

**THE KNOWLEDGE OF CANCER
AMONG THE RURAL ELDERLY**

by

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ABSTRACT

The purpose of this study was to determine the knowledge level regarding cancer among the rural elderly. An extensive literature review revealed that little research has been done in this area. The present study was adapted from a previous study by Weinrich and Weinrich (1986).

The research was descriptive in nature. A convenience sample was obtained from those elderly who utilized the Dorchester County Health Department, area MAC Centers, and attend the local AARP meetings. Fifty non-institutionalized elderly were included in the sample. Data was collected by a structured interview conducted by the researcher.

The data was analyzed using the SPSSX Computer Program. Frequencies were computed for each item. Basic demographic data was examined to identify the demographic characteristics and health habits of the study population. The majority of the participants were black females. Basic education for a large percent was at the eighth grade level. A large proportion of the incomes reported were in the \$2,500 - \$7,999 range.

Two survey tools were utilized to assess cancer knowledge. One was to determine how many if any of the cancer myths were believed by the study sample. A second scale was to identify if the elderly could distinguish cancer warning signs from aging symptoms. Results indicated that many people believe several of the cancer myths and

many do not recognize the Seven Warning Signs of Cancer.

Analysis of variance was used to look at the individual relationships between race, education, income, sex, age, and knowledge scores. Race, sex, and education were found to be the significant factors in knowledge scores. Stepwise multiple linear regression was used to identify the best predictors of cancer knowledge in the elderly age groups. A combination of education, sex, and income explained 56.0% of the variation in knowledge scores.

The present study offers valuable information for the population surveyed and will hopefully serve as a stimulus for continued research.

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This is to verify that Nancy Flurer
successfully defended her Master's thesis entitled The Knowledge
of Cancer Among Rural Elderly

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CHAPTER I

INTRODUCTION

Cancer - a frightening word in the English language. Cancer is defined by the American Cancer Society as a "group of diseases characterized by uncontrollable growth and spread of abnormal cells" (Cancer Facts & Figures - 1988, p. 3). Cells in the body normally reproduce in an orderly fashion, so that old tissue can be replaced, injuries can be repaired, and the body can continue to grow. However, at times, cells go through a change whereby there is uncontrollable growth. One abnormal cell divides into two and those two divide and so on resulting in a spread of the cells. These cells can grow into tumors which may result in cancer. Cancer cells have the ability to invade and destroy other normal tissue. If not treated or controlled, the spread of the disease can result in death. With early detection and treatment, many cancers can now be cured.

According to statistics from the American Cancer Society (1988), the number of new cases in 1988 would total 985,000. This excludes non-melanoma skin cancers and cancers in situ. Maryland alone would see an estimated 18,900 new cases. The American Cancer Society has also estimated that approximately 75 million Americans presently living will at some time experience cancer.

The age-adjusted national death rates due to cancer have seen a steady rise since 1930. The number of cancer

deaths in 1930 per 100,000 people was 143. In 1950, the rate had climbed to 158 and in 1985 it was 170 per 100,000 (Cancer Facts & Figures - 1988). Cancer of the lung seems to account for a major part of this increase. The rest of the cancer death rates, except lung cancer, seem to be leveling off, or in some instances even declining.

Cancer can strike any age group; however, it is more frequently seen with advancing age. Today, cancer is one of the leading health problems facing the older generation. As one ages, the risk for developing each of the major cancers also increases. Fifty percent of all cancers occur in individuals who are 65 years old or older and nearly 60% of cancer deaths occur in those 65 and older (Given and Given, 1989). Since it is predicted that the percent of elderly in the United States will increase from 11.4% in 1981 to 21.7% in the year 2050 (Vintage, 1983), the number of people at risk for cancer will continue to rise along with the death rates.

There are several reasons suggested as to why the elderly are at a greater risk for cancer death. It has been found by Weinrich and Weinrich (1986) that the elderly are less involved in cancer detection activities and that the disease is at a more advanced stage when they seek health care services. The problem appears to be that the elderly have inadequate knowledge of cancer and its warning signs. They are often confused about aging symptoms versus cancer symptoms. Frank-Strombong (1986) similarly identified

the following obstacles in the early detection of cancer in the elderly: "societal myths about the elderly, normal psychosocial alterations which occur with aging, attitudes the elderly have about cancer and preventive medicine, and lack of knowledge about the normal physiological changes which occur with aging" (p. 66).

Cancers most common among the elderly are: lung, cervix, uterine, breast, and colorectal. Symptoms such as weight loss, a decrease in appetite, constipation, weakness, malaise, and fatigue may be mistaken by the elderly as part of the normal aging process, when in fact they could be signs of a malignant disease (Weinrich and Nussbaum, 1984, p. 476).

There is only a small amount of nursing literature available that documents cancer knowledge among the elderly population. Two different studies done by Weinrich and Weinrich both indicate that the elderly can name very few of the cancer warning signals and believe many cancer myths. A study done by Chao, Paganini-Hill, Ross, and Henderson (1987) addressed the health habits of the elderly and found results to show their decreased involvement in prevention activities. Lastly, it has been found that the elderly are often confused about aging symptoms versus cancer symptoms. The literature that is available all seems to agree that the elderly have a need for more cancer education programs that are targeted at their educational level. Weinrich et al (1986) states that it is because of this

inadequate knowledge that many elderly seek health care for cancer when it is already in advanced stages. Many people fail to comprehend the seriousness of cancer signs and symptoms. Few studies have focused on the knowledge level of the rural elderly about cancer even though access to cancer education and preventive care may be problems in these areas.

The present study will address the question: what is the knowledge level regarding cancer and its warning signals among the rural elderly and how well are these individuals 65 years of age and older able to distinguish these signals from normal aging symptoms? This study is necessary to determine cancer knowledge among the elderly in a basically rural region and gain insight about where educational programs need to be directed. The study will also add documentation in an area where the research has been limited thus far.

CHAPTER II

REVIEW OF LITERATURE

Introduction

The literature is lacking in research pertaining to cancer knowledge among the elderly individuals. However, there is an abundance of studies which deal with certain types of cancer and especially breast cancer. The research that is available regarding the elderly is largely confined to those individuals in nursing homes or other long-term care facilities. There is a sparse amount of information that deals with the aged in a home setting.

The following review of literature first examines the theoretical framework of the Health Belief Model where the work of Rosenstock will be discussed. Studies to be discussed will be general cancer knowledge studies among the elderly, studies pertaining to certain types of cancer and the elderly, and finally studies dealing with health beliefs.

Theoretical Base for the Study

The Public Health Service during the 1950's was mainly oriented toward disease prevention and not treatment. It was during this period that people failed to accept any type of disease prevention or screening tests for disease, although being provided for free or at a minimal charge.

It was the above factors which would influence the development of the Health Belief Model. Such a model would have to explore preventive health behaviors of individuals

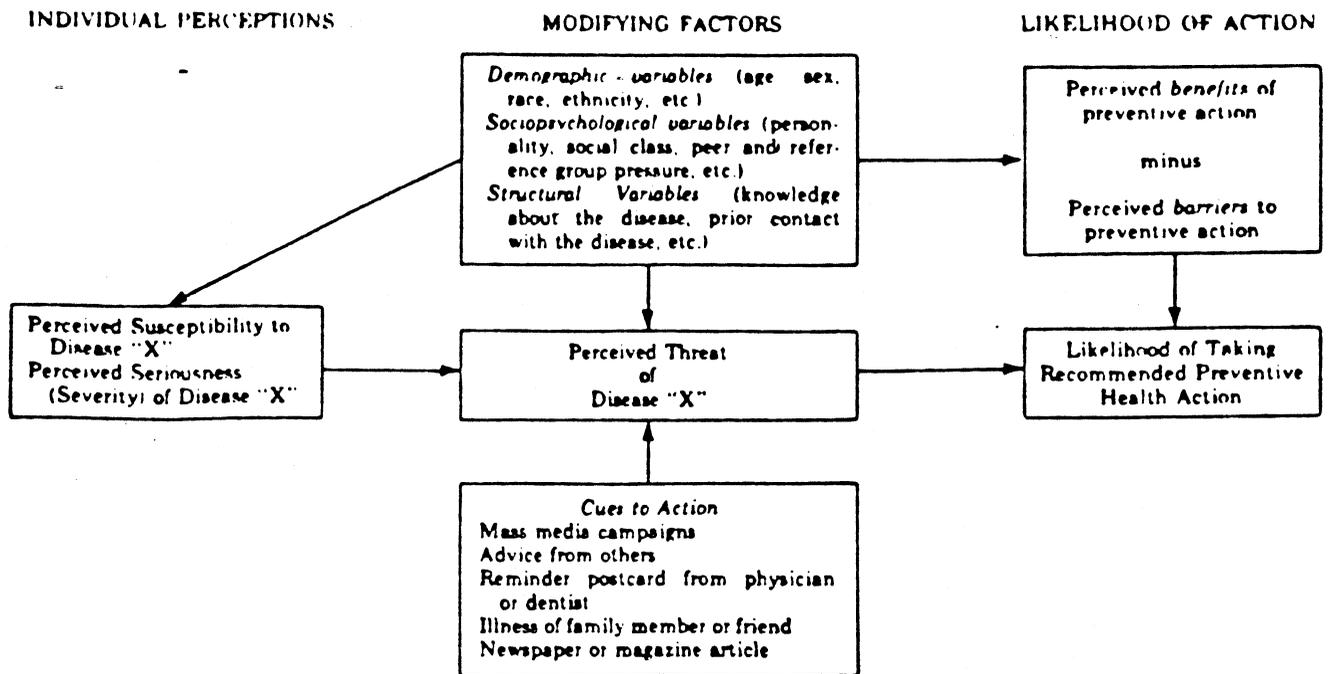
not currently experiencing a chronic disease. It would also have to identify barriers to not accepting any type of health services.

Those who first worked on the development of the model were trained as social psychologists and were influenced by the works of Kurt Lewin. They believed that "it is the world of the perceiver that determines what he will do and not the physical environment, except as the physical environment comes to be represented in the mind of the behaving individual" (Rosenstock, 1974, p. 2).

It is from the historical perspective that the Health Belief Model was developed. Rosenstock's model outlines the following beliefs for persons who involve themselves in disease prevention activities: "belief in personal susceptibility to the disease, belief that the disease would have at least a moderately severe impact on some component of life, belief that the health promotion behaviors would have a beneficial impact on susceptibility to the condition or reduce the severity of the disease, and belief that the disease could be present without experiencing any symptoms" (Rosenstock, 1974, p. 3). A component later added was that of health motivation (Figure 1).

There is a wide variation in the acceptance by individuals of personal susceptibility to a disease. On one end of the continuum are the persons who deny the possibility of contracting a given disease, while on the other end are the individuals who feel they are in great

Figure 1

Rosenstock's Health Belief Model

danger of contracting the illness.

There was also a variation found related to the seriousness of a health problem. The degree of seriousness may be determined by the emotions created by thought of the illness as well as the difficulties persons believe the disease will create. The perceived seriousness may also be determined by its medical or clinical consequences for the individual in terms of the effect the disease will have on one's job or family life.

The actions that individuals take in response to their perceived susceptibility depend on how beneficial they believe these alternatives to be. The action is likely to be viewed as beneficial if it helps to reduce one's susceptibility to a disease or reduces the seriousness of an illness.

Health motivation is a general concern about health matters. If individuals are involved in positive health activities, they believe this will help to decrease disease.

In the present study, the researcher will examine the relationships between the demographic and structural variables and the elderly's beliefs about their perceived susceptibility to and the seriousness of a particular disease.

Cancer Knowledge Studies

A study by Weinrich and Weinrich (1986) explored the hypothesis that the elderly have inadequate knowledge concerning cancer. A significant difference was found

in the knowledge of cancer among the elderly based on race, education, and income.

Individual interviews were conducted by 50 gerontological nursing students at a church-affiliated highrise and federal housing complex for the elderly. One hundred ninety-eight interviews were completed in a two-day period. Cancer knowledge was assessed using three different questionnaires. These were a Myth Scale, American Cancer Society (ACS) Seven Warning Signals questionnaire, and a Knowledge of Symptoms questionnaire. The Myth Scale and ACS Seven Warning Signals had previously been used and reported in the literature. The third scale, Knowledge of Symptoms was developed specifically for this study and had been pretested with 10 persons. For each of the scales, content validity, construct validity, and internal consistency reliability was performed and results reported. One point was given for each correct answer for each of the three questionnaires. Maximum scores were 6 for the Cancer Myths, 7 for the ACS Warning Signals, and 6 for the Knowledge of Symptoms.

Data was analyzed using descriptive statistics and multiple regression analyses. Results for the Cancer Myths demonstrated a belief in the myths by the majority of the population. The mean score was 2.3 for the ACS Seven Warning Signals, the individuals were able to name only 1 or 2 of the signals. The Knowledge of Symptoms scale had a mean score of 4.3 indicating an increase in their ability

to distinguish cancer symptoms from aging symptoms.

The results according to race, education, and income did show that whites had higher levels of knowledge than blacks. Those with 13 years of education or more had a higher level of knowledge than those with lesser education. Lastly, those with higher incomes also had a greater knowledge of cancer. A significant difference was not shown based on age. The study did demonstrate the inadequate knowledge of cancer among many elderly individuals. The majority could name only one or two of the ACS Seven Warning Signals and they tended to believe many of the cancer myths.

Weinrich, Weinrich, and Keenan (1984) had used the above tools in an earlier study only administering it to a group of homebound elderly. Interviews were conducted in the homes of 83 recipients of Meals on Wheels. The three scales as identified above were again employed. Likewise, females made up the majority of the study group.

Results were similar to those of the first study. The average score on the Knowledge of Symptoms questionnaire was 4.2, thereby demonstrating adequate recognition of the symptoms. However, the majority again tended to believe the cancer myths with a mean score of 2.8. Lastly, the individuals could not name the ACS Seven Warning Signals. The average score was 1.2. Once again there was inadequate knowledge among the elderly population.

One major limitation to the first study was that it was administered by 50 different students who had received

only a one-hour training session. Although they were all nursing students involved in a semester of gerontological education, this could still have a significant impact on the results. In the second study with the individuals receiving Meals on Wheels, the interviews were completed by one graduate student and two undergraduates. Likewise, the two undergraduates were taking a course in gerontological nursing. A two-hour training class was presented in order to insure consistency in data gathering.

A study in the summer of 1980 was a random telephone survey conducted in the midwestern United States. Its purpose was to assess the knowledge of cancer among various individuals. Random digit dialing was reported by Luther, Price, and Rose (1982) as the method used to select the sample. There was no attempt made to select a particular member of the household, but rather the person to answer the phone was asked to complete the survey.

The questionnaire consisted of nine questions regarding cancer and four questions regarding the individual's background. A male and female interviewer were used and each was identified by the same statement to the individuals. Faculty members at a local university established face validity of the questionnaire.

All calls were made in a two month period and were made during the early afternoon or evening and only on weekdays. There was a total of 1,095 phone numbers generated. After accounting for businesses, disconnected

numbers, no answers, and refusing to participate, 411 people participated in the interview. Of the 411 individuals, 138 were male and 283 were female. Age divisions included 269 in the 20-30 year old group, 83 in the 40-50 age group, and 55 were sixty or older. Educational levels were also obtained.

Samples of the questions respondents were asked included the following:

1. From what sources have you received most of your information about cancer?
2. What do you believe to be the three most common types or sites of cancer in men?
3. What do you believe to be the most common types or sites of cancer in women?
4. How many people out of 100 do you believe will develop cancer sometime in their lives?
5. What things do you believe may cause cancer?
6. Can you identify any or all of the Seven Warning Signals for Cancer established by the American Cancer Society?
7. What steps could a person take to reduce their chances of getting cancer? (Luther et al, 1982).

Results indicated that the mass media was the most common source of cancer information. There were no statistical differences seen when examining the data by sex of the respondent. However, statistical differences were seen with age and education. Younger people identified

school as a major source of information, while older respondents identified newspapers and physicians. Those with higher educations also identified school as a major source of information. Most individuals were able to identify the three most common sites of male and female cancer, but overestimated the incidence of cancer per 100 people. Men generally gave a lower estimate than the women. No statistical difference was found between age groups or educational levels.

Smoking was listed by 73.7% as the most common cause of cancer. However, there was a lack of knowledge when subjects were asked to recall the Seven Warning Signals of Cancer. Five percent of those interviewed could name five or six of the signals, whereas almost 29% were unable to identify any of the signals. Lastly, many respondents could identify something that could be done to reduce the risk of developing cancer. To stop smoking was mentioned by 55.2% followed by changing eating habits (37.2%).

There are several limitations to be noted in this study. One such limitation was that the phone calls were made during the same time of the day on Monday thru Friday. This could eliminate a large number of participants who were in the work force. Also the article stated that face validity of the instrument was obtained, but there was no mention of any reliability testing. Lastly, the respondents were asked to name any of the ACS Seven Warning Signals from memory instead of being able to pick them

from a list which has been found to be more effective. There is still a need to study further the public's knowledge regarding cancer.

In another study, a slide technique was developed by researchers at the Fox Chase Cancer Center in order to collect data from older individuals about cancer beliefs and attitudes. Rimer, Jones, Wilson, Bennett, Engstrom, and the Fox Chase Cancer Center (1983) used the above slide technique to survey 267 persons attending a Title XX Nutrition Center. The survey was pre-tested with a middle income church group because the nutrition centers were noted for attracting lower income, lower educated, elderly people.

Basic demographic information was collected including age, gender, race, education, and health status. Data on beliefs about cancer, attitudes toward the health care system, and health behaviors was also collected. Consistent with other studies, the elderly in this survey had many false beliefs about cancer. Over one-half of the respondents believed "a woman could get cancer from being hit in the breast, and that cancer treatments are worse than the disease" (p. 128).

When examining the question of the elderly's attitudes toward physicians and the health care system, it was found that many negative attitudes were displayed. Many subjects (80.0%) believed that doctors do not give clear explanations causing people to worry more. Few people (28.0%) felt

that doctors are careful in their examinations. Many indicated difficulty in getting answers to their questions or in just being able to get an appointment with a doctor. Eighty-five percent of those interviewed stated that they wanted to know if they had cancer. As in other studies, this shows the need for educational programs for the elderly.

Although the results of this study are consistent with others, there were several limitations noted. First, there was mention of using a slide technique but there was no description of how it was used. There was no detail of who collected the data or how it was collected. Again there was no mention as to validity of the test and there was no mention as to what statistical tests were performed on the data. Charts included in the study identified only the number of people in agreement with the questions and the percentage this was of the population.

Lastly, a study by Nylenna and Hjortdahl (1987) stated that "in spite of increased medical knowledge and intensivated public information and education about cancer the last few years, diagnostic delay is still a serious problem" (p. 117). Reaction to certain signs and symptoms may be related to how threatening or uncomfortable these signs are felt to be by the individual. In this 1984 study, 392 patients in three Norwegian general practices were asked: "how quickly they would seek medical attention if experiencing any of twenty different clinical situations presented to them" (p. 117).

While waiting for their office appointments at three community health centers, patients were asked to complete a short questionnaire which contained descriptions of 20 different clinical situations. The twenty descriptions were to represent real life situations and included in the situations were the Seven Warning Signs of Cancer. The twenty descriptions were grouped as follows: lumps and bumps, bleeding, skin disturbances, pain, and airway related problems. Subjects were asked if they would seek medical attention for each situation and if so, how quickly: the same day, within a week, within a month, wait longer than a month, or not see a doctor at all. One hundred general practitioners were also asked as a reference group what advice they would give patients facing these situations as to how soon they should seek medical attention.

The questionnaire was completed by 392 patients, of whom 67.0% were female and 33.0% male. There were 25.8% answering the questionnaire who were under 30 years old; 47.7% who were between the ages of 30 and 60; and 25.7% who were sixty years old and older. Ninety out of 100 practitioners also completed the questionnaire.

Chi-square tests were used for the analysis of most of the data. The data was presented in tables showing the responses of the patients as compared to those of the practitioners. There were three tables showing the questions answered by all participants, only females, and only males. Everyone was asked to complete the first 15 questions. There

were 3 questions to be completed by females and 2 questions to be answered only by males.

The data found no significant correlations between the age of the patients and the urgency with which they would seek medical attention. One exception was that females under 40 indicated they would seek medical attention quicker for a breast lump than older females, whereas those under 40 would wait longer to seek attention for a sore that did not heal. This study did not show any correlation between sex, age, and interpretation of signs and symptoms. There was also no significant relationship found between patients having previous experience with cancer and how soon they would seek medical advice.

One correlation found in the study was that the more infrequent a situation was experienced, the quicker the respondent would seek medical attention. When looking at the various group divisions, "lumps and bumps" received the quickest rate of response and was significantly quicker than any other group.

The responses of the practitioners tended to be less extreme. The practitioners advised quicker response rates for all groups except for "lumps and bumps" where there was no significant difference found between them and the patients.

Again there was no validity or reliability reported for the instrument. Also, with the use of the short clinical situations, a large number of "do not know" answers were

recorded. Lastly, it was felt that someone would seek medical attention quicker for a hypothetical situation than in real life.

All of the above studies seem to demonstrate the lack of knowledge regarding cancer in the elderly population. There is still a serious problem in regard to seeking medical attention in a timely manner. There is a great need for health teaching to assist the elderly to comprehend the seriousness of the problems.

Studies Relating to Specific Cancers

There is more research which addresses specific cancer sites and related knowledge as compared to overall cancer knowledge. Breast cancer and cervical cancer are two areas where there is a vast amount of literature available. Three studies will be addressed in the literature review along with a fourth study on colon cancer.

A study by Celentano, Shapiro, and Weisman (1982) addressed "the extent to which the elderly are following recommended preventive actions for the early detection of cancer" (p. 455). Breast cancer is the leading site for cancer deaths in women and the incidence and mortality rates increase with age. The incidence of breast cancer over the age of 65 is 36.0%. Likewise, 41.0% of deaths from cervical cancer occur in women 65 and older (Celentano et al, p. 454).

During 1979 and 1980, a telephone survey was conducted in four metropolitan counties in Maryland. Sixteen hundred

listings of phone numbers were obtained from the telephone directory. There were 1,394 eligible numbers and interviews were attempted with 795 women. There were a total of 675 completed interviews. Of the 120 not interviewed, 101 refused and 19 were incomplete interviews.

Interviews were structured and lasted approximately 30 minutes. Eleven interviewers who were trained in doing medically related interviews conducted the survey. Each of the counties in which the survey was conducted was known to have few cancer control programs. Results of the interviews indicated that in answer to an open-ended question about ever having had a cancer test, four out of five women ages 18 to 65 had had some test. Two-thirds at age 65 reported ever having a test, and only one-half 75 and older reported ever having a cancer detection test.

When looking specifically at pap tests which screen for cervical cancer, the percentage again decreases with age. Ninety-eight percent of women under 65 had had a pap test at some point and 79.0% reported having one in the past two years. This is in contrast to the elderly group where 38.0% of those 75 and over and 14.0% of the 65-74 reported never having a pap test. Lastly, 28.0% of those 65 and older who reported having a pap test reported it being done at least five years prior. This shows that almost 50.0% of those over 65 had never had a pap test or had not had one in several years.

The type of medical care utilized was also studied.

It was found that a majority of the women under 55 reported seeing an obstetrician-gynecologist whereas those over 65 reported a family or general practitioner was their usual source of medical care. The type of care provided appeared to be associated with the receiving of a pap test. For all of the age groups, there was a greater probability of receiving a pap test when a obstetrician-gynecologist was the usual source of medical care.

Multiple regression analysis was used to examine differences between those who had had a recent pap test and those who had not. Four factors were found to be significant: age, currently going to an obstetrician-gynecologist, reporting ever having been advised to get regular pap tests by a physician, and having a personal physician.

Again, the elderly women were less likely to report receiving routine breast examinations. Four out of five women under the age of 55 reported a routine exam by the physician, whereas only three-quarters of the 55-74 group reported a routine exam. This decreased to two-fifths for those 75 years and older. Multiple regression found the following four variables to be significant in explaining whether women had had routine breast exams: age, going to a gynecologist, having a personal physician, and education. It again seems that the elderly are less experienced in cancer detection activities.

This study suggested that the lower rates of breast

examinations associated with the elderly could be due to "the type of provider utilized, with use of general practitioners being related to lesser experience with detection tests and use of gynecologists with increased regularity and recency of detection tests" (p. 461).

As with several of the other studies there was no reported validity or reliability regarding the questionnaire used. Also a phone survey, when dealing with the elderly, may not be the best method of data collection due to loss of hearing. Lastly, the population surveyed was predominantly white females living in a rural area.

In a study by Richardson, Marks, Solis, Collins, Birba, and Hisserich (1987) the frequency and adequacy of performing breast self-examination (BSE) among a population of elderly Hispanic women was assessed. In 1984 and 1985, 17 subsidized housing projects in Los Angeles were included in the study population. All women in the projects who were 55 and over were contacted to be included in the study. There was a potential population of 890 and of those, 603 were interviewed. Each woman was interviewed individually in her apartment and the interviews took approximately 1½ hours. The interview was conducted in the preferred language of the participant. Several bilingual women were trained as interviewers and in the collection of data.

The age of the participants ranged from 55 to 92 years old. Educational levels and socioeconomic status was basically low. At the time of the interview 90.0% were

unemployed.

Many of the interview questions asking about awareness of cancer of the breast and screening were yes/no questions. Other areas of interview included: knowledge of breast cancer symptoms, recency of last breast examination and mammogram, knowledge of BSE, frequency of BSE, assessment of BSE performance, nervousness and embarrassment, perceived susceptibility, benefits of early cancer detection, and acculturation.

Results of the study showed that when asked about breast cancer symptoms, 70.0% could name a lump in the breast while 25.0% could not state any symptoms. The recency of breast examination varied from 50.0% having one in the last year to 16.0% never having had an exam. As for a mammogram, 74.0% had never had one. With regard to the frequency of BSE, 80.0% had heard of BSE but only 22.0% knew that it should be performed monthly. Forty-seven percent stated that they were not nervous or embarrassed to do BSE.

When asked to demonstrate BSE on a model, 10.0% refused to touch it while 79.0% appeared comfortable. Included in the 10% who refused to touch the model, were subjects who were basically older, had fewer Anglo friends, and had less understanding of the English language. When asked to identify any lumps found in the breast, 24.0% found one lump, whereas only 1.0% found all five lumps.

Age and education were found to be significant factors

in the study. Age was inversely related to each BSE measure (knowledge, performance, recency, and frequency), but not related to knowledge of breast cancer, recency of last exam or mammogram. Education was found to be related to the knowledge of breast cancer and recency of last exam or mammogram and not related to the BSE measures. The variables from the Health Belief Model - susceptibility and perceived benefits were not found to be strongly significant. The variables of nervousness and embarrassment were found to be stronger predictors of BSE.

Lastly, learning BSE from a doctor was again a strong predictor of "knowledge, recency, and frequency of BSE" (p. 770). Also, learning BSE techniques from a doctor was a strong predictor of correct performance of BSE.

Although the results of this study did not vary a great deal from others, there are some limitations to be noted. Reliability and validity of the study questions were not discussed. Another limitation was the teaching of several bilingual women to conduct the interview in the participants preferred language. One would feel that this could have a great impact on the data collected due to the possibility of having questions presented or misinterpreted wrong.

The purpose of a study by Lashley (1987) was to identify predictors of BSE practice in elderly women. The Health Belief Model served as a framework for the study. The following research questions were addressed:

1. How frequently does a sample of elderly women perform BSE?
2. Which source of BSE instruction relates to greater BSE frequency?
3. Which demographic and health belief variables under investigation predict BSE frequency?
4. Which techniques do elderly women use to examine their breasts?
5. Which source of BSE instruction relates to improved BSE techniques?
6. Which demographic and health belief variables under investigation predict BSE technique?

Surveys were distributed to elderly females at two metropolitan senior citizen centers. Of the 169 questionnaires distributed, 123 were returned. One hundred five questionnaires were used in the data analysis. Others were excluded if they reported being under 65 years old or had no age documented.

The questionnaire consisted of 3 parts totaling 53 items. The first section was designed to measure the health belief model constructs: perceived susceptibility, perceived benefits, and perceived barriers. The scales were tested for internal consistency and test-retest reliability. The second section addressed the frequency of BSE and a checklist was used when assessing the techniques used when performing BSE. There were 14 items on the checklist which were based on the American Cancer Society and the National Cancer

Institute recommendations for BSE. Scores could range from 0 to 14, with 14 indicating performance of the correct steps when doing BSE. Again, content validity and test-retest reliability were determined. The reading level of the tool was assessed and was found to be on an eighth grade level. The third section consisted of demographic data.

Data was collected over a period of two months. Women were contacted individually at the center or in groups during planned activities. Consent forms were distributed along with the questionnaires with an option to sign. Return of the completed questionnaire was seen as consent to participate. Subjects could fill out the questionnaire or in some instances, the questionnaire was read to them and their answers recorded. Data was collected by the researcher, female volunteers, or female graduate students. The questionnaire took approximately 15 minutes to complete and each individual was offered an ACS brochure on BSE after completion.

Findings indicated that 62 of the women performed BSE monthly and 15 performed BSE at least every other month. Nineteen reported having not performed BSE at all, while four reported that they perform BSE at least once a year. When looking at BSE frequency, television was found to be the only instruction associated with increased frequency. Perceived barriers to BSE were the best predictors of frequency accounting for 6.0% of the total variance.

Perceived susceptibility and perceived benefits were not found to significantly predict BSE frequency. There were also no demographic variables found significant in the prediction of BSE frequency.

When looking at the techniques used to perform BSE, the step most often employed was that of feeling for lumps or knots. The step reported least was that of placing a towel under the shoulder of that breast one is examining. Higher scores were obtained by those reporting having had a class on BSE. The best predictor of BSE techniques was found to be race. Together race, age, and perceived barriers accounted for 19.0% of the variance in the scores.

In contrast to the other studies, this study found that 61.0% of elderly females perform monthly BSE. Reasons given for this high percent included: using a sample of convenience, participation in a senior center and being an essentially healthy, ambulatory group.

This study seemed to be very complete in its data gathering and analysis. Problems noted include: three different sets of people collecting the data with no reference made to any type of training; and some individuals filling out the questionnaire while others had it read to them. Only 6.0% of the variance in BSE frequency and 19.0% of the variance in technique was explained in the study leaving a large amount of unexplained variance. The study seemed to demonstrate that the health belief variables are only weak predictors in BSE.

There has been little research in the area of hemocult screening and colon cancer. This last study by Thompson, Michnich, Gray, Friedlander, and Gilson (1986) introduces three compliance-enhancing intervention strategies that were tested in a health maintenance organization in Washington state for colon cancer screening. Also of interest was the Health Belief Model as a means of predicting compliance.

The study was designed to use simple interventions that could fit into busy primary care practices. All patients involved received the hemocult test kit with written instructions about the procedure and a prescribed diet. In addition to the above, other interventions were: a physician talk, a nurse talk, a reminder postcard, and a telephone follow-up. The physician and nurse talk were identical in describing the purpose of the test, a review of the instructions, and review of the diet. All staff were trained prior to the study in the various protocols. Five hundred and seven individuals were included in the study out of a possible 616 asked to participate.

Subjects were randomly assigned to 1 of 10 various groups. There was a control group who received only the test kit and written instructions. The other nine groups consisted of the 3 methods each singularly and in various arrangements. Individuals who were 45 years old or older were included in the study. They had to meet certain specified criteria to be included in the study. Potential

subjects were contacted one week prior to their scheduled appointment and asked to participate. They were asked to come 30 minutes earlier than their appointment to sign a consent and fill out a questionnaire. The questionnaire that was completed by each participant contained 42 items including questions regarding health motivation, perceived susceptibility, severity, benefits, and barriers. Other demographic data was also obtained.

At the time of their appointment, the subjects were identified to the physician who then picked up a folder specifying 1 of the 10 study groups. All subjects were then given the hemocult kit, slides, instructions, and the additional interventions if any as indicated by the folder.

Thompson, Michnich, Gray, Friedlander, and Gilson (1986) reported the following results of the study: seven of the nine test groups were significantly more effective than the control group in achieving compliance. The intervention found to be most effective was the reminder postcard. Compliance rates varied from 67.9% for the control group to 94.4% when all three interventions were employed.

Conclusions from the study indicated that a simple reminder postcard "can achieve a compliance level comparable to that achieved by more complex or multiple interventions" (p. 912). Variables from the Health Belief Model were of minimal value in predicting compliance in this study. It was found that having a gastrointestinal symptom present

increased compliance by 8.0 - 11.0%. Contrary to other studies, it also found that an increase in age correlated with an increase in compliance. When looking at the cost of sending postcards, it stated that the "initial cost of a formal postcard reminder system for hemocult testing would likely be offset by savings in long-term care" (p. 913). Although this study did not focus on cancer knowledge, it did acknowledge one method that has shown to increase compliance in screening tests among the elderly population.

There was little mentioned in the study about validity and reliability. It did state that face validity was satisfactory when assessed on two different occasions. It did use and report various statistical tests applied to the data and gave a thorough review of the results.

More studies need to be done dealing with various other cancers. The elderly are the population to be targeted since they are the population at the greatest risk for development of a malignant disease.

Studies Relating to Health Beliefs and the Health Belief Model

The last section of the literature review will discuss studies relating to a person's health beliefs and those related to the Health Belief Model.

In 1963, a national survey was conducted and reported by Kirscht, Haefner, Kegeles, and Rosenstock concerning beliefs about cancer, tuberculosis, tooth decay, and gum disease. Beliefs that were studied included: "perceived

negative consequences of the disease, the perceived vulnerability to disease, beliefs concerning the beneficial effects of taking preventive or diagnostic action to mitigate the consequences of the disease" (p. 248).

Data was obtained by the use of personal interviews which included 1,493 adults who were 21 years old or older. Seventy geographic regions in the United States were selected and represented urban, suburban, and rural households. One member from each household was included in the interview. Interviews were carried out by the Michigan Survey Research Center.

Those interviewed were asked how serious it would be to contract each of the four conditions and how likely they were to get the disease. As one would expect, cancer was identified as a very serious disease by 94.8% and one that would be likely to occur. Tuberculosis was seen as a serious disease by 77.4% while only 36.9% thought tooth decay was serious. Each person was asked to identify on a Likert scale their degree of concern regarding each disease. Again, as expected, 31.0% selected the most extreme category for cancer, while only 11.0% selected the extreme for tuberculosis. Next, each individual was asked to agree or disagree with six statements that were worded emotionally for each disease. These results showed approximately 50.0% did not agree with more than one statement regarding dental disease, whereas, more than one-half agreed with 5 or more of the emotional cancer statements.

A question regarding personal risk of each disease was asked in two different ways; half of those interviewed were asked to answer for themselves and the other half were asked to respond about men and women of the same age. When looking at the results, more respondents reported that others were more likely to contract the disease than they were. There was evidence that those who thought the disease to be very serious had a greater tendency to deny the possibility of contracting it.

When looking at prevention, only 5.0% said that nothing could be done to prevent dental disease, whereas 44.0% thought nothing could be done to prevent cancer. Further, three beliefs regarding cancer and TB were addressed: belief that prompt treatment is more beneficial than delayed treatment; that tests and/or check-ups are necessary in diagnosing the disease; and that tests or check-ups would detect the disease before appearance of symptoms. Almost everyone (94.7%) felt that early treatment was beneficial; however only 82.7% felt they could rely on tests or check-ups for diagnosis. Lastly, only 61.5% felt that tests or check-ups would detect the disease prior to the onset of symptoms.

With relation to demographic characteristics, cancer was regarded as quite serious regardless of income, education, sex, or age. Those reporting a greater likelihood of the disease also reported a greater worry about the disease.

Two conclusions were drawn from the analysis. First, lower social status was related to vulnerability to disease, and helplessness. Second, cancer was seen as a serious threat with serious consequences by all, but those with higher socioeconomic status felt that consequences could be warded off.

Although this study was done in 1963, it still has implications for today. Different educational programs need to be developed for individual diseases. For cancer, the focus needs to be on increasing the beliefs in susceptibility and the benefits of early detection. Again, studies need to be done focusing on the elderly population who are at greater risk for developing any of the major cancers.

In a study by Champion (1987), the relationship between frequency of breast self-examination and the Health Belief Model variables was assessed. Women in an outpatient clinic in a university medical center were approached and asked to participate in the study. A convenience sample of 585 women was obtained. A questionnaire was distributed to approximately 700 women who either completed it at the time or returned it by mail. If one could not read or write, the questionnaire was read to them. There was a return rate of 84.0%.

Scales used were modified from past studies. Items were put on a Likert scale to measure susceptibility, perceived seriousness, barriers, and health motivation.

Attitudinal items were scored with strongly agree equal to 5 and strongly disagree equal to 1.

A panel of judges who were quite familiar with the Health Belief Model established the content validity for the scales. Construct validity was also measured. Cronbach's alpha was used to determine internal consistency reliabilities which ranged from .63 to .76 for the different scales. Pearson's r was utilized to determine test-retest reliabilities which ranged from .47 to .62.

Knowledge was measured using multiple choice items. Again, content validity and internal consistency reliability were established. Women were divided into groups according to how often they performed BSE.

Multiple regression was used to analyze the combined and independent effects of susceptibility, seriousness, benefits, barriers, health motivation, and control on frequency of breast self-examination. Other tests used to look at the demographic variables, cancer knowledge, and BSE methods included: t-tests, one-way analysis of variance, and Pearson's correlation coefficients.

Results showed that approximately 33.0% of those interviewed examined their breasts monthly. When multiple regression was performed it found that barriers accounted for 22.0% of the variance in BSE examination with knowledge accounting for another 4.0%. The other concepts susceptibility, seriousness, benefits, motivation, and control contributed only an insignificant amount of the

total variance. Data was also analyzed so as to predict group membership according to how often the women performed BSE. Significant predictors of group membership included barriers, knowledge, and susceptibility. There were no significant differences found in frequency of BSE related to religion, race, and marital status. It was found that those with more education and increased knowledge found greater benefit and fewer barriers to BSE. Those women who had had experience with any type of breast disease or lumps were found to report increased frequency of BSE. Age was found not to be related to any of the variables.

Lastly, participants were asked how they were taught BSE. Using analysis of variance, a significant difference in the frequency of performing BSE was found between those taught by a health team member and those taught in other ways. Those taught by a health team member had a higher frequency of performing BSE.

In summary, the concept of perceived barriers seemed to be a significant predictor of BSE. This is in contrast to the Health Belief Model where all six constructs are believed to be strong predictors of health behaviors.

Some limitations included in the study were that the ages of the participants ranged from 12 to 74 years old. Second, the participants had the option of completing the questionnaire at the time or taking it home and mailing it back, yet others had the questionnaires read to them. It seems that all of the above could have an impact on

the results obtained.

The purpose of a second study reported by Champion (1985) was "to identify the relationships of attitudes about breast self-examination and breast cancer to the frequency of self-examination" (p. 373). The theoretical base was the Health Belief Model with its constructs of: perceived susceptibility, perceived seriousness, perceived benefits, perceived barriers, and health motivation.

From a midwestern city of 1,000,000 persons, 301 women were included in the study. Participants were obtained from churches, day care centers, senior citizens' centers, metropolitan businesses, swim teams, industry, and university classes. Ages ranged from 17 to 82 years old. Although this was a sample of convenience, attempts were made to obtain women of varying races, religions, and socioeconomic classes. Women were either mailed the questionnaire or were contacted in person. A cover letter was attached to explain the study. There was a return rate of 47.0%.

For each of the five Health Belief Model constructs, 20-24 items were initially written. The first four construct items focused on breast examination and cancer, while the fifth construct looked at health in general. Faculty familiar with the Health Belief Model looked at each item for content validity. Those items found to be valid were scaled on a Likert type format. Each scale then included 5 to 12 items for each construct. A question about the frequency of self-breast examination was used to measure

the behavior about BSE. Demographic variables were also included.

Step-wise multiple regression was used to test the combination of the five constructs. Results showed that barriers accounted for 23.0% of the variance or the largest portion with health motivation accounting for an additional 2.0%. Perceived benefits, susceptibility, and seriousness did not contribute significantly to the outcome. This suggests that those persons who identified few barriers in performing BSE were more likely to perform BSE on a more frequent basis. Likewise, those with higher scores on the health motivation section, also reported increased frequency of BSE.

A discriminant analysis was used to divide the women into three groups according to the frequency of BSE. The strongest predictor of group inclusion was perceived barriers. Health motivation and perceived benefits were also significant in predicting group membership. Susceptibility and seriousness did not contribute significantly as discriminators.

It was found that demographic variables did not influence the frequency with which these women performed BSE. Younger, more educated, and higher socioeconomic class women had an increased knowledge, but did not differ in the number of times they performed BSE.

This study seemed to be carried out in a very thorough fashion. Several different statistical methods were used

to obtain answers to the stated hypotheses. Only a few problems can be identified with the study. These include only a 47.0% return rate of the questionnaires and a sample which included basically white, married, protestant, and high school graduates which may not have been representative of the population at large.

The last study to address breast cancer is by Rutledge and Davis (1988). The purpose of their study was to examine the compliance of BSE in women. The Health Belief Model was again used as the framework for the study.

Women who participated in this study were between the ages of 18 and 75 and were all volunteers at either various industrial settings, YWCA's, or a state university. All subjects were given the questionnaire and asked to complete it. A cover sheet described the study and their right to refuse to participate.

Twenty-eight items were included in the questionnaire, several of which had been used in previous studies. The sections of the questionnaire were divided into the constructs of the Health Belief Model: perceived seriousness, perceived susceptibility, perceived benefit, barriers, health motivation and lastly modifying variables. When looking at BSE results, it was found that 31.0% of the women did not practice BSE, 15.0% practiced monthly or more often, and the remaining 54.0% practiced less than monthly.

When a stepwise multiple regression was performed,

7 of the 28 variables accounted for 58.0% of the variance in BSE compliance. These included: having a reminder method, encouragement of family/friends, confidence in ability to do BSE, age (lower), physician interest in BSE compliance, disagreement that BSE causes unnecessary worry, and concern regarding breast cancer.

Again this study has multiple implications for teaching. One problem seen with the study was that there was no reported reliability or validity for the questionnaire. Also there was no breakdown of the results by age or race.

A final study in the review of literature was done by Chao, Hill, Ross, and Henderson (1987) which addressed the health habits of elderly individuals. Conducted in 1981, the use of five early detection tests and their use were examined. The five tests included blood pressure measurements, fecal occult blood tests, pap tests, mammography, and breast self-examinations.

Questionnaires were mailed to 19,154 residents in a retirement village in California. Second and third mailings were sent over the course of a year to nonrespondents. Most residents of the village were white, well educated, and of an upper socioeconomic class.

The questionnaire included demographic information, medical history, the use of medications and vitamins, tobacco and alcohol use, personal habits, and specific health habits being practiced. Other questions included information about doctor visits, blood pressure testing, hemoccult

tests, breast self-examinations, mammograms, and pap tests. Sixty-two percent or 11,888 questionnaires were returned.

Data was analyzed by sex and screening test. Findings indicated that a large majority of the population studied did not utilize the preventive tests except for blood pressure checks and pap tests at the recommended intervals. Ninety-three percent of men and 92.0% of women reported having their blood pressure checked in the last year. Twenty-nine percent of the population had had a fecal occult blood test in the last year while 54.0% had never had a hemoccult test. Ninety-five percent of women with an intact uteri had had a pap test and two-thirds of that percent had it in the last 12 months. Sixty-six percent reported never having had a mammogram with only 11.0% having had one within that year. Thirty-nine percent of the women practiced BSE at least monthly while 24.0% reported never practicing BSE.

Age was found to be a significant factor. Those between the ages of 60 and 89 were more likely to have had a fecal occult test than those less than 60 or over 90 years old. Those individuals in their fifties were less likely to have had a blood pressure check in the last 12 months than older respondents. The older a woman the less likely the chances of her having a mammogram or pap test in the last year. Younger women were also found to practice BSE more often than older women.

A history of any chronic disease and seeing a regular

doctor was related to the use of the five screening tests. Seeing a regular doctor was related to having the five recommended tests performed. Those who reported a history of any chronic disease were again more likely to utilize the screening tests. Other health habits that were found to be related to utilization of screening tests included: adherence to a special diet, smoking cessation, regular use of laxatives, and a history of blood pressure medication use.

There was little mention about the demographic description of the participants other than that they were mainly white and of a higher educational and social level. As in many other studies, no validity or reliability data was presented for the tool utilized.

Summary

The research on cancer knowledge among the elderly has been limited thus far. The greatest focus can be seen in breast cancer knowledge. The elderly population is continuing to grow. Now is the time to take a careful look at our cancer research and educational programs and how they can be tailored to greater meet the needs of our aging population. Based on the literature review, the present study will address basic cancer knowledge among the elderly.

CHAPTER III

METHODOLOGY

The literature review demonstrates the lack of knowledge of cancer warning signs among the elderly individuals. As cancer is more prevalent among the aging population, it is important that they be able to distinguish cancer warning symptoms from aging symptoms.

Purpose of the Study

The purpose of this study was to determine the level of knowledge about cancer among the rural elderly. The results will be useful to health care workers and educators for identifying educational needs and planning educational programs.

Study Design

The research design for the study was a non-experimental cross-sectional descriptive survey. A cross-sectional survey is looking at a specific period in time. Polit and Hungler (1987) define descriptive research as: "research studies that have as their main objective the accurate portrayal of the characteristics of persons, situations, or groups, and the frequency with which certain phenomena occur" (p. 528).

Study Questions and Hypotheses

A broad question to be addressed in the study was: what is the knowledge of cancer among a sample of non-institutionalized, elderly individuals?

Specific study questions were:

1. Is there a difference in the knowledge of cancer between blacks and whites?
2. Is there a difference in the knowledge of cancer between more educated respondents and those less educated?
3. Is there a difference in the knowledge of cancer between those with higher incomes and those with lower incomes?
4. Is there a difference in knowledge of cancer between males and females?
5. Is there a difference in knowledge of cancer between elderly age groups?
6. What are the best predictors of cancer knowledge in the elderly age group?

Hypotheses

The following null hypotheses were tested:

1. There is no difference in the knowledge of cancer between blacks and whites.
2. There is no difference in the knowledge of cancer between more educated respondents and less educated respondents.
3. There is no difference in the knowledge of cancer between those with higher incomes than those with lower incomes.
4. There is no difference in the knowledge of cancer between males and females.
5. There is no difference in the knowledge of cancer

between the elderly age groups.

Definition of Variables

The main variable and only dependent variable in the study was knowledge of cancer. For this study, knowledge of cancer was measured by one scale taken from a previous study by Weinrich and Weinrich (1986) and one that was revised by the researcher also from Weinrich and Weinrich (1986). The scales include a Cancer Myth Scale and a Knowledge of Symptoms Scale. Independent variables included age, education, income, race, and sex and are defined as follows:

1. Age - Age will be self-reported; groups will be divided into those elderly individuals 65-69; 70-74; and 75 years and older.
2. Education - Educational levels will be self-reported and will be divided into those elderly with 8 years or less education; 9-11 years; 12 years; and 13 years and more.
3. Income - Income levels will be self-reported and be divided as follows: Less than \$2,499; \$2,500-\$4,999; \$5,000-\$7,499; \$7,500-\$9,999; \$10,000-\$19,999, and \$20,000-\$29,999 and \$30,000 and over.
4. Race - Racial groups will be divided into white; black and/or other ethnic groups.
5. Sex - Groups will be divided into male and female.

Study Population

The target population for the study was rural non-institutionalized elderly persons 65 years old and older living in Dorchester County, Maryland. This county was chosen because it is continuing to see an increase in its population of those 65 years old and older. According to a report from the Dorchester County Planning and Aging, in 1980 out of a total population of 30,623, 9.25% were between the ages of 65 and 74 and 6.3% were 75 years and older.

Study Sample

The sample was a convenience sample of 50 persons selected from individuals who utilize the Dorchester County Health Department, various local multi-service senior citizens (MAC Centers), and attend the local American Association of Retired Persons (AARP) meetings. All were non-institutionalized and over 65 years of age.

Instrumentation

The tools for the present study were taken from the work of Weinrich and Weinrich (1986), and had been developed based on a review of the literature regarding cancer knowledge among elderly individuals. The survey tools included three sections. The first was demographics which took into account race, age, income, education, sex, visits to the doctor, and history of cancer. The second section asked subjects to agree or disagree with six statements regarding cancer. Thirdly, each individual was asked to

identify various symptoms as either a warning sign of cancer or an aging change. Lastly, individuals were asked where they obtain most of their information regarding health care.

For the Myth Scale, the respondents were asked to agree or disagree with a list of six false statements regarding cancer. The list was developed and used by the Fox Chase Center in Philadelphia. The Fox Chase Center assessed content validity which included a review of the literature and "identification of the cancer domain by experts in the field" (Weinrich et al, p. 303). Internal consistency reliability was measured by the Kuder Richardson Formula 20 and was found to be 0.36. The small number of items in the list (6) negatively affected the reliability. However, the small number is advantageous for the elderly population that is being targeted.

From the Weinrich et al study (1986), the researcher took the ACS Seven Warning Signals Scale and Knowledge of Symptoms Scale and combined them to make a single scale used in the present study. In the ACS Warning Signals Scale, individuals were given one point for each of the seven warning signals they could name. Again, the internal consistency reliability was measured by the Kuder Richardson Formula 20 and was found to be 0.72. The Knowledge of Symptoms questionnaire was developed by Weinrich et al to measure the individuals' ability to distinguish cancer symptoms. The respondents were asked to identify each

of the six disease symptoms as either an aging change, disease or both. Content validity was determined by asking eight faculty members at a school of nursing in the Southeastern U.S. to complete this questionnaire. Symptoms that had consensus among all the faculty were retained for use in the scale. Factor analysis was used to determine construct validity. Again, the internal consistency reliability was measured by the Kuder Richardson Formula 20, and was found to be 0.53.

For the present study, the researcher compiled a list of aging symptoms and intermixed them with the Seven Warning Signs of Cancer to total 13 symptoms. Each individual was read the following statement: "I'm going to name some problems that older people may have. If you or a friend developed the following symptoms within a six month period, what would you think the cause might be? Would you suspect a warning sign of cancer, or just a normal aging change? If you had (read name of symptom), would you suspect a warning sign of cancer, or a normal aging change?" (Weinrich et al, p. 304).

Revisions were made due to the fact that it was felt by the researcher that it was unlikely that an elderly person would be able to name more than one or two, if any, of the Seven Cancer Warning Signs. It was felt that they could better differentiate if the signs were presented to them in a list along with various other aging symptoms. This particular tool was piloted with 10 elderly individuals

attending a local geriatric day care program in Wicomico County, Maryland. Results of the pilot again demonstrated the lack of knowledge among the elderly. They believed many of the cancer myths and were not able to distinguish but one or two of the Seven Warning Signals of Cancer.

Data Collection

Data was collected via a structured interview conducted by the researcher. Individuals were contacted at the various facilities they attended. The interview took approximately 10 minutes.

All respondents had the right to refuse to participate in the study. A cover letter explaining the purpose of the study and about confidentiality was given to each prospective respondent. After a fair explanation of the purpose of the study and time involved, agreement to the interview was interpreted as consent to participate in the study.

Each individual was taken to a quiet area and had the questionnaire read to them. If they did not understand the question, it was repeated to them exactly as it was written. No other information or help was given to the individual. Responses were recorded by the interviewer.

Assumptions and Limitations

The main assumption for this study was that those interviewed would honestly understand and answer the questions asked of them. Limitations included using a sample of convenience, and therefore, not being able to

generalize beyond the particular population. Other limitations included that the population interviewed consisted basically of black and low income females.

Data Analysis

Data obtained from the respondents was entered into the Salisbury State University computer system. Frequencies were examined. Descriptive statistics were computed to describe the study sample. Analysis of variance techniques were performed to test the hypotheses on differences of knowledge scores between demographic groups. Lastly, multiple regression analysis was used to identify the best predictors of knowledge of cancer. The independent variables were age, education, income, race and sex. The dependent variable was the knowledge of cancer among the elderly.

Ethical Implications

The researcher does not believe that any of the rights of human subjects were violated in carrying out the study. Approval was obtained from the Salisbury State University Committee on Human Volunteers as well as from the Dorchester County Health Department, MAC Centers, and the AARP.

CHAPTER IV

DATA ANALYSIS

Introduction

The following chapter will review the results of the data analysis of cancer knowledge among the elderly. A profile of the study population will be presented. The survey instruments will be described in terms of the 6 cancer myths and the 13 symptoms of aging/cancer. Selected demographic variables will also be included.

Study Population

The population for the study included a convenience sample of 50 persons selected from individuals who utilize the Dorchester County Health Department, various local MAC Centers, and attend the local AARP meetings. Table 1 summarizes the demographic profile of the study participants. The race of the participants was almost evenly divided with approximately one-half white (46.0%) and one-half black (54.0%). A large majority of the study sample were females (82.0%). Most people were at the younger and older ends of the age scale with 46.0% between the ages of 65 and 69 and 40.0% 75 years old or older. With regards to the annual incomes for the participants, 34.0% were in the \$2,500-\$4,999 category and another 24.0% in the \$10,000-\$19,999 range. It was determined that the incomes reported basically supported only one person (72.0%). Basic education of the group was eighth grade or less for 38.0% of the subjects while 32.0% had completed grades

Table 1

Demographic Description of Study Population

<u>Race (N = 50)</u>	<u>Frequency</u>	<u>Percent</u>
White	23	46.0
Black	<u>27</u>	<u>54.0</u>
	50	100.0
<u>Sex (N = 50)</u>		
Male	9	18.0
Female	<u>41</u>	<u>82.0</u>
	50	100.0
<u>Age (N = 49)</u>		
65 - 69	23	46.0
70 - 74	6	12.0
75 and Over	20	40.0
Missing	<u>1</u>	<u>2.0</u>
	50	100.0
<u>Income (N = 46)</u>		
Less than \$2,499	2	4.0
\$ 2,500 - \$ 4,999	17	34.0
\$ 5,000 - \$ 7,499	10	20.0
\$ 7,500 - \$ 9,999	4	8.0
\$10,000 - \$19,999	12	24.0
\$20,000 - \$29,999	0	0.0
\$30,000 and Over	1	2.0
Missing	<u>4</u>	<u>8.0</u>
	50	100.0
<u>Education (N = 50)</u>		
8th Grade or Less	19	38.0
Grades 9, 10, 11	16	32.0
Grade 12	8	16.0
13 Years or More	<u>7</u>	<u>14.0</u>
	50	100.0

9, 10, or 11. One must keep in mind that for many of these elderly, school only went to the eleventh grade.

Participants were asked if they saw a physician on a regular basis for check-ups. Results indicated that the majority (88.0%) did see a physician regularly. Thirty percent of the population saw a physician every three months while another 22.0% saw a physician every two months (Table 2). Many of the participants also saw some type of specialist (54.0%). Of these the largest majority saw an ophthalmologist (32.0%) while others visited a podiatrist (12.0%). The majority of those interviewed did not report any personal history of cancer (92.0%).

Cancer Knowledge Scales

Two scales were used in the present study to assess cancer knowledge. One was to determine if elderly individuals believe many of the cancer myths reported and a second scale was to identify if the elderly could distinguish cancer warning signals from aging symptoms. A description will be given for each scale.

Cancer Myth Scale

For the Cancer Myth Scale, each respondent was asked to agree or disagree with six false statements regarding cancer. Table 3 presents the results. Participants gave the correct response if they disagreed with the statement. The first myth stating that 'age is not related to a person's chances of getting cancer' was answered correctly by 30 people (60.0%). The second myth of 'surgery spreads cancer'

Table 2

Health Habits of Study Population

<u>MD on Regular Basis (N = 50)</u>	<u>Frequency</u>	<u>Percent</u>
Yes	44	88.0
No	6	12.0
	<u>50</u>	<u>100.0</u>
 <u>How Often Visit MD (N = 50)</u>		
Monthly	5	10.0
Every 2 Months	11	22.0
Every 4 Months	1	2.0
Every 6 Months	6	12.0
Yearly	5	10.0
Every 3 Months	15	30.0
Other	1	2.0
Not Applicable	6	12.0
	<u>50</u>	<u>100.0</u>
 <u>Specialist Seen (N = 50)</u>		
Yes	27	54.0
No	21	42.0
Refused to Answer	2	4.0
	<u>50</u>	<u>100.0</u>
 <u>Types of Specialist (N = 50)</u>		
Ophthalmologist	16	32.0
Podiatrist	6	12.0
Cardiologist	2	4.0
Other	3	6.0
Not Applicable	23	46.0
	<u>50</u>	<u>100.0</u>
 <u>History of Cancer</u>		
Yes	4	8.0
No	46	92.0
	<u>50</u>	<u>100.0</u>

Table 3

Cancer Myth Scale

<u>Cancer Myths</u>	<u>Number of People Giving Correct Response % Correct</u>	
1. Age is not related to a person's chances of getting cancer	30	60.0
2. Surgery spreads cancer	23	46.0
3. Cancer treatments are worse than the cancer	12	24.0
4. A woman can get cancer from being hit in the breast	14	28.0
5. Cancer can be treated only by surgery	38	76.0
6. Pain is the first symptom of cancer	36	72.0

was correctly identified by 23 individuals (46.0%). The next two myths had the least number of people give correct responses. 'Cancer treatments are worse than the cancer' was only disagreed with by 12 participants (24.0%) and 'a woman can get cancer from being hit in the breast' was disagreed with by 14 of the study group (28.0%) reflecting that a large percent of the population really believe these two myths. The last two myths, 'cancer can be treated only by surgery' and 'pain is the first symptom of cancer' were correctly answered by 38 and 36 people respectively (76.0% and 72.0%). Still, approximately one-fourth of the population believe in these myths.

Symptom Scale

Lastly, a scale was utilized to determine if elderly individuals could distinguish aging symptoms from the Seven Warning Signs of Cancer. Thirteen symptoms including the warning signs were read to the individuals and they were asked if they thought it was a warning sign of cancer or a normal aging change. Table 4 presents the conclusions. Findings indicate that at least 80.0% of the study group could identify four of the Seven Warning Signs of Cancer. A breast lump was the warning signal identified most often (94.0%). Others reported by 80.0% or more included a sore that does not heal (80.0%), unusual bleeding or discharge (84.0%), and obvious change in a wart or a mole (80.0%). The warning signals identified by the least amount of people were a change in bowel or bladder habits (56.0%) and

Table 4

Symptoms Scale

<u>Symptoms</u>	<u>Number of People Giving Correct Response</u>	<u>% Correct</u>
1. Change in bowel or bladder habits*	28	56.0
2. Problems sleeping at night	47	94.0
3. Weight loss	19	38.0
4. A sore that does not heal*	40	80.0
5. Change in appetite	32	64.0
6. Unusual bleeding or discharge*	42	84.0
7. Thickening or lump in the breast or elsewhere*	47	94.0
8. Vision problems	45	90.0
9. Age spots (liver spots) on the skin	40	80.0
10. Indigestion or difficulty in swallowing*	28	56.0
11. Obvious change in wart or mole*	40	80.0
12. Thinning of hair	43	86.0
13. Nagging cough or hoarseness*	33	66.0

*Denotes Seven Warning Signs of Cancer

indigestion or difficulty in swallowing (56.0%). The last warning signal - nagging cough or hoarseness was answered correctly by 33 people (66.0%) still leaving a substantial number of people who incorrectly identified the symptoms.

This scale found that while a majority of the people could identify four warning signs, there are still three signals that are only recognizable to a little more than one-half of the population.

Study Questions

Six study questions were presented in the present study and each will be addressed here. The broad question that was addressed in the study was: what is the knowledge of cancer among a sample of non-institutionalized, elderly individuals? It is from this that specific study questions were developed.

Relationship Between Race and Knowledge Scores

The first question to be addressed in the study was: is there a difference in the knowledge of cancer between blacks and whites? Results of an analysis of variance indicated that whites have significantly higher scores than blacks (Table 5). As a whole, the study population answered an average of 12.74 questions correctly out of a possible score of 19. Whites got an average of 14 questions correct compared to blacks who answered approximately 11.67 questions correctly.

Relationship Between Education and Knowledge Scores

A second question to be addressed was: is there a

Table 5

Relationship Between Race and Knowledge Scores

	<u>Mean Scores</u>	<u>F</u>	<u>Sign F</u>
Whites	14.00	7.840	.007
Blacks	11.67		

difference in knowledge of cancer between more educated respondents and those less educated? When looking at the scores, it was evident that education was a significant factor in one's knowledge regarding cancer (Table 6). Those with an eighth grade or less education answered on the average 10.32 questions correctly, whereas, those with 13 years or more answered 15.29 questions appropriately. The largest difference in scores was between those with education levels of 8th grade or less and those with a 9th, 10th, or 11th grade education.

Relationship Between Income and Knowledge Scores

Thirdly, a study question looked at the differences in knowledge scores of those with lower incomes and those reporting higher incomes. For this data analysis, incomes were collapsed into three groups. Analysis of variance suggests a trend toward those with lower incomes having less knowledge of cancer (Table 7). Participants with incomes less than \$2,499-\$4,999 on an average answered 11.42 questions correctly while those with incomes \$10,000 and over tended to answer 13.76 questions correctly.

Relationship Between Sex and Knowledge Scores

Next, a study question asked if there was a difference in knowledge of cancer between males and females. In the present study, sex was found to be a significant variable associated with the cancer knowledge of elderly people (Table 8). Men answered 10.00 questions correctly, whereas, women could answer an average of 13.34 appropriately. There

Table 6

Relationship Between Education and Knowledge Scores

	<u>Mean Scores</u>	<u>F</u>	<u>Sign F</u>
8th Grade or Less (N = 19)	10.32	11.009	.000
Grades 9, 10, 11 (N = 16)	13.44		
Grade 12 (N = 8)	14.88		
13 Years or More (N = 7)	15.29		

Table 7

Relationship Between Income and Knowledge Scores

	<u>Mean Score</u>	<u>F</u>	<u>Sign F</u>
Less than \$2,499-\$4,999 (N = 19)	11.42	3.034	.058
\$5,000-\$9,999 (N = 14)	13.29		
\$10,000 and Over (N = 17)	13.76		

Table 8

Relationship Between Sex and Knowledge Scores

	<u>Mean Score</u>	<u>F</u>	<u>Sign F</u>
Male (N = 9)	10.00	9.907	.003
Female (N = 41)	13.34		

was a marked disparity, however, between the number of men and women in the study.

Relationship Between Age and Knowledge Scores

Lastly, knowledge was analyzed according to the elderly age groups. There was no significant difference in knowledge scores based on age (Table 9). Those in the 65-69 age group tended to answer 12.87 questions correctly while those 70-74 years old could answer 13.83. This does not seem to show that younger participants had more knowledge than older ones. Those people 75 years old and older could answer 12.20 questions appropriately.

Predictors of Cancer Knowledge

A last study question looked at the best predictors of cancer knowledge in the elderly age groups. Stepwise multiple linear regression was used for this analysis. In this type of regression, all variables are entered and then removed in a stepwise fashion. Table 10 displays the full and reduced models of the regressions. From the table, one can see that in the reduced model education, sex, and income together explain over fifty percent of the variance in knowledge scores. Race and age contributed little to the model.

Summary

The data from the present study seems to indicate that whites have more cancer knowledge than blacks, women have more knowledge than men, those with higher educations have greater knowledge, and there seems to be a trend that

Table 9

Relationship Between Age and Knowledge Scores

		<u>Mean Score</u>	<u>F</u>	<u>Sign F</u>
65-69	(N = 23)	12.87	.658	.522
70-74	(N = 6)	13.83		
75 and Over	(N = 20)	12.20		

Table 10

Stepwise Regression ModelFull Model

	<u>R²</u>	<u>Beta</u>	<u>T</u>	<u>Sign T</u>
	.59621			
Education		.531457	5.13	.0000
Sex		.381064	3.841	.0004
Age		-.142659	-1.457	.1522
Income		.181505	1.782	.0816
Race		-.142820	-1.380	.1745
(Constant)			1.960	.0563

Reduced Model - Variables in the Equation

	<u>R²</u>	<u>Beta</u>	<u>T</u>	<u>Sign T</u>
	.56321			
Education		.538033	5.267	.0000
Sex		.415777	4.246	.0001
Income		.198625	1.938	.0587
(Constant)			1.120	.2684

those with higher incomes may also have increased knowledge over those with lower incomes. Age did not seem to be related to cancer knowledge. A combination of education, sex and income explained 56.0% of the variance in knowledge scores. A majority of the population seem to still believe in several cancer myths, and there are still many people who do not know the Seven Warning Signs of Cancer.

CHAPTER V

SUMMARY

Introduction

The purpose of this research was to determine the level of knowledge about cancer among rural elderly individuals. As the elderly population is continuing to increase and cancer is more prevalent among the aging population, it is important that they be able to distinguish cancer warning symptoms from aging symptoms. An extensive literature review revealed limited research pertaining to the elderly and their knowledge of cancer. The present study used Rosenstock (1974) as the theoretical foundation and was based on the work of Weinrich and Weinrich (1986). Data was collected via a structured interview conducted by the researcher lasting approximately 10 minutes. The data was analyzed using frequencies, descriptive statistics to describe the study population, analysis of variance, and lastly, multiple regression analyses.

Study Population

The population for the study was a convenience sample of 50 non-institutionalized individuals from Dorchester County, Maryland. Black females made up the largest portion of the study sample. Most individuals fell either in the 65-69 or 75 years and over age category. Incomes and educational levels were basically low.

Relationship of Demographic Variables to Cancer Knowledge

Six study questions were developed and presented for

study. The questions addressed the relationship between the demographic variables: race, education, income, sex, and age. Results of the data analyses demonstrated that: whites had greater knowledge of cancer than blacks; those with higher educational levels had greater knowledge than those with lower educational levels; and females had significantly greater knowledge than males. Results might have been different if more males had been included in the study group. Income was not found to be significant in the determination of knowledge, although there was a trend for those with higher incomes to have an increased knowledge of cancer. Income may have been a significant factor in the study if more males had been included in the population due to the fact that males have a tendency to have higher incomes than females. Age was not found to be significantly related to knowledge of cancer.

Weinrich and Weinrich (1986) found race, education, and income to be significantly related to cancer knowledge and sex and age not significantly related. Thus, there were some inconsistencies in the findings with regard to sex of the respondents. Although in both studies there was a small population of men, Weinrich and Weinrich (1986) found it difficult to draw inferences regarding sex while the present study found it to be a significant variable. The small number of men in the present study could be due to the fact that men do not seem to utilize the various MAC Centers or the Health Department as frequently as women.

In several other studies reported by Luther et al (1982) and Nylenna and Hjortdahl (1987) there is again a significantly greater majority of women in the study sample.

A last study question examined the variables which together best explained cancer knowledge in the elderly age groups. Using multiple regression analysis, it was found that education, sex, and income together explained over 50.0% of the variance in cancer knowledge. A similar analysis by Weinrich and Weinrich (1986) found education and race to be the best explanatory variables. The difference in the findings of these two studies may be related to the fact that in the Weinrich and Weinrich study, 71.0% of the subjects were white, whereas, in the present study there was almost an even division of black and white. Also in the present study 70.0% of the population had educational levels of less than eighth grade to the eleventh grade. The Weinrich and Weinrich study (1986) found 39.0% of the population with an eighth grade education or less, but another 24.0% had 13 years education or more.

Cancer Knowledge Scales

Two scales were used to assess cancer knowledge. These were a Cancer Myth Scale and a Knowledge of Symptoms Scale. When six myths were presented to the elderly it was found that many did believe these myths. Two myths of particular interest were: 'cancer treatments are worse than the cancer' and 'a woman can get cancer from being hit in the breast'. Only 24.0% and 28.0% of the population respectively disagreed

with these two myths leaving a substantial amount of the population believing in them. The myth believed by the fewest people was that 'cancer can be treated only by surgery'. This was identified as a myth by 76.0% of the population. This still left almost 25.0% of the study group who believed in this myth. The study by Weinrich and Weinrich (1986) had a mean score of 2.3 out of a possible 6 also reflecting a belief in the majority of the cancer myths. The earlier study by Weinrich, Weinrich, and Keenan (1984) also found a mean score of 2.8 again demonstrating a belief in many of the myths.

The second scale was developed to determine if elderly individuals could distinguish aging symptoms from the Seven Warning Signs of Cancer. Data analysis indicated that 80.0% of the study group could identify four of the Seven Warning Signs of Cancer. These included: a breast lump, a sore that does not heal, unusual bleeding or discharge, and an obvious change in a wart or mole. Three signals were recognized by only a little more than half of the population. These were a change in bowel or bladder habits, indigestion or difficulty in swallowing, and a nagging cough or hoarseness. One reason why this may be different from the Weinrich and Weinrich study (1986) where individuals could only name one or two warning signs is that they were asked to recall the signs from memory. In the present study, participants were read the symptom and asked to identify it as either a warning sign of cancer or an aging

change. It may be easier to identify the signs if you hear them instead of from recall.

The literature review tended to show a decreased knowledge regarding cancer among the elderly. In a study by Luther et al (1982), it was found that while 5.0% of those interviewed could name five or six of the warning signs of cancer, another 29.0% could not identify any of the signs. Again, as in the present study, there is a deficit in the elderly's knowledge of the Cancer Warning Signals. This study is different from the present in that people were asked to recall from memory instead of recognize the signals when heard.

Likewise, in a study by Rimer et al (1983) it was found that a large majority believed in several of the cancer myths. Consistent with the present study findings, the two myths believed most often were: 'cancer treatments are worse than the cancer' and 'a woman can get cancer from being hit in the breast'.

Again, in the study by Luther et al (1982), results indicated that the mass media were identified as the most common source of cancer information. This is different from the present study where 50.0% of the population studied identified a doctor/nurse as their source for information. The difference seen here could be due to the fact that in the present study, a large majority of the population reported seeing a physician on a regular basis and over 50.0% indicated that they saw them every 2-3 months. There

was no indication about this in the Luther study.

The Health Belief Model originally identified five constructs that are believed to be strong predictors of health behaviors. One construct in particular was that of barriers. In a study by Champion (1987), it was found that barriers accounted for 22.0% of the variance in BSE. Likewise, in a second study done earlier by Champion (1985) results again showed barriers to account for 23.0% of the variance. In the present study two barriers were identified in the elderly's lack of cancer knowledge. These were a belief in many of the cancer myths and a lack of knowledge regarding the Seven Warning Signs of Cancer. These are barriers because they may prevent the elderly in seeking medical attention in a timely manner for a problem or discomfort.

Implications of the Findings

The research and analyses indicate that elderly individuals do not have adequate knowledge regarding cancer and its warning signs. Other literature also reveals that the elderly practice fewer cancer detection activities and seek medical attention for problems later than younger adults. The information gained from the present research could be valuable in the development of educational programs and materials for the elderly. Results of the present study show that educational programs and literature need to be targeted at displacing the myths regarding cancer that are believed by many and at making the elderly aware

of the Seven Warning Signs of Cancer. When developing such literature, the educational levels of the population to be targeted must be kept in mind. Implications for nursing show that nurses, along with other health professionals, have an obligation to become more involved in teaching and prevention activities.

Recommendations for Further Study

Further study of cancer knowledge of the elderly should attempt to obtain a random sample and not a convenience sample as was used in the present research. Using a convenience sample limits being able to generalize beyond this particular population. It would also be important to include more males in the study sample. Lastly, it would be of interest to compare the findings of this research that deals with the rural elderly to research involved with the urban elderly.

APPENDIX 1

Informed Consent

I am currently conducting a survey on cancer knowledge. I am seeking the assistance of those individuals 65 years old and older in completing a survey concerned with what is known about cancer among your age group.

The questionnaire is brief and should take about 10 minutes of your time to complete. The questionnaire will be read to you and your answers recorded. Every effort will be made to keep the information provided confidential. Your name does not appear on the survey.

Your cooperation and participation are strictly voluntary. Your participation is very valuable and will help me gain a better understanding of what people in your age group know about cancer.

If you have any questions about this study, please contact: Nancy L. Flurer, Registered Nurse, Salisbury State University, telephone (301) 546-3657.

Thank you for your cooperation

Cancer Knowledge Survey

I. Please check the appropriate space:

Race: White
 Black and/or other ethnic group

Sex: Male
 Female

Age: 65-69
 70-74
 75 and over

Income: Less than \$2,499
 \$2,500 - \$4,999
 \$5,000 - \$7,499
 \$7,500 - \$9,999
 \$10,000 - \$19,999
 \$20,000 - \$29,999
 \$30,000 and over

How many people does this support?

Education: What was the highest grade completed?

8th Grade or Less
 Grades 9, 10, 11
 Grade 12
 13 Years or More

Do you see a physician on a regular basis for check-ups?

Yes No

How often do you see this physician?

- Monthly
 Every 2 Months
 Every 4 Months
 Every 6 Months
 Yearly
 Every 3 Months
 Other (please specify)

Is there any other reason that you see a physician for and what do you see him/her for?

Do you have a history of cancer of any type?

- Yes No

If so, what area does the cancer involve?

- Lung
 Cervix
 Uterus
 Breast
 Colon/Rectum
 Prostate
 Skin
 Other (please specify)

II. Please agree or disagree with the following statements related to cancer.

1. Age is not related to a person's chances of getting cancer.

Agree Disagree

2. Surgery spreads cancer.

Agree _____ Disagree _____

3. Cancer treatments are worse than the cancer.

Agree _____ Disagree _____

4. A woman can get cancer from being hit in the breast.

Agree _____ Disagree _____

5. Cancer can be treated only by surgery.

Agree _____ Disagree _____

6. Pain is the first symptom of cancer.

Agree _____ Disagree _____

III. I'm going to name some problems that older people may have. If you or a friend developed the following symptoms within a six month period, what would you think the cause might be? Would you suspect a warning sign of cancer or just a normal aging change?

Ask question:

If you had (read name of symptom), would you think it was a warning sign of cancer or a normal aging change?

<u>Sympton</u>	<u>Warning Sign</u>	<u>Aging Change</u>
Change in bowel or bladder habits	_____	_____
Problems sleeping at night	_____	_____
Weight loss	_____	_____
A sore that does not heal	_____	_____
Change in appetite	_____	_____

<u>Symptom</u>	<u>Warning Sign</u>	<u>Aging Change</u>
Unusual bleeding or discharge	_____	_____
Thickening or lump in the breast or elsewhere	_____	_____
Vision problems	_____	_____
Age spots (liver spots) on the skin	_____	_____
Indigestion or difficulty in swallowing	_____	_____
Obvious change in wart or mole	_____	_____
Thinning of hair	_____	_____
Nagging cough or hoarseness	_____	_____

IV. Where do you obtain most of your information about health-related matters?

- _____ Doctor/Nurse
- _____ Books
- _____ Newspapers/magazines
- _____ Television
- _____ Senior Center
- _____ Family/friends
- _____ Other (please specify)

APPENDIX 2

Statement of Approval
Committee on Human Volunteers
Salisbury State College

Date February 20, 1989

MEMORANDUM TO: Karin E. Johnson/Nancy L. Flurer
FROM : Chairman, Committee on Human Volunteers
SUBJECT : The Knowledge of Cancer Among the Elderly

Title of Study

Nursing Dept. Salibury State University

Grant Application No.

Sponsoring Agency

Dr. Karin E. Johnson

Principal Investigator or Program Director

The Committee on Human Volunteers has considered the above application and, on the basis of available evidence, records its opinion as follows:

- (1) The rights and welfare of individual volunteers are adequately protected.
- (2) The methods to secure informed consent are fully appropriate and adequately safeguard the rights of the subjects (in the case of minors, consent is obtained from parents or guardians).
- (3) The investigators are responsible individuals, competent to handle any risks which may be involved, and the potential medical benefits of the investigation fully justify these studies.
- (4) The investigators assume the responsibility of notifying the Committee on Human Volunteers if any changes should develop in the methodology or the protocol of the research project involving a risk to the individual volunteers.


Chairman

copy to: Nancy L. Flurer

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Curriculum Vitae

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EDUCATION

Salisbury State College
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1979 - 1983
B.S. in Nursing

Salisbury State University
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1985 - 1989
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LICENSURE

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PROFESSIONAL ORGANIZATIONS

American Nurses Association
Maryland Nurses Association

COMMUNITY MEMBERSHIP

Asbury United Methodist Church
Salisbury State University Nursing Honor Society

WORK EXPERIENCE

May 1989 - Present:

Peninsula General Hospital Medical Center
Salisbury, Maryland

Job Title: Administrative Supervisor/Instructor

Job Description: A registered nurse who assists in the organization, management, institutional planning, and supervision of the Nursing Department. Is accountable for the nursing care rendered by staff on a daily basis. Assesses unit needs and plans staffing on a per shift basis. Acts as a resource person for nursing personnel. Is also responsible for inservice education in the Nursing Department.

WORK EXPERIENCE (continued)

January 1986 - May 1989:

Peninsula General Hospital Medical Center
Salisbury, Maryland

Job Title: Assistant Clinical Manager

Job Description: A registered nurse who is a member of the management team. Assists the Clinical Manager with the supervision and evaluation of a 36 bed medical-surgical area. Acts as charge nurse in the absence of the Clinical Manager.

May 1983 - December 1985:

Peninsula General Hospital Medical Center
Salsibury, Maryland

Job Title: Staff/Charge Nurse

Job Description: Responsible for direct patient care and charge responsibilities for a 48 bed medical-surgical unit on the 11-7 shift.