant or nursing.</td>
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</tbody>
</table>
| How should the gum be used?    | - Use the gum only after you have quit smoking.  
- When you feel the urge to smoke, begin to chew a piece of gum.  
- Chew the gum slowly until you taste it.  
- After chewing for a minute, pause and rest the gum in your cheek.  
- After the taste has disappeared (about 1 minute), chew slowly again until you taste the gum again.  
- Continue to chew a piece of gum for 20-30 minutes.  
- Most people chew about 10 pieces per day—during the first week of quitting. Do not use more than 30 per day.  
- As the urges for a cigarette become less frequent (usually after a week), gradually reduce the number of pieces of Nicorette chewed per day. Most people are off the gum completely after 1 month, but you can use the gum for up to 3 months.  
- You can reduce the dose of nicotine from the gum by cutting the pieces in half. |
| How much does the gum cost?    | The cost of the gum may vary from pharmacy to pharmacy, but averages about $18 to $20 for a box of 96 pieces (2.3 week supply). Some health insurance plans do pay for the gum. |
| Is the gum addictive?          | The cost, foul taste, and tedium of chewing tend to limit prolonged use of the gum. Fewer than 5% of gum users are still on the gum after 1 year. |
| Is the gum safe?               | The gum is safer than smoking because it does not contain the tars, irritants, and carbon monoxide found in tobacco smoke. However, the gum if chewed too fast may cause light-headedness, nausea, hiccups, and heart palpitations. The gum may also cause jaw muscle ache and damage dental work (e.g., lose fillings, stick to dentures). The gum is not harmful if accidentally swallowed. |

---

*Reference: "Quitting with the help of Nicorette®.  
Merrell Dow Pharmaceuticals, Inc."
COUNSELING INTERVENTION

ADVISE PATIENT TO STOP SMOKING
USE COUNSELING TECHNIQUE TO DETERMINE MOST APPROPRIATE
METHOD FOR CESSION
SET AGREEMENT WITH PATIENT FOR CESSION
PROVIDE BOOKLET OF STOPPING SMOKING TIPS
IF REQUESTED, GIVE PATIENT LIST OF COMMUNITY SMOKING
CESSION RESOURCES
REQUEST RETURN VISIT IN 1-2 WEEKS (OR PHONE CONTACT IF
UNAVAILABLE) TO CHECK PROGRESS AND REINFORCE VISIT
INFORM PATIENT OF PERIODIC TELEPHONE CONTACTS
REMIND PATIENT TO MAKE FOLLOW-UP APPOINTMENT

Sample Intervention:

"I notice that you are a cigarette smoker. Smoking is harmful to your health. In many cases,
the harmful effects of smoking can be reversed. As your nurse I must advise you to stop
smoking. (Personalize to patient).
How do you feel about being a cigarette smoker?
Have you thought about stopping?
What reasons would you have for stopping?
Have you ever stopped smoking?

YES

When was the last time?
How did you stop?
Any problems
How long did the problems last?
What helped you?
How did you feel? How did you feel about yourself?

NO

Have you ever made any
other changes? How?
When? Any problems?

Would you like to stop smoking?
Do you think you could stop now?
What would be possible problems or barriers to stop?
What could help you?
Would you be willing to develop a plan to stop smoking?

YES

Write Agreement for Cessation with Patient.
Give booklet on tips for stopping smoking.
Review factors that may interfere with plan.
Request return visit in 1-2 weeks (or phone
contact if unavailable) to check progress
Inform patient that someone will be contacting
him/her periodically by phone to see how he/she
is doing.

NO

Would you be willing to cut down on your
smoking?
If yes, write agreement for stopping
smoking.
Give booklet on tips for stopping smoking.
Review factors that may interfere with
plan.
Request return visit 1-2 weeks (or phone
contact if unavailable) to check progress
Inform patient that someone will be
contacting him/her periodically by phone to
see how he/she is doing.
After careful consideration, I have decided to  
STOP  
TAPER  
my cigarette smoking on ____________________________  (DATE)  
I am responsible for this decision and understand that my own commitment to stop smoking is of primary importance.  

☐ I will return in 1-2 weeks to see  
NURSE ____________________________  
to discuss the progress I have made in stopping smoking.  

☐ Since I am unable to return to the clinic in 1-2  
weeks, NURSE ____________________________  
will call me on ____________________________ at ____________________________  (DATE) (TIME)  
__________________________ to discuss the  
(Telephone number)  
progress I have made in stopping smoking.  

INTERVENTION FOLLOW-UP:  ☐ VISIT  ☐ PHONE CALL  ☐ UNABLE TO  
REACH PATIENT  DATE: ____________  

REVIEW WITH PATIENT THE AGREEMENT FROM THE LAST VISIT  

☐ NO  ← Is the patient still smoking?  → ☐ YES  

...Congratulations  
...Is the plan that we negotiated helpful?  
☐ YES  ☐ NO  
...What problems have you noted?  
__________________________  

...What was helpful to you?  
__________________________  

...Is there anything else I can do to help you at this time?  
__________________________  

...Do you think you will remain off cigarettes for the  
next 6 months?  ☐ YES  ☐ NO  
Comments:  

REFERENCE  
Physician Delivered Smoking Intervention Project  
Judith K. Ockene, Ph.D.  
Division of Preventive and Behavioral Medicine  
University of Massachusetts  
Boston, MA
POSSIBLE ANSWERS TO PATIENTS CONCERNS

CONCERN

I. I like to smoke cigarettes. It's something I really enjoy. Do the benefits of quitting smoking really outweigh the costs at this point in my life?

INFORMATION

Some health benefits of stopping smoking are experienced almost immediately while other benefits become evident after months and years of cessation. For instance:

The chances of developing heart disease and lung disease are decreased soon after stopping.

Your overall energy level increases.

Coughing, sinus congestion and shortness of breath decrease.

Circulation improves. Ability to taste and smell things is enhanced.

After 10 years, the lung cancer death rate for an average smoker (1 pack per day) drops to nearly the rate of nonsmokers.

OTHER BENEFITS INCLUDE:

You will have more money in your pocket at the end of the week.

You may feel more in control of your life and behavior.

QUESTION

What personal benefits can you list for quitting smoking?

Are there other things in your life you want to do?

How could giving up cigarettes help you achieve these goals?
II. I don't have the time to come back to the Clinic/Health Center to discuss my smoking.

INFORMATION

It may take several weeks before you are able to control urges to smoke. At the next visit, I want to discuss your use of the smoking reduction/cessation plan in controlling urges. This is similar to giving a prescription medication for another health problem. If the prescription doesn't help you then it needs to be changed. So, based on your experience with the plan, we may have to alter it in order to help you achieve your goal. (If you absolutely cannot make it in for a return visit, then I want to talk with you on the phone to discuss your progress in giving up cigarettes).

QUESTION

During the two weeks, is there any time during my clinic that you can find an hour in your busy schedule to come in for a visit?

III. I don't have the money to spend on another visit to the Clinic/Health Center.

INFORMATION

Insurance may cover the cost of another visit to the Clinic/Health Center for purposes of discussing your smoking status. If not, you will not receive a bill. If there are any problems and you are billed for this visit, then give the financial office a call.
CONCERN

IV. Sometimes the urges to smoke are really strong. In those cases, I reach for my pipe/cigar. It satisfies me and I don’t even inhale.

INFORMATION

One of the reasons you may feel "satisfied" by smoking a pipe/cigar is that you are raising you nicotine level in your blood stream. Even though you don’t feel like you are inhaling, some of the tobacco smoke does get into your lungs from the pipe/cigar. Other toxic substances from the pipe/cigar smoke (e.g., tar, irritant gases, carbon monoxide) are also contained in the tobacco. You can use a variety of non-tobacco substitutes when a strong urge comes (e.g., unfilled pipes, chewing gum, straws, cinnamon sticks, etc.). If you feel you absolutely can’t resist the urge to smoke, and a pipe/cigar will help, then plan to use it for a short time.

QUESTION

What other substitutes have you tried in the past which help you cope with an urge to smoke?

Can you anticipate when the strong urges come and have a substitute ready to use (on your person or in close proximity to you)?

What are your thoughts before the strong urge hits? Try replacing negative thoughts with positive ones.

Have you used any relaxation techniques to help in "thinning out" the strength of a smoking urge?

---

REFERENCE

Physician Delivered Smoking Intervention Project
Judith K. Ockene, Ph.D.
Division of Preventive and Behavioral Medicine
University of Massachusetts
Boston, MA
APPENDIX I

ROLE PLAY VIGNETTES FOR INSERVICE
SITUATIONS FOR ROLE PLAYING

SITUATION #1

A 16-year old female presents to the clinic for an initial visit seeking birth control. During your assessment, you learn that she smokes one pack of cigarettes per day and has been smoking since she was 14.

SITUATION #2

An 18-month old male is being seen for his fifth otitis media since birth. In discussing your plan of care with his mother, you learn she is a smoker.

SITUATION #3

A 22-year old female comes to the clinic for prenatal care. This is her third pregnancy. She had no problem with her previous pregnancies, labor, or deliveries. Her children are in good health and have had no significant problems since birth.

SITUATION #4

A 54-year old male presents to your hypertensive clinic for an initial visit. He is 20 lbs. overweight, has a high fat diet, has no routine exercise program, has been a pack-and-a-half/day smoker for forty years and he feels fine. You suggest that he needs to stop smoking and he does not see the need to quit since he has been smoking for so long with no negative consequences.
APPENDIX J

PACS QUESTIONNAIRE (Wells et al., 1984)
MEASUREMENT OF PHYSICIANS' ATTITUDES IN COUNSELING PATIENTS ABOUT SMOKING

Address for comments: Kenneth B. Wells, M.D., M.P.H.
The Rand Corporation
1700 Main Street
Santa Monica, California 90406

ON THE NEXT THREE PAGES ARE A SERIES OF STATEMENTS THAT DEAL WITH ASPECTS OF HEALTH AND SMOKING. PLEASE INDICATE THE EXTENT TO WHICH YOU AGREE OR DISAGREE WITH EACH STATEMENT BY CHECKING ONE BOX ON THE SCALE FOR EACH STATEMENT.

<table>
<thead>
<tr>
<th>For example:</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Not Sure</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Dodgers are a good baseball team</td>
<td>1  2  3  4  5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. For most patients, once a smoker, always a smoker.</td>
<td>1' 2  3  4  5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Physicians meddle too much in their patients' lives by telling them to stop smoking.</td>
<td>1  2  3  4  5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. In general, physicians know exactly how to elicit personal information from patients.</td>
<td>1  2  3  4  5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Stopping smoking does not really prevent heart disease in the long run.</td>
<td>1  2  3  4  5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I am quite effective in getting patients to stop smoking.</td>
<td>1  2  3  4  5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Talking with patients about their personal lives is really enjoyable.</td>
<td>1  2  3  4  5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Not Sure</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>---</td>
<td>----------------</td>
<td>-------</td>
<td>----------</td>
<td>----------</td>
<td>------------------</td>
</tr>
<tr>
<td>7. Counseling patients about smoking is difficult to do well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Most physicians are completely confident of their ability to help patients change their smoking habit.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Many physicians are just not interested in the smoking habits of their patients.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. Most physicians feel helpless when it comes to changing patients smoking habits.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. I usually know how to obtain personal information from patients.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>12. Counseling patients about smoking is not all that important, compared to most other aspects of medical practice.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. Most physicians are not effective at helping patients stop smoking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. Counseling about smoking is a thankless and ungratifying job.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. Cigarette smoking is extremely dangerous to one's health.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. Counseling patients about smoking is time-consuming.</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Not Sure</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>---</td>
<td>----------------</td>
<td>-------</td>
<td>----------</td>
<td>----------</td>
<td>------------------</td>
</tr>
<tr>
<td>17. Physicians should feel no obligation to avoid smoking themselves.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18. Physicians know exactly how to use information about patients' smoking to help them stop.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19. For some patients reducing a smoking habit has significant harmful consequences.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20. Physicians ought to take a more aggressive approach to get patients to stop smoking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>21. Physicians do not get paid as much as they should for the time it takes to talk with patients about smoking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>22. When most patients stop smoking their health greatly improves, in the long run.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>23. Most physicians do not know what information to obtain from patients to help them stop smoking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>24. Physicians have no obligation to convince patients to stop smoking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>25. I feel an obligation as a physician to not smoke myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
**PLEASE ANSWER THE FOLLOWING QUESTIONS BY CIRCLING THE NUMBER INDICATING YOUR RESPONSE**

26. In general, how effective do you feel physicians are in getting patients to stop smoking?

<table>
<thead>
<tr>
<th>Extremely effective</th>
<th>Not at all effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

27. When a patient reduces his smoking, how likely is he to experience harmful consequences?

<table>
<thead>
<tr>
<th>Very likely</th>
<th>Not at all likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

28. How much do you feel physicians have the right to tell patients to change their personal habits, such as smoking?

<table>
<thead>
<tr>
<th>Entirely within their right</th>
<th>Not at all within their right</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

29. A patient who has smoked a pack/day for 20 years stops smoking. How much less likely do you believe he is to acquire heart disease in the long run than had he continued to smoke?

<table>
<thead>
<tr>
<th>Just as likely to acquire heart disease</th>
<th>Much less likely to acquire heart disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
30. In general, does taking time to discuss health habits like smoking with patients result in a gain in income or a loss in income to physicians in your specialty?

<table>
<thead>
<tr>
<th>Considerable gain</th>
<th>Considerable loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

31. How much risk to the future health of your patients do you believe is associated with smoking 1 pack of cigarettes/day for 20 years?

<table>
<thead>
<tr>
<th>Severe risk</th>
<th>No risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

32. How likely is it that a patient who smokes can stop smoking, by any means?

<table>
<thead>
<tr>
<th>Extremely likely</th>
<th>Extremely unlikely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

33. When a patient who has smoked one pack of cigarettes/day for 20 years (20 pack/years) stops smoking, how much do you think the patient's future health will be benefited?

<table>
<thead>
<tr>
<th>Great benefit</th>
<th>No benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>
Below are four dimensions of attitudes toward counseling patients about smoking. For each dimension, circle one number that indicates your feeling concerning counseling patients about smoking.

<table>
<thead>
<tr>
<th>Question</th>
<th>Important</th>
<th>Not Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>34. Important</td>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
<tr>
<td>35. Difficult</td>
<td></td>
<td>Easy</td>
</tr>
<tr>
<td>36. Enjoyable</td>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
<tr>
<td>37. Time-consuming</td>
<td></td>
<td>Not at all time-consuming</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
</tbody>
</table>
Below are three dimensions of feelings that physicians may have when counseling patients about habits like smoking. For each dimension circle one number that indicates what you think most physicians feel.

38. Confident
   1 2 3 4 5 6 7

39. Effective
   1 2 3 4 5 6 7

40. Knowledgeable
   1 2 3 4 5 6 7
APPENDIX K

HHCQ (Wells et al., 1986)
TITLE: Physicians' Practices in Counseling Patients About Health

RUNNING HEAD: Physician Counseling About Health Habits

AUTHORS: Kenneth B. Wells, a M.D., M.P.H., John E. Ware, Jr., b Ph.D., and Charles E. Lewis, c M.D., Sc.D.

a Assistant Professor of Psychiatry, UCLA Neuropsychiatric Institute, School of Medicine. Senior Research Analyst, The Rand Corporation.
c Professor of Medicine and Chief of the Division of General Internal Medicine and Health Services Research, UCLA Department of Medicine, School of Medicine.

DISCLAIMERS: The opinions, conclusions, and proposals in the text are those of the authors and do not necessarily represent the views of the Robert Wood Johnson Foundation.

AUTHOR RESPONSIBLE FOR CORRESPONDENCE ABOUT MANUSCRIPT:

Kenneth B. Wells, M.D., M.P.H.
The Rand Corporation
1700 Main Street
Santa Monica, CA 90406
(213) 393-0411, X7193

AUTHOR RESPONSIBLE FOR REPRINTS:

Kenneth B. Wells, M.D., M.P.H.
The Rand Corporation
1700 Main Street
Santa Monica, CA 90406
(213) 393-0411, X7193

SOURCE OF SUPPORT: Preparation of this article was assisted by a grant from the Robert Wood Johnson Foundation.

KEY WORDS: counseling, physicians, health habits, self-reports, survey, smoking, drinking, weight, exercise
SMOKING

When you "counsel" about smoking what do you do? (circle all that apply)

1. I encourage non-smokers to avoid smoking. 12/
2. I discuss risks of smoking with smokers and attempt to persuade them to stop. 13/
3. I recommend alternative habits, such as exercise. 14/
4. I discuss smoking with the patient's family to get their cooperation. 15/
5. I present pamphlets or educational materials to smokers. 16/
6. I refer to anti-smoking agencies. 17/
7. Other office personnel (i.e., nurse) counsels the patients about smoking. 18/
8. I suggest specific steps to take in reducing or stopping smoking. 19/
9. I explore the patient's feelings about smoking. 20/
10. I encourage the patient to change to a low tar cigarette, cigar or pipe. 21/
11. Other ___________________________ 22-23/

12. I do not counsel about smoking. 24/

For those patients who smoke, how often do you bring up the subject of stopping or reducing their smoking, on the average? (circle one only)

1. Never
2. Initial visit only
3. Every few years or so
4. About once a year
5. 2 to 3 times a year
6. More than 3 times a year 25/

In the last month, when you talked with patients about smoking, how much time did you spend, on the average, on the subject per patient? (circle one only)

1. I did not discuss the subject
2. 1 to 2 minutes
3. 2 to 5 minutes
4. 5 to 10 minutes
5. More than 10 minutes 26/
Choose the one response that best describes your style of discussing smoking with your patients in the last month. (circle one only)

1. I made it a point to discuss smoking with all my patients and offered all assistance possible.
2. I sometimes discussed smoking, even when there was no immediate health hazard, and offered to help any patient.
3. I discussed smoking when the patient brought up the subject and when I thought smoking was immediately harmful to the patient's health and offered to help the patient.
4. I discussed smoking when the patient brought up the subject, and offered to help the patient.
5. I did not discuss smoking with my patients.

Of your patients who smoke, what percentage in each of the categories listed do you counsel to reduce or stop smoking? (check one box in each row)

<table>
<thead>
<tr>
<th>Category</th>
<th>0-25%</th>
<th>26-50%</th>
<th>51-75%</th>
<th>76-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>All smokers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smokers with heart disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smokers with chronic lung disease</td>
<td>28/</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>23/</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>30/</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
When you "counsel" about weight, what do you do? (circle all that apply)

1. I discuss weight and diet with patients, impress them with the hazard of overweight, encourage them to reduce. 31/
2. I obtain frequent weights at the office. 32/
3. I discuss weight and diet with the patient's family members to get their cooperation. 33/
4. I prescribe diet pills or other medication. 34/
5. I prescribe a specific reducing diet. 35/
6. I present pamphlets or educational materials on weight and diet. 36/
7. I refer to a weight control agency or program. 37/
8. I prescribe exercises. 38/
9. I explore the patient's feeling about his weight. 39/
10. I hospitalize patients to lose weight. 40/
11. Other ____________________________ 41-42/
12. I do not counsel about weight. 43/

For those patients who are overweight, how often do you bring up the subject of their losing weight, on the average? (circle one only)

1. Never
2. Initial visit only
3. Every few years or so
4. About once a year
5. 2 to 3 times a year
6. More than 3 times a year 44/

In the last month, when you talked with patients about their weight, how much time, on the average, did you spend on the subject per patient? (circle one only)

1. I did not discuss the subject
2. 1 to 2 minutes
3. 2 to 5 minutes
4. 5 to 10 minutes
5. More than 10 minutes 45/
Choose the one response that best describes your style of discussing weight and diet with your patients in the last month. (Circle one only)

1. I made it a point to discuss weight and dieting with all my overweight patients and offered all assistance possible.
2. I sometimes discussed weight and dieting, even when there was no immediate health hazard from overweight, and offered to help any patient.
3. I discussed weight and dieting when the patient brought up the subject and when there was any immediate health threat from overweight, and offered to help the patient.
4. I discussed weight and dieting when the patient brought up the subject and offered to help the patient.
5. I did not discuss weight and dieting with my patients.

Of your patients who are overweight, what percentage in each of the categories listed do you counsel to lose weight? (Check one box in each row)

<table>
<thead>
<tr>
<th>Category</th>
<th>0-25%</th>
<th>26-50%</th>
<th>51-75%</th>
<th>76-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>All patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients with heart disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients with diabetes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

46/ 47/ 48/ 49/
**EXERCISE**

When you "counsel" about exercise, such as jogging, what do you do? (circle all that apply)

1. I discuss exercise with patients, emphasizing health benefits and attempt to persuade them to exercise.  
2. I discuss exercise with the patient's family to get their cooperation.  
3. I present pamphlets or educational materials on exercise.  
4. I suggest specific exercise regimens.  
5. I refer to exercise or athletic clubs.  
6. Other office personnel (i.e., nurse) does the counseling.  
7. I explore the patient's feeling about exercise.  
8. Other ____________________________  
9. I do not counsel about exercise.

For those patients who have poor exercise, how often do you bring up the subject of increasing their exercise, on the average? (circle one only)

1. Never  
2. Initial visit only  
3. Every few years or so  
4. About once a year  
5. 2 or 3 times a year  
6. More than 3 times a year

In the last month, when you talked with patients about exercise, how much time did you spend, on the average, on the subject per patient? (circle one only)

1. I did not discuss the subject.  
2. 1 to 2 minutes  
3. 2 to 5 minutes  
4. 5 to 10 minutes  
5. More than 10 minutes
Choose the one response that best describes your style of discussing exercise with your patients in the last month. (Circle one only)

1. I made it a point to discuss regular exercise with all my patients and offered all assistance possible.
2. I sometimes discussed regular exercise, even when there was no immediate health threat that could be helped by regular exercise, and offered to help any patient.
3. I discussed the subject of regular exercise when the patient brought up the subject and when there was any immediate health threat that could be helped by exercise, and offered to help the patient.
4. I discussed regular exercise when the patient brought up the subject, and offered to help the patient.
5. I did not discuss regular exercise with my patients.

Of your patients who have poor exercise, what percentage in each of the categories listed do you counsel to increase their exercise? (Check one box in each row)

<table>
<thead>
<tr>
<th></th>
<th>0-25%</th>
<th>26-50%</th>
<th>51-75%</th>
<th>76-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>All patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients with heart disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients with chronic lung disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ALCOHOL

When you "counsel" about alcohol, what do you do? (circle all that apply)

1. I discuss the health hazards of alcohol with the patient and encourage him to cut down or stop drinking. 66
2. I prescribe tranquilizers or sedatives. 67
3. I discuss drinking with the patient's family to get their cooperation. 68
4. I refer to AA or other agency or program. 69
5. I present pamphlets or educational materials. 70
6. I hospitalize for detoxification. 71
7. I prescribe Antabuse. 72
8. I prescribe exercise. 73
9. Other ______________________ 74-75

10. I do not counsel about alcohol. 74

Do you usually accept or keep patients who are alcoholics?

1. Yes 2. No 76

For those patients who drink alcohol to excess, how often do you bring up the subject of their reducing or stopping their drinking?

1. Never 2. Initial visit only 3. Every few years or so 4. About once a year 5. 2 to 3 times a year 6. More than 3 times a year 78
In the last month, when you talked with patients about their alcohol drinking, how much time did you spend, on the average, on the subject per patient? (select one only)

1. I did not discuss the subject.
2. 1 to 2 minutes
3. 2 to 5 minutes
4. 5 to 10 minutes
5. More than 10 minutes

Choose the one response that best describes your style of discussing alcohol with your patients in the last month. (choose one only)

1. I made it a point to discuss alcohol drinking with all my patients and offered all assistance possible.
2. I sometimes discussed alcohol, even when there was no immediate health hazard from drinking, and offered to help any patient.
3. I discussed alcohol when the patient brought up the subject and also if I thought that drinking was immediately harmful to the patient's health, and offered to help the patient.
4. I discussed drinking when the patient brought up the subject and offered to help the patient.
5. I did not discuss alcohol drinking with my patients.

Of your patients who drink alcohol to excess, what percentage in each of the categories listed do you advise to reduce or stop drinking? (check one box in each row)

<table>
<thead>
<tr>
<th>Category</th>
<th>0-25%</th>
<th>26-50%</th>
<th>51-75%</th>
<th>76-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>All patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients with heart disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients with liver disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Choose the one category that best describes your clinical practice. (circle one number only)

1. General practice/Family practice
2. General internal medicine
3. Internal medicine subspecialty (specify)
4. General surgery
5. Surgery subspecialty (specify)
6. Ob-gynecology
7. Other (specify)

If specialized, are you board certified, board eligible, or do you limit your practice?
1. board certified 2. board eligible 3. limit practice

On the average, how many patients do you see per day at the office, in the hospital, and in nursing homes?

<table>
<thead>
<tr>
<th>Setting</th>
<th>Patients/Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>27-29</td>
</tr>
<tr>
<td>Hospital</td>
<td>30-32</td>
</tr>
<tr>
<td>Nursing Home</td>
<td>33-35</td>
</tr>
<tr>
<td>Other (specify)</td>
<td>36-38</td>
</tr>
</tbody>
</table>

What percentage of your patients are male? (circle one)

1. 0-25%
2. 25-50%
3. 51-75%
4. 76-100%
What percentage of your patients are 25 years old or younger.
1. 0-25%
2. 26-50%
3. 51-75%
4. 76-100%

What percentage of your work time is spent in direct patient care?
1. 0-25%
2. 26-50%
3. 51-75%
4. 76-100%

What is your age in years? ________________

What is your current religious affiliation? ________________
(If none, state none)

What is your marital status? (circle all that currently apply)
1. Married
2. Not married, live with significant other
3. Separated
4. Divorced
5. Widowed
6. Never married, single
7. Other ________________
**GENERAL HEALTH**

In general, would you say your health is perfect, excellent, good, fair, or poor? (circle one only)

1. Perfect
2. Excellent
3. Good
4. Fair
5. Poor

**Below are a list of statements about your own health. Please indicate the extent to which you agree with each statement (using the scale below) by checking the box indicating your response for each statement.**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Not Sure</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It seems that my health is greatly influenced by chance.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. I can only maintain my health with the help of others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. If I take the right actions, I can stay healthy.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
HEALTH HABITS

1. Exercise

   In their recreation or leisure activities, some people spend a lot of time in strenuous activity — like jogging, or running, playing hardball or tennis, vigorous swimming, climbing, hiking, or doing heavy work around the house. Other people don’t engage in this kind of strenuous activity at all.

   About how many hours do you spend, in an average week, in strenuous leisure time activities like these? (circle one)

   None, don’t do strenuous activity................1
   1 hour or less..................................................2
   2 to 3 hours a week.................................3
   4 to 5 hours a week........................................4
   6 to 10 hours a week............................5
   More than 10 hours per week......................6  55/
2. Which one of these statements best describes your physical activity, in general? (circle one)

Not very active physically, usually just sitting or walking............1

Fairly active physically, moderate or strenuous activity several times a week........................................2

Quite active physically, at least moderate activity every day...............3

Extremely active physically, strenuous activity most days...............4

54/

3. Do you think you get enough exercise now? (circle one)

1. Yes 2. No 55/

4. Are you currently trying to increase your physical activity?

1. Yes 2. No 56/

5. In the past, have you made a fairly serious attempt to increase your physical activity?

1. Yes 2. No 57/

2. Smoking

1. Do you smoke cigarettes now? (circle one)

Yes.................................................1

No (if no, skip to page 25, item #6)...........2 58/
2. During how many years have you smoked cigarettes regularly? (circle one)

   Less than 2 years......................... 1
   2 - 5 years............................. 2
   6 - 10 years........................... 3
   11 - 15 years......................... 4
   16 - 20 years......................... 5
   21 - 25 years......................... 6
   26 - 30 years......................... 7
   31 - 35 years......................... 8
   36 - 40 years......................... 9
   More than 40 years................... 0

59-60/

3. On the average, about how many packs a day do you smoke now? (circle one)

   1 pack a day or less................... 1
   About 1-1/2 packs a day............... 2
   About 2 packs a day.................. 3
   More than 2 packs a day............ 4

61/

4. Are you currently trying to reduce or stop smoking?

   Yes...................................... 1
   No...................................... 2

62/

5. Have you switched to low tar cigarettes, cigar, or pipe?

   1. Yes
   2. No

63/

[SKIP TO PAGE 26, ITEM #1]
6. Have you ever smoked cigarettes fairly regularly?
   Yes (if yes, continue to item #7)........1
   No (if no, skip to page 26, item #1)......2

7. During how many years did you smoke cigarettes regularly?
   (circle one)
   Less than 2 years......................1
   2 - 5 years..............................2
   6 - 10 years.............................3
   11 - 15 years............................4
   16 - 20 years............................5
   21 - 25 years............................6
   26 - 30 years............................7
   31 - 35 years............................8
   36 - 40 years............................9
   More than 40 years.....................0

8. On the average, about how many packs a day did you used to smoke?
   (circle one)
   1 pack a day or less....................1
   About 1-1/2 packs a day................2
   About 2 packs a day....................3
   More than 2 packs a day................4

64/65-66/67/
5. How long has it been since you smoked cigarettes regularly? 
   (circle one) 
   1. 6 months or less.........................1 
   2. 7 months to 1 year......................2 
   3. More than 1 year to 2 years...........3 
   4. More than 2 years to 5 years..........4 
   5. More than 5 years......................5 

3. Weight

1. How tall are you without shoes?
   _______feet _______ inches 

2. How much do you weigh without heavy clothes?
   _______ pounds 

3. Do you think you weigh too much now?
   1. Yes 
   2. No 

4. Are you currently on a diet to lose weight?
   1. Yes 
   2. No
5. Are you doing any special exercises to lose weight?
   1. Yes
   2. No

6. What is the most you have ever weighed? (Women: do not count times when you were pregnant.)
   __________________ pounds

7. Do you think you weighed too much at that weight?
   1. Yes
   2. No

8. In the past, did you ever make a fairly serious attempt to lose weight?
   1. Yes
   2. No

4. Alcohol

1. When was the last time you had an alcoholic beverage (beer, wine, or liquor) of any kind? (Choose only one)
   1. yesterday
   2. a few days ago
   3. about a week ago
   4. two to three weeks ago
   5. a month ago
   6. 2 to 3 months ago
   7. 4 to 6 months ago
   8. 6 to 9 months ago
   9. a year ago
   10. more than a year ago
   11. never

315
Think of the month preceding the last drink you had. How often did you drink alcoholic beverages (beer, wine, or liquor) of any kind during the month? (circle one)

1. every day  
2. almost every day  
3. 3 or 4 times a week  
4. 1 or 2 times a week  
5. 1, 2, or 3 days a month  
6. not at all  

3. During the same month, when you drank wine, about how much did you usually drink in a day? (circle one)

1. not at all  
2. 1 or 2 4-ounce glasses  
3. 3 or 4 4-ounce glasses  
4. 5 or 6 4-ounce glasses  
5. more than 5 or 6 4-ounce glasses  

4. During the same month, when you drank hard liquor - like whiskey, vodka, gin - about how much did you usually drink in a day? (circle one)

1. not at all  
2. 1 to 3 ounces or shots  
3. 4 to 6 ounces or shots  
4. 7 to 10 ounces or shots  
5. 11 to 15 ounces or shots  
6. about 1 pint  
7. more than 1 pint  

5. Do you think you drink too much now?

1. Yes  
2. No
6. Are you currently doing anything to cut down on your drinking or stop entirely?
   1. Yes                       2. No

7. Have you ever tried to cut down on your drinking or stop entirely, in the past?
   1. Yes                       2. No
Finally, we are interested in how you feel nurses' own habits influence their patients. Below are four clinical situations, and you are asked to indicate how likely the patient is to follow the nurse's advice in each.

1. An overweight patient is told to reduce by his/her nurse, who is overweight. In general, how likely is the patient to follow the advice?

<table>
<thead>
<tr>
<th>Extremely likely</th>
<th>Extremely unlikely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

21/

2. An overweight patient is told to reduce by his/her nurse, who is thin. In general, how likely is the patient to follow the advice?

<table>
<thead>
<tr>
<th>Extremely likely</th>
<th>Extremely unlikely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

22/

3. A patient is told to stop smoking by his/her nurse, who is known to be a smoker. In general, how likely is the patient to follow the advice?

<table>
<thead>
<tr>
<th>Extremely likely</th>
<th>Extremely unlikely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

23/
APPENDIX L

KNOWLEDGE QUESTIONNAIRE (Ockene et al., 1988)
CIGARETTE SMOKING REDUCTION AND CESSATION KNOWLEDGE QUESTIONNAIRE

1. Which of the following types of cancer has the incidence risen most sharply for adult males over the last 50 years? (Check most appropriate response.)
   ___ a. Stomach
   ___ b. Lung
   ___ c. Prostate
   ___ d. Bladder
   ___ e. Esophageal

2. What percentage of the smoking population will try to "kick the habit" each year? (Check one.)
   ___ a. 10%
   ___ b. 25%
   ___ c. 33%
   ___ d. 50%
   ___ e. 75%

3. Which of the following is not a method of facilitating smoking reduction and cessation? (Check one.)
   ___ a. Hypnosis
   ___ b. Acupuncture
   ___ c. Rapid smoking
   ___ d. Diuretics
   ___ e. Electric shock
4. The percentage of smokers who quit smoking and maintain cessation after one year is: (Check one.)

   ___ a. less than 10%
   ___ b. between 10% and 20%
   ___ c. 20%
   ___ d. 40%

5. Relative to non-smokers, how much greater is a smoker's chance of developing lung cancer? (Check one.)

   ___ a. Twice
   ___ b. Three times
   ___ c. Five times
   ___ d. Ten times

6. Which of the following types of cancer has the incidence risen most sharply for adult females over the last twenty years? (Check one.)

   ___ a. Stomach
   ___ b. Breast
   ___ c. Ovarian
   ___ d. Lung
   ___ e. Leukemia

7. Relative to non-smokers, how much greater is a smoker's chance of developing heart disease? (Check one.)

   ___ a. Twice
   ___ b. Three times
   ___ c. Five times
   ___ d. Ten times
8. How many deaths each year from CHD are attributable to cigarette smoking? (Check one.)
   ____ a. 25,000
   ____ b. 100,000
   ____ c. 200,000
   ____ d. Over 200,000

9. Acute responses to cigarette smoking include increases in: (Check one.)
   ____ a. Heart rate
   ____ b. Blood pressure
   ____ c. Coronary artery flow
   ____ d. Cardiac O₂ demand
   ____ e. All of the above

10. How long does it take to flush carbon monoxide and nicotine from a recent ex-smoker’s body? (Check one.)
    ____ a. One week
    ____ b. One month
    ____ c. Three months
    ____ d. One year

11. The number of adult cigarette smokers (17 years and over) in the U.S. in 1980 was about: (Check one.)
    ____ a. 5,000,000
    ____ b. 21,000,000
    ____ c. 35,000,000
    ____ d. Over 50,000,000

12. Approximately what percentage of the adult population smoke cigarettes? (Check one.)
    ____ a. 10%
    ____ b. 20%
    ____ c. 30%
    ____ d. 40%
    ____ e. None of the above
APPENDIX M

PERMISSION FROM SUPERVISOR TO PERFORM CHART AUDIT
Dear Margaret,

This is to inform you that you have been granted permission to review patient charts in this district as a part of your research effort. I understand that you will seek informed consent from the nurses who participate in your study. The nurses will be informed of the pretest, the posttest, the carbon monoxide measurement of their end-expired air and the random selection of nurses to attend the in-service on smoking cessation counseling.

You have also explained to me that you desire to evaluate the charts of the nurses who serve as subjects in your study. You have stated that you do not wish for the nurses involved in the study to know that their documentation is being reviewed as it may cause the nurse to document in a different way than she normally does. I understand that you are planning to use the documentation in the chart to identify the nurse’s assessment of the patient’s smoking status and any smoking cessation interventions used by the nurse. I understand that you will evaluate the nurses’ documentation before and after the in-service and that you will compare the nurses who received the in-service to those who did not. I understand that information on the nurses will be recorded using a number and not the nurse’s name, and that the patient’s name or any other identifying information about the patient will never be recorded.

Sincerely,

Naomi Fehrle
Nursing Coordinator
APPENDIX N

THE OHIO STATE UNIVERSITY BIOMEDICAL SCIENCE
HUMAN SUBJECTS REVIEW COMMITTEE APPLICATION
May 29, 1989

Biomedical Sciences Human Subjects Review Committee
Room 205
Research Center
1314 Kinnear Road
Ohio State University
Columbus, Ohio 43210

Dear Biomedical Sciences Human Subjects Review Committee:

I am a Ph.D. student at Ohio State University and I teach on the faculty at the Medical College of Georgia (MCG) School of Nursing. Therefore, I have to be approved by your committee and by the Internal Review Board for Human Subjects (IRB) at the MCG. Since my protocol is no risk I am requesting a waiver of the written consent form required by your committee. I am seeking written consent from each subject and will use the enclosed form which is the one required by MCG. Due to the location of my research, I have included Dr. George S. Schuster, the chairman of the IRB, as the person to contact on my consent form.

Dr. Moon S. Chen, Jr., my advisor at Ohio State, is named as the principal investigator on forms I have completed for your committee. I am considered the principal investigator by the MCG committee. The committee at MCG is aware that this research is for my dissertation and they are aware that Dr. Chen is my advisor.
Biomedical Sciences Human Subjects Review Committee
May 19, 1989
Page 2

I have included a copy of a brochure giving the details of the Vitalograph carbon monoxide monitor which I plan to use in my research. If you have any questions, please contact Dr. Chen at 614-292-8345, or me at (w)404-542-7053 or (h)404-354-6968.

Sincerely,

[Signature]
Margaret Clark Graham, M.S.N.
Doctoral Candidate

MCG/mcn
Enclosure
THE OHIO STATE UNIVERSITY
BIOMEDICAL SCIENCES
HUMAN SUBJECTS REVIEW COMMITTEE

PRINCIPAL INVESTIGATOR: Moon S. Chen Jr.  
Academic Title: Associate Professor  
College: Education  
Department: Community Health  
Signature

Address:

Co-Investigators: Margaret Clark Graham  
Typed Name

Signature

PROTOCOL TITLE: A Nurse's Educational Program for the Development of Smoking Intervention Skills

DEPARTMENT CHAIRPERSON'S ENDORSEMENT:

Typed Name

Signature

PROPOSES PROJECT INVOLVES:

☐ New Drug (IND.) What is IND Number? ___________ Issued to: ____________________________

☐ Investigational Device. What is IDE Number? ___________ Issued to: ____________________________

☐ Radioactive drugs or Unusual Exposure to External Radiation. Approval by the Medical Radionuclide Committee (Phone 292-0122) is required for final approval by Human Subjects Review Committee. Investigator is responsible for submitting to both committees.

☐ Pregnant Women — Approval by Maternal-Fetal Committee (Phone 293-6736) is required for final approval by Human Subjects Review Committee. Investigator is responsible for submitting to both committees.

THE PROPOSED ACTIVITY WOULD INVOLVE: (Check at least one.)

☐ Minors  ☐ Pregnant Women  ☐ Mentally Retarded
☐ Fetuses  ☐ Prisoners  ☐ Mentally Disabled
☐ Abortuses  ☒ None of These

At least one reviewer of this protocol should be knowledgeable about the following disciplines (fields of science): Health Education or Patient Counseling

HS-029A (3/87) Cover Page
BIOENGINEERING
SUMMARY SHEETS

Use continuation pages when necessary.

1. Abstract

Cigarette smoking is the largest preventable cause of death in the United States. The 1990 Health Objectives for the Nation state the major health promotion objective is to reduce the prevalence of smoking (U.S. Department of Health and Human Services [HHS], 1980). Health care professionals have been identified as being a major resource in obtaining the 1990 objectives (American Cancer Society, 1982). However, a review of the literature shows that there has been limited research in the area of physicians and cessation counseling and even less research in the area of nurses and cessation counseling. (continued on attachment)

2. Describe the requirements for a subject population and explain the rationale for using in this population special groups such as prisoners, children, the mentally disabled or groups whose ability to give voluntary informed consent may be in question.

The population is registered nurses in the northern Georgia health districts 1-6 and District 10. This population was chosen for two reasons. First, it is easy to match the community health nurses to the patients they care for, which will facilitate the chart audit of nurses’ counseling behaviors. Secondly, this population is in the same location as the researcher and has the ability to give voluntary informed consent.

3. Describe and assess any potential risks - physical, psychological, social, legal or other - and assess the likelihood and seriousness of such risks. If methods of research create potential risks, describe other methods, if any, that were considered and why they will not be used.

There are no obvious physical, psychological, social or legal risks identified in the research. It is possible the subject could experience some stress by participating in the pretest and posttest. The subject may also be stressed by having his/her own smoking practices measured by self-report and by a Vitalograph carbon monoxide monitor which produces a read out of carbon monoxide concentration in end-expired air. Exhaling into the Vitalograph carbon monoxide monitor will be similar to blowing out a candle. This procedure will in no way be uncomfortable. A clean mouthpiece will be used on the Vitalograph carbon monoxide monitor with each use.

4. Describe consent procedures to be followed, including how and where informed consent will be obtained.

Each participant will attend a half-day treatment session. Prior to attending, the participant will be informed that they are subjects in a research project. An informed consent will be given to each participant prior to the pretest. In addition to the written statement, verbal information will be given to the group of participants regarding the research design and dissemination of the findings.

EC-029B (Rev. 12/83)
5. Describe procedures (including confidentiality safeguards) for protecting against or minimizing potential risks and an assessment of their likely effectiveness.

The researcher will assign a number to each subject. The same number will be used on the pretest, posttest, smoking verification, and chart audit. The researcher will be the only person with information regarding the subject's name and assigned number. All analysis of the data and communication regarding findings will be performed by using the assigned number. Only group data will be reported. Therefore, the identity of the subjects will be known only by the researcher.

6. Assess the potential benefits to be gained by the individual subject, as well as benefits which may accrue to society in general as a result of the planned work.

Based on a review of the literature, a large percentage of nurses state they know the risks of smoking but do not feel they know how to counsel patients regarding smoking cessation. By participating in the research, the subjects in the treatment group will receive a four hour in-service education on smoking cessation counseling. There is potential for the treatment group to increase knowledge, change attitudes, and practice smoking cessation counseling more frequently. Societal benefit will result if more nurses are capable of practicing cessation counseling which results in a decrease in the individual's smoking habits. After analysis of the data, if there are significant differences, the researcher will repeat the in-service for the control group.

7. Analyze the risk-benefit ratio.

There will be no direct risk to the subjects.

8. Will the subjects for the study be paid for participating in this study? □ No  □ Yes—How much? □

Will they be paid for only certain parts of the study or for participation for the whole study? □

Is there any other inducement? If so, please describe. □ No  □ Yes—Please describe.

Attendance at a half day workshop on smoking cessation counseling which will be conducted during regular work hours.

*When applying for Human Research Approval, please send six (6) copies of the protocol, questionnaire, and consent form. Also, be sure to have the endorsement of the department chairperson on the cover sheet. Materials should be sent to Human Subjects Review Office, Room 205 Research Center, 1314 Kinney Road, Phone 292-9046.

HS-029C (Rev. 3/87)
1. Abstract continued

The research that is available has pointed out that the health care professional feels inadequate when practising cessation counseling (Goldstein, Heller, Fitzgerald, Stegall, & Fischer, 1987; Ockene, Hosmer, & Williams, 1987; Ockene et al., 1988).

If health care professionals are adequately educated in cessation counseling, will this make a difference in their cessation counseling practice? In an attempt to answer this question, the conceptual model used by Lewis, Wells, and Ware (1986) for predicting counseling practices of physicians will be adapted by the researcher for the purpose of predicting counseling practices of nurses.

Hypotheses

Hypothesis 1. Nurses who participate in an in-service education program on smoking cessation will demonstrate a greater increase in knowledge of the influence of cigarette smoking on health than nurses who do not participate in the program.

Hypothesis 2. Nurses who participate in an in-service education program will have a more positive attitude concerning nurse-delivered smoking intervention after participating in the program.

Hypothesis 3. Nurses who participate in an in-service education program on smoking cessation will demonstrate more smoking cessation counseling than nurses who do not participate in the program.

Hypothesis 4. Nurses who smoke will be less motivated to counsel patients about smoking cessation than nurses who do not smoke.

Study Design

A quasi-experimental design with a control and treatment group will be utilized. A thirty minute pre- and posttest measuring attitude, knowledge, and behavior will be administered. The tool was developed from other tools identified in the literature (Goldstein, Heller, Fitzgerald, Stegall, & Fischer, 1987; Lewis, Wells, & Ware, 1986; Ockene et al., 1985; Wells, Ware, & Lewis, 1984). The tool has been modified and will be pilot tested. The treatment, a four hour in-service education, will be administered to one-half of the randomly selected group. The pretest will be administered immediately before the in-service and the posttest will be administered immediately after the in-service. After the posttest, the subjects will be asked to validate their own smoking practices by using a Vitalograph carbon monoxide monitor which measures the carbon monoxide concentration in end-expired air. Exhaling into the Vitalograph carbon monoxide monitor will be similar to blowing out a candle. This procedure will be in no way uncomfortable. A clean mouthpiece will be used on the Vitalograph carbon monoxide monitor for each use. A chart review identifying the control and treatment groups' cessation counseling documentation over a four month period will be conducted. All nurses routinely document nursing care, including counseling, in their patients' chart. By reviewing the nurses' documentation, the researcher will see if the in-service makes any changes in the nurses' counseling practices. Patient charts for two months prior to the testing and two months after the testing will be reviewed.

Human Subjects

The male and female subjects are approximately 30 registered nurses employed in six north Georgia health districts, with age ranging from 22 years to 65 years. Their ethnic background and state of health are unknown. The criteria for inclusion in the study is that the subject must be a currently practicing registered nurse in public health and must consent to being in the study. The nurses were identified by contacting the nursing coordinators in the six north Georgia districts. The study was described in writing to the coordinator (see enclosed letter) and further discussed in a follow-up phone call. The potential benefit to the subjects is the possibility of increasing knowledge and changing their attitudes or behavior in smoking cessation counseling. There is the possibility that some of the subjects may be pregnant. Due to the lack of invasiveness of this study, there is no reason for the researcher to know if a subject is pregnant.
Each study subject will be asked to complete a pretest, posttest, and a validation of smoking behavior through a non-invasive procedure. The randomly selected treatment group will be asked to participate in a four-hour in-service education program on smoking cessation counseling. Each nurse carries a caseload of patients, and documentation of nursing activities including counseling is routinely required in the nurses' notes. A review of the nurses' notes (written by the subject in this study) will be completed without the subject's knowledge in order to avoid the Hawthorne effect (Bracht & Glass, 1988). These chart reviews will identify the frequency that a smoking history was documented and any cessation interventions documented by the nurses will be identified. A comparison of treatment and control groups will be made. A comparison of nurses' notes before and after treatment will also be included. Neither the patient's name nor any other identifying information will be recorded. Consent for chart review has been granted by the participating districts.

The investigator will be the only person with access to individual data. Each subject will be assigned a number and the researcher will analyze data by the assigned number. Only group data will be reported. The researcher will explain the study (one exception being the chart review) to the subjects. Each subject will be asked to complete the informed consent form prior to participating in the research study.

There are no known physical, psychological, social, economical, or legal risks identified with this research and, as explained, the Vitalograph carbon monoxide monitor is a non-invasive and benign procedure. However, some subjects may experience anxiety from being asked to complete the pre- and posttests, although this anxiety is not thought to present a serious problem. In an attempt to minimize the anxiety associated with the pre- and posttest, the researcher will reiterate the fact that individual data will not be reported to their employing agency or in any other reports. Only code numbers will appear on the pretest, posttest, and data from the Vitalograph carbon monoxide monitor.

There is the potential for the treatment group to increase knowledge, change attitudes, and practice smoking cessation counseling more frequently. Societal benefit will result if more nurses are capable of practicing cessation counseling which results in a decrease in the individual's smoking habits. It is thought that the risks to the subjects are reasonable in relation to the anticipated benefits.
BIBLIOGRAPHY FOR HUMAN SUBJECTS REVIEW COMMITTEE


APPENDIX O

MEDICAL COLLEGE OF GEORGIA HUMAN ASSURANCE COMMITTEE REQUEST
I. PROTOCOL INFORMATION:

A. Date: May 29, 1989

B. Title: The Effects of an Educational Program on Nurse Delivered Smoking Intervention

C. Principal Investigator (include Degree): Margaret Clark Graham, RN, MSN, Ph.D., Candidate

   Institution: MCG [X] VA [ ] OTHER [ ] (specify)
   School: School of Nursing
   Dept.: Community Health
   Section: 
   Telephone No.: 404-542-7693

   Co-Investigator: MCG. It is essential that all Co-Investigators be listed with the HAO and that they be kept current. Use continuation pages to list additional Co-Investigators if necessary.

   NAME: 
   INSTITUTION: 
   DEPARTMENT: 

D. Status of Principal Investigator: Faculty: [X] Post-Doctoral: [ ] Graduate: [ ] Undergraduate: [ ]

   Other: [ ] (specify). I am on the faculty at MCG; however, this research is for my dissertation.

E. Faculty Sponsor (for student protocols): Dr. Moon S. Chen, Jr., The Ohio State University

F. Grant Information:

   Supporting Agency: 
   Grant or Contract No.: 

   If subcontract, or if MCG or VA is collaborating institution, give primary institution of principal investigator: 

   HAS THIS BEEN SUBMITTED PREVIOUSLY:

   1) under a different title? Yes [ ] No [X] (If Yes, give title): 

   2) with a different PI? Yes [ ] No [X] (If Yes give investigator): 

The Principal Investigator and, where applicable, the Faculty Sponsor hereby assures the Committee that all procedures performed under the protocol will be conducted by individuals legally and responsibly entitled to do so, and that any deviation from the protocol (change in recruitment procedures, drug dosage, etc.) will be submitted to the HAC for approval prior to its implementation. Protocols will not be accepted without all appropriate signatures.

April 21, 1989
DATE ____________ PRINCIPAL INVESTIGATOR DATE ____________ FACULTY SPONSOR

DATE ____________ CO-INVESTIGATOR DATE ____________ CO-INVESTIGATOR OR CO-SPONSOR

Approval (indicated by signature) is required from the Chairman of each department involved in the research project.

DATE ____________ DEPARTMENT CHAIRMAN DEPARTMENT

DATE ____________ DEPARTMENT CHAIRMAN DEPARTMENT

DATE ____________ V.A. SERVICE CHIEF SERVICE
II. DESCRIPTION OF RESEARCH PROPOSAL

The Effects of an Educational Program on Nurse-Delivered Smoking Interventions
Margaret Clark Graham, R.N., M.S.N.
Doctoral Candidate

A. PURPOSE

Cigarette smoking is the largest preventable cause of death in the United States. In the 1990 Health Objectives for the nation, the major health promotion objective is to reduce the prevalence of smoking (U.S. Department of Health and Human Services [HHS], 1980). Health care professionals have been identified as being a major resource in obtaining the 1990 objectives (American Cancer Society, 1982). However, a review of the literature shows that there has been limited research in the area of physicians and cessation counseling and even less research in the area of nurses and cessation counseling. The research that is available has pointed out that the health care professional feels inadequate when practicing cessation counseling (Goldstein, Helfer, Fitzgerald, Stegal, & Fischer, 1987; Ockene, Hosmer, & Williams, 1987; Ockene et al., 1988).

If health care professionals are adequately educated in cessation counseling, will this make a difference in their cessation counseling practice? In an attempt to answer this question, the conceptual model used by Lewis, Wells, and Ware (1986) for predicting the counseling practices of physicians will
be adapted by this researcher for the purpose of predicting
counseling practices of nurses.

B. SPECIFIC AIMS

Hypothesis 1. Nurses who participate in an in-service
education program on smoking cessation will demonstrate a
greater increase in knowledge of the influence of cigarette
smoking on health than nurses who do not participate in the
program.

Hypothesis 2. Nurses who participate in an in-service
education program will have a more positive attitude concerning
nurse-delivered smoking intervention after participating in the
program.

Hypothesis 3. Nurses who participate in an in-service
education program on smoking cessation will demonstrate more
smoking cessation counseling than nurses who do not participate
in the program.

Hypothesis 4. Nurses who smoke will be less motivated to
counsel patients about smoking cessation than nurses who do not
smoke.

C. STUDY DESIGN

A quasi-experimental design with a control and treatment
group will be utilized. A thirty minute pre- and posttest
measuring attitude, knowledge, and behavior will be
administered. The tool was developed from other tools identified
in the literature (Goldstein, Hellier, Fitzgerald, Stegall, &
Fischer, 1987; Lewis, Wells, & Ware, 1986; Ockene, et al., 1988;
Wells, Ware, & Lewis, 1984). The tool has been modified and will be pilot tested. The treatment, a four hour in-service education, will be administered to one-half of the randomly selected group. The pretest will be administered immediately before the in-service and the posttest will be administered immediately after the in-service. After the pretest, the subjects will be asked to validate their own smoking practices by using a Vitalograph carbon monoxide monitor which measures the carbon monoxide concentration in end-expired air. Exhaling into the Vitalograph carbon monoxide monitor will be similar to blowing out a candle. This procedure will be in no way uncomfortable. A clean mouthpiece will be used on the Vitalograph carbon monoxide monitor with each use. A chart review identifying the control and treatment groups' cessation counseling documentation over a four month period will be conducted. All nurses routinely document nursing care, including counseling, in their patients' chart. By reviewing the nurses' documentation, the researcher will see if the in-service makes any changes in the nurses' counseling practices. Patients' charts for two months prior to the testing and two months after the testing will be reviewed.

**HUMAN SUBJECTS**

The male and female subjects are approximately 90 registered nurses employed in six north Georgia health districts, with age ranging from 22 years to 65 years. Their ethnic background and state of health are unknown. The criteria for inclusion in the study is that the subject must be a currently
practicing registered nurse in public health and must consent to
being in the study. The nurses were identified by contacting the
nursing coordinators in the six north Georgia districts. The study
was described in writing to the coordinator (see enclosed letter)
and further discussed in a follow-up phone call. The potential
benefit to the subjects is the possibility of increasing knowledge
and changing their attitudes or behavior in smoking cessation
counseling. There is the possibility that some of the subjects
may be pregnant. Due to the lack of invasiveness of this study,
there is no reason for the researcher to know if a subject is
pregnant.

Each study subject will be asked to complete a pretest,
posttest, and a validation of smoking behavior through a
noninvasive procedure. The randomly selected treatment group
will be asked to participate in a four hour in-service education
program on smoking cessation counseling. Each nurse carries a
caseload of patients, and documentation of nursing activities
including counseling is routinely required in the nurses' notes. A
review of the nurses' notes (written by the subject in this study)
will be completed without the subject's knowledge in order to
avoid the Hawthorne effect (Bracht & Glass, 1968). These chart
reviews will identify the frequency that a smoking history was
documented and any cessation interventions documented by the
nurses will be identified. A comparison of treatment and control
groups will be made. A comparison of nurses' notes before and
after treatment will also be included. Neither the patient's name
nor any other identifying information will be recorded. Consent for chart review has been granted by the participating districts. Letters from the districts will be forthcoming.

The investigator will be the only person with access to individual data. Each subject will be assigned a number and the researcher will analyze data by the assigned number. Only group data will be reported. The researcher will explain the study (one exception being the chart review) to the subjects. Each subject will be asked to complete the informed consent form prior to participating in the research study.

There are no known physical, psychological, social, economical, or legal risks identified with this research and, as explained, the Vitalograph carbon monoxide monitor is a noninvasive and benign procedure. However, some subjects may experience anxiety from being asked to complete the pre- and posttest, although test anxiety is not thought to present a serious problem. In an attempt to minimize the anxiety associated with the pre- and posttest, the researcher will reiterate the fact that individual data will not be reported to their employing agency or in any other reports. Only code numbers will appear on the pretest, posttest, and data from the Vitalograph carbon monoxide monitor.

There is the potential for the treatment group to increase knowledge, change attitudes, and practice smoking cessation counseling more frequently. Societal benefit will result if more
nurses are capable of practicing cessation counseling which results in a decrease in the individual's smoking habits.

It is thought that the risks to the subjects are reasonable in relation to the anticipated benefits.
BIBLIOGRAPHY FOR HUMAN ASSURANCE COMMITTEE


APPENDIX P

THE OHIO STATE UNIVERSITY BIOMEDICAL SCIENCE HUMAN SUBJECTS REVIEW COMMITTEE APPROVAL
ACTION OF THE REVIEW COMMITTEE

With regard to the employment of human subjects in the proposed research:

89H0216  A NURSE'S EDUCATIONAL PROGRAM FOR THE DEVELOPMENT OF SMOKING INTERVENTION SKILLS, Moon S. Chen, Jr., Margaret Clark Graham, Health, Physical Education and Recreation

THE BIOMEDICAL SCIENCES REVIEW COMMITTEE HAS TAKEN THE FOLLOWING ACTION:

  X  APPROVED
  ___  DISAPPROVED
  ___  APPROVED WITH STIPULATIONS*
  ___  WAIVER OF WRITTEN CONSENT GRANTED

*Stipulations stated by the Committee have been met by the investigator and, therefore, the protocol is APPROVED.

It is the responsibility of the principal investigator to retain a copy of each signed consent form for at least four (4) years beyond the termination of the subject's participation in the proposed activity. Should the principal investigator leave the University, signed consent forms are to be transferred to the Human Subjects Review Committee for the required retention period. This application has been approved for the period of one year. You are reminded that you must promptly report any problems to the Review Committee, and that no procedural changes may be made without prior review and approval. You are also reminded that the identity of the research participants must be kept confidential.

Date: July 24, 1989  
Signed: ____________________________
Chairperson
BIOMEDICAL SCIENCES
HUMAN SUBJECTS REVIEW COMMITTEE
THE OHIO STATE UNIVERSITY

Meeting Date: July 24, 1989

(Expedited)

RESEARCH PROTOCOL:

89H0716  A NURSE'S EDUCATIONAL PROGRAM FOR THE DEVELOPMENT OF SMOKING INTERVENTION SKILLS, Hoan S. Chen, Jr., Margaret Clark Graham, Health, Physical Education and Recreation

presented for review by the Biomedical Sciences, Human Subjects Review Committee to ensure the proper protection of rights and welfare of the individuals involved with consideration of the methods used to obtain informed consent and the justification of risks in terms of potential benefits to be gained. The Committee action was:

Protocol was unanimously APPROVED.

COMMENT: The consent form from the Medical College of Georgia is the appropriate document for obtaining written consent.
APPENDIX Q

MEDICAL COLLEGE OF GEORGIA HUMAN ASSURANCE COMMITTEE APPROVAL
June 12, 1989

Margaret Clark Graham, M.S.W.
260 Hunsfod Drive
Athens, GA 30606

RE: THE EFFECTS OF AN EDUCATIONAL PROGRAM ON NURSE DELIVERED SMOKING INTERVENTION

APPROVAL DATE: June 12, 1989

FILE NUMBER: 89-6-285

Dear Ms. Graham:

The HUMAN ASSURANCE COMMITTEE has reviewed and approved the above referenced project by expedited procedure in accordance with the DHHS policy and the institutional assurance on file with the DHHS.

The Committee would like to call your attention to the following obligations as Principal Investigator of this study. Under the terms of our approved Institutional Assurance to the Department of Health and Human Services, you must provide us with a progress report at the termination of the study, or at the annual anniversary date of this approval, whichever comes first. If the study will be continued beyond the initial year, an annual review by the HUMAN ASSURANCE COMMITTEE is required, with a progress report constituting an important part of the review. The Committee will notify you of the anniversary report by sending you an HAC-107 form for completion.

It is also requested that you send copies of your permission letters to the Committee as soon as they are received.

Sincerely yours,

[Signature]

George S. Schuster, D.D.S., Ph.D.
Chairman
HUMAN ASSURANCE COMMITTEE
The Effects of an Educational Program on Nurse-Delivered Smoking Intervention

Principal Investigator: Margaret Clark Graham, R.N., M.S.N
Doctoral Candidate

I have been invited to participate in a research study which investigates the smoking cessation counseling practices of nurses. I understand that I have been asked to participate because I am a registered nurse practicing in a public health setting. I am one of approximately 90 subjects who have been invited to participate in this study.

This study is designed to measure the nurse's knowledge of the effects of cigarette smoking on health, the nurse's attitude concerning nurse delivered smoking intervention, the nurse's counseling behavior, and the nurse's health habits related to cigarette smoking.

I will be asked to complete a pretest and posttest which will take approximately 30 minutes each to complete. Only a code number, not my name, will be used as identification on the forms. After I complete the pretest I will be asked to validate my own smoking behavior by exhaling into a Vitalograph carbon monoxide monitor which measures the carbon monoxide concentration in end-expired air. Exhaling into the Vitalograph carbon monoxide monitor will be similar to blowing out a candle. This procedure will be in no way uncomfortable. A clean mouthpiece will be used on the Vitalograph carbon monoxide monitor with each use.
I understand that approximately half of the 90 subjects will be randomly (like by the flip of a coin) chosen to attend a half-day in-service workshop on smoking cessation counseling. Thus, it may happen that I may not be chosen to attend the workshop. I further understand that the results of my tests will never be shared or reported on an individual basis, but that the results of the entire group will be reported.

The study will be conducted during my regular work hours and I understand that I will not be paid anything other than my regular salary for my participation in this study and that I will not have to pay for the tests and the workshop. With the exception of some possible anxiety from test taking, I understand that there are no identified risks in the study. Potential benefits of the study include the possibility of increasing my knowledge and changing my attitudes or behaviors in smoking cessation counseling. I understand that Margaret Clark Graham, M.S.N., can be reached at (h)404-354-6968 or (w)404-542-7053, and will answer any further questions I may have about the study. I understand that the research has been approved by the Medical College of Georgia Human Assurance Committee and the Ohio State University Biomedical Sciences Human Subjects Review Committee. I may contact Dr. George S. Schuster at 404-721-2131 if I have concerns about my rights as a research subject.
My participation in this study is voluntary. I understand, however, that I may revoke my consent and withdraw from the study at any time without penalty. The risks and benefits to me if I decide to participate in this study have been explained. I have had the opportunity to ask questions and these have been answered to my satisfaction.

__________________________  _______________________
Subject                                      Date

__________________________  _______________________
Witness                                     Date

Margaret Clark Graham, M.S.N.
Principal Investigator
APPENDIX R

PILOT TEST
Dear Registered Nurse in Mount Rogers Health District:

I am a graduate student at Ohio State University. As part of the requirements for the completion of my degree, I must complete a research project. My research interests are in the area of prevention. I think that nurses can have a large impact on their patients' health practices. The literature suggests that many nurses and physicians do not participate in health counseling for many reasons. I am trying to identify some of these reasons.

My research calls for the use of a pretest and posttest. I am conducting the research using public health nurses and nurse practitioners in the state of Georgia. Prior to conducting my research I need to explore any potential problems in my pretest. I have asked Ms. Proffitt and Dr. Smith if I could use you as subjects for my pilot test. I chose the Mount Rogers Health District because it is not in Georgia, but more importantly because my sister, Catherine Tilson, works in this district.

Participating in the pilot test is totally voluntary, however, I hope you will agree as I need as many responses as possible. The test is anonymous. You are asked to complete the test and then place it in the envelope that Catherine has and it will be mailed back to me. Neither Catherine nor anyone else in your health district will look at the test. For most of the questions, there are no right or wrong answers. In reporting the results of the pilot test, the Mount Rogers District will never be identified. The data will be reported as group data from a health district in Virginia. If you have any questions regarding your completion of this test, please call me collect at home (404-354-6946).

Thank you for your participation in this research project.

Sincerely,

Margaret Clark Graham
PRETEST/POSTTEST

NUMBERS 1 - 24 ARE A SERIES OF STATEMENTS THAT DEAL WITH ASPECTS OF HEALTH AND SMOKING. PLEASE INDICATE THE EXTENT TO WHICH YOU AGREE OR DISAGREE WITH EACH STATEMENT BY CIRCLING ONE NUMBER CORRESPONDING TO THE SCALE FOR EACH STATEMENT.

STRONGLY AGREE = 1
AGREE = 2
NOT SURE = 3
DISAGREE = 4
STRONGLY DISAGREE = 5

1. For most patients, once a smoker always a smoker.
   1  2  3  4  5

2. Nurses meddle too much in their patients' lives by telling them to stop smoking.
   1  2  3  4  5

3. In general, nurses know exactly how to elicit personal information from patients.
   1  2  3  4  5

4. Stopping smoking does NOT really prevent heart disease in the long run.
   1  2  3  4  5

5. I am quite effective in getting patients to stop smoking.
   1  2  3  4  5

6. Talking with patients about their personal lives is really enjoyable.
   1  2  3  4  5

7. Counseling patients about smoking is difficult to do well.
   1  2  3  4  5
STRONGLY AGREE = 1
AGREE = 2
NOT SURE = 3
DISAGREE = 4
STRONGLY DISAGREE = 5

8. Most nurses are completely confident of their ability to help patients change their smoking habit.
1 2 3 4 5

9. Many nurses are just NOT interested in the smoking habits of their patients.
1 2 3 4 5

10. Most nurses feel helpless when it comes to changing patients' smoking habits.
1 2 3 4 5

11. I usually know how to obtain personal information from patients.
1 2 3 4 5

12. Counseling patients about smoking is NOT all that important, compared to most other aspects of nursing practice.
1 2 3 4 5

13. Most nurses are not effective at helping patients stop smoking.
1 2 3 4 5

14. Counseling about smoking is a thankless and ungratifying job.
1 2 3 4 5

15. Cigarette smoking is extremely dangerous to one's health.
1 2 3 4 5

16. Counseling patients about smoking is time-consuming.
1 2 3 4 5

17. Nurses should feel no obligation to avoid smoking themselves.
1 2 3 4 5
STRONGLY AGREE = 1
AGREE = 2
NOT SURE = 3
DISAGREE = 4
STRONGLY DISAGREE = 5

18. Nurses know exactly how to use information about patients' smoking to help them stop smoking.
   1  2  3  4  5

19. For some patients, reducing a smoking habit has significant harmful consequences.
   1  2  3  4  5

20. Nurses ought to take a more aggressive approach to get patients to stop smoking.
    1  2  3  4  5

21. When most patients stop smoking, their health greatly improves in the long run.
    1  2  3  4  5

22. Most nurses do not know what information to obtain from patients to help the patient stop smoking.
    1  2  3  4  5

23. Nurses have no obligation to convince patients to stop smoking.
    1  2  3  4  5

24. I feel an obligation as a nurse to not smoke myself.
    1  2  3  4  5

PLEASE ANSWER THE FOLLOWING QUESTIONS BY CIRCLING THE NUMBER INDICATING YOUR RESPONSE.

25. In general, how effective do you feel nurses are in getting patients to stop smoking?

Extremely effective                     Not at all effective
1   2   3   4   5   6   7
26. When a patient reduces his/her smoking, how likely is he/she to experience harmful consequences?

<table>
<thead>
<tr>
<th>Very likely</th>
<th>Not at all likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

27. How much do you feel nurses have the right to tell patients to change their personal habits, such as smoking?

<table>
<thead>
<tr>
<th>Entirely within their rights</th>
<th>Not at all within their rights</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
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<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

28. A patient who has smoked 1 pack/day for 20 years stops smoking. How much less likely do you believe he/she is to acquire heart disease in the long run than had he/she continued to smoke?

<table>
<thead>
<tr>
<th>Just as likely to acquire heart disease</th>
<th>Much less likely to acquire heart disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

29. How much risk to the future health of your patients do you believe is associated with smoking 1 pack/day for 20 years?

<table>
<thead>
<tr>
<th>Severe risk</th>
<th>No risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

30. How likely is it that a patient who smokes can stop smoking, by any means?

<table>
<thead>
<tr>
<th>Extremely likely</th>
<th>Extremely unlikely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
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<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

31. When a patient who has smoked 1 pack/day for 20 years stops smoking, how much do you think the patient's future health will be benefited?

<table>
<thead>
<tr>
<th>Great benefit</th>
<th>No benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
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<tr>
<td>3</td>
<td>4</td>
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<tr>
<td>5</td>
<td>6</td>
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</table>
THE FOLLOWING ARE FOUR DIMENSIONS OF ATTITUDES TOWARD COUNSELING PATIENTS ABOUT SMOKING. FOR EACH DIMENSION, CIRCLE ONE NUMBER THAT INDICATES YOUR FEELING CONCERNING COUNSELING PATIENTS ABOUT SMOKING.

<table>
<thead>
<tr>
<th></th>
<th>Important</th>
<th></th>
<th>Not Important</th>
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<tbody>
<tr>
<td>1</td>
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<tr>
<th></th>
<th>Difficult</th>
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<th>Easy</th>
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<tr>
<th></th>
<th>Enjoyable</th>
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<th>Unenjoyable</th>
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<tr>
<th></th>
<th>Time-consuming</th>
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<th>Not at all time-consuming</th>
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<tr>
<td>1</td>
<td>2</td>
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THE FOLLOWING ARE THREE DIMENSIONS OF FEELINGS THAT NURSES MAY HAVE WHEN COUNSELING PATIENTS ABOUT HABITS LIKE SMOKING. FOR EACH DIMENSION, CIRCLE ONE NUMBER THAT INDICATES WHAT YOU THINK MOST NURSES FEEL.

<table>
<thead>
<tr>
<th></th>
<th>Confident</th>
<th></th>
<th>Uncertain</th>
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<th>Effective</th>
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<th>Ineffective</th>
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<tr>
<th></th>
<th>Knowledgeable</th>
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<th>Unknowledgeable</th>
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I AM INTERESTED IN HOW YOU FEEL NURSES' OWN HABITS INFLUENCE THEIR PATIENTS. BELOW ARE FOUR CLINICAL SITUATIONS, AND YOU ARE ASKED TO INDICATE HOW LIKELY THE PATIENT IS TO FOLLOW THE NURSE'S ADVICE IN EACH.

39. An overweight patient is told to reduce by his/her nurse, who is overweight. In general, how likely is the patient to follow the advice?

| Extremely likely |     |
|------------------|--|--|
| 1                | 2  | 3  | 4  | 5  | 6  | 7  |

40. An overweight patient is told to reduce by his/her nurse, who is thin. In general, how likely is the patient to follow the advice?

| Extremely likely |     |
|------------------|--|--|
| 1                | 2  | 3  | 4  | 5  | 6  | 7  |

41. A patient is told to stop smoking by his/her nurse, who is known to be a smoker. In general, how likely is the patient to follow the advice?

| Extremely likely |     |
|------------------|--|--|
| 1                | 2  | 3  | 4  | 5  | 6  | 7  |

42. A patient is told to stop smoking by his/her nurse, who is a nonsmoker. In general, how likely is the patient to follow the advice?

| Extremely likely |     |
|------------------|--|--|
| 1                | 2  | 3  | 4  | 5  | 6  | 7  |
GENERAL KNOWLEDGE

CHOOSE THE ONE BEST ANSWER FOR EACH OF THE FOLLOWING QUESTIONS

43. The Freedom From Smoking cessation program is sponsored by the:
   a. American Lung Association
   b. American Cancer Society
   c. National Institute of Health
   d. National Cancer Institute

44. Research on smoking cessation has led to the following conclusion:
   a. When attempting cessation, it is best to gradually reduce the number of cigarettes smoked in order to decrease withdrawal syndrome.
   b. When attempting cessation, people who quit "cold turkey" are the most successful.
   c. The best form of cessation depends on the amount and duration of smoking.
   d. There has not been sufficient research to draw any conclusions.

45. Research has shown that validation of smoking behavior following cessation interventions is most acceptable in which of the following time periods:
   a. 3 months
   b. 6 months
   c. 1 year
   d. 2 years

46. Research has shown cause for relapses include:
   a. social pressures
   b. coping with negative emotional states
   c. coping with interpersonal conflict
   d. all of the above
47. The primary setting for smoking relapse was:
   a. in the home
   b. at work
   c. in restaurants
   d. at parties

48. The fastest growing population of cigarette smokers is:
   a. Men under 35 years of age
   b. Men over 35 years of age
   c. Women under 35 years of age
   d. Women over 35 years of age

49. Which of the following types of cancer has the incidence risen most sharply over the last 50 years for adult males?
   a. Stomach
   b. Lung
   c. Prostate
   d. Bladder
   e. Esophageal

50. What percentage of the smoking population will try to "kick the habit" each year?
   a. 10%
   b. 25%
   c. 33%
   d. 50%
   e. 75%

51. Which of the following is not a method of facilitating smoking reduction and cessation?
   a. Hypnosis
   b. Acupuncture
   c. Rapid smoking
   d. Diuretics
   e. Electric shock
52. The percentage of smokers who quit smoking and maintain cessation after one year is:
   a. less than 10%
   b. between 10% and 20%
   c. 20%
   d. 40%

53. Relative to non-smokers, how much greater is a smoker's chance of developing lung cancer?
   a. Twice
   b. Three times
   c. Five times
   d. Ten times

54. Which of the following types of cancer has the incidence risen most sharply over the last twenty years for adult females?
   a. Stomach
   b. Breast
   c. Ovarian
   d. Lung
   e. Leukemia

55. Relative to non-smokers, how much greater is a smoker's chance of developing heart disease?
   a. Twice
   b. Three times
   c. Five times
   d. Ten times

56. How many deaths each year from Coronary Heart Disease are attributable to cigarette smoking?
   a. 25,000
   b. 100,000
   c. 200,000
   d. Over 200,000
57. Acute responses to cigarette smoking include increases in:
   a. Heart rate
   b. Blood pressure
   c. Coronary artery flow
   d. Cardiac oxygen demand
   e. All of the above

58. How long does it take to flush carbon monoxide and nicotine from a smoker's body once the smoker has quit smoking?
   a. One week
   b. One month
   c. Three months
   d. One year

59. The number of adult cigarette smokers (17 years and over) in the U.S. in 1980 was about:
   a. 5 million
   b. 21 million
   c. 35 million
   d. Over 50 million

60. Approximately what percentage of the U.S. adult population smoke cigarettes?
   a. 10%
   b. 20%
   c. 30%
   d. 40%
   e. None of the above

61. Aversive measures for smoking cessation include all of the following except:
   a. acupuncture
   b. electric shock
   c. breath holding
   d. rapid smoking
62. Smoking is known to cause all of the following except:
   a. altered sperm production and motility
   b. increased testosterone levels
   c. irregular menses
   d. increased risk of infertility in both sexes

   NEXT IS A SECTION ON HOW YOU COUNSEL PATIENTS ABOUT HEALTH HABITS

   SMOKING

63. When you "counsel" about smoking what do you do? (circle all that apply)
   a. I encourage non-smokers to avoid smoking.
   b. I discuss risks of smoking with smokers and attempt to persuade them to stop.
   c. I recommend alternative habits, such as exercise.
   d. I discuss smoking with the patient's family to get their cooperation.
   e. I present pamphlets or educational materials to smokers.
   f. I refer patients to anti-smoking agencies.
   g. Other health professionals (i.e., health educator) counsels the patients about smoking.
   h. I suggest specific steps to take in reducing or stopping smoking.
   i. I explore the patient's feelings about smoking.
   j. I encourage the patient to change to a low tar cigarette, cigar or pipe.
   k. I do not counsel about smoking.
   l. Other______________________________
64. For those patients who smoke, how often do you bring up the subject of stopping or reducing their smoking, on the average? (Circle one only)

a. Never
b. Initial visit only
c. Every few years or so
d. About once a year
e. 2 to 3 times a year
f. More than 3 times a year

65. In the last month, when you talked with patients about smoking, how much time did you spend, on the average, on the subject per patient? (Circle one only)

a. I did not discuss the subject.
b. 1 to 2 minutes
c. 2 to 5 minutes
d. 5 to 10 minutes
e. More than 10 minutes

66. Choose the one response that best describes your style of discussing smoking with your patients in the last month. (Circle one only)

a. I made it a point to discuss smoking with all my patients and offered all assistance possible.
b. I sometimes discussed smoking, even when there was no immediate health hazard, and I offered to help any patient.
c. I discussed smoking when the patient brought up the subject and when I thought smoking was immediately harmful to the patient's health, and I offered to help the patient.
d. I discussed smoking when the patient brought up the subject, and I offered to help the patient.
e. I did not discuss smoking with my patients.
67. Of your patients who smoke, what percentage in each of the categories listed do you counsel to reduce or stop smoking? (check one box in each row)

<table>
<thead>
<tr>
<th></th>
<th>0-25%</th>
<th>26-50%</th>
<th>51-75%</th>
<th>76-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>All smokers</td>
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<tr>
<td>Smokers with heart disease</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Smokers with chronic lung disease</td>
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</tbody>
</table>

WEIGHT

68. When you "counsel" about weight, what do you do? (circle all that apply)

a. I discuss weight and diet with patients, impress them with the hazard of overweight, encourage them to reduce.
b. I obtain frequent weights from my patients.
c. I discuss weight and diet with the patient's family members to get their cooperation.
d. I recommend that the patient ask the physician to prescribe diet pills or other medication.
e. I prescribe a specific reducing plan.
f. I present pamphlets or educational materials on weight and diet.
g. I refer to a weight control agency or program.
h. I prescribe exercises.
i. I explore the patient's feelings about his weight.
j. I do not counsel about weight.
k. Other ________________________________
69. For those patients who are overweight, how often do you bring up the subject of their losing weight, on the average? (circle one only)
   a. Never
   b. Initial visit only
   c. Every few years or so
   d. About once a year
   e. 2 to 3 times a year
   f. More than 3 times a year

70. In the last month, when you talked with patients about their weight, how much time, on the average, did you spend on the subject per patient? (circle one only)
   a. I did not discuss the subject.
   b. 1 to 2 minutes
   c. 2 to 5 minutes
   d. 5 to 10 minutes
   e. More than 10 minutes

71. Choose the one response that best describes your style of discussing weight and diet with your patients in the last month. (circle one only)
   a. I made it a point to discuss weight and dieting with all my overweight patients and offered all assistance possible.
   b. I sometimes discussed weight and dieting, even when there was no immediate health hazard from being overweight, and offered to help any patient.
   c. I discussed weight and dieting when the patient brought up the subject and when there was any immediate health threat from being overweight, and offered to help the patient.
   d. I discussed weight and dieting when the patient brought up the subject and offered to help the patient.
   e. I did not discuss weight and dieting with my patients.
72. Of your patients who are overweight, what percentage in each of the categories listed do you counsel to lose weight? (check one box in each row)

<table>
<thead>
<tr>
<th></th>
<th>0-25%</th>
<th>26-50%</th>
<th>51-75%</th>
<th>76-100%</th>
</tr>
</thead>
</table>

All patients

Patients with heart disease

Patients with diabetes

**EXERCISE**

73. When you counsel about exercise, such as jogging, what do you do? (circle all that apply)

- a. I discuss exercise with patients, emphasizing health benefits and attempt to persuade them to exercise.
- b. I discuss exercise with the patient’s family to get their cooperation.
- c. I present pamphlets or educational materials on exercise.
- d. I suggest specific exercise regimens.
- e. I refer to exercise or athletic clubs.
- f. Other health professionals (i.e., health educator) do the counseling.
- g. I explore the patient’s feeling about exercise.
- h. I do not counsel about exercise.
- i. Other _____________________________

74. For those patients who have poor exercise habits how often do you bring up the subject of increasing their exercise, on the average? (circle one only)

- a. Never
- b. Initial visit only
- c. Every few years or so
- d. About once a year
- e. 2 or 3 times a year
- f. More than 3 times a year
75. In the last month, when you talked with patients about *exercise*, how much time did you spend, on the average, on the subject per patient? (circle one only)

a. I did not discuss the subject.
b. 1 to 2 minutes
c. 2 to 5 minutes
d. 5 to 10 minutes
e. More than 10 minutes

76. Choose the one response that best describes your style of discussing *exercise* with your patients in the last month. (circle one only)

a. I made it a point to discuss regular exercise with *all* my patients and offered all assistance possible.
b. I *sometimes* discussed regular exercise, even when there was no immediate health threat that could be helped by regular exercise, and offered to help any patient.
c. I discussed the subject of regular exercise when the patient brought up the subject and when there was any immediate health threat that could be helped by exercise, and offered to help the patient.
d. I discussed regular exercise when the patient brought up the subject, and offered to help the patient.
e. I did not discuss regular exercise with my patients.

77. Of your patients who have poor exercise habits, what percentage in each of the categories listed do you counsel to increase their exercise? (check one box in each row)

<table>
<thead>
<tr>
<th>Percentage</th>
<th>0-25%</th>
<th>26-50%</th>
<th>51-75%</th>
<th>76-100%</th>
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<tbody>
<tr>
<td>All patients</td>
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<tr>
<td>Patients with heart disease</td>
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<tr>
<td>Patients with chronic lung disease</td>
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</table>
78. When you "counsel" about alcohol, what do you do? (circle all that apply)
   a. I discuss the health hazards of alcohol with the patient and encourage him/her to cut down or stop drinking.
   b. I recommend that the patient ask the physician to prescribe tranquilizers or sedatives.
   c. I discuss drinking with the patient's family to get their cooperation.
   d. I refer the patient to AA or other agency or program
   e. I present pamphlets or educational materials.
   f. I prescribe exercise.
   g. I do not counsel about alcohol.
   h. Other ____________________________________________

79. Do you usually accept or keep patients who are alcoholics?
   a. Yes   b. No

80. For those patients who drink alcohol to excess, how often do you bring up the subject of their reducing or stopping their drinking?
   a. Never
   b. Initial visit only
   c. Every few years or so
   d. About once a year
   e. 2 to 3 times a year
   f. More than 3 times a year
81. In the last month, when you talked with patients about their alcohol drinking, how much time did you spend, on the average, on the subject per patient? (circle one only)

a. I did not discuss the subject
b. 1 to 2 minutes
c. 2 to 5 minutes
d. 5 to 10 minutes
e. More than 10 minutes

82. Choose the one response that best describes your style of discussing alcohol with your patients in the last month. (choose one only)

a. I made it a point to discuss alcohol drinking with all my patients and offered all assistance possible.
b. I sometimes discussed alcohol, even when there was no immediate health hazard from drinking, and offered to help any patient.
c. I discussed alcohol when the patient brought up the subject and also if I thought drinking was immediately harmful to the patient’s health, and offered to help any patient.
d. I discussed drinking when the patient brought up the subject and offered to help the patient.
e. I did not discuss alcohol drinking with my patients.

83. Of your patients who drink alcohol to excess, what percentage in each of the categories listed do you advise to reduce or stop drinking? (check one box in each row)

<table>
<thead>
<tr>
<th>Percentage</th>
<th>0-25%</th>
<th>26-50%</th>
<th>51-75%</th>
<th>76-100%</th>
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</table>

All patients

Patients with heart disease

Patients with liver disease
THIS SECTION OF THE QUESTIONNAIRE CONCERNS YOUR OWN HEALTH AND HEALTH HABITS

GENERAL HEALTH

84. In general, how would you describe your health? (circle one only)
   a. Perfect
   b. Excellent
   c. Good
   d. Fair
   e. Poor

BELOW ARE A LIST OF STATEMENTS ABOUT YOUR OWN HEALTH. PLEASE INDICATE THE EXTENT TO WHICH YOU AGREE WITH EACH STATEMENT (USING THE SCALE BELOW) BY CHECKING THE BOX INDICATING YOUR RESPONSE FOR EACH STATEMENT.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Not Sure</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
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</thead>
<tbody>
<tr>
<td>85. It seems that my health is greatly influenced by chance.</td>
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<tr>
<td>86. I can only maintain my health with the help of others.</td>
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<tr>
<td>87. If I take the right actions, I can stay healthy.</td>
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<tr>
<td>88. Other people play a big part in whether I stay healthy or become sick.</td>
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<tr>
<td>89. When I stay healthy, I'm plain lucky.</td>
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<tr>
<td>90. The main thing which affects my health is what I myself do.</td>
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</table>
HEALTH HABITS
CHOOSE ONE ANSWER FOR EACH OF THE FOLLOWING STATEMENTS OR QUESTIONS.

91. In their recreation or leisure activities, some people spend a lot of time in strenuous activity - like jogging, or running, playing handball or tennis, vigorous swimming, climbing, hiking, or doing heavy work around the house. Other people do not engage in this kind of strenuous activity at all.

About how many hours do you spend, in an average week, in strenuous leisure time activities like these? (circle one)

a. None, don't do strenuous activity
b. 1 hour or less
c. 2 to 3 hours a week
d. 4 to 5 hours a week
e. 6 to 10 hours a week
f. More than 10 hours per week

92. Which one of these statements best describes your physical activity, in general? (circle one)

a. Not very active physically, usually just sitting or walking
b. Fairly active physically, moderate or strenuous activity several times a week
c. Quite active physically, at least moderate activity every day
d. Extremely active physically, strenuous activity most days

93. Do you think you get enough exercise now? (circle one)

a. Yes b. No

94. Are you currently trying to increase your physical activity?

a. Yes b. No

95. In the past, have you made a fairly serious attempt to increase your physical activity?

a. Yes b. No
SMOKING

96. Do you smoke cigarettes now? (circle one)
   a. Yes
   b. No (if no, skip to item #101)

97. During how many years have you smoked cigarettes regularly? (circle one)
   a. Less than 2 years
   b. 2-5 years
   c. 6-10 years
   d. 11-15 years
   e. 16-20 years
   f. 21-25 years
   g. 26-30 years
   h. 31-35 years
   i. 36-40 years
   j. More than 40 years

98. On the average, about how many packs of cigarettes a day do you currently smoke now? (circle one)
   a. 1 pack a day or less
   b. About 1-1/2 packs a day
   c. About 2 packs a day
   d. More than 2 packs a day

99. Are you currently trying to reduce or stop smoking?
   a. Yes
   b. No

100. Have you switched to low tar cigarettes, cigar or pipe?
    a. Yes
    b. No

101. Have you ever smoked cigarettes fairly regularly?
    a. Yes (if yes, continue to item #102)
    b. No (if no, skip to item #105)
102. During how many years did you smoke cigarettes regularly? (circle one)

a. Less than 2 years  
b. 2-5 years  
c. 6-10 years  
d. 11-15 years  
e. 16-20 years  
f. 21-25 years  
g. 26-30 years  
h. 31-35 years  
i. 36-40 years  
j. More than 40 years

103. On the average, about how many packs a day did you used to smoke? (circle one)

a. 1 pack a day or less  
b. About 1-1/2 packs a day  
c. About 2 packs a day  
d. More than 2 packs a day

104. How long has it been since you smoked cigarettes regularly? (circle one)

a. 6 months or less  
b. 7 months to a year  
c. 1 year to 2 years  
d. 2 years to 5 years  
e. More than 5 years

WEIGHT

105. How tall are you without shoes?

_______feet _______inches

106. How much do you weight without heavy clothes?

_______pounds
107. Do you think you weigh too much now?
   a. Yes  b. No

108. Are you currently on a diet to lose weight?
   a. Yes  b. No

109. Are you doing any special exercise to lose weight?
   a. Yes  b. No

110. What is the most you have ever weighed? (Women: do not count times when you were pregnant.)

   ___________ pounds

111. Do you think you weighed too much at that weight?
   a. Yes  b. No

112. In the past, did you ever make a fairly serious attempt to lose weight?
   a. Yes  b. No

ALCOHOL

113. When was the last time you had an alcoholic beverage (beer, wine, or liquor) of any kind? (choose only one)

   a. today
   b. yesterday
   c. a few days ago
   d. about a week ago
   e. 2 to 3 weeks ago
   f. a month ago
   g. 2 to 3 months ago
   h. 4 to 6 months ago
   i. 6 to 9 months ago
   j. 9 months to one year ago
   k. more than a year ago
   l. never
114. Think of the month preceding the last drink you had. How often did you drink alcoholic beverages (beer, wine, or liquor) of any kind during the month? (circle one)
   a. every day
   b. almost every day
   c. 3 or 4 times a week
   d. 1 or 2 times a week
   e. 1, 2, or 3 days a month
   f. not at all

115. During the same month, when you drank wine, about how much did you usually drink in a day? (circle one)
   a. not at all
   b. 1 or 2 4-ounce glasses
   c. 3 or 4 4-ounce glasses
   d. 5 or 6 4-ounce glasses
   e. more than 6 4-ounce glasses

116. During the same month, when you drank hard liquor (like whiskey, vodka, gin) about how much did you usually drink in a day? (circle one)
   a. not at all
   b. 1 to 3 ounces or shots
   c. 4 to 6 ounces or shots
   d. 7 to 10 ounces or shots
   e. 11 to 15 ounces or shots
   f. about 1 pint
   g. more than 1 pint

117. Do you think you drink too much now?
   a. Yes
   b. No
   c. I never drink

118. Are you currently doing anything to cut down on your drinking or stop entirely?
   a. Yes
   b. No
   c. I never drink.
119. Have you ever tried to cut down on your drinking, or attempted to stop entirely, in the past?

**DEMOGRAPHICS AND BACKGROUND**

120. Sex
   a. Male
   b. Female

121. Race
   a. Caucasian
   b. Black
   c. Hispanic
   d. Asian
   e. Indian
   f. Other

122. Are you a Registered Nurse (R.N.)?
   a. Yes                              b. No

123. How long have you worked in a health department?
   a. <1 year
   b. 1-5 years
   c. 6-10 years
   d. >10 years

124. How many years have you been employed in a nursing position?
   a. <1 year
   b. 1-5 years
   c. 6-10 years
   d. >10 years
125. Have you received information about smoking cessation in nursing school or through a workshop?
   a. Yes                       b. No

THE NEXT SECTION DESCRIBES YOUR CLINICAL PRACTICE

On the average, how many patients do you see per day? __________

126. What percentage of your patients are male? (circle one)
   a. 0-25%
   b. 26-50%
   c. 51-75%
   d. 76-100%

127. What percentage of your patients are 25 years old or younger?
   a. 0-25%
   b. 26-50%
   c. 51-75%
   d. 76-100%

128. What percentage of your work time is spent in direct patient care?
   a. 0-25%
   b. 26-50%
   c. 51-75%
   d. 76-100%

129. What is your age in years? __________

130. What was your basic nursing preparation? ____________
   a. Associate Degree
   b. Diploma
   c. Bachelor's
   d. Master's
   e. Doctorate
131. Highest education level completed in nursing?

a. Associate Degree
b. Diploma
c. Bachelor's
d. Master's
e. Doctorate
REFERENCES


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