

Health Beliefs, Knowledge, and Perceived Barriers of Colorectal Cancer
Screening Practices Among African Americans

by

Cheryl L. Logan

A thesis submitted to the faculty of
Gardner-Webb University School of Nursing
in partial fulfillment of the requirements for the
Master of Science in Nursing Degree

Boiling Springs, North Carolina

2013

Submitted by:

Cheryl L. Logan

Date

Approved by:

Janie Carlton, EdD, MSN, RN

Date

UMI Number: 1550968

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



UMI 1550968

Published by ProQuest LLC (2014). Copyright in the Dissertation held by the Author.

Microform Edition © ProQuest LLC.

All rights reserved. This work is protected against unauthorized copying under Title 17, United States Code



ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

Abstract

Research indicates that African Americans have the highest death rate and shortest survival rate of any ethnic or racial group in the United States for most cancers.

Colorectal cancer is the third most common cancer diagnosed in men and women. The literature reveals that the primary cause of higher mortality and incidence rates is the lack of participation in colorectal cancer screening activities. This descriptive study examined the health beliefs, knowledge, and perceived barriers of colorectal cancer screening practices among African Americans. Using the Health Belief Model as the theoretical framework, and Champion's Health Belief Model scale, information regarding the health beliefs, knowledge, and perceived barriers of colorectal cancer screening among 13 African American men and women living in western North Carolina was obtained.

The results of this study indicate that the majority of African Americans participated in sigmoidoscopy/colonoscopy colorectal cancer screening and were knowledgeable about when this type of screening needs to begin and how often it should occur. Future research should be conducted replicating this study using a larger, representative sample in order to understand the relationship between colorectal knowledge and screening practices among African Americans. The aim is to increase colorectal cancer screening among African Americans and ultimately decrease the rate of mortality from this cancer.

Keywords: Colorectal cancer, Colorectal cancer screening, African Americans, Health Belief Model, knowledge

Acknowledgements

I would like to thank Jesus Christ, my Lord and Savior, for without Him my words would be like clanging cymbals.

I would like to acknowledge Dr. Janie Carlton for her guidance and wisdom as my thesis advisor. Her time, expertise, and encouragement were invaluable to me.

I greatly appreciate Dr. Rebecca Beck-Little for her guidance and expertise in formatting the statistics for this thesis and providing direction in the analysis of the data.

I thank my friend, Annie Burnham who critically reviewed this thesis and provided practical comments.

Most importantly, I would like to thank my family for their love, support, and care during the past two years. They have observed what goal setting and perseverance can accomplish and have sacrificed their needs in order for me to pursue my Master's degree.

© Cheryl L. Logan, 2013

All Rights Reserved

TABLE OF CONTENTS

CHAPTER I: INTRODUCTION

Problem Statement	2
Justification of Research	5
Purpose.....	7
Thesis Question.....	7
Theoretical Framework	7
Definition of Terms.....	11
Summary	13

CHAPTER II: LITERATURE REVIEW

Review of Literature	16
Summary	21

CHAPTER III: METHODOLOGY

Implementation	23
Setting	24
Sample.....	25
Design	25
Protection of Human Subjects	26
Instruments.....	27
Data Collection Procedure	28
Data Analysis Procedures	28
Summary	29

CHAPTER IV: RESULTS

Sample Characteristics.....	30
Major Findings.....	31
Summary.....	44

CHAPTER V: DISCUSSION

Implication of Findings.....	45
Application to Theoretical Framework.....	46
Limitations	47
Implications for Nursing.....	47
Recommendations.....	48
Conclusion	48

REFERENCES	49
------------------	----

APPENDICES

A. Demographic Questionnaire	54
B. Health Belief Model Scales (HBMS)	55
C. Barriers to Colorectal Cancer Screening Subscale	56
D. Center for Disease Control (CDC) Screen for Life Brochure.....	57

List of Figures

Figure 1: The Health Belief Model, Adapted with permission.....	9
Figure 2: Health Belief Model Constructs Chart. Adapted with permission	10

List of Tables

Table 1: Demographic Characteristics of the Study Sample	31
Table 2: Percentages of Participants' Responses to the Six Questions Related to Susceptibility on the HBM-CC	33
Table 3: Percentages of participants' Responses to the 12 Questions Related to Seriousness on the HBM-CC	35
Table 4: Percentages of Participants' Responses to the Five Questions Related to Benefits on the HBM-CC	37
Table 5: Percentages of Participants' Responses to the Eight Questions Related to Health Motivation on the HBM-CC	39
Table 6: General Knowledge of CRC Screening	41
Table 7: Perceived Barriers to Colorectal Cancer Screening	43
Table 8: Colorectal Cancer Screening Practices	44

CHAPTER I

Introduction

Cancer is the second most common cause of death in the United States (U.S.), occurring in one out of four deaths (American Cancer Society (ACS), 2013). According to the American Cancer Society (ACS) (2013), African Americans have the highest death rate and shortest survival rate of any racial or ethnic group in the U.S. for most cancers. It is estimated that 1,660,290 new cancer cases will be diagnosed and 580,350 Americans will die of cancer in 2013 (ACS, 2013). Of those new cancer cases, 53,200 of them will be diagnosed in North Carolina (ACS, 2013). Colorectal cancer (CRC) is the third most common cancer diagnosed in men and women, with an estimated 142,820 expected cases to occur in 2013 (ACS, 2013). Of those cases, 18,110 of them are expected to occur among African Americans (ACS, 2013).

One of the goals of *Healthy People 2020*, a national health objectives program based on a needs assessment of the United States' population is to decrease the number of people diagnosed with any type of cancer and the disability or death that may result (U.S. Department of Health and Human Services, 2010). The data from these objectives are reviewed every ten years and evaluated to determine which needs have been met and which needs should be assessed for the next ten years. The Healthy Communities initiative (Healthy Communities Program, 2012) is a set of action steps that communities can use to evaluate *Healthy People 2020* objectives in their community. These action steps provide communities with tools to develop and implement methods to manage or prevent the chronic health problems of heart disease, stroke, cancer, diabetes, obesity,

and arthritis and to eliminate health disparities by collaborating within the community to decrease tobacco use, promote healthy eating and exercise, and increase access to health care services (Healthy Communities Program, 2012).

Two characteristics of these communities that are consistent with the precepts of Healthy Communities and Cities are improving access to healthcare and decreasing colorectal cancer deaths (Healthy Communities Program, 2012). Partnerships may exist between public, private, and non-profit organizations to collaborate in meeting these objectives.

Problem Statement

The population of a community in western North Carolina is 154,358 and includes a city population of 40,000 within a total land area of 414 square miles (Catawba County Public Health Department, 2010). According to the Catawba County State of the County health report (Catawba County, 2010), an estimated 20,000 Catawba County adults lack health insurance which decreases their access to healthcare. Through the efforts and partnership of the Catawba County Public Health Department and Catawba County Department of Social Services, local churches who provide volunteers and funding, and a group of area doctors who volunteer to provide services, those with chronic health problems can have access to quality health care. The Greater Hickory Cooperative Christian Ministry Health Care Center (CCM) has expanded the hours of operation and services to include medical, dental, and pharmaceutical services. Another community effort is a collaborative one between the American Cancer Society's "Get Your Tests!" program and local physicians. Promotions by area hospitals during Colon Cancer

Awareness Month (March) include reduced cost screenings and media awareness campaigns for colon cancer awareness.

Cancer is a leading cause of death in the U.S. and also this community (Vital signs, 2011).

Despite these collaborative efforts, one third of the respondents eligible for colorectal cancer (CRC) screening reported on the 2010 Behavioral Risk Factor Surveillance System Survey (BRFSS) for Catawba County that they were not current with screening (Vital signs, 2011). Although the CRC death rate has declined from 17 per 100,000 population in 2007 to 15.9 per 100,000 population in 2010, there is still time to meet the target for 2020 of 14.5 per 100,000 (Vital signs, 2011). Evidence shows that screening decreases the likelihood of a CRC diagnosis and mortality from the disease (Vital signs, 2011). According to the Medical Expenditures Panel Survey (MEPS) of the Agency for Healthcare, Research and Quality, \$ 201.5 billion was spent on overall cancer costs in 2008 (Vital signs, 2011). Some of these cancer costs can be prevented through cancer screenings. Screening costs per patient vary depending on the type of screening and frequency.

The United States Preventive Services Task Force (USPSTF) (2008) recommends routine CRC screening at age 50 for those at average risk and at earlier ages for those at high risk, with one or more of the following: high sensitivity fecal occult blood test (FOBT) every year, flexible sigmoidoscopy every five years, or colonoscopy every ten years. According to the USPSTF (2008), the benefits of screening outweigh the risks of any potential harm for 50-to 75-year-olds. It is not recommended by the USPSTF (2008) to routinely screen those aged 76 and older. Despite these recommendations and public

awareness campaigns by the American Cancer Society and Centers for Disease Control and Prevention, studies show that African Americans are less likely to choose one of the three screening tests (ACS, 2013).

Thus, many cancers or cancer costs could be avoided through behavioral changes or regular screening tests that would identify and remove precancerous growths to prevent cancer of the cervix, colon, and rectum (ACS 2013). Cancer screenings usually result in less extensive treatment and better outcomes. Expensive co-insurance payments and lack of health insurance along with other barriers hinder many U.S. citizens from receiving preventive services. Ethnic minorities and uninsured citizens are more likely to be diagnosed with cancer in a later stage when the treatment is more costly and extensive. For African Americans, the CRC mortality rate is 45% higher than Caucasians (ACS, 2013). Routine CRC screening has been shown to decrease the incidence and mortality of the disease. However, 50% of the persons eligible for CRC screening have never been screened, and the screening rates recommended by the USPSTF (2008) remain low. Not only are African Americans less likely to be screened for CRC but also to go longer between the recommended screening intervals (ACS, 2013). Reasons for low screening rates among African Americans are not well understood. Several barriers to screening have been identified: lack of physician recommendation, lack of knowledge about CRC, lack of knowledge of CRC screening, lack of health insurance, lower income and education, and belonging to a racial or ethnic minority group (Rawl, Menon, Champion, Foster, & Skinner, 2000). Understanding how these barriers influence the decision to participate in CRC screening may help health care professionals to develop interventions to address them. This may increase participation in CRC screenings among African

American men and women and ultimately decrease the mortality from this disease.

Studies have also examined perceived benefits to screening in order to better understand the decision making process (James, Daley, & Greiner, 2011). In order to increase CRC screening rates among African Americans to reduce this disparity, it is important to understand the factors that promote health prevention activities such as CRC screening.

Justification of the Research

Colorectal cancer incidence and mortality has declined since 2007 due in part to increased CRC screening (ACS, 2013). However, there are still a significant number of Americans who have not received this life-saving screening. One of the goals of *Healthy People 2020* is to increase the percent of adults aged 50-75 years screened for CRC to 70.5% (U.S. Department of Health and Human Services, 2012). CRC screening is a priority of the American Cancer Society for cancer prevention and early detection of precancerous lesions. Screening rates for African Americans are 56% versus 62% for Caucasians (ACS, 2013). Research studies have identified modifiable risks for CRC such as obesity, diabetes, high consumption of red or processed meats, alcohol consumption, and smoking (Vargas & Thompson, 2012). Barriers to screenings include lack of physician recommendation, cost of screening, and lack of knowledge concerning screening (James et al., 2011). Identifying perceived barriers to CRC screening is important to healthcare professionals in order to develop interventions to reduce barriers and increase participation in CRC screenings. This information could help healthcare professionals reduce the incidence and mortality of CRC among African Americans. Additionally, with early detection and intervention, healthcare professionals, especially

nurses, should be able to increase CRC awareness through education and thereby increase CRC screening practices among African Americans.

Health disparities in health care can be racial or ethnic differences that may originate with client preferences or clinical needs and result in lower quality care and poorer outcomes (Sebastian, 2012). The incidence rate of CRC was higher for Caucasian men than African American men prior to 1989 and similar for women of both races (ACS, 2013). However, since 1989 there has been a widening incidence disparity of CRC between Caucasians and African Americans of both sexes (ACS, 2013). This may reflect racial or cultural differences in CRC knowledge and screening practices. Low screening rates for African Americans increases the likelihood of a late stage diagnosis and higher death rate from CRC (ACS, 2013).

A review of the USPSTF (2008) guidelines shows that healthcare professionals should recommend CRC screening with high sensitivity FOBT every year or flexible sigmoidoscopy every five years, or colonoscopy every 10 years, beginning at age 50 for men and women at average risk for CRC. Those in a higher risk population such as African American men and women with a first-degree relative (parent, sibling, or child) diagnosed with CRC would need to begin screening at an earlier age (Rawl et al., 2000). Although CRC screening, detections, and removal of pre-cancerous growths are well established, there is a continual need to educate adults aged 50-75 years about the significance of CRC (Phillips, Smith, Ahn, Ory, & Hochhalter, 2013). Colorectal cancer is the third leading cause of cancer death in African American men and women (ACS, 2013). African Americans have a lower CRC screening rate, 56% compared to 62% for Caucasians (ACS, 2013). Healthcare professionals need to understand the differences in

the screening rates of African Americans and Caucasians and what determines a person's decision to participate in life- saving cancer screening, specifically colorectal cancer screenings.

Purpose

Understanding colorectal cancer health beliefs, knowledge, and perceived barriers among African Americans and how they influence the decision to participate in screening may help healthcare professionals, especially nurses, to implement strategies to address them. This may increase participation in CRC screenings among African American men and women and ultimately decrease the rate of mortality from this disease. The purpose of this study was to explore the health beliefs, knowledge, and perceived barriers of colorectal cancer screening among African Americans in a western North Carolina community.

Thesis Questions

1. What are the health beliefs regarding colorectal cancer among African Americans?
2. What is the knowledge of colorectal cancer screening among African Americans?
3. What are the perceived barriers to colorectal cancer screening among African Americans?
4. What are the colorectal cancer screening practices among African Americans?

Theoretical Framework

The Health Belief Model (HBM) was the theoretical framework utilized in this study. This model was adapted from social psychology to predict health behaviors. It was originally developed by a group of social psychologists working for the United

States Public Health Service to improve the public's use of preventive services (McEwen & Wills, 2011). The premise of the HBM is that people fear disease and that health-seeking behaviors are related to the amount of fear they have and the benefits they receive (Rosenstock, 1974). This group of psychologists wanted to understand the importance of encouraging healthy behaviors and the difference between people in achieving and sustaining the behavioral change (Rosenstock, 1990). Five concepts emerged that determine people's readiness to action: perceived susceptibility of the health problem, perceived severity, perceived benefits, perceived barriers, and self-efficacy or health motivation, as shown in the conceptual model in Figure 1. Definitions and applications of the key concepts of the HBM are shown in Figure 2.

The HBM explains that a person's perception of the fear of the health problem and their evaluation of the recommendation to prevent or manage the problem becomes their health-related behavior. The HBM is especially useful in health promoting activities (McEwen & Wills, 2011). Healthcare professionals need to understand that in order for change to occur, the benefits of the changed behavior must be impressive.

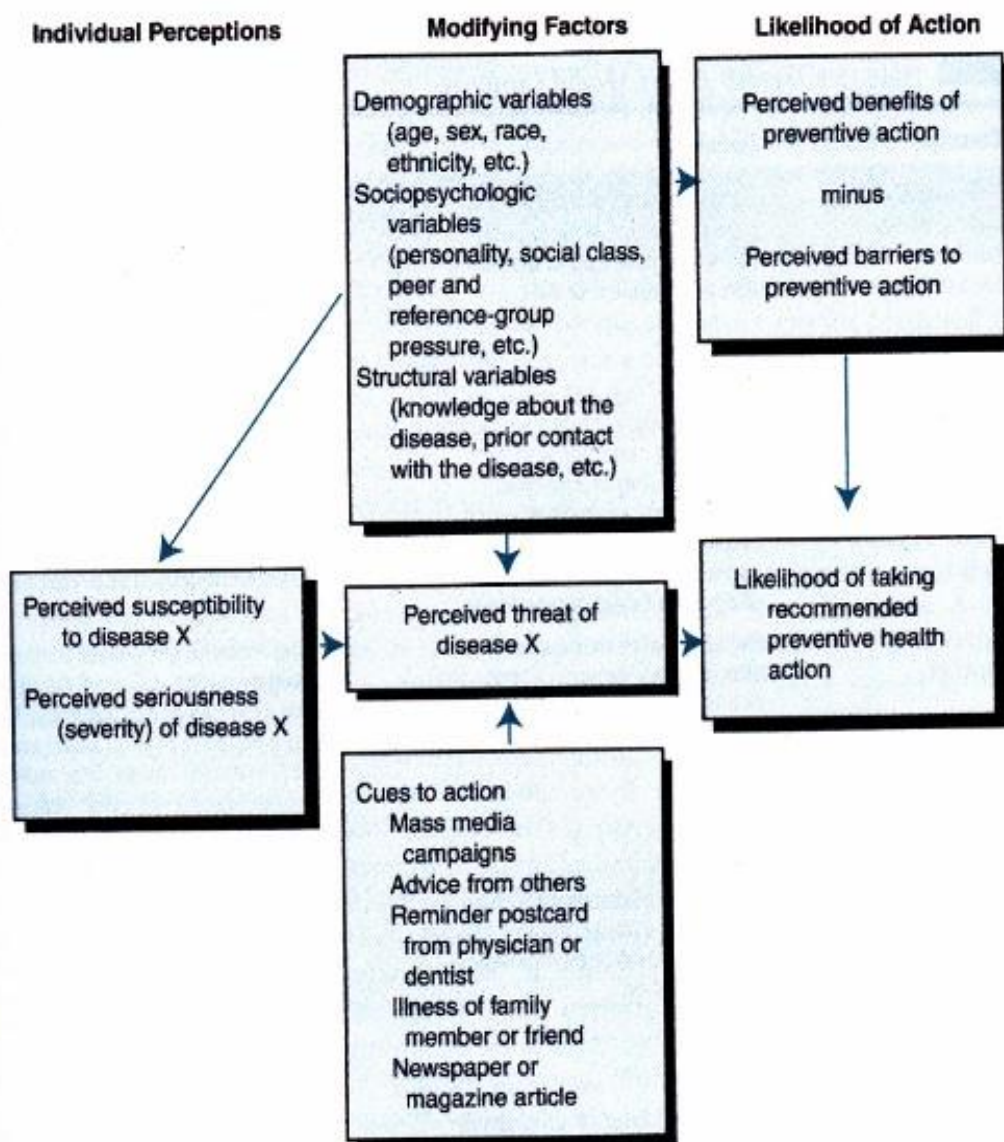


FIGURE 13-1 The Health Belief Model. (From Becker, M. H., Haefner, D. P., Kasl, S. V., et al. (1977). Selected psychosocial models and correlates of individual health-related behaviors. *Medical Care*, 15, 27-46, with permission.)

Figure 1. The Health Belief Model, Adapted with permission

Concept	Definition	Application
Perceived susceptibility	Subjective risk of contracting a condition; belief or opinion regarding chances of acquiring a health problem or threat	Define population(s) at risk, risk levels; personalize risk based on a person's features or behavior; heighten perceived susceptibility of too low
Perceived severity	Concern related to the seriousness of a health condition and understanding of potential difficulties the condition might cause; belief or perception of seriousness or consequences of a health threat or condition	Specify consequences of the risk and the condition
Perceived benefits	Beliefs related to the effectiveness of preventive actions; opinion that changing behavior(s) may reduce the threat	Define action to take; how, where, when; clarify the positive effects to be expected
Perceived barriers	Perception of the obstacles to changing behavior; opinion related to tangible and/or psychological costs of action	Identify and reduce barriers through reassurance, incentives, assistance
Cues to action	A stimulus (external or internal) that triggers health-related behaviors; something that makes the individual aware of a health threat	Provide how-to information, promote awareness, reminders
Self-efficacy	Belief that one has the ability to change one's behaviors; recognition that personal health practices and choices can positively influence health	Provide training, guidance in performing action

Figure 2. Health Beliefs Model Constructs Chart. Adapted with permission

Definition of Terms

Perceived susceptibility is an individual's assessment of his or her chances of getting the disease.

Perceived severity is an individual's judgment as to the seriousness of the disease.

Perceived threat is the combination of perceived susceptibility and perceived severity.

Perceived benefits are an individual's conclusion as to whether the new behavior will be better than what he or she is currently doing.

Perceived barriers are an individual's opinion as to what will prevent him or her from adopting the new behavior.

Cues to action are the factors that will trigger a change in an individual's behavior.

Self-efficacy was added to the HBM in 1988 to help the HBM to contend with the challenges of changing unhealthy habitual behaviors, such as overeating, smoking, and a sedentary lifestyle (McEwen & Wills, 2011). It is an individual's personal belief in their own ability to do something.

Other variables that may play a role in the HBM but have not been studied with any conclusion are age, gender, ethnicity, personality, socioeconomic status, and family structure. Cues to action prompt an individual to desire to change a particular behavior and can be internal or external. Internal factors may include signs and symptoms of the disease or condition. A recommendation by a family member, friend, or physician could be an external factor.

The HBM proposes that individuals will take action if they believe that they are personally susceptible to what they conclude is a serious threat to their health. Therefore, if a man or woman believes that being screened for colorectal cancer will reduce the threat of getting the disease, then he or she is more likely to get screened. The action to be screened must be perceived as possible and effective. The perceived barriers or negative aspects of the health preventive action of CRC screening must be less and the perceived benefits or positive aspects must be more in order for the steps of action to occur.

In regards to CRC screening, African American men and women with a family history of cancer perceived themselves to be susceptible to CRC and were more likely to participate in screening (Brittain, Loveland-Cherry, Northouse, Caldwell, & Taylor, 2012). Likewise, those who do not have a family history of the disease usually do not perceive themselves as susceptible; they may perceive themselves to be in excellent health so the barriers outweigh the benefits (Berkowitz, Hawkins, Peipins, White, & Nadel, 2008). Identifying barriers is a key concept in the HBM and in CRC screening in particular. The likelihood of participating in CRC screening is determined by an individual's knowledge of the condition and its sequelae, his or her perceived susceptibility, and the perceived benefits minus the perceived barriers (Green & Kelly, 2004).

The HBM has been developed over 50 years and is a prolific framework for explaining and predicting preventive health care behaviors. It has been used extensively in studies concerning breast cancer and is the basis for a measurement tool-the HBM scales (Champion, 1995). It has also been utilized in studies concerning colorectal cancer

(Green & Kelly, 2004). Features of the HBM have been linked to participation in health-promoting behaviors and have served as the framework for many studies related to CRC screening participation (Davis et al., 2013). The HBM has been used to explain, understand, and predict behaviors related to preventive health practices among many population groups and sub-groups and as such is a suitable model for this present study. The HBM provided the researcher with a framework that explored health beliefs, knowledge, and perceived barriers of colorectal cancer screening in African Americans. This model assisted the researcher with tools and methods to examine factors that answered the research questions.

Summary

Colorectal cancer remains a significant problem in the United States among African American men and women. Research has shown that African Americans have a higher incidence and mortality rate for CRC. According to the ACS (2013), one way to decrease the mortality rate of CRC in this population is to increase screening with high-sensitivity FOBT yearly, flexible sigmoidoscopy every five years, or colonoscopy every 10 years beginning at age 50 for adults at average risk. The goal of CRC screening is to detect CRC in an early localized stage rather than waiting until signs and symptoms have appeared which may indicate that the cancer has advanced and thereby increase the risk of mortality. Identifying the variables that hinder participation in CRC screening among African American men and women is crucial to promoting early detection practices and decreasing mortality rates for the disease. Therefore, the goal of this study was to examine the CRC screening practices of African Americans and examine significant factors that affect the population's participation in screening. The HBM was used as the

theoretical framework. Targeted, more culturally sensitive interventions for CRC screening may need to be developed for African Americans.

CHAPTER II

Literature Review

Colorectal cancer is the third most commonly diagnosed cancer among men and women in the United States, with an estimated 142,820 cases expected to occur in 2013 (ACS,2013). Of these cases, 4,260 cases are expected to occur in North Carolina and 1,510 deaths are expected (ACS, 2013). The community where this research was conducted has a significantly higher death rate from CRC than the rest of the state, 20.3 per 100,000 compared to 15.8 per 100,000 (State Cancer Profiles, 2013). The death rate for African Americans with CRC in this community is 38.8 per 100,000, compared to 19.2 per 100,000 for Caucasians and 22.0 per 100,000 for the state (State Cancer Profiles, 2013). The incidence of CRC for African Americans in this community is 67.8 per 100,000, compared to 39.3 per 100,000 for Caucasians and 40.9 per 100,000 for the state (State Cancer Profiles, 2013). The reasons for the disparity seems unclear, but several factors may be involved, such as age, gender, access to healthcare provider, education, and socioeconomic status (Ahmed, Pelletier, Winter, & Albatineh, 2013).

Few studies have explored the reasons for this disparity and limited level of participation in CRC screenings among African American men and women. Insurance coverage or lack of insurance has been examined as a barrier to CRC screening (Patel et al., 2012). North Carolina is one of the few states that provide Medicaid coverage for CRC screening to its beneficiaries. However, Medicaid recipients have lower CRC screening rates than other insured populations in the state (Health for Everyone in North Carolina, 2013). This study attempted to understand the factors that decrease utilization

of CRC screening in African Americans by examining their knowledge, beliefs, and barriers related to CRC screening.

Review of Literature

A comprehensive review of the literature was completed using PubMed, OVID, COCHRANE, and Cumulative Index to Nursing and Allied Health (CINAHL) databases. The review was conducted between June 2013 and July 2013 using several English key words and phrases: colorectal cancer, colorectal cancer screening, knowledge, barriers, health disparities, Health Belief Model, Victoria Champion's Health Belief Model scale (HBMS), and fecal occult blood test. The following literature review summarizes some of the factors that may affect an individual's decision to participate in CRC screening. In this study, a theoretical model was developed to predict the intent of African American men and women to undergo CRC screening based on sociodemographic characteristics and perceived barriers to screening. The literature review provided the foundation to incorporate education level, health insurance status, access to healthcare provider, and knowledge of CRC and CRC tests. An additional benefit of conducting this review was to identify the factors that examine actual CRC screening completion.

Education Level

Education is one of the most widely used measures of socioeconomic status in older adult studies because the information is easily obtained and has the potential to be measurable for each participant. In general, less educated persons have fewer economic resources and as such could be seen as a barrier resulting in underutilization of cancer screenings. Less educated people perceived more barriers to CRC screening and also identified cost as a barrier (Green & Kelly, 2004). Winterich et al.(2011) studied

African American and Caucasian men and compared how education, race, and screening status affected their knowledge about CRC and their attitudes and experiences with three types of CRC screening; namely, high sensitivity FOBT, sigmoidoscopy, and colonoscopy. They discovered that those with higher educational levels had a higher level of CRC knowledge and that they were up-to-date with CRC screening. Likewise, those with lower educational levels expressed more negative views about sigmoidoscopy and colonoscopy, and all were unscreened. They concluded that knowledge and not race was the key to increasing CRC screenings. A population survey (Berkowitz et al., 2008) of 1,148 adults aged 65-89 concluded that those who were not up-to-date with CRC screening were more likely to have lower education levels and lower incomes. Griffith, Passmore, Smith, and Wenzel (2012) used focus groups to explore barriers to CRC screening among African American men and women aged 40 or older with first degree relative (parent, sibling, or child) diagnosed with CRC, and discovered that a lack of knowledge about CRC and CRC screening contributed to a lack of CRC screening. When African Americans receive culturally targeted education, they are 20% more likely to have a colonoscopy than those who did not receive the education (Morgan, Fogel, Tyler, & Jones, 2010). Consistent with other studies, James et al. (2011) discovered that misunderstandings about what CRC is and the importance of CRC screenings is related to not being up-to-date with CRC screening.

Health Insurance Status

Access to healthcare by reducing the burden of economic hardship to those in need of healthcare has been identified as a barrier to CRC screening in many studies. Winterich et al. (2011) conducted qualitative, in-depth interviews with 30 Caucasian men

and 35 African American men aged 40-64 years, and discovered that in addition to little knowledge of CRC or screening exams among all men, access to healthcare and screening sites seemed to account for some of the screening disparities for those who lived in rural areas. Having no insurance accounted for low screening adherence among Korean Americans in a descriptive study of 167 Korean Americans aged 50 years and older (Oh, Kreps, & Jun, 2013). However, a cross-sectional study analysis of 5,900 men and women from several ethnic backgrounds had mixed results concerning health insurance coverage (Ahmed et al., 2013). Phillips et al. (2013) examined differences in rates of initiating CRC screening across three age groups: 50-55, 56-64, and 65-75, of men and women from several ethnic backgrounds and discovered that 40.3% of those in the 50-55 age group had not initiated CRC screening and that 90.1% of them had health insurance.

Access to Healthcare Provider

In order for CRC incidence and mortality to continue to decrease, continued public health awareness and accessibility to screening for all eligible persons in the U.S. needs to occur (ACS, 2013). Access to healthcare providers and a recommendation by the healthcare when to have CRC screening has been indicated in several studies as a barrier to CRC screening. Davis et al. (2013) conducted a randomized clinical trial sponsored by the National Cancer Institute to examine and report on differences in CRC screening knowledge, beliefs, barriers, and health system experiences among rural and urban men and women aged 50 years and older who were not up-to-date with CRC screening. They discovered that 88.4% had seen a healthcare provider in the past year, but less than 50% reported ever having a healthcare provider recommend CRC screening

and that rural participants in the study were likely to have had a screening colonoscopy than high sensitivity FOBT. Likewise, Griffith et al. (2012) reported that 14 African American men and women aged 40 years and older with at least one first-degree relative diagnosed with CRC, were more likely to have CRC screening if they had received a recommendation from their healthcare provider. Health care provider mistrust and a lack of personal connection to the medical establishment were also identified as barriers to CRC screening.

Knowledge of CRC and CRC Tests

Knowledge is the awareness or understanding of facts and information and its effect on an individual to make decisions. Green and Kelly (2004) surveyed 100 African American men and women utilizing the CRC Knowledge, Perceptions, and Screening Survey adapted from Champion's HBMS (Champion, 1995) and were able to establish a passing test score of 87% for the knowledge section. They discovered a mean score of 81.7% for men and 76% for women, and the lower knowledge scores correlated to a perception of more barriers to screening. Brittain et al., (2012) examined sociocultural factors that influenced an informed decision about CRC screening among African Americans, and found that family support is positively related to CRC beliefs, and CRC beliefs are positively related to an informed decision to participate in CRC screening. Lack of knowledge about CRC and CRC screening was a negative factor for 14 African American men and women in a focal group study (Griffith et al., 2012). Lower CRC screening rates with sigmoidoscopy or colonoscopy (35% for African American men and women living in Tennessee compared to 59% for Caucasian men and women) were found to be related to lack of CRC knowledge (Patel et al., 2012). Consistent with other

research studies, James et al. (2011) found that a decrease in CRC knowledge increased the number of perceived personal barriers such as cost, dislike of preparation, discomfort with test, and fear of cancer.

Screening Measures

The constructs of the HBM were used by Victoria Champion (Champion, 1995: 1984) as the foundation for developing Champion's Health Belief Model Scale for Mammography Screening (CHBMS). She identified instruments using HBM constructs in breast cancer screening from previous studies, developed and tested her own instrument, and then proceeded to test it for reliability and validity (Champion, 1995). Champion's Health Belief Model Scale (CHBMS) has been revised, translated, and tested in various studies internationally and found to be a valid and reliable tool for ethnically diverse population groups (Parsa, Kandiah, Mohd Nasir, Hejar, & Nor Afiah, 2008). The HBM constructs of susceptibility, seriousness, benefits, barriers, and health motivation were used to develop items for the instrument (Champion, 1984). Originally developed to understand what motivates women to participate in breast self-examination (BSE), Champion proposed that the scales developed from her HBM research could be used with a substitution of a word or phrase to test the HBM with other behaviors (Champion, 1984). Thus, the scale was found to be appropriate for the measurement of health beliefs about colorectal cancer screening. The scale has been used to plan, design, and implement an intervention to increase CRC screenings in eastern North Carolina (Pitts et al., 2012), describe perceived benefits and barriers to CRC screening reported by first degree relatives of CRC patients (Rawl et al., 2000), compare the efficacy of a tailored print intervention mailer on CRC screening adherence (Rawl et al., 2008), examine

differences in CRC screening knowledge, beliefs, barriers and health system experiences (Davis et al., 2013), and as an adapted version known as the CRC Knowledge, Perceptions, and Screening Survey (CRCKPSS) developed by Green and Kelly, (2004) in order to have a valid and reliable tool for scoring CRC knowledge.

Breast cancer is a leading cause of death in Malaysian women with low utilization of BSE, clinical breast examination, and mammography. Parsa et al., (2008) utilized CHBMS to develop a tool to measure beliefs about breast cancer and screening in eastern cultures. Their study translated the use of CHBMS into the Malaysian context and validated the scale among Malaysian women by analyzing descriptive statistics of all the study variables, reliability estimates, and examining construct validity using factor analysis. This translated version was found to be a valid and reliable tool for measuring breast cancer beliefs among Malaysian women. The results were used to develop interventions to increase BSE, clinical breast examination, and mammography. The results of this study can be used to develop interventions to support African American men and women at average risk in CRC screening. Developing reliable and valid assessment tools to measure an individual's knowledge, attitudes, and beliefs can identify differences in an individual's decision making process.

Summary

This chapter provided a comprehensive review of the literature that supports this study. The incidence and mortality of CRC cancer is higher among African American men and women living in the United States, and specifically a community in western North Carolina. In addition, CRC is usually diagnosed at a more advanced stage in African Americans than Caucasians and as such, may indicate lower utilization of CRC

screening. The findings suggest that educational level, health insurance status, access to healthcare provider, and knowledge of CRC and CRC screening may affect the willingness and ability of African American men and women to participate in health promoting behaviors.

Interventions are needed to increase participation in health promotion and cancer screening activities. This is especially true of African American men and women living in an area of high CRC incidence. The goal is to reduce the incidence and mortality associated with CRC in this population. Knowledge of the disease, diagnosis, treatment options, and perceived barriers can influence the decision to participate in CRC screening. The development of educational programs that focus on early detection by increasing knowledge and decreasing barriers to screening needs to be culturally targeted by healthcare providers. The literature review supports the HBM in that the greater the perception of perceived barriers, the less likely an individual is to participate in CRC screening. This study utilized the HBM to evaluate the CRC beliefs, knowledge, and perceived barriers of colorectal cancer screening among African American men and women in western North Carolina.

CHAPTER III

Methodology

Colorectal cancer remains a significant problem in the United States among African American men and women. Research has shown that African Americans have a higher incidence and mortality rate for CRC. According to the ACS (2013), one way to decrease the mortality rate of CRC in this population is to increase screening with high-sensitivity FOBT yearly, flexible sigmoidoscopy every five years, or colonoscopy every 10 years, beginning at age 50 for adults at average risk. The goal of CRC screening is to detect CRC in an early localized stage rather than waiting until signs and symptoms have appeared, which may indicate that the cancer is more advanced and thereby increases the risk of mortality. Identifying the variables that hinder participation in CRC screening among African American men and women is crucial to promoting early detection practices and decreasing mortality rates for the disease. Therefore, the goal of this study was to examine African Americans' CRC screening practices and examine significant factors that affect the population's participation in screening. The HBM was used as the theoretical framework. Targeted, more culturally sensitive interventions for CRC screening may need to be developed for African Americans.

Implementation

After a review of the literature, the parish nurse of a group of African American churches was contacted. A review of the literature and discussion of the research was completed by telephone, with her recommendation to contact the pastor of a local church as the church is an integral part in lives of many African Americans and is increasingly recognized as a venue for access to targeted populations by researchers. A meeting with

the pastor of an African American church with approximately 400 members was held and a discussion was conducted concerning the research project. The pastor was familiar with the low screening rates and high incident and mortality rates for CRC among African Americans, and expressed a desire for his congregation to participate in the study. Permission to conduct the study at the church was obtained. Permission to utilize Champion's revised HBMS to collect data was obtained. A demographic information questionnaire (Appendix A) and a perceived barrier subscale to the HBMS was developed by the researcher and distributed to research participants along with the HBMS (Appendix B and C). The three data forms were stapled together and assigned a number prior to completion. All completed data forms were placed in a large brown envelope that was in the researcher's possession at all times. The data forms were completed during a health awareness event in August, 2013 at the church with the pastor, parish nurse, and researcher in attendance. After the data forms were completed and collected, the envelope was placed in a locked secure drawer at the researcher's home until the data was entered into a secure password protected computer file. After the data was analyzed, all completed data copies were submitted to the University's IRB representative.

Setting

The research was conducted in a community in western North Carolina, which is located in the Piedmont region. Data was collected during a health awareness event in August, 2013 at an African American church with approximately 400 members. The target population was adult men and women who met the sample criteria and consented to participate in the study. However, the weekend for this event also corresponded to the

50th Anniversary of the March on Washington, DC, and approximately half of the congregation chose to travel by bus for that event.

Sample

The sample criteria are nonexclusive to gender, educational level, health insurance, or access to healthcare provider. The sample inclusion criteria consist of: (1) men and women 40 years old or older, (2) with no previous personal history of cancer, (3) spoke English, and (4) were able to read and write and consent to participate in the study. The researcher contacted the parish nurse and the pastor and provided information to the congregation about the study in order to recruit participants. A convenience sample was used to obtain men and women participants. This sampling method selects participants “because they happened to be in the right place at the right time” (Burns & Grove, 2009, p. 353).

Design

To explore the beliefs, knowledge, and perceived barriers regarding colorectal cancer screening among African Americans in western North Carolina, this study utilized a descriptive design. This design examined colorectal cancer screening and factors that influenced participation in screening. A descriptive study design does not utilize dependent or independent variables because there is no attempt to establish causality (Burns & Grove, 2009). The variables were not manipulated and there was no treatment or intervention. The relationship among the variables provided an understanding of colorectal cancer screening practices among African Americans.

Protection of Human Subjects

This proposal was submitted to the University's Institutional Review Board (IRB). Approval was received and arrangements were made at an agreed upon time and date with the pastor of the church. The participants were informed through a written informed consent form that their participation is voluntary, that no payment was required to participate and no payment was given for participation and that anonymity was maintained. In addition, each participant was able to withdraw from the study at any time with no penalty. They were advised of the study's purpose, description, inclusion criteria, risks and benefits verbally and in the written consent. Each participant was advised that their name would never be used at any time to identify them either when the findings of the study are presented or disseminated.

Participants were given privacy when completing the survey and the researcher was available to address any concerns. Data was assigned a unique numerical identifier prior to distribution, and then collected and placed in a brown envelope that was fastened and in possession of the researcher at all times. Each study participant was offered a Screening for Life Colorectal Cancer screening brochure developed by the CDC (Appendix D). Each participant was provided with the researcher's contact information.

The data remained in the researcher's possession at all times and was stored in a locked drawer in the researcher's home until data analysis. The right to privacy and all information obtained in connection with the study will remain confidential. Electronic results were saved into a password protected computer file.

Instruments

The instruments used to collect the data for this research included Champion's (1984) revised HBMS (see Appendix B), a demographic survey (see Appendix A) developed by the researcher and a perceived barriers to CRC screening subscale (see Appendix C) developed by the researcher. Data collected from the demographic survey included age, gender, marital status, race/ethnicity, education level, health insurance status, healthcare provider visits in the past year, whether there was a previous cancer diagnosis, and knowledge of CRC screening tests. The HBMS consisted of four subscales to measure health belief concepts and permission was received to adapt it to CRC screening for this study. Each subscale measured a specific concept. The subscales measured susceptibility, seriousness, benefits, and health motivation concepts. On the perceived barrier subscale, participants were able to choose from among 11 perceived barriers to high sensitivity FOBT or 11 perceived barriers to sigmoidoscopy or colonoscopy. Each of these scales and subscales were supported by factor analysis. Items for each subscale were arranged in a 5-point Likert-type scale, with 1 indicating *Strongly disagree* and 5 indicating *Strongly agree*. Champion (1998) found internal consistency reliabilities of the subscales ranged from .62 to .93. The HBMS was also found to be a valid and reliable tool for evaluating health beliefs about cancer for planning interventions (Parsa et al., 2008) and as such, has been recommended to be used with ethnically diverse populations.

Data Collection Procedure

Permission was received to complete this study through the University's IRB, Dr. Victoria Champion, and the pastor of the African American church. The researcher then contacted the pastor to arrange logistics of the data collection.

Data Analysis Procedures

The data was analyzed and stored using the Statistical Package for the Social Sciences (SPSS version 18.0) Reported participation in CRC screening was one of the variables. For this study, participation in CRC screening was defined as having a high sensitivity FOBT within the past 12 months or a sigmoidoscopy within the past five years or a colonoscopy within the past 10 years for anyone aged 50 and older. Selected demographics (age, gender, marital status, race/ethnicity, education level, health insurance status, and visits to healthcare provider in past 12 months) and perceived barriers to CRC screening were also defined as variables in the study.

A descriptive design was used to analyze the data. Frequencies of descriptive variables were completed and an analysis of the sample was conducted from the demographic questionnaire. Means, ranges, standard deviations, and percentages were calculated using frequency distributions. Relationships between the most significant perceived barriers and CRC screening were described using descriptive tests. Relationships were also explored for health beliefs and knowledge of colorectal cancer. Mean scores of the individual perceived barrier components were calculated for statistical purposes. The level of significance was set at .05.

Summary

Healthcare professionals, especially nurses, need to understand how health beliefs, knowledge, and barriers of CRC influence the decision of African Americans to participate in screenings. By understanding perceived barriers, strategies to address them may be implemented. Then, increased participation in CRC screenings among African American men and women may occur and ultimately decrease the rate of mortality from this disease. The purpose of this study was to examine health beliefs, knowledge, and perceived barriers to colorectal cancer screening about African Americans in a western North Carolina community.

CHAPTER IV

Results

The incidence and mortality rates for colorectal cancer are higher among African Americans (ACS, 2013). The purpose of this study was to examine African Americans' colorectal cancer screening practices and determine their health beliefs, knowledge levels, and perceived barriers regarding colorectal cancer. Study group characteristics related to the demographics of the sample are presented first, followed by findings related to the research questions.

Sample Characteristics

Convenience sampling was conducted to collect data from African American men and women living in western North Carolina. Study group characteristics are described in Table 1. The participants' ranged in age from 36 to 74 years of age, with a mean age of 55.38 years. The majority of the respondents in this study were female (92.3%) and currently married (69.2%). All participants (100%) were African Americans. When asked about educational level, 61.6% of the participants reported they had more than 12 years of education. The majority of the respondents reported they currently had health insurance coverage (84.6%). During the past 12 months, 23.1% of respondents had not gone to a doctor, nurse, or other health care provider to obtain care. Study group characteristics are described in Table 1.

Table 1

Demographic Characteristics of the Study Sample

Variables		Frequency	Percent
Age	Minimum=36 Maximum=74 Mean=55.38		
Gender	Male	1	7.7
	Female	12	92.3
Marital Status	Married	9	69.2
	Not married	4	30.8
Education (years)	Some high sch	2	15.4
	HS/GED	3	23.1
	Some college	2	15.4
	College grad	6	46.2
Health Insurance	Yes	11	84.6
	No	2	15.4
# visits to health care provider in past year	0	3	23.1
	1 to 4	7	53.8
	5 or more	3	23.1

Major Findings

The first research question was “What are the health beliefs regarding colorectal cancer among African Americans?” Health beliefs related to colorectal cancer were measured by utilizing the four part Health Belief Model scales developed by Dr. Victoria Champion. The Health Belief Model was adapted, with permission from the author, to measure beliefs about colorectal cancer. The Health Belief Model for Measuring Beliefs

Related to Colorectal Cancer (HBM-CC) consists of 31 questions divided into four categories; Susceptibility, Seriousness, Benefits, and Health Motivation.

The Susceptibility category consisted of six questions which measured the participants' belief regarding their chance of acquiring colorectal cancer. Overall, the participants did not believe they would acquire colorectal cancer. Specifically, only 15.4% of the participants believed that their chances of getting colorectal cancer were extremely likely. The majority did not believe that their physical health made it more likely that they would get colorectal cancer (61.6%) and did not believe their chances of getting colorectal cancer in their lifetime were great (53.7%). The majority of respondents did not believe that there was a good possibility that they would get colorectal cancer (46.2%) and did not worry a lot about getting colorectal cancer (53.9). The majority of respondents did not believe that they would get colorectal cancer within the next year (69.2%). See Table 2 for the percentage of participants' responses to each of the questions for the Susceptibility subscale of the HBM-CC.

Table 2

Percentages of Participants' Responses to the Six Questions Related to Susceptibility on the HBM-CC

Question	Strongly disagree	Moderately disagree	Neither disagree or agree	Moderately agree	Strongly agree
My chances of getting colorectal cancer are extremely likely.	15.4%	23.1	38.5	7.7	7.7
My physical health makes it more likely that I will get colorectal cancer.	30.8	30.8	23.1	7.7	7.7
I feel that the chances of me getting colorectal cancer in my lifetime are great.	30.8	23.1	23.1	15.4	7.7
There is a good possibility that I will get colorectal cancer.	38.5	7.7	30.8	7.7	15.4
I worry a lot about getting colorectal cancer.	46.2	7.7	23.1	N/A	23.1
I will get colorectal cancer within the next year.	53.8	15.4	15.4	7.7	7.7

The category measuring Seriousness consisted of 12 questions which measured the participants' belief regarding the seriousness of colorectal cancer. The majority of respondents were scared by the thought of getting colorectal cancer (61.6%), but only a few felt nauseated (38.8%) or thought their heart beat faster (38.5%) when they thought about colorectal cancer. In contrast, the participants did believe that if they had colorectal cancer their career (life) would be over (61.6%) or that colorectal cancer would endanger

their marriage (significant other) relationship (53.9%). This was upheld by the participants' belief that colorectal cancer was not a hopeless disease (76.9%) and that their feelings about themselves would not change if they got colorectal cancer (46.2%), but did believe that if they got colorectal cancer their whole life would change (53.9%). See Table 3 for the percentage of participants' responses to each of the questions for the Seriousness subscale of the HBM-CC.

Table 3

Percentages of Participants' Responses to the 12 Questions Related to Seriousness on the HBM-CC

Question	Strongly disagree	Moderately disagree	Neither disagree or agree	Moderately agree	Strongly agree
The thought of getting colorectal cancer scares me.	7.7	15.4	15.4	30.8	30.8
When I think about colorectal cancer I feel nauseated.	23.1	23.1	23.1	23.1	7.7
If I had colorectal cancer, my career (life) would be over.	7.7	7.7	15.4	23.1	38.5
When I think of colorectal cancer, my heart beats faster.	15.4	23.1	30.8	7.7	15.4
Colorectal cancer would endanger my marriage (significant other) relationship.	38.5	15.4	23.1	7.7	7.7
Colorectal cancer is a hopeless disease.	53.8	23.1	15.4	7.7	N/A
My feelings about myself would change if I got colorectal cancer.	23.1	23.1	30.8	7.7	15.4
I am afraid to even think about colorectal cancer.	30.8	7.7	23.1	7.7	30.8
My financial security would be endangered if I got colorectal cancer.	15.4	15.4	23.1	7.7	30.8
Problems I would experience from colorectal cancer would last a long time.	7.7	15.4	30.8	23.1	7.7
If I got colorectal cancer, it would be more serious than other diseases.	15.4	15.4	46.2	7.7	15.4
If I got colorectal cancer, my whole life would change.	N/A	15.4	30.8	7.7	46.2

The category of the HBM-CC measuring Benefits consisted of five questions regarding the participants' beliefs about benefits of colorectal cancer screening. The majority of the participants (92.3%) believed they had a lot to gain by having a colorectal cancer screening, and believed that colorectal cancer screening could detect colorectal cancer early. This was upheld by the participants' belief (84.6%) that early detection of colorectal cancer would mean that treatment would be improved and regular colorectal cancer screening would decrease their chance of dying from colorectal cancer. The participants believed that they would not be so anxious about colorectal cancer if they had regular colorectal cancer screenings (76.9%). See Table 4 for the percentage of participants' responses to each of the questions for the Benefits subscale of the HBM-CC.

Table 4

Percentages of Participants' Responses to the Five Questions Related to Benefits on the HBM-CC

Question	Strongly disagree	Moderately disagree	Neither disagree or agree	Moderately agree	Strongly agree
I have a lot to gain by having a colorectal cancer screening.	N/A	7.7	N/A	7.7	84.6
Colorectal cancer screening can detect colorectal cancer early.	N/A	N/A	7.7	7.7	84.6
Early detection of colorectal cancer may mean that my treatment won't be so bad.	15.4	N/A	N/A	23.1	61.5
Regular colorectal cancer screenings decrease the chance of dying from colorectal cancer.	N/A	7.7	7.7	23.1	61.5
I would not be so anxious about colorectal cancer if I had regular colorectal cancer screenings.	N/A	N/A	2.1	7.7	69.2

The category of the HBM-CC measuring Health Motivation consisted of eight questions which measured the participants' self-efficacy, which is an individual's confidence in the ability to change one's behaviors. The majority of the participants ate a well-balanced diet (61.6%), exercised regularly (53.9%), and had yearly health check-ups in addition to visits related to illness (69.2%). The participants wanted to discover health problems early (92.3%), and searched for new information to improve their health

(84.6%). This was upheld by the participants' belief that it was extremely important for them to maintain good health (92.3%) and that it was important to carry out activities which would improve their health (92.3%). Overall, the participants felt having recommended colorectal cancer screenings was something they could do to take care of themselves (92.3%). See Table 5 for the percentage of participants' responses to each of the questions for the Health Motivation subscale of the HBM-CC.

Table 5

Percentages of Participants' Responses to the Eight Questions Related to Health Motivation on the HBM-CC

Question	Strongly disagree	Moderately disagree	Neither disagree or agree	Moderately agree	Strongly agree
I eat a well-balanced diet.	7.7	7.7	23.1	23.1	38.5
I exercise regularly-at least three times a week.	23.1	23.1	N/A	23.1	30.8
I have the recommended yearly health check-ups in addition to visits related to illness.	7.7	7.7	15.4	7.7	61.5
I want to discover health problems early.	7.7	N/A	N/A	15.4	76.9
I search for new information to improve my health.	7.7	N/A	7.7	23.1	61.5
It is extremely important for me to maintain good health.	N/A	7.7	N/A	23.1	69.2
I feel it is important to carry out activities which will improve my health.	N/A	N/A	7.7	23.1	69.2
Having recommended colorectal cancer screenings is something I can do to take care of myself.	N/A	7.7	N/A	7.7	84.6

The second research question was “What is the general knowledge of colorectal cancer screening among African Americans?” A total knowledge score was calculated by summing the number of correct answers given to the six knowledge question items to assess the respondents’ general knowledge of CRC screening (range, 0-6). The majority

of the respondents had heard of Fecal Occult Blood Testing (FOBT) (61.5%) and Sigmoidoscopy/Colonoscopy exam (92.3%). The majority of the respondents were aware of when FOBT (61.5%) and Sigmoidoscopy/Colonoscopy exam (69.2%) should begin. The majority of respondents were aware of how often a Sigmoidoscopy/Colonoscopy exam should occur (61.5%) but *not* aware of how often Fecal Occult Blood Testing (FOBT) should occur (92.3%). See Table 6 for the participants' general knowledge of CRC screening.

Table 6

General Knowledge of CRC Screening

Question	Answer	Frequency	Valid percent
Have you ever heard of Fecal Occult Blood Testing (FOBT)?	Yes	8	61.5
	No	5	38.5
Have you ever heard of sigmoidoscopy or colonoscopy?	Yes	12	92.3
	No	1	7.7
When should Fecal Occult Blood Testing (FOBT) begin?	≥ 50	8	61.5
	< 50 or don't know	5	38.5
When should sigmoidoscopy or colonoscopy begin?	≥ 50	9	69.2
	< 50 or don't know	4	30.8
How often should Fecal Occult Blood Testing (FOBT) occur?	Correct interval (Every 1 to < 2 years)	1	7.7
	Wrong interval or don't know	12	92.3
How often should sigmoidoscopy or colonoscopy occur?	Correct interval (Every 1 to < 2 years)	8	61.5
	Wrong interval or don't know	5	38.5
Total knowledge score ^a : mean (SD)		3.54	

Note. a A total knowledge score was calculated by summing up the number of correct answers given to the 6 knowledge question items (range: 0-6).

The third research question was “What are the perceived barriers to colorectal cancer screening among African Americans?” Eleven potential barriers were listed for both the FOBT and the Sigmoidoscopy/Colonoscopy exam. No participants selected any barriers to the Sigmoidoscopy/Colonoscopy exam. Of those barriers listed for the FOBT, 30.8% stated they had another type of colon cancer exam, 23.1% stated their doctor did not order the FOBT and 15.4% did not have the FOBT because they had not had any problems or symptoms. An equal number (7.7%) stated they did not know they needed a FOBT or had never heard or thought about a FOBT. See Table 7 for participants’ responses to perceived barriers to colorectal cancer screening.

Table 7

Perceived Barriers to Colorectal Cancer Screening

Perceived Barriers	Not Ever Having a Fecal Occult Blood Test	Not Ever Having a Sigmoidoscopy/Colonoscopy
Haven't had any problems or symptoms.	2	N/A
Doctor didn't order it/didn't say I needed it.	3	N/A
Didn't need/didn't know I needed this test.	1	N/A
Never heard of it/never thought about it.	1	N/A
Had another type of colon cancer exam.	4	N/A
Too expensive/no insurance/cost.	N/A	N/A
Don't have a doctor.	N/A	N/A
Put it off/didn't get around to it.	N/A	N/A
Age/thought I was too young.	N/A	N/A
Afraid to go.	N/A	N/A
Would be embarrassed.	N/A	N/A

The fourth research question was “What are the colorectal cancer screening practices among African Americans?” The majority of the participants reported that they had had a sigmoidoscopy or colonoscopy (91.7%). An equal number (50%) responded that they had had a Fecal Occult Blood Test (FOBT). See Table 8 for participants’ responses to perceived barriers to colorectal cancer screening.

Table 8

Colorectal Cancer Screening Practices

Question	Response	Frequency	Percent
Have you ever had a Fecal Occult Blood Test (FOBT)?	Yes	6	50
	No	6	50
Have you ever had a Sigmoidoscopy or Colonoscopy?	Yes	11	91.7
	No	1	8.3

Summary

The results of this study indicate that the majority of African Americans participated in sigmoidoscopy/colonoscopy colorectal cancer screening and were knowledgeable about when that type of screening needs to begin and how often it needs to occur. Similarly, the majority of African American participants were knowledgeable about when Fecal Occult Blood Test (FOBT) colorectal cancer screening needs to begin, but not how often it needs to occur. Overall, participants did not have any perceived barriers to having a sigmoidoscopy or colonoscopy, but did respond that they had barriers to Fecal Occult Blood Test (FOBT) screening.

CHAPTER V

Discussion

Colorectal cancer (CRC) is the third most common cancer diagnosed in men and women in the United States (ACS, 2013). According to the American Cancer Society (2013), African Americans have the highest death rate and shortest survival rate of any racial or ethnic group in the U.S. for most cancers. Routine CRC screening has been shown to decrease the incidence and mortality of the disease. However, 50% of the persons eligible for CRC screening have never been screened, and the screening rates recommended by the USPSTF (2008) remain low. Not only are African Americans less likely to be screened for CRC but also to go longer between the recommended screening intervals (ACS, 2013). The purpose of this study was to explore the health beliefs, knowledge, and perceived barriers of colorectal cancer screening practices of African Americans living in western North Carolina.

Implication of Findings

This study provided valuable information on African Americans' health beliefs, knowledge, and perceived barriers of colorectal cancer screening practices. Data from this study suggests that African American men and women reported low levels of risk perceptions about getting colon cancer. The perceived susceptibility was not related to actual colorectal cancer screening (91.7%). This is a contradictory result when reviewing the literature and Health Belief Model theory which generally suggests that perceived risk influences health behaviors (McEwen & Wills, 2011).

Although data from this study shows an overall moderate knowledge score, the majority 92.3% did not know the correct interval for Fecal Occult Blood Testing (FOBT).

As found in other studies with ethnic minorities, a low level of colon cancer screening knowledge appears to be a barrier to colorectal cancer screening practices (Green & Kelly, 2004). This screening test is the least expensive and least invasive but has a high frequency interval. Generally, a positive FOBT will require additional screening with either sigmoidoscopy or colonoscopy.

The most frequent perceived barrier of colorectal screening was “had another type of colon cancer screening exam”, followed by “Doctor didn’t order it/didn’t say I needed it”, and “haven’t had any problems or symptoms”. Green and Kelly (2004) reported that more educated persons perceived fewer barriers to colorectal cancer screening and this seems validated in this study with 61.6% reporting more than 12 years of education. The lesser educated patient may be more reluctant to question their physician regarding the need for FOBT testing. In conclusion, knowledge of colorectal cancer and screening guidelines and higher educational level were strong indicators of actual colorectal cancer screening.

Application to Theoretical Framework

This study utilized the Health Belief Model (HBM) as the theoretical framework to explain health behavior in terms of perceived susceptibility of the health problem, perceived severity, perceived benefits, perceived barriers, and health motivation or self-efficacy. The HBM theorizes to explain why people do or do not engage in preventive health. As hypothesized by the HBM, this study revealed the higher the perceived susceptibility of acquiring colorectal cancer and the higher the perceived benefit of colorectal cancer screening, the more likely that individuals will pursue colorectal cancer screening.

Limitations

This study has limited generalizability due to the small sample. The use of a convenience sample also limited the generalizability of the results. Another limitation was that a majority of participants were women and reported more than 12 years of education. A comparison of perceived barriers to demographic criterion was not performed which could provide additional information about the study participants. Additionally, this study was conducted in one city in one southern state and may not be generalized to other cities, states, regions, or countries.

Implications for Nursing

The results of this study suggest that colorectal cancer screening knowledge is an important indicator in the decision of African Americans to participate in colorectal cancer screenings. Findings from this study indicate medical professionals should target African Americans with little or no knowledge of colorectal cancer and less than 12 years of education. Nurses can utilize the information presented in this study to develop interventions to increase colorectal cancer awareness and colorectal cancer screening among African Americans applicable to physicians' offices and community settings. This study could not have been completed without the assistance of the parish nurse assigned to a group of African American churches.

It is imperative that health care providers, specifically nurses, be aware of potential barriers to colon cancer screening among African Americans in order to provide information in a manner that promotes knowledge and so that informed decisions may be made. Additionally, annual community-based screening opportunities should be offered to those who may not have access to health care services.

Recommendations

A recommendation for future research would include replicating this study using a larger, representative sample. Another recommendation would be to conduct a longitudinal study to determine whether colorectal cancer screenings were consistent over time and across generations. A third recommendation would be to conduct a correlational study to compare colorectal cancer knowledge and screening practices based on ethnicity. Further research should also be conducted to develop culturally sensitive interventions to help decrease health disparity related to colorectal cancer among African Americans.

Conclusion

The community in which this study was conducted has a significantly higher death rate from CRC than the rest of the state, with the death rate among African Americans at the highest (State Cancer Profiles, 2013). In contrast to previous research that found the African American population has low levels of adherence to colorectal cancer screening (ACS, 2013), this study demonstrated a high incidence of colorectal cancer screening. In order to reduce colorectal cancer death rates, it is important to understand the health beliefs, knowledge, and perceived barriers to colorectal cancer screening. Although much progress has already been made, more is needed to meet the challenge of *Healthy People 2020* (U. S. Department of Health & Human Services, 2010) and reduce health disparities related to colorectal cancer.

References

- Ahmed, N. U., Pelletier, V., Winter, K., & Albatineh, A. N. (2013). Factors explaining racial/ethnic disparities in rates of physician recommendation for colorectal cancer screening. *American Journal of Public Health*, e1-e9. doi:10.2105/AJPH.2012.301034
- American Cancer Society. (2013). *Cancer facts and figures for African Americans 2013-2014*. Atlanta, GA: Author. Retrieved from <http://www.cancer.org>
- Berkowitz, Z., Hawkins, N. A., Peipins, L. A., White, M. C., & Nadel, M. R. (2008). Beliefs, risk perceptions, and gaps in knowledge as barriers to colorectal cancer screening in older adults. *Journal of American Geriatrics Society*, 56(2), 307-314. doi:10.1111/j.1532-5415.2007.01547.x
- Brittain, K., Loveland-Cherry, C., Northouse, L., Caldwell, C. H., & Taylor, J. Y. (2012). Sociocultural differences and colorectal cancer screening among African American men and women. *Oncology Nursing Forum*, 39(1), 100-107.
- Burns, N., & Grove, S. (2009). *The practice of nursing research: Appraisal, synthesis, and generation of evidence* (6th ed.). St. Louis, MO: Saunders Elsevier.
- Catawba County Public Health Department. (2010). *Catawba county state of the county health report-2010* (Current and emerging issues, pp. 1-4). Retrieved from [http:// www.catawbacountync.gov/phealth](http://www.catawbacountync.gov/phealth) Accessed November 17, 2012.
- Champion, V. (1995). Development of a benefits and barriers scale for mammography utilization. *Cancer Nursing*, 18(1), 53-59.
- Champion, V. (1998). Revised susceptibility, benefits, and barriers scale for mammography screening. *Research in Nursing and Health*, 22, 341-348.

Champion, V. L. (1984). Instrument development for health belief model constructs.

Advances in Nursing Science, 73-85.

Davis, T. C., Rademaker, A., Bailey, S. C., Platt, D., Esparza, J., Wolf, M. S., & Arnold,

C. L. (2013). Contrasts in rural and urban barriers to colorectal cancer screening.

American Journal of Health Behavior, 37(3), 289-298. doi:10.5993/AJHB.37.3.1

Green, P. M., & Kelly, B. A. (2004). Colorectal cancer knowledge, perceptions, and

behaviors in African Americans. *Cancer Nursing*, 27(3), 206-215.

Griffith, K. A., Passmore, S. R., Smith, D., & Wenzel, J. (2012). African Americans with

a family history of colorectal cancer: Barriers and facilitators to screening.

Oncology Nursing Forum, 39(3), 299-306. doi:10.1188/12.ONF.299-306

Health for Everyone in North Carolina. (2013, July 4). Retrieved from [http://health-e-](http://health-e-nc.org/home)

[nc.org/home](http://health-e-nc.org/home)

Healthy Communities Program. (2012). Retrieved from <http://www.cdc.gov>

Accessed November 17, 2012.

James, A. S., Daley, C. M., & Greiner, K. A. (2011). Knowledge and attitudes about

colon cancer screening among African Americans. *American Journal of Health*

Behavior, 35(4), 393-401.

McEwen, M., & Wills, E. M. (2011). *Theoretical Basis for Nursing* (3rd ed.).

Philadelphia: Lippincott Williams & Wilkins.

Morgan, P. D., Fogel, J., Tyler, I. D., & Jones, J. R. (2010). Culturally targeted

educational intervention to increase colorectal health awareness among African

Americans. *Journal of Health Care for the Poor and Underserved*, 21(3), 132-

147. doi:10.1353/hpu.0.0357

- Oh, K. M., Kreps, G. L., & Jun, J. (2013). Colorectal cancer screening knowledge, beliefs, and practices of Korean Americans. *American Journal of Health Behavior, 37*(3), 381-394. doi:10.5993/AJHB/.37.3.11
- Parsa, P., Kandiah, M., Mohd Nasir, M., Hejar, A., & Nor Afiah, M. (2008). Reliability and validity of Champion's health belief model scale for breast cancer screening among Malaysian women. *Singapore Medical Journal, 49*(11), 897-903.
- Patel, K., Hargreaves, M., Liu, J., Kenerson, D., Neal, R., Takizala, Z., Beard, K., & Blot, B. (2012). Factors influencing colorectal cancer screening in low-income African Americans in Tennessee. *Journal of Community Health, 37*, 673-679. doi:10.1007/s10900-011-9498-8
- Phillips, K. L., Smith, M. L., Ahn, S., Ory, M. G., & Hochhalter, A. K. (2013). Correlates of initiating colorectal cancer screening beginning at age 50. *Journal of Community Health, 38*, 23-30. doi:10.1007/s10900-012-9574-8
- Pitts, S. B., Lea, C. S., May, C. L., Stowe, C., Hamill, D. J., Walker, K. T., & Fitzgerald, T. L. (2012). "Fault-line of an earthquake": A qualitative examination of barriers and facilitators to colorectal cancer screening in rural, eastern North Carolina. *The Journal of Rural Health, 29*, 78-87. doi:10.1111/j.1748-0361.2012.00424.x
- Rawl, S. M., Champion, V. L., Scott, L. L., Zhou, H., Monahan, P., Ding, Y., Loehrer, P., & Skinner, C. S. (2008). A randomized trial of two print interventions to increase colon cancer screening among first-degree relatives. *Patient Education and Counseling, 71*, 215-227. doi:10.1016/j.pec.2008.01.013
- Rawl, S. M., Menon, U., Champion, V., Foster, J. L., & Skinner, C. S. (2000). Colorectal cancer screening beliefs. *Cancer Practice, 8*(1), 32-37. Retrieved from

<http://ezproxy.gardner-webb.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=rzh&AN=2000015725&site=ehost-live>

Rosenstock, I. M. (1974). The health belief model and preventive health behavior.

Health Education Monograph, 2, 354-436.

Rosenstock, I. M. (1990). The Health Belief Model: Explaining health behavior through expectancies. In K. Glanz, F. M. Lewis, & B. K. Rimer (Eds.), *Health behavior and health education: Theory, research and practice* (pp. 39-62). San Francisco: Jossey-Bass.

Sebastian, J. G. (2012). Vulnerability and vulnerable populations: An overview. In M. Stanhope & J. Lancaster (Eds.), *Public health nursing: Population-centered health care in the community* (8th ed., pp. 718-735). Maryland Heights, MO: Elsevier Mosby.

State Cancer Profiles. (2013, July 4). Retrieved from <http://statecancerprofiles.cancer.gov>

U. S. Department of Health and Human Services. *Healthy People 2020*. Washington, DC.

U.S. Department of Health & Human Services, 2010. Retrieved November 17, 2012, from <http://www.healthypeople.gov/2020/topicsobjectives2020/default.aspx>

U.S. Preventive Services Task Force. (2008). *Screening for Colorectal Cancer: Clinical Summary of U.S. Preventive Services Task Force Recommendation* (Sebastian, 2012)[AHRQ Publication No. 08-05124-EF-4]. Retrieved June 10, 2013, from <http://www.uspreventiveservicestaskforce.org/uspstf08/colocancer/colosum.htm>

Vargas, A. J., & Thompson, P. A. (2012). Diet and nutrient factors in colorectal cancer risk. *Nutrition in Clinical Practice*, 27(5), 613-623. doi:10.1177//

0884533612454885

Vital Signs. (2011): colorectal cancer screening, incidence, and mortality-United States, 2002-2010. *MMWR Morb Mortal Wkly Rep*. 2011; 60 (26):884-889. Retrieved

From

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6026a4.htm?s_cid=mm6026a4_w.

Winterich, J. A., Quandt, S. A., Grzywacz, J. G., Clark, P., Dignan, M., Stewart, J. H., & Arcury, T. A. (2011). Men's knowledge and beliefs about colorectal cancer and 3 screenings: Education, race, and screening status. *American Journal of Health Behavior*, 35(5), 525-534.

Appendix A

Demographic Questionnaire

Please circle or state your best response to the following questions.

1. State your age in years _____
2. Are you Male or Female ?
3. Are you Married or Not married ?
4. What is your race/ethnicity?
 African American Hispanic Non-Hispanic White Other (state)_____
5. What is your education level?
 Some high school and below High school grad/GED
 Some college or technical school College grad and above
6. Do you have health insurance? Yes No
7. How many times have you visited a doctor, nurse, or other health care provider to obtain care in the past 12 months?
 0 1 to 4 5 or more
8. Have you ever been told you have cancer? Yes No
9. Have you ever heard of Fecal Occult Blood Testing (FOBT)? Yes No
10. Have you ever heard of sigmoidoscopy or colonoscopy? Yes No
11. When should Fecal Occult Blood Testing (FOBT) begin?
 50 yrs or older Less than 50 yrs don't know
12. When should sigmoidoscopy or colonoscopy begin?
 50 yrs or older Less than 50 yrs don't know
13. How often should Fecal Occult Blood Testing (FOBT) occur?
 once a year every 5 years every 10 years don't know
14. How often should sigmoidoscopy or colonoscopy occur?
 once a year every 5-10 years don't know

Appendix B

Health Belief Model Scales for Measuring Beliefs Related to Colorectal Cancer

Using the scale below, please indicate your beliefs related to the following statements:

Response Selection	Likert Score
Strongly disagree	1
Moderately disagree	2
Neither disagree or agree	3
Moderately agree	4
Strongly agree	5

Susceptibility

1. My chances of getting colorectal cancer are extremely likely.	1	2	3	4	5
2. My physical health makes it more likely that I will get colorectal cancer.	1	2	3	4	5
3. I feel that the chances of me getting colorectal cancer in my lifetime are great.	1	2	3	4	5
4. There is a good possibility that I will get colorectal cancer.	1	2	3	4	5
5. I worry a lot about getting colorectal cancer.	1	2	3	4	5
6. I will get colorectal cancer within the next year.	1	2	3	4	5

Seriousness

1. The thought of getting colorectal cancer scares me.	1	2	3	4	5
2. When I think about colorectal cancer I feel nauseated.	1	2	3	4	5
3. If I had colorectal cancer, my career (life) would change.	1	2	3	4	5
4. When I think of colorectal cancer, my heart beats faster.	1	2	3	4	5
5. Colorectal cancer would endanger my marriage (significant other) relationship.	1	2	3	4	5
6. Colorectal cancer is a hopeless disease.	1	2	3	4	5
7. My feelings about myself would change if I got colorectal cancer.	1	2	3	4	5
8. I am afraid to even think about colorectal cancer.	1	2	3	4	5
9. My financial security would be endangered if I got colorectal cancer.	1	2	3	4	5
10. Problems I would experience from colorectal cancer would last a long time.	1	2	3	4	5
11. If I got colorectal cancer, it would be more serious than other diseases.	1	2	3	4	5
12. If I got colorectal cancer, my whole life would change.	1	2	3	4	5

Benefits

1. I have a lot to gain by having a colorectal cancer screening.	1	2	3	4	5
2. Colorectal cancer screening can detect colorectal cancer early.	1	2	3	4	5
3. Early detection of colorectal cancer may mean that my treatment won't be so bad.	1	2	3	4	5
4. Regular colorectal cancer screenings decrease the chance of dying from colorectal cancer.	1	2	3	4	5
5. I would not be so anxious about colorectal cancer if I had regular colorectal cancer screenings.	1	2	3	4	5

Health Motivation

1. I eat a well-balanced diet.	1	2	3	4	5
2. I exercise regularly-at least three times a week.	1	2	3	4	5
3. I have the recommended yearly health check-ups in addition to visits related to illness.	1	2	3	4	5
4. I want to discover health problems early.	1	2	3	4	5
5. I search for new information to improve my health.	1	2	3	4	5
6. It is extremely important for me to maintain good health.	1	2	3	4	5
7. I feel it is important to carry out activities which will improve my health.	1	2	3	4	5
8. Having recommended colorectal cancer screenings is something I can do to take care of myself.	1	2	3	4	5

Appendix C

Barriers to Colorectal Cancer Screening Subscale

1. Have you ever had a Fecal Occult Blood Test? Circle your answer: Yes No

If Yes, please go to Question 2.

If No, please answer the following:

Check any of these reasons for never having Fecal Occult Blood Testing (FOBT):

- ☐ Haven't had any problems/no symptoms
- ☐ Doctor didn't order it/didn't say I needed it
- ☐ Didn't need/didn't know I needed this test
- ☐ Never heard of it/never thought about it
- ☐ Had another type of colon cancer exam
- ☐ Too expensive/no insurance/cost
- ☐ Don't have a doctor
- ☐ Put it off/didn't get around to it
- ☐ Age/thought I was too young
- ☐ Afraid to go
- ☐ Would be embarrassed

2. Have you ever had a Sigmoidoscopy or Colonoscopy? Yes No

If Yes, you are finished.

If No, please answer the following:

Check any of these reasons for never having a sigmoidoscopy or colonoscopy:

- ☐ Haven't had any problems/no symptoms
- ☐ Doctor didn't order it/didn't say I needed it
- ☐ Didn't need/didn't know I needed this test
- ☐ Never heard of it/never thought about it
- ☐ Had another type of colon cancer exam
- ☐ Too expensive/no insurance/cost
- ☐ Don't have a doctor
- ☐ Put it off/didn't get around to it
- ☐ Age/thought I was too young
- ☐ Afraid to go
- ☐ Would be embarrassed

Appendix D

Centers for Disease Control (CDC) Screen for Life Brochure

Types of Screening Tests

Several different screening tests can be used to find polyps or colorectal cancer. Each can be used alone, or sometimes in combination with each other.

The U.S. Preventive Services Task Force (USPSTF) recommends colorectal cancer screening for men and women aged 50–75 using high-sensitivity fecal occult blood testing (FOBT), sigmoidoscopy, or colonoscopy. Talk to your doctor about which test or tests are right for you. The decision to be screened after age 75 should be made on an individual basis. If you are older than 75, ask your doctor if you should be screened.

High-Sensitivity FOBT (Stool Test)

There are two types of FOBT—one uses the chemical guaiac, while the other (the fecal immunochemical test, or FIT) uses antibodies to find blood in the stool. You receive a test kit from your health care provider. At home, you use a stick or brush to obtain a small amount of stool. You return the test to the doctor or a lab, where stool samples are checked for blood.


Flexible Sigmoidoscopy (Flex Sig)

The doctor puts a short, thin, flexible, lighted tube into your rectum, and checks for polyps or cancer inside the rectum and lower third of the colon. This test may be used in combination with the FOBT.

Colonoscopy

This is similar to flex sig, except the doctor uses a longer, thin, flexible, lighted tube to check for polyps or cancer inside the rectum and the entire colon. During the test, the doctor can find and remove most polyps and some cancers.

Colonoscopy also is used as a follow-up test if anything unusual is found during one of the other screening tests.



If you're 50 or older, talk with your doctor about getting screened.

Other Screening Tests in Use or Being Studied

Although these tests are not recommended by the USPSTF, they are used in some settings and other groups may recommend them. Many insurance plans don't cover these tests and if anything unusual is found during the test, you likely will need a follow-up colonoscopy.

Double Contrast Barium Enema

You receive an enema with a liquid called barium, followed by an air enema. This creates an outline around your colon, allowing the doctor to see the outline of your colon on an X ray.

Virtual Colonoscopy

Uses X-rays and computers to produce images of the entire colon. The images are displayed on the computer screen.


Stool DNA Test

You collect an entire bowel movement and send it to a lab to be checked for cancer cells.

Resources

For more information, visit www.cdc.gov/screenforlife or call 1-800-CDC-INFO (1-800-232-4636). For TTY, call 1-888-232-6348.



To find out about Medicare coverage, call 1-800-MEDICARE (1-800-633-4227), or visit www.medicare.gov.




U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention



1-800-CDC-INFO (1-800-232-4636) • www.cdc.gov/screenforlife

CDC Publication #99-6948
Revised July 2009

Colorectal Cancer Screening Saves Lives



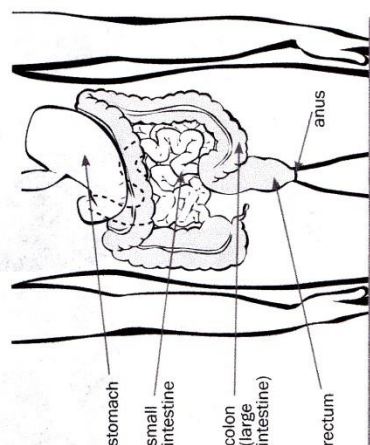



Colorectal cancer is the second leading cancer killer—but it doesn't have to be.

Among cancers that affect both men and women, colorectal cancer is the second leading cancer killer in the U.S. But if everyone aged 50 years or older had regular screening tests, at least 60% of deaths from this cancer could be avoided.

What is Colorectal Cancer?

Colorectal cancer is cancer that occurs in the **colon** or **rectum**. The colon is the large intestine or large bowel. The rectum is the passageway connecting the colon to the anus.



Colon and Rectum

Screening Saves Lives

If you're 50 or older, getting a colorectal cancer screening test could save your life.

Here's How:

- Colorectal cancer usually starts from polyps in the colon or rectum. A polyp is a growth that shouldn't be there. Over time, some polyps can turn into cancer.
- Screening tests can find polyps, so they can be removed *before* they turn into cancer.
- Screening tests also can find colorectal cancer early, when the chance of being cured is good.



Colon Polyp

Who Gets Colorectal Cancer?

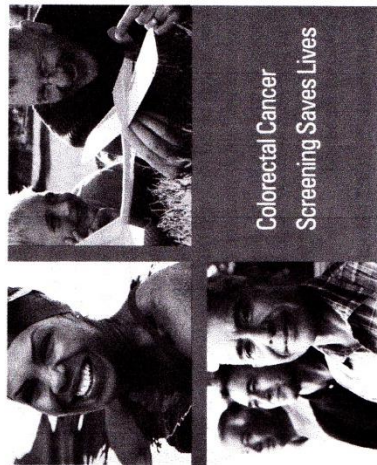
Colorectal cancer occurs most often in people aged 50 or older. The risk increases with age. Both men and women can get colorectal cancer. If you are 50 or older, talk to your doctor about getting screened.

Am I at High Risk?

Your risk for colorectal cancer may be higher than average if:

- You or a close relative have had colorectal polyps or colorectal cancer.
- You have inflammatory bowel disease.
- You have a genetic syndrome such as familial adenomatous polyposis (FAP) or hereditary non-polyposis colorectal cancer.

Speak with your doctor about having earlier or more frequent tests if you think you're at high risk for colorectal cancer.



What are the Symptoms of Colorectal Cancer?

People who have polyps or colorectal cancer don't always have symptoms, especially at first. Someone could have polyps or colorectal cancer and not know it. If there are symptoms, they may include:

- Blood in or on your stool (bowel movement).
- Stomach aches, pains, or cramps that don't go away.
- Losing weight and you don't know why.

If you have any of these symptoms, talk to your doctor. These symptoms may be caused by something other than cancer. However, the only way to know what is causing them is to see your doctor.

Insurance Coverage

Many insurance plans and Medicare help pay for colorectal cancer screening tests. Check with your plan to find out which tests are covered for you.