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Colorectal Cancer Screening for the Vietnamese American Population in Iowa

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Abstract

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Abstract

Colorectal cancer (CRC) is a primary cause of cancer-related mortality in the United States. Asian Americans have the highest CRC mortality rates. CRC screening tests can reduce CRC incidence, yet Asian Americans, specifically the subgroup of Vietnamese Americans, underuse CRC screening. The purpose of this phenomenological study was to understand why Vietnamese Americans, ages 50 to 75, underuse CRC screening. The health belief model constructs of susceptibility, severity, benefits, barriers, and self-efficacy were the framework for understanding this population’s health-related behaviors. Three research questions focused on how knowledge, language, and cultural beliefs and perceptions affect Vietnamese Americans’ CRC screening decisions. Interviews were conducted with 11 participants, and transcribed interview responses were input into NVivo 11 software to maintain a reliable database and to identify emerging themes. Key study findings revealed knowledge and English language gaps as well as adverse cultural perceptions of fear and doubt that influenced CRC screening choices among these 11 Vietnamese Americans. Future researchers might focus on cultural-tailored strategies to minimize these barriers for Vietnamese Americans. An understanding of this study population's perspectives offers the promise of positive social change for health services and public health administrations to develop cultural-tailored interventions that promote healthy lifestyles, prevention, early CRC detection and, consequently, reduce mortality rates and associated health care costs.

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Dedication

To my father's memory and my mother for always supporting, helping, and standing by me. And to my wife, Minh, and my children, Tom and Kaylyn, whose love, inspiration, wisdom, and encouragement have enriched my life in ways I would never have dreamed possible.

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Chapter 1: Introduction to the Study

Introduction

Colon cancer and rectal cancer, jointly known as colorectal cancer (CRC), have many features in common. CRC emerges from and develops in the tissues of the distal or proximal colon and rectum (Henry et al., 2014). Evolved cancer cells attack surrounding tissue and then spread to other parts of the body through the bloodstream and the lymphatic system. Every person has a 5% to 6% risk of developing CRC; however, people over the age of 50 are most vulnerable to developing CRC (Chen, Yamada, & Smith, 2014). CRC develops slowly over several years and usually causes precancerous changes in the lining of the colon/rectum (Nguyen-Truong, Lee-Lin, & Gedaly-Duff, 2013). Without treatment, CRC cells might break away from the tumor forming in the colon or rectum, and spread through the bloodstream to other parts of the body.

Similar to other cancers, one risk factor for CRC is a family history of the disease. Although the incidence rate for CRC is slowly declining overall, the rate of CRC among Asian Americans remains high (Centers for Disease Control and Prevention [CDC], 2013). Asian Americans are individuals living in the United States who originated from Southeast Asia, the Far East, and the Indian subcontinent. Countries in this region include China, Cambodia, Japan, India, Malaysia, Korea, Pakistan, Thailand, Philippine Islands, and Vietnam. The U.S. Census Bureau (2013) has categorized Asians as Asian Indian, Korean, Filipino, Chinese, and Vietnamese, with an estimated 18 million Asian Americans living in the United States in 2015.

Asian Americans are included in the national statistics, which indicate that CRC is the third most diagnosed cancer and the second most common cause of cancer-related death in the United States (Siegel, Desantis, & Jemal, 2014). To prevent or to detect the early stages of CRC, the CDC (2014) recommends that men and women between ages 50 and 75 undergo regular CRC screening. Although CRC screening is becoming more frequent among Asian Americans (Naylor, Ward, & Polite, 2012), screening rates in this population are not comparable to those of other ethnic groups. Ghai et al. (2015) reported that Asian Americans obtained the fewest CRC screenings and had the highest CRC mortality rates.

CRC screenings are medical procedures and tests designed to detect cancer's early manifestation. CRC screening examines human fluids, cells, and tissues for modifications associated with the potential development of CRC (Chen et al., 2014). Early detection of precursor lesions and colorectal adenomas can mean a reduction in the risk of CRC emergence, and timely treatment can reduce mortality risks (Chen et al., 2014).

Vietnamese Americans, who are primarily refugees and immigrants, are the second largest sub-ethnic group of the U.S. population (Ma et al., 2012). Starting with the U.S. invasion of Vietnam in 1965 that ended in 1975, the number of Vietnamese residing in North America has steadily increased (CDC, 2013). Vietnamese Americans characteristically have poor knowledge of English and are unprepared for the changes associated with life in a new society (Lau et al., 2013). Vietnamese Americans experience more poverty and fewer social advantages than their Asian peers (Shahidi, Homayoon, &

Cheung, 2013). Perhaps for these reasons, Vietnamese Americans are less likely to seek out CRC screening.

The remainder of this chapter includes the problem statement, research purpose, and research questions (RQs) that identify the set objectives of the study. Later on, I discuss the conceptual framework and nature of the study, and I introduce the methodology and the research method chosen to investigate the phenomenon. In addition, I highlight the significance of the proposed study and state its limitations. Because of the qualitative nature of my research, my connection to my local Vietnamese community, I identified the factors or barriers hindering CRC screening among the Vietnamese American population living in Iowa. I expected that identifying the factors and barriers might increase awareness and ultimately result in increased CRC screening in this population. I also offer a summary of the research methodology, the results, and the clinical implications of the results as well as areas of future study.

Background

CRC is one of the most severe mortality-causing diseases, making CRC screening essential for early cancer detection and mortality reduction (Green et al., 2013; Siegel et al., 2014). Cancer is the most frequent cause of death in the Asian population, and cancer-caused mortality rates among Asian Americans even exceed those of heart disease (Green et al., 2013). With greater vulnerability to CRC, Asian Americans' rapid response to treatment depends on timely detection (Naylor et al., 2012). Nevertheless, Vietnamese Americans continue to be the largest ethnic group in the United States with the lowest CRC screening rates (CDC, 2013).

Previous research and national statistics have identified low rates of CRC screening use in the Asian population (Sentell, Braun, Davis, & Davis, 2013). Socioeconomic status (SES), cultural and demographic factors, lack of English language proficiency, poor knowledge of CRC consequences and treatment, and limited access to health care services (Hashiguchi et al., 2012; Yi et al., 2013) remain key constraints to regular CRC screening for Vietnamese Americans.

U.S. citizens were classified by education, profession, and family income in Green et al.'s (2014) study. SES was the key determinant of health, explained merely by the relationship between quality of living conditions and economic wealth (Green et al., 2014). Developed countries with higher incomes have better sanitation, safer food, greater access to medical services, and less crowding (Green et al., 2014). Education is an important factor for proper health (Green et al., 2013). Being aware of necessary and available preventive measures, educated people demonstrate more thoughtful health behaviors (Kim, Chandrasekar, & Lam, 2015).

Asian Americans comprise a significant part of the population in the United States; however, acknowledged barriers to adoption rates of CRC screening-related programs have not been adequately addressed. For example, the Affordable Care Act (ACA), which requires Medicaid plans and insurance to provide the entire spectrum of life-saving preventive services, does not consider individual economic barriers to obtaining medical coverage (Green, Coronado, Devoe, & Allison, 2014). Neglecting the needs of Vietnamese Americans has resulted in poor access to health care services for a large segment of the U.S. population, thus resulting in high mortality rates from CRC in that population (Kim, Chandrasekar, & Lam, 2015). Additional research on minorities and CRC is needed, and my proposed study begins to fill this gap.

Problem Statement

CRC is the second most common cause of cancer deaths for both men and women (Green et al., 2013). If everyone aged 50 years and older had regular CRC screenings, almost two thirds of deaths from colon and rectal cancers could be prevented (Nguyen-Truong et al., 2013). CRC is diagnosed at any age, but the mortality risk increases exponentially with age.

Vietnamese Americans seem to be more vulnerable, relative to other ethnic groups, for increased CRC incidence and mortality, due to overall lower SES, less access to available medical services, and greater physiological and language barriers (Kim, Chanrasekar, & Lam, 2015; White, Sahu, Poles, & Francois, 2012). During the decade from 2001 to 2010, Vietnamese Americans received approximately 150,000 cancer diagnoses, a majority when compared to other ethnic groups (Siegel et al., 2014). Based on my literature review to date, there has been a lack of research focus on CRC screening practices for Asian Americans, particularly Vietnamese Americans.

Iowa is a median populated state in the United States and has about 10,000 residents of Vietnamese origin. Iowa residents, including Vietnamese Americans, benefit from state-funded CRC screening initiatives such as the Iowa Comprehensive Cancer Control (CCC) Program (Iowa Department of Health, 2014).

The Iowa CCC Program claims to combine all community resources to reduce the incidence of cancer, detect cancer in early stages, provide greater access to and quality of cancer prevention and treatment services, and improve the quality of life for people diagnosed with cancer (Iowa Department of Health, 2014). The Iowa CCC Program provisions are supported by a federal grant from the CDC. The state provides financial and legal support to the plan for CRC and cervical cancer screening.

Nonetheless, the free Iowa CCC Program (Iowa Department of Health, 2014) has failed to reduce the high incidence of CRC among Vietnamese Americans (Koo et al., 2012). A review of CRC-related literature identified a gap in information and knowledge about the constraints preventing Vietnamese Americans from obtaining regular CRC screenings. There is a disparity in Iowa between the availability of CRC screening at no cost, and ongoing resistance to CRC screening among Vietnamese Americans. Consistent growth of the Vietnamese American population, along with its concomitant high mortality rates, underscores the need for in-depth research in this area. My research focused specifically on how Vietnamese Americans’ English proficiency, knowledge, and perceptions of CRC screening contribute to consistently low screening rates despite state programs that eliminate screening costs.

Research Paradigm

This study used a qualitative approach to understand Vietnamese Americans’ perceptions of CRC screening. Descriptive qualitative methodology, according to Heiniger, Sherman, Shaw, and Costa (2015), allows the researcher to gather and interpret details specific to the phenomenon under investigation. This study was justified by an existing gap in the literature on Vietnamese Americans’ continued low acceptance of CRC screening, accompanied by the high incidence and mortality rates of CRC. I focused my interviews on Vietnamese Americans who reside in Iowa and their experience of the CRC screening process in order to identify barriers hindering Iowan Vietnamese Americans from undergoing CRC screening. With the free availability of this life-saving preventive service in Iowa, it becomes extremely important to explore Vietnamese Americans’ CRC screening constraints. The findings shined a light on factors preventing this ethnic group from taking advantage of regular CRC screening opportunities.

Research Questions

In the foregoing literature review and analysis, I identified three factors as the most frequent barriers to CRC screening among Vietnamese Americans: low SES, language barriers, and perceptions or beliefs. Because Iowa provides free prevention services, SES is not relevant to the study. Thus, in line with the pursued objective, I formulated three research questions (RQs):

RQ1: What knowledge do Vietnamese Americans possess of CRC screening?

RQ2: How does Vietnamese-English affect CRC screening decisions for male and female Vietnamese Americans ages 50 to 75?

RQ3: What beliefs and perceptions influence Vietnamese Americans’ decisions about undergoing or refusing CRC screening?

CRC used to be an untreatable disease because the instruments were not available for early detection. CRC screenings that can detect the early stages of cancer maximize the potential success of treatment. Incorrect or uninformed perceptions of the seriousness, consequences, prevention, and treatment of CRC will result in low screening rates (Gwede et al., 2011). In addition, a lack of health care education deprives Vietnamese

Americans of having accurate knowledge of the advantages and positive outcomes of CRC screening.

CRC screening guidelines recommend that all U.S. citizens over age 50 undergo regular screening for early cancer detection (Green et al., 2013). Because Asian Americans are exceptionally vulnerable to CRC, I decided to expand the age spectrum and investigate CRC screening acceptance among male and female Vietnamese Americans ages 50 to 75. English is a second language for many Asian Americans, and many have limited English proficiency (LEP) that consequently leads to poor health literacy and low screening rates (Sentell et al., 2013). Thus, RQ2 was meant to investigate the correlation between English proficiency and the frequency of CRC screening among Vietnamese Americans.

Asians can be superstitious, grounding their lifestyles and routines related to health on cultural values and beliefs derived primarily from Buddhism. For example, Asians often perceive cancer, a disease with high mortality rates, as divine testing. Hence, any human intervention via screening and treatment in the course of this fatal disease is considered disobedience to, and a struggle against, nature (Jun & Oh, 2013).

Conceptual Framework

The health belief model (HBM) is the most popularly applied model for analyzing individuals’ decision making about uptake of medical services and procedures aimed at improving health status. This psychological framework facilitates an understanding of health behaviors through such factors as perceived susceptibility to the disease and its severity, perceived benefits from accepting a recommended action, and perceived barriers to executing the recommended behavior (Lee, Stange & Ahluwalia, 2015).

When insight is gained into people's beliefs, attitudes, and understandings of health information, more accurate predictions of their health behaviors result (Heiniger et al., 2015). The initial HBM that was introduced in the 1950s (Gomez et al., 2013) relied on two basic values, namely, an individual's desire to get rid of the disease and the belief that certain actions and treatments are likely to cure the disease. Over time, five concepts within the model have been distinguished: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and self-efficacy (Heiniger et al., 2015).

Susceptibility refers to an individual's perception of disease and its consequences, preventive measures, and treatment. Perceived severity implies the threat associated with disease, including pain, disability, and death (Lee, Stange, & Ahluwalia, 2015). Proper understanding of a disease's threat and severity promotes understanding associated medical procedures and as well as the individual's desire to prevent the illness's development. However, any medical service or intervention is immediately associated with additional cost and time requirements. Thus, health behaviors depend partly on perceptions of the barriers accompanying medical interventions. Finally, belief in the ability to influence health conditions through proper actions promotes exercising required behaviors (Lee, Stange, & Ahluwalia, 2015). In the realm of the CRC screening practices exhibited by Vietnamese Americans in Iowa, the HBM addresses all aspects uncovered by the current scope of the literature.

Nature of the Study

I relied heavily on concepts of the HBM when choosing a research method. The qualitative methodology fits the objective of investigating the CRC screening practices of Vietnamese Americans in Iowa. According to the HBM, qualitative research facilitates investigating certain situations or phenomena through people's perceptions, ideas, and attitudes. Furthermore, qualitative research focuses on understanding people's interpretations of their experiences and viewpoints (Lee, Stange, & Ahluwalia, 2015). Analysis of the previous research on CRC screening acceptance by Asian Americans revealed that their use of the medical service depends mostly on their own opinions about the necessity and benefits of the procedure. Hence, a qualitative research method is appropriate for this study.

Definitions

The following concise definitions of key terms are both conceptually and operationally used in the study:

Cancer-related mortality: The leading cause of global mortality. In the United States, CRC's high mortality rates make it the second most frequent cancer. Colon Cancer Alliance (2015) statistics indicate that 50,310 of the 136,830 people diagnosed with CRC are expected to die in 2016 (Heiniger et al., 2015).

Health literacy: The ability to make sound health decisions in the context of everyday life, at home, in the community, at the workplace, in the health care system, the market place, and the political arena (Heiniger et al., 2015). Health-literate people can control their health status, obtain the appropriate health-related information, and take responsibility for maintaining their own health. People who are health literate can read and think about health-related information critically before making decisions relevant to their health (Lee, Stange, & Ahluwalia, 2015).

Assumptions

Conducting an in-depth search of the literature on the CRC screening practices of Asian Americans, particularly Vietnamese Americans, allowed me to make a few assumptions. Previous studies' findings led me to assume that language barriers would be a key to understanding low CRC screening rates. Vietnamese Americans ages 50 to 75 belong to an older generation with low levels of English fluency, which possibly explains their inability to obtain comprehensive information about CRC and CRC screening.

Not knowing the positive outcomes of CRC screening or how curable CRC can be if caught early has prevented Vietnamese Americans from understanding the need for screening. Older Vietnamese Americans have adhered, and continue to adhere, strictly to Asian culture, beliefs, and values. Raised as Buddhists, many older Vietnamese have perceived cancer to be a message and test from God.

Scope and Delimitations

The purpose of this study was to shed light on the reasons for Vietnamese Americans' low CRC screening rates and rare use of preventive services, despite their high CRC incidence and mortality rates. I chose the Vietnamese American population living in Iowa, where CRC screening is a free medical procedure and thus negates any screening issues related to SES. I intended to interview 10 Vietnamese American men and women, between the ages of 50 and 75, to explore their viewpoints and beliefs about

CRC and CRC screening. The research allowed me to identify the sociocultural aspects that affect Vietnamese Americans' health behaviors.

Limitations

I focused on low CRC screening rates and high CRC-caused mortality rates among Vietnamese Americans to highlight the need for a culture of regular screening within Vietnamese American communities. To fulfill this objective, existing policies and programs must be adapted to Vietnamese Americans' cultural backgrounds. Time constraints prevented me from conducting a large-scale study or to identify all the factors relevant to Vietnamese Americans obtaining regular CRC screenings.

This study used a small sample, so I concentrated on just three CRC screening determinants, namely: English proficiency, health literacy, and Asian fatalistic beliefs. In addition to the small sample, the study was limited in its location within the state of Iowa. Consequently, generalization to all Vietnamese residents of the United States was impossible. In addition, although Vietnamese Americans living in Iowa have free access to CRC screening, the service is not necessarily affordable throughout the entire country. Vietnamese Americans in other states in the United States might not access CRC screening due to cost.

Significance

Despite some limitations, the study was worthwhile. I addressed a previously unexplored area of CRC prevention: that of diagnostic screening. Through the study, I identified the need to pay more attention to the sociocultural background of Vietnamese Americans. I intended to lay the groundwork for further studies by identifying areas needing to be addressed in future CRC interventions and CRC screening programs and promotions.

Summary

CRC is a serious problem in the United States because of its high mortality rate. In order to reduce the incidence of CRC and to facilitate CRC treatment, any American citizen older than 50 is encouraged to undergo CRC screening on a regular basis. Vietnamese Americans’ reluctance to get regular CRC screening, despite this subgroup’s high CRC mortality rates, is an issue almost entirely untouched in the professional literature.

The gap in information and knowledge about Vietnamese Americans’ practice of CRC screening led to my desire to address the topic. I formulated the RQs and assumptions to explore the sociocultural barriers preventing Vietnamese Americans from engaging in regular CRC testing. I decided to use descriptive qualitative research methods to investigate the low CRC screening rates of Vietnamese Americans living in Iowa. Included in Chapter 1 were definitions of the key terms, a discussion of the limitations and scope of the study, and an explanation of the scope of the research.

The literature review in Chapter 2 includes deeper insights into the emergence, consequences, and possible prevention and treatment of CRC. The chapter provides a review of current CRC screening modes, and a comprehensive discussion of the risks and benefits of each CRC test. The focus of the literature review is to identify the social, cultural, psychological, economic, and other barriers that prevent Vietnamese Americans from participating in regular CRC screening.

Chapter 2: Literature Review

Introduction

CRC results in one of the highest mortality rates among all types of cancer (Green et al., 2013). The incidence of CRC among Asian Americans has been overlooked for a long time, along with a lack of detailed information about Asian Americans' positive health profiles. These misconceptions might be partly explained by the use of statistics reflecting aggregated populations to represent a number of small groups (Gomez et al., 2013). The large and fast-growing Asian American population faces a range of cultural, linguistic, and economic barriers undifferentiated by subgroup in the literature and prevent their engagement in CRC screening practices (Heiniger et al., 2015).

With the greatest proportions residing in San Francisco (33%), Los Angeles (11%), and New York (12%), Asian Americans make up 5% of the U.S. population (Pew Research Center, 2013). The Asian population in the United States continues to grow, with one third of new immigrants to the United States coming from Asia (Heiniger et al., 2015). Asian Americans are the only group in the United States that has higher mortality from cancer than from heart disease (Green et al., 2013). However, researchers in this field (Hashiguchi et al., 2012; Yi et al., 2013) have found that although Asians are considered at higher risk of developing CRC, Asian Americans show continued resistance to screening and treatment. The statistics mentioned by Hashiguchi et al. (2012) and Yi et al. (2013) illustrate low rates of screening acceptance caused by a range of cultural factors and socioeconomic and demographic barriers that should be analyzed and addressed in further social interventions. Increasing the CRC survival rate in this ethnic group would be possible if a culture of regular cancer screening were accepted.

The contemporary Asian American population includes 63 ethnicities and more than 100 languages and dialects (CDC, 2013), but the literature has examined Asians mostly as one large ethnic group. Little research has been dedicated to separate analysis of major Asian subgroups, including Japanese, Chinese, Filipino, Korean, and Vietnamese, with the last two being the least examined. Even though Vietnamese Americans are the fourth largest Asian ethnic/racial subgroup in the United States, there has been a lack of literature investigating and analyzing factors related to CRC in this population, or explaining low screening rates (Nguyen-Truong et al., 2013).

Vietnamese Americans are one of the fastest growing populations in the United States. However, they are much poorer, more economically and socially disadvantaged, and more medically underserved than other Asian subgroups in the United States, and experience greater language barriers (Nguyen-Truong et al., 2013). A few social interventions have been designed and tested to encourage Vietnamese Americans to undergo CRC screening, but current screening guidelines have been culturally inappropriate for this ethnic subgroup, resulting in low rates of CRC screening. In addition, health insurance does not cover issues related to a familial history of cancer, which is another gap in the approach to CRC screening intervention programs (White et al., 2012).

Moreover, national policymakers have not taken into consideration SES factors, one of the determinants of screening acceptance. The ACA grants coverage of life-saving preventive services described by the U.S. Preventive Services Task Force for both insurance and Medicaid plans (Heiniger et al., 2015). The scope of distinguished preventive options includes CRC screening practices according to patients' choices of FOB (fecal occult blood), colonoscopy, or flexible sigmoidoscopy (Green et al., 2014). Immigrants or people of low SES who do not have health insurance do not have access to the covered screenings and cannot afford such services on their own. Thus, Medicare policies aimed at making health care advancements available to everyone have not yet achieved their purpose (Green et al., 2014).

Therefore, current research and intervention practices have been culturally insensitive and socioeconomically disoriented, which has led to misconceptions of CRC screening practices and low rates of screening acceptance. Vietnamese Americans require effective and feasible educational interventions to improve their health-related knowledge. Analysis of the relevant literature confirmed long-term lack of knowledge and research into CRC screening for Asian American ethnic groups.

Literature Search Strategy

My literature review was based on analysis of 88 peer-review articles published between 2011 and the present. Most of the papers focused on Asian populations within a single nation, with the majority discussing problems of low screening rates among Asian Americans. In addition, several relevant articles investigated Asians in the United Kingdom, Canada, Korea, and China. I used a range of databases for the literature review data collection process, including EBSCOhost, Google Scholar, and PubMed Central. Among the key search terms related to CRC were *incidence trends*, *prevention*, *lifestyle*, *behaviors, attitudes*, *socioeconomic*, *practices, characteristics*, *disparities*, *factors*, *community*, *cost effective*, *development*, *effectiveness*, *screening rates*, *knowledge*, *training*, *evaluation*, *influencing*, *participation*, *differences*, *impacts*, *long-term survival*, *improvement*, *interventions*, *promotion*, *guidelines*, *proficiency*, *literacy*, *ethnic*, *strategies*, *risk*, *recommendation*, *decision making*, *considerations*, and *status*. Informational resources from websites such as biomedcentral.com, med.upenn.edu, and sesc.org were of considerable assistance in this research. The main keywords used to search for relevant literature on these websites included *CRC* (*colorectal cancer*), *fecal occult blood* (*FOB*), and *computerized tomography* (*CT*).

This descriptive qualitative study was based on primary data analysis obtained from face-to-face interviews with the participants. Many of the studies in the reviewed literature used open-ended interviews to gather narrative data about participants' lived experiences. The literature also included discussion of the cultural beliefs and views of Vietnamese Americans specifically, and Asian Americans in general, regarded as driving their health-related behaviors and explaining their perceptions of, and engagement in, CRC screening.

Chapter 2 includes the broad range of screening barriers revealed in the literature, including cultural, socioeconomic, personal, and health care system-related barriers and their variables. The literature review provides evidence for the problem statement, with detailed content concentrating on key issues. Reviewing an extensive number of studies (almost 90), revealed some effective interventions that can be applied toward educating this population subgroup about CRC screening.

Theoretical Framework

CRC is an acute problem worldwide. CRC is second only to breast cancer for women and third to lung and prostate cancer for men (Tarraga Lopez, Albero, & Rodriguez-Montes, 2014). International statistics on global mortality indicate that CRC is the second most common cancer worldwide (Damery, Clifford, & Wilson, 2010; Lau et al., 2013; Young & Womeldorph, 2013). Data suggest that people over the age of 50 are most vulnerable to CRC, and also that the disease is more common in men than in women (Tarraga Lopez et al., 2014).

Although CRC is a problem worldwide, there is disparity between its prevalence in more industrialized countries versus the rest of the world (Young & Womeldorph, 2013). Rates of CRC found in Eastern Europe, South America, Africa, and Asia are lower than in the Western world. In addition, recent studies revealed that the incidence of CRC is increasing worldwide, and even those countries with lower CRC rates have seen drastic rate increases along with the related mortality. The general and unified explanation for the trend is that CRC is one of the body’s responses to a combination of assaults that come with industrialization and economic development, such as heavy smoking, obesity and being overweight, physical inactivity, improper diet, and alcohol consumption (Tarraga Lopez et al., 2014).

The United States seems to be the only country that has stabilized its CRC rates, attributable to early diagnosis resulting from CRC screening. Early detection practices and effective treatments have resulted in declining CRC rates in many other Western countries (Tarraga Lopez et al., 2014). National CRC screening guidelines suggest that

U.S. citizens ages 50 and older undergo their preferred screening options on a regular basis (Green et al., 2013; Rawl, Menon, Burness, & Breslau, 2012). Although 61% of the U.S. population has shown an increased tendency toward screening acceptance, 65% of Vietnamese Americans ages 50 and older have never had a CRC screening, with rates among Vietnamese Americans remaining comparatively low (Heiniger et al., 2015). Vietnamese Americans are one of the fastest-growing subgroups of Asian Americans (Ghai et al., 2015), and became the focus of my study to highlight their screening practices, vulnerability to CRC, and barriers to screening, as well as to determine areas for further research and outcomes to be considered.

Colorectal Cancer Screening

CRC screening involves examining tissues, cells, and fluids for changes interpreted as possible sites where CRC can develop (Chen, Yamada, & Smith, 2014). A variety of CRC screening strategies have been designed for detecting early cancer in the colon (colorectal adenomas and precursor lesions) and reducing its incidence and mortality rates. There are two types of CRC screening methods: traditional or innovative. Traditional CRC screening options include colonoscopy, sigmoidoscopy, and guaiac testing to detect blood in the stool, known as FOB. New or innovative CRC screening strategies include fecal DNA analysis, immunological FOB, and virtual colonoscopy (Tarraga Lopez et al., 2014). FOB is the most widely used method of CRC screening because it is simple and widely available. Simple FOB testing via guaiac testing involves analyzing the stool for blood remains. An FOB test can be performed either in the clinical setting or at home. For home testing, patients are provided with specific FOB test kits to examine the feces for occult blood (DeBarros & Steele, 2013).

Colonoscopy is regarded as the “gold standard” for CRC screening because it allows the attending physician to examine the entire colon and immediately remove adenomas suspected to potentially become cancerous (DeBarros & Steele, 2013). Although evidence validating the cost effectiveness and risk insufficiency of colonoscopy has been lacking, the current trend demonstrates a preference for this screening option in the United States and elsewhere (Doubeni et al., 2013). Flexible sigmoidoscopy refers to the examination of up to 60 cm of the rectum’s mucous surface, the entire sigmoid colon, and part of the descending colon. The procedure is performed using endoscope and does not require any sedation (Tarraga Lopez et al., 2014).

Virtual colonoscopy, also known as CT, involves X-ray technology combined with computer technology to produce detailed images of the entire colon and rectum (DeBarros & Steele, 2013). Another noninvasive CRC screening alternative is examining fecal or stool DNA, a technique that detects precancerous adenomas by identifying genetic modifications observed in a sequenced developmental progression evolving from adenoma to carcinoma. These alterations are mutations in adenomatous polyposis coli (APC), deleted in colorectal carcinoma (DCC), and Kirsten rat sarcoma viral oncogene homolog (KRAS; DeBarros & Steele, 2013).

Because CRC has such high incidence and mortality rates, health care officials have argued that CRC screening is key to reducing mortality rates and increasing life expectancy. The U.S. Preventive Services Task Force has recommended that all U.S.

citizens ages 50 years and older undergo annual FOB, guaiac FOB, and fecal immunochemical testing (Rawl et al., 2012). In addition, undergoing flexible sigmoidoscopy and colonoscopy every 5 and 10 years, respectively, is deemed essential (Green et al., 2013).

Progress is being made in CRC treatment through the development of new surgical and medication treatment options. Some options, such as chemotherapy and aggressive surgery, aim to prolong patients' lives or improve their quality of life (Pollack et al., 2014). However, early detection of precancerous adenomas through screening represents a significant advancement.

CRC is curable if treatment begins in the early stages, and global statistics indicate that CRC screening reduces the mortality rate (Heiniger et al., 2015). Thus, contemporary CRC screening guidelines have recommended early detection, identification, and removal of precancerous polyps through a variety of testing protocols (Gwede et al., 2011). Studies in the United States, Europe, and Asia continue to evaluate CRC screening's effectiveness for cancer prevention and successful treatment (Heiniger et al., 2015). CRC is a serious disease with drastic outcomes, and therefore much effort has been put into identifying preventive methods (Tarraga Lopez et al., 2014). There are two basic types of cancer prevention activities. Although secondary preventive methods rely mostly on health care advancements, primary preventive methods depend entirely on the individual (Tarraga Lopez et al., 2014). Some risk factors are beyond human control, such as age, sex (men are at higher risk), family history of CRC, prior colorectal polyp history, Type II diabetes mellitus, and inflammatory bowel disease (Pollack et al., 2014).

However, certain habits and behaviors can influence the development of CRC (Ollberding, Nomura, Wilkens, Henderson, & Kolonel, 2011). For example, individual eating and drinking habits, along with physical inactivity, might contribute to the development of CRC. Reducing CRC risk includes reducing fats and excessive calorie consumption (Gwede et al., 2011).

Also implicated in CRC risk are heavy smoking, drinking alcohol, and consuming red meat and salt. Improper diet, obesity, and overweight increase risk by reducing fiber, vitamin C, calcium, and selenium intake (Gwede et al., 2011). An imbalance in macronutrients, micronutrients, and antioxidants leads to a higher incidence of CRC (Tarraga Lopez et al., 2014). People who eat large quantities of fruits and vegetables are less at risk for developing CRC, whereas people with high fat, red meat, and carbohydrates intakes experience a higher incidence of CRC (Pollack et al., 2014).

All CRC screening options refer to secondary preventive measures and are highly effective in reducing the development of CRC. Most CRC cases occur as the result of the transformation of adenomas into carcinomas, so CRC screening can facilitate the early detection and removal of precancerous colorectal adenomas. This early identification of potential CRC or early-stage cancer increases patient survival rates and reduces mortality rates (Lee et al., 2012).

Health Belief Model

The HBM used in the present study was a strategy to measure people’s willingness to engage in preventing, screening, or controlling illness and to identify the constructs that can influence such behaviors. Since the focus of this study was male and female Asian Vietnamese Americans ages 50 to 75, the literature review focused on disparities in the acceptance of CRC screening between various ethnic Asian groups and the European American population. Cultural background, sociodemographic characteristics, and lack of English proficiency affect Asians' perceptions of CRC and the need for prevention and screening. In general, the literature described behavioral peculiarities in all subgroups of Asian Americans were described in the literature including Indians, Pakistanis, Chinese, Japanese, Filipinos, Cambodians, Koreans, Vietnamese, Hawaiians, and Laotians (Gomez et al., 2013). Although CRC screening rates and factors impacting screening acceptance vary among different ethnic subgroups, extensive information on individual Asian subgroups was lacking. Thus, findings in the literature about Asian Americans' experiences and behaviors relevant to CRC are necessarily combined.

Susceptibility

Susceptibility to any disease, and particularly CRC, depends on individuals' knowledge about its seriousness, consequences, treatment, and contributing factors. Researchers have asserted that Asian Americans lack personal education, health-related knowledge, and awareness about preventive methods (Lau et al., 2013; Maxwell et al., 2011a; Miles, Rainbow, & von Wagner, 2011). When thinking about cancer in any of its forms, people may immediately associate it with death and a lack of treatment options. Thus, people frequently regard CRC as incurable, a viewpoint that might explain the overall low rates of CRC screening (Gwede et al., 2011).

Asian Americans' limited health awareness includes lack of knowledge about the risks of negative habits provoking the emergence of precancerous adenomas and transforming them into carcinomas (Bostean, Crespi, & McCarthy 2013). For instance, smokers are at higher risk for developing CRC than nonsmokers. Although men are more vulnerable to cancer than women (Wang et al., 2012) male smokers in a study by Wong et al. (2013) were frequently unaware of their higher risk and that they needed to undergo regular cancer screening for the early detection and removal of precancerous polyps. Despite knowing about the existence of such disease, study participants did not associate it with their health conditions and lifestyles, and did not take it seriously (Wong et al. 2013).

Fatalism was an important concept when explaining Asian American's low screening rates for CRC prevention. All Asian ethnic groups possess certain cultural lifestyles and values, especially in the context of perceptions and behaviors related to health, which are rooted in Buddhism (Wang et al., 2012). Although currently living in the Western world, many Asian Americans believe that fatal diseases are destined by nature, and that human intervention via curing practices should be regarded as a struggle against divine intent (Jun & Oh, 2013). Thus, CRC is frequently perceived as an uncontrolled and unexplainable phenomenon rather than the result of lifestyle or behavioral choices. Regardless of culture-related superstitions, Asian Americans need to establish higher CRC screening rates, more thoughtful lifestyle and behavioral choices, and greater adherence to cancer prevention guidelines (Bostean et al., 2013).

Severity

Despite the severity and mortality consequences of CRC, Asian Americans commonly have the risk factors for its development. Physical inactivity, obesity, unhealthy diet, heavy drinking, and/or smoking set the foundation for cancerous polyps and adenomas and are of growing concern in the Asian population living in industrialized countries (Henry et al., 2014). Because Asian Americans do not pay regular visits to health care providers, they do not receive proper education on the need to maintain healthy lifestyles (Christou & Thompson, 2012; Steele, 2012).

Moreover, a wide range of cultural, psychological, and socioeconomic factors explain Asian American patients' dismissiveness toward CRC. They are unaware of CRC's high incidence rate, and they do not know about the mortality rates resulting from CRC (Maxwell et al., 2011a). Research has confirmed that CRC is the second leading cause of cancer deaths worldwide and the leading driver of mortality among Asian Americans (Miles et al., 2011). This lack of awareness among Asian Americans has resulted in their rare use (19%) of endoscopy practices (colonoscopy and sigmoidoscopy) when compared to other ethnic groups (Wang et al., 2012).

The Asian culture generally includes preferences for popular medicine and traditional cures over modern screening methods, with some Asian Americans believing in the power of herbs, spices, teas, fruits and vegetables, and natural grains/foods to cure cancer (Gwede et al., 2011). Patients' proper understanding of CRC and cancer screening depended on close and productive communication with their physicians (Christy & Rawl, 2013). Patient-doctor collaboration in the decision-making process surrounding CRC prevention and treatment has many benefits. First, it clarifies the seriousness and risk of the disease or health condition that is to be prevented (Christy & Rawl, 2013). Second, it gives patients the opportunity to estimate all the risks of, benefits of, and alternatives to preventive services. Third, comprehending the consequences, especially death, of CRC and the capability of CRC screening to either prevent the disease or to detect its early stages and contribute to treatment success allows patients to engage in thoughtful and careful decision making (Christy & Rawl, 2013). Given the importance of the patient-physician relationship toward CRC prevention and compliance in the Asian community, limited access to health care and poor health-related knowledge results in misperceptions about the severity of CRC.

Benefits

Studies have been conducted to increase awareness of CRC and to improve knowledge of CRC-related treatment and prevention activities. Educational sessions and courses in CRC screening guidelines have tried to highlight the benefits of testing procedures that prevent and provide early detection of CRC. Small-group meetings, mailing out print materials, assistance from health care providers, and social movements and leaders promoting CRC screening are all communication-based ways to clarify the issues surrounding CRC screening (Maxwell et al., 2011a). For instance, patients should be taught that simple FOB testing is an effective tool in detecting the early stages of CRC.

In addition to achieving a proper level of understanding about CRC, patients require social support for undergoing CRC screening. Thus, links between and among patients in the community should be used to promote the benefits of CRC screening and encouraging more frequent uptake (Maxwell et al., 2011a). In the United States, national level of CRC screening has supported its cost effectiveness both medically and socially. Direct medical expenses for CRC equaled $14 billion in 2012, with projected costs for 2020 reaching $20 billion (DeBarros & Steele, 2013). However, the cost of lost productivity from CRC deaths was $15.3 billion in 2006, or $288,468 per patient. The cost of colonoscopy or FOB screening is insignificant when compared to the extensive direct and indirect costs of CRC (DeBarros & Steele, 2013).

CRC screening via colonoscopy has resulted in significant decreases in the incidence of and mortality from CRC (Young & Womeldorph, 2013). The two fundamental benefits of colonoscopy are that it (a) helps to detect and remove precancerous polyps, and (b) provides an advantage for effective cancer treatment because it detects CRC in the early stages. Moreover, a negative colonoscopy is not predictor of future CRC development (Young & Womeldorph, 2013). Therefore, colonoscopy examinations are highly beneficial for symptomatic and asymptomatic patients.

FOB is another effective practice that facilitates detection of cancer in its early stages, and can result in more successful treatment outcomes. FOB also identifies the precursors of CRC, including polyps, which can be removed through colonoscopy to eliminate possible cancer development. If done regularly, FOB is thus likely to contribute to an enhanced quality of life and reduced medical treatment costs (Lee-Lin, Nguyen, Pedhiwala, Dieckmann, & Menon, 2015). However, not all screening options, such as the newly designed stool DNA testing, capsule endoscopy, and CT colonography, have demonstrated cost-effectiveness. FOB and colonoscopy remain the current preferred screening methods with demonstrated cost effectiveness (Lansdorp-Vogelaar, Knudsen, & Brenner, 2011; Sharp et al., 2012).

Barriers

Previous research on the topic has found that Asian Americans have low rates of CRC screening due to a variety of tangible and psychological barriers. Among the most influential of these barriers are poverty, ethnicity, and SES (Henry et al., 2014). Regarding CRC screening by Asian Americans, Lee-Lin et al. (2015) distinguishes and categorized the barriers into three main groups, namely, sociodemographic factors, characteristics of the health care system and health care providers, and patients' psychological factors that include cultural beliefs, CRC-associated risk perception, CRC knowledge, and education.

Sociodemographic barriers

SES has been recognized as the key determinant in accepting CRC screening. Prior research has indicated that patients with low SES (most Asian American patients have low SES) have low acceptance rates of CRC screening (Deng et al., 2011; Ferrat et al., 2013; Lee et al., 2011). Poverty is key factor because low-SES patients frequently do not have health insurance to cover preventive services such as CRC screening. Without insurance reimbursement, Asian Americans often cannot afford CRC screening, perceiving the procedure only as an additional expense while ignoring its health benefits (Wong et al., 2013).

The SES barrier must be eliminated through changes to public policy. A large observational study by Doubeni et al. (2012) identified correlations between SES and the incidence of CRC, noting that populations with lower SES have higher rates of CRC, especially in the rectum. Because low-SES patients cannot afford screening due to lack of health insurance, they are disadvantaged with regard to early detection and treatment of CRC. SES is a barrier not only to CRC screening uptake but also patient survival (Doubeni et al., 2012).

Characteristics of health care system and health care providers.

Numerous researchers have concluded that lack of health insurance leads to patients' inability to afford routine preventative screening, limiting their access to medical advancements (Ferrat et al., 2013; Lee et al., 2011). Health care-related barriers the most critical factors affecting acceptance of CRC screening. Studies concluded prior to the advent of the ACA found that recent immigrants and low-SES minority ethnic groups could afford health care insurance. As a result, they were deprived of proper health education and knowledge of the various preventive measures, physicians' recommendations for screening, regular contact with health care providers, and available resources (Klabunde et al., 2011) (Appendix A).

Self-Efficacy

Asian Americans generally have little awareness of their personal ability to control the emergence and development of CRC through regular screening (Kim et al., 2015). When members of a population recognize their ability to control their health status, the most commonly exercised screening practices are FOB and colonoscopy

(Sentell et al., 2015). Positive outcomes can result when primary care providers, as public health mediators, explain the benefits of CRC screening. Physicians should serve as educational resources and powerful drivers to enhance their patients' cancer awareness and interpret screening as a form of personal efficacy (Kwon, Ma, Gold, Atkinson, & Wang, 2013). The Asian American community must also consider recruiting and educating health advisors to deliver comprehensive information about CRC screening, to help Asian American patients perceive CRC screening as their personal intervention in health maintenance or disease treatment (Maxwell, Danao, Cayetano, Crespi, & Bastani, 2012). In addition to providing information on CRC screenings, health advisors must also assist with effective access to health facilities offering screening.

The notion of self-efficacy in the context of undergoing CRC screening to prevent the emergence and development of cancer is likely to influence most those with a family history of cancer. Studies have shown a high association between colonoscopy practice and CRC family history among Asian Americans. Therefore, patients with a family history of screening might serve as a model for others by allowing regular monitoring of their health (Perencevich, Ojha, Steyerberg, & Syngal, 2013).

Research Methodology

As of 2012, statistics and health care-related observations have indicated that Asian Americans experience higher incidence and mortality rates of CRC and lower cancer screening rates than the European American population (Ponce et al., 2012). However, current knowledge and information is lacking in this field specific to the Asian American ethnic subgroup of Vietnamese Americans. My study focused on the viewpoint of Vietnamese Americans to fill a needed knowledge gap. I designed an interview guided by open-ended questions to collect information about the problem of low CRC screening rates from the participants to understand the situation and propose some community and state changes in intervention principles. A focus on acquiring qualitative feedback interpreting the concept of low CRC screening rates among Vietnamese Americans justified taking a descriptive qualitative approach (Lee et al., 2015).

Descriptive phenomenological research included examining the lived experiences reported by study participants pertaining to a certain phenomenon or concept. After data are collected, the researcher analyzed common features of the phenomenon experienced by all participants. Thus, the key purpose of descriptive phenomenological research was to cut out the unimportant individual experiences and focus on the selected concept to describe the very nature of the matter (Creswell, 2012). For this kind of study, I sought data pertaining to the phenomenon of low CRC screening rates among Vietnamese Americans and produced a composite description of the essence of the experience peculiar to all the participants. As a result, the description comprised information on what and how they experienced (Creswell, 2012).

I designed the research framework in compliance with procedures for a phenomenological study. First, I decided to apply a descriptive phenomenological approach to the data collection because the stated research problem of the current lack of information on the screening experiences of Vietnamese Americans required acquiring data from primary sources. By analyzing their common experiences, I could identify barriers to and facilitators of CRC screenings to be used in further practice or policymaking. Concentrating on the need to investigate the actual CRC screening practices of Vietnamese Americans, I developed open-ended questions to determine situations and contexts that could affect their use of CRC screening (Nguyen-Truong et al., 2013). Another advantage of the chosen data collection method was that during the verbal discourse of the interview sessions, I was able to grasp the participants' nonverbal behaviors that comprise part of the research data when manifested in the interview context.

For the proposed study, I engaged only male and female Vietnamese Americans in the specific age group of 50 to 75 years to obtain data about their CRC screening experiences. Although I designed the questions to direct the participants' narration, their open-ended nature allowed me to elicit the largest possible amount of information. Finally, the interview method of collecting information was quick, comfortable, and inexpensive (Lee et al., 2015). I did not restrict the study to a particular type of location. The interviews were conducted in the participants' homes, workplaces, or other location of their choice.

The data analysis process required first transcribing the interview responses and then highlighting the quotes, sentences, and statements that are the most significant to the research context and the problem statement (Creswell, 2012). This primary stage of analysis allowed me to determine the key themes, such as the particular factors that affect the use of CRC screening among Vietnamese Americans. These processes laid the foundation for a structural description of the concepts and possible solutions, intervention approaches, and potentially effective social policies.

Location

The literature review revealed that Asian Americans comprise a considerable part of the U.S. population and that Vietnamese Americans are the fastest growing ethnic subgroup. National statistics on CRC incidence, mortality, and screening uptake rates have covered the nine oldest areas of the Surveillance, Epidemiology, and End Results Program (SEER), including Connecticut, Hawaii, Iowa, Utah, and New Mexico, and the metropolitan areas of Detroit, Atlanta, the Seattle-Puget Sound region, and San Francisco-Oakland (Siegel et al., 2014). However, the literature review revealed that most published studies and investigations have focused on Asian Americans living in California.

Of the 88 analyzed works, only a few have embraced the national population of Asian Americans. Heiniger et al. (2015) focused on the Washington state area and parts of New York and New Jersey. Several other studies focused on England, Korea, China, and Canada (Wong et al., 2013). I chose to study the Vietnamese American population in Iowa, which has a median population of Asian Americans for the United States, particularly of Vietnamese Americans, to pursue the double aim of examining the issue within a specific ethnic subgroup, and expanding the current literature's geographical scope on the topic.

Social Change Implications

My analysis of previous studies and social interventions indicated that it is essential to increase the awareness of Asian Americans about the severity, consequences, initial symptoms, and preventive measures relevant to CRC. Thus, the focus of any interventions should be centered on designing and delivering varied educational materials and sessions to Asian Americans to increase their CRC screening rates and decrease the mortality rates (Christou & Thompson, 2012).

Prior research has demonstrated the effectiveness of programs such as the Iowa CCC that rely on lay health workers (LHWs) recruited and educated in CRC and CRC screening to deliver information to others. This approach has been promoted CRC screening (Heiniger et al., 2015). In order to eliminate the fatalism constraints, a social intervention framework relied on comprehensive and clear informational materials explaining the causes of CRC as well as the high potential of the success of early treatment (Jun & Oh, 2013).

Automated phone calls, mailings, and newsletters are ways to inform Asian Americans about the necessity and possibility of undergoing CRC screenings in community health care facilities (Maxwell et al., 2011b). Research has demonstrated that life-threatening concerns can result in higher rates of CRC screening practices (Green et al., 2013). Moreover, automated phone calls are efficient in informing patients about a diversity of preventive and therapeutic actions and interventions designed by the health care system to allow the population to contribute to their own well-being (Smith et al., 2012). In a world driven by technological advancements, it is unreasonable to underestimate the importance of the Internet. Numerous resources depicting CRC and its severe consequences, along with introducing CRC screening options to prevent and detect cancer in its early stages, are likely to increase awareness of CRC and an increase in screening. Patients have stated that most of their treatment decisions have been and continue to be affected by information available through the Internet (Chen et al., 2014). Therefore, information disseminated through the Internet might help people to detect and identify the first symptoms of CRC.

The promotion of CRC screening should be based on a framework combining community resources, developing relationships with community centers and partnerships with the Iowa Department of Health, broadcasting through the media, and putting up posters at temples and churches. Thus, high rates of CRC screening might be achieved only under the condition that communities possess corresponding medical facilities, exercise trustworthy patient-physician relationships, and maintain partnerships with organizations currently developing and disseminating education in CRC and screening (Maxwell, Danao, Cayetano, Crespi, & Bastani, 2014).

An effective strategy for promoting CRC screening among members of high-risk populations who had never been screened, despite their high risk was developed by Jean-Jacques et al. (2012). Taking into consideration the LEP possessed by most ethnic groups, the researchers designed FOB kits that they mailed to the study participants. The approach was effective in increasing the willingness and intent to get CRC screening of populations characterized by high poverty levels. Social intervention is bound to succeed, even if based only on provision of educational materials and sessions, although disseminating FOB kits might be a significant complement (Tsoh et al, 2016)

All of the designed and tested interventions aimed at increasing CRC screening rates and detecting CRC in the early stages will increase life expectancies. Thus, a CRC screening promotion campaign should encompass social networking and community-based education, LHWs as information carriers, media sources of cancer-related information, reminder notices and calls, health care provider engagement and assistance, and health care system changes to address patients' cultural backgrounds (Hou, Sealy, & Kabiru, 2011; Tsoh et al., 2016).

Continuing medical education in CRC screening has demonstrated its effectiveness in promoting screening uptake among Vietnamese Americans (Tsoh et al., 2016). In addition, information interventions should focus on clarifying the purposes and benefits of each screening option (Jerant et al., 2013). The role of community health educators and advisors as well as physicians is critical in promoting healthier lifestyles and behaviors as primary prevention methods (Sanchez, Palacios, Cole, & O'Connell, 2014). Interactive presentations and exhibits are likely to improve public knowledge about CRC and screening, which might provoke an increase in screening rates and a reduction in CRC incidence and mortality rates (Redwood, Provost, Asay, Ferguson, & Muller, 2013). Therefore, culturally tailored education that is complemented by navigation services and physicians' competency in communicating with patients possessing low language proficiency and health literacy can enhance the use of CRC screening significantly (Naylor, Ward, & Polite, 2012).

Summary

Gap in the Literature Review

Some social interventions have been implemented to promote higher rates of CRC screening. However, they have not addressed the overall scope of the issues. For example, some programs focus on patients' cultural background, while others rely on disseminating information, and so on. An effective social intervention meant to increase CRC screening among the Asian American population should incorporate culturally-tailored materials, FOB cards, telephone counseling and advising, and usual care (Pollack et al., 2014). An effective intervention should target patients and health care providers by offering strategies that include reminders, educational materials, FOB cards, language interpretation, and physician training.

Despite the common finding that Asian Americans have high CRC rates but underuse CRC screening, very few interventions and frameworks have been designed, implemented, and tested to increase screening rates (Maxwell et al., 2011b). Moreover, among the strategies that have been developed, only a few have been tested that have demonstrated positive outcomes (Rawl et al., 2012). Regardless of patients' intentions to participate in CRC screening, few studies have provided a framework integrating the cultural and social variables of ethnic/racial minority populations.

Asian American patients have two characteristics that must be addressed by intervention policies. First, it is essential to create a proper community of support because Asian Americans are culturally traditional and exercise a collectivist orientation in their decision making. Second, some effort is required to handle the current mistrust of mainstream institutions, notably poor patient trust of physicians provoked by low SES, lack of health care insurance, absence of quality primary care, and so on (Pollack et al., 2014).

There is apparent and growing need to understand and handle the issue of low health literacy among different ethnic/racial minority groups with LEP. Nevertheless, useful and valid health literacy tools for increasing the medical and health knowledge of particular linguistic minorities were not identified by the reviewed literature. The designed programs S-TOFHLA and REALM have been found insufficient in enhancing the educational levels of Asian Americans (Han, Kim, Kim, & Kim, 2011). The practice of CRC screening requires partnerships and collaborative actions between health care providers and patients, but no tool or method has been designed to facilitate the process (Christy & Rawl, 2013). Furthermore, inadequate communication between patients and health care providers can result in the frequent misuse or overuse of CRC screening, along with the dominant tendency of screening underuse (Lebel et al., 2016).

Current CRC screening guidelines recommend that any U.S. citizen age 50 years and older should use FOB, colonoscopy, or any other screening alternative at certain intervals. Statistics have shown that 23% of the current U.S. population over the age of 70 years has never been screened (Van Hees et al., 2014). In order to ensure life sustainability in this age group, it is essential to conduct research focused on the incidence of CRC among people 75 years and older and to recommend CRC screening (Van Hees et al., 2014).

Another gap identified in the literature review was a lack of research and knowledge of cancer biomarkers. Because of the risks associated with colonoscopy, many patients at high risk of CRC currently reject the procedure. Thus, there is a need for some alternative ways of primary testing that are more comfortable to distinguish vulnerable groups from the general population. Afterwards, high-risk patients should be advised to have a colonoscopy.

Positive Change Findings

The literature review revealed a range of barriers to be eliminated and a set of facilitators to be addressed in further research and social change interventions. In the case of Asian American patients, the key barriers to CRC screening are low SES, lack of education, poor health awareness, lack of health insurance, and limited access to care. Although most of the literature has supported language proficiency and self-efficacy as the main facilitators toward improving CRC screening rates, Ferrer, Ramirez, Beckman, Danao, and Ashing-Giwa (2011) found little association between the stated notions of a sample of Filipino Americans and their willingness to undergo screening. For this ethnic subgroup, other factors appeared to be influential, such as the duration of residence in the United States, receipt of a doctor's recommendation for screening, and age. The results of the study are valuable for further research planning and intervention design.

Among the most effective interventions to promote CRC screening have been patient reminders through mailing, calling, or personal recommendation. One-on-one communication and interactions with non-physician staff in the clinical setting also have made positive contributions to increasing the rates of CRC screening. Another efficient approach that has been suggested is the practice of prescribed systematic screening rather than opportunistic screening. Though the latter intervention restricts patients' control over their health maintenance, it increases CRC screening rates and thus reduces national mortality. However, all intervention frameworks need to implement either structural changes or system modifications (Lebel et al., 2016).

The examination of prior studies on the topic of CRC screening uptake among various ethnic/racial subgroups of the American Asian population has revealed the current state of affairs in minority health care and the scope of knowledge available. For instance, Wang et al. (2012) discussed three fundamental ways screening rates are increased that are relevant to further research and interventions: (a) if patients receive recommendations for screening from their health care providers; (b) if they are educated in the context of the emergence, development, consequences, and prevention of CRC; and (c) if a screening promotion campaign takes into consideration patients' cultural views and beliefs.

The effectiveness of national Korean guidelines for the prevention of gastrointestinal (GI) diseases have been examined and compared with GI disease incidence between national Koreans and Korean Americans (Kim et al., 2013). The prevalence of GI disease was rather similar in both ethnic groups, so Kim et al. (2013) concluded that it could be rational and efficient to use Korean guidelines for endoscopy in serving and treating Korean patients in the United States. Another positive outcome found in the literature review was the effectiveness of geographic software and tools in identifying high-risk areas to focus community interventions and health care service to particular geographic areas that require screening facilities (Lofters, Gozdyra, & Lobb, 2013).

Very few of the studies examined have focused specifically on Vietnamese Americans and their attitudes toward CRC screening. Moreover, regardless of the common understanding of the need to incorporate cultural variables into screening promotion interventions, few attempts have been tested. Therefore, the work of Lee-Lin et al. (2015) is a remarkable outcome of the current literature analysis. In addition to its focus on Vietnamese Americans as one of the largest ethnic subgroups of the Asian American population, their study also demonstrated ways of building and executing media campaigns to increase CRC screening rates in compliance with the cultural background of the targeted population. This simple yet highly respectful approach to the Vietnamese culture resulted in high engagement in the educational process of the targeted population (Lee-Lin et al., 2015).

Overview of the Following Chapters

Chapter 2 was dedicated to the careful analysis of relevant literature. Chapter 3 presents a discussion of the proposed methodology. The section provides a synthesis of the interview answers and their categorization by themes. Afterwards, Chapter 4 gives a comprehensive discussion of the study's findings. It also draws parallels with previous studies related to Vietnamese Americans and their use of CRC screening. Chapter 5 draws conclusions resulting from the analyzed literature and research findings. It discusses implications of the problem of low screening rates among Vietnamese Americans. In addition, the chapter states the limitations of the study and offers recommendations for further research.

Chapter 3: Research Method

Introduction

The purpose of this study was to identify barriers preventing Vietnamese Americans from using CRC screening in Iowa. The study was justified by this ethnic subgroup’s high CRC mortality rates and low levels of interest in diagnostic screening for CRC. I collected the data from interviews with a sample of Vietnamese Americans that are the target population in Iowa. Using focused interview methods improved the study’s credibility or internal validity. This practical research helps reveal factors preventing Vietnamese Americans from practicing CRC screening. The study also determined why Iowa’s free, life-saving CRC prevention services that are not being used more by Vietnamese Americans in the state.

Research Design and Rationale

The research design and rationale section mainly highlight the three RQs addressing the study objectives:

RQ1: What knowledge do Vietnamese Americans possess of CRC screening?

RQ2: How does Vietnamese-English affect CRC screening decisions for male and female Vietnamese Americans ages 50 to 75?

RQ3: What beliefs and perceptions influence Vietnamese Americans’ decisions about undergoing or refusing CRC screening?

A *research tradition* relates to the design being used to evaluate a study’s qualitative data. The research tradition considered for the proposed study was based on a qualitative research cycle, which involved selecting samples and instruments to meet the predetermined research objectives (Creswell, 2012). These instruments mainly included focus group discussions, direct observations, and in-depth interviews.

Using a descriptive phenomenological approach allowed me to assess the societal phenomenon of interest by observing the society as the study subject. I chose a phenomenological, qualitative ethnographic approach because, according to Creswell (2012), it best facilitates interpreting data based on human actions. In this approach, statistical tools and quantitative data are rarely used (Marshall, Cardon, Poddar, & Fontenot, 2013). In addition, this kind of ethnographic approach was useful because it facilitates an interpretive structure of social research.

Role of the Researcher

One of my roles as researcher was conducting a pilot study to familiarize myself with the project’s expectations. Conducting a pilot study allowed me to test the methodology’s suitability, and to identify potential problems with the interview and focus group protocols. The pilot study also helped me determine sample size, explore the most appropriate ways to engage the participants, and identify ways to improve data collection.

In descriptive qualitative research, various observational approaches often involve researchers acting as complete participants (Creswell, 2012). In methods influenced by ethnographic research, researchers act as both participants and observers. In this proposed study, as an observer, I restricted my observation activities and remained as detached as I am able from the observed interactions. I remained cognizant of my behaviors and attitudes as an observer, and conducted the focus group discussions and in-depth interviews with as little of my personal interference as possible, and without interference from outside forces. In my role of participant, I participated in the focus group discussions and in-depth interviews by becoming a complete respondent. By acting as a participant, I avoided having unintended impact on the observational setting, such as if a participant changed a response once they realized they were being observed.

I carefully undertook data collection because data accuracy was important for establishing independent assumptions and conclusions. In addition to preventing the emergence of bias, researchers evaluate participants' feedback (Ferrer et al., 2011). To ensure that bias did not exceed the benefits of the study, I focused on observing ethical issues, some of which are discussed in the next section. By combining the benefits of being a complete observer and participant, I could analyze and address any problems that participants might encounter during the study. As a participant, I was able to note any disparities in the presentation and clarity of the survey questions and correct them accordingly. When any communication problems arose during focus group discussions, I became of aware of them as a participant, and corrected them as an observer. The collected data is of high quality because the reliability of the study is maintained.

Qualitative researchers may select study participants through their own networks of personal or professional relationships. Because this study involved conducting interviews and group discussions with participants facing issues related to CRC, I selected participants based on personal preferences and with whom I have already formed relationships. The researcher-participant relationship can be assessed based on macro- and micro-level approaches (Jerant et al., 2013). My insights could have been better in locations I know, but I could have less insight into the prevailing conditions in newer locations. In locations with which I am less familiar, it would have not been useful to have appropriate local people conduct the interviews.

To ensure that participants were not forced or coerced into joining this study, I managed and reduced possible biases within the selected sample, as well as maintained the ethical integrity of the study. For example, to ensure protection of human subjects, I completed the National Institute of Health’s human research subject training (Appendix F). I ensured that all participants understood the study’s objectives and their voluntary participation in it. I also maintained the participants’ privacy and the confidentiality of their information.

While conducting qualitative analyses, researchers need to remain cognizant of their study’s background and purpose. Researchers must pay attention to certain important aspects of their studies, including maintaining privacy standards, seeking consent from the participants prior to conducting the interviews, and addressing negative issues such as deception. While acting as observer and participant simultaneously, I ensured that the identities of the participants were not revealed to the other participants while engaging in the group discussions and personal interviews. In addition, researchers remained aware of the various roles (i.e., participant, observer, or both) that they needed to play in preventing misunderstandings and conflicts.

I followed the university’s confidentiality guidelines, and did not disclose any participants’ personal information in any way. I conducted the study in such a way to ensure participants’ safety, while protecting their shared information. I also focused on maintaining the study’s objectivity. To manage any conflicts of interest or researcher bias, I ensured that all the results were based on what I gleaned from the data analysis. I did not adjust or modify any results to fit predetermined conclusions. I also ensured that the findings were made available to the public as an unhindered flow of information.

As Rubin and Rubin (2005) advise, I utilized an objective assessment to generate results that were accepted by most participants. I reviewed and forwarded the whole interview or group discussion process to the participants, a necessary step according to Kwon et al. (2013). Researchers also must consider the value of sharing necessary information with the users about data sources, as well as coding and analysis techniques (Miles, Huberman, & Saldana, 2014).

Researchers can and do provide incentives to attract participants to their studies. However, these incentives cannot include vacations, academic rewards, or monetary benefits other than a small reward under a value of $10. Researchers must ensure that the incentives offered to the participants are reasonable enough (Naylor et al., 2012). In situations that require justification for the use of incentives, I considered the fulfillment of certain ethical issues prior to conducting the research. I ensured that the participants receiving incentives are selected fairly, and I informed them about the type of incentive that they would receive. In the proposed study, the Iowa Public Health Department might provide the participants with CRC screening at no cost.

Methodology

Participant Selection Logic

The target population in this study was Vietnamese Americans, regarded as the biggest Asian American ethnic subgroup in the United States, and consisting mainly of immigrants and refugees from Vietnam. I purposefully selected for this study a sample from the Vietnamese American population of eight to 12 men and women ages 50 to 75 and currently living in Iowa.

The proposed descriptive qualitative study was based on inductive methods, meaning that the conclusions and theories resulting from the study were derived from the data itself. Based on the inductive theoretical framework, the descriptive qualitative research approach I used involved developing the empirical generalization of the study topic and formulation of theoretical relationships. When inductive phenomenological methods are used in qualitative research, the research is performed from the bottom up, where the bottom involves collecting data, then proceeding up to formulating theories (Smith & Firth, 2011).

Due to the limited time available for collecting data, my sample size remained small. I selected participants using non-probability sampling methods. I selected participants based on insight into the topic. Non-probability sampling offers the flexibility in qualitative research. I found additional respondents through the initial group I recruited, tracking the recruiting criterion to establishment recruitment pairs. Using purposeful sampling helped minimize time and money constraints, and facilitate retrieving valuable data with greatest efficiency (Lee et al., 2015).

Participant selection was based on several criteria. The first step involved recruiting participants based on their experiences with CRC screening. The second step was obtaining their signed consent to participate in the study.

Following sample selection, I interviewed the participants about their personal experiences with CRC screening. I asked the same open-ended questions during all the interviews. Interviews identified participants’ common experiences with CRC and barriers to CRC screening use I also conducted a focus group to learn some of the finer details. From the interview sample, I selected five to eight individuals who were also knowledgeable in my area of research to participate in focus groups. I conducted the focus groups using guidelines and open-ended questions to direct the interactions and discussion toward the study objectives asking the same open-ended interview questions that I used to study current CRC screening practices of Vietnamese Americans.

Another advantage of the chosen data collection method was that I could learn from the nonverbal behavior of participants observed during the interviews. I recorded the discussions in both the focus groups and interviews to enable further analysis of the data. I chose to conduct focus groups since it enabled me to collect more information by also harnessing data from interactions as well as discussion. The focus group allowed me to collect more data from participants without as much time investment as individual interviews. I was also able to observe gender interactions and differences within the groups. Although I designed the interview questions to guide the participants’ narration, using open-ended questions let participants share the most information possible.

The interviews and the focus groups took place at the local Vietnamese community center. I selected this location because it is close to where the participants live, thus removing any challenges getting to or from the center to attend their scheduled focus group or interview sessions. The Vietnamese community center is centrally located and familiar to all the participants. The interviews and focus groups lasted 50 minutes to an hour.

There is a well-known relationship between sample size and data saturation (Marshall et al., 2013). Sample size refers to the number of participants, and data saturation denotes the stage at which no new data are obtained and have become repetitive. Data saturation is a valuable tool in a qualitative study. In this research, data saturation was important in determining if the sample size is adequate, something that will become evident when adding more respondents yields no new information. Thus, saturation in qualitative research was considered a procedure (Stimpson et al., 2012).

Instrumentation

Data collection involves using numerous instruments. Data are usually coded before being analyzed. In a descriptive qualitative study, direct observation is one such instrument. In this study, direct observation during interviews, focus groups ad when visiting participants' homes helped me identify and then analyze the sociocultural beliefs and behaviors of Vietnamese American participants toward CRC screening.

Key concepts in qualitative research were discussed by Rowe, Franz, and Bolazek (2012), who stressed the need for preliminary considerations, literature reviews, assessment, and reflections on the significance of ethics while conducting qualitative research. The mixed methods approach was described by researchers (Frels & Onwuegbuzie, 2013; Rowe et al., 2012) as the best way to retrieve information from case studies and interviews.

Published Data Collection Instruments

Focus groups and direct observations are common ways to collect data. Direct observation offers the best option for studying human behavior, improving precision and data accuracy, and reducing research demand. In this research, the data collection interviews and focus group discussions followed the guidelines provided by Rowe et al. (2012).

Interviews are an important research and data collection tool, giving researchers opportunity to gain their participants' perspectives by engaging them in conversation (Moreau et al., 2012). Interviews were used by Kim, Chapman, and Vallina (2012) to study CRC screening use among Chinese American immigrants. A similar study on CRC statistics was conducted by Siegal et al. (2014) in the United States, with data obtained via tape recordings made during interviews.

I used a mixed method approach which includes interviews, observations, and focus group discussions. Thus, I needed to modify each tool to facilitate efficient data collection and processing. For example, interview questions or their order may need to be modified. If not as much time is needed for the study than had been anticipated or if fewer participants were needed than expected, I would make the necessary adjustments. Since I focused on only three CRC screening determinants--LEP, level of health literacy, and the fatalistic beliefs of the participants--I believe that the problem was adequately addressed within the time constraints and financial resource limits using the proposed qualitative approaches. I either improved or established the content validity by adjusting the interview questions to enhance the participants' understanding of them. I improved the validity of the focus group discussions by increasing the number of questions aimed at solving a single phenomenon to allow room for counterchecking the consistency of the responses given.

While developing the instruments, I discovered that in Iowa, CRC screening remains an unpopular practice, even though it is a free health services. My observation is that Vietnamese Americans living in Iowa are poorer, more economically and socially disadvantaged, experience more language barriers, and are more medically underserved than other Asian American ethnic subgroups (Nguyen-Truong et al., 2013). Present screening guidelines also appear to be culturally inappropriate for this ethnic subgroup, which results in low rates of CRC screening. These differences may be crucial because these factors are also linked to high rates of CRC.

Researcher-Developed Instruments

I developed the open-ended interview questions using several literature sources such as Lee et al. (2015), Lau et al. (2013), Lopez et al. (2014) and Young and Womeldorph (2013). Sources for development of the pilot study included Ferrer et al. (2011) and Heiniger et al. (2015). I established the open-ended questionnaire’s content validity using logical reasoning. I reviewed each question to ascertain whether it met the objectives of the study (Miles & Huberman, 1994). I also assessed the construct validity of the instrument by comparing it with a standard questionnaire. I also ensured an appropriate amount of data is collected from the various methods used in my study.

Procedures for the Pilot Study

The pilot study has a strong influence on the main study. The pilot study facilitated the collection of preliminary data, tested the instruments used in the main study, expanded the RQs, and facilitated recruiting the main study participants (Siegel et al., 2014).

Recruitment, Participation, and Data Collection

Upon approval from the Walden University Institutional Review Board at Walden I recruited participants for this study by distributing a recruitment flyer (Appendix D) and (Appendix D1) at a Vietnamese community Center. To address RQ2 regarding how the language barrier affects CRC screening for Vietnamese Americans in my sample, I collected data from observations made during the focus group discussions and interviews. Similarly, I collected data using individual interviews and focus groups to address RQ1 and RQ3, “What knowledge do Vietnamese Americans possess of CRC screening?” and “What beliefs and perceptions influence Vietnamese Americans’ decisions about undergoing or refusing CRC screening?” I conducted the focus group discussions and interviews only once (Appendix B).

Data Analysis Plan

Based on the data collected during the interviews, observations, and group discussions, I noted whether the participants had limited knowledge of English, which can lead to low levels of health literacy and lower CRC screening rates. I used NVivo to maintain an accurate database and interpret the collected data. I recorded transcribed, and coded the interview and focus group responses. Coding allowed me to identify themes and concepts relevant to CRC screening. The concepts and themes were understood in the local languages of the Vietnamese Americans subgroups and then translated into English using bilingual research assistants to ease the process of analysis. I developed the codes through a deductive approach, meaning that I tested existing theories and expanded on them, as recommended by Bandura (1977). The codes, which represent sensitizing ideas, concepts, and themes, were summarized simply and concisely for further future analysis.

The participants continued participation was requested until the interviews and group discussions were conducted and the data recorded for further analysis. Participation was voluntary and participants were free to leave at any time. Focus group discussions were held once a month for 3 months in addition to the 45 to 60 minute interviews. In case where there was any requirement to call back the participants for follow-up interviews, the data collected from the participants was coded and recorded.

I used an effective data coding strategy for the study. I employed research assistants to transcribe the recorded interviews to transform the data available in a more “analyzable” form. I coded the data to identify the relevant themes and concepts. I conducted open coding by considering the data in minute detail at the time of developing the initial categories as recommended by Miles & Huberman (1994). Then, I moved to more selective coding by organizing the data systematically according to the core concepts. Discrepant cases, relating to the participants’ information levels on the topic of study, was recorded for evaluating the limitations of the study.

Issues of Trustworthiness

I maintained high standards of trustworthiness and credibility of the data during the research. Data triangulation was used to validate the research data from the interviews and focus group discussions. I have kept in touch with the participants after the study so that they can obtain and read the results and learn about other studies that they might join. Having the participants read the results was another way to assure credibility or internal validity.

To improve the external validity of the study, I made use of Geertz's (1973) "thick description" concept, where every phenomenon was described in ample detail for the comparison of the research results with other studies. Variation analysis was applied for gathering knowledge about a phenomenon based on the participants' prior knowledge or perceptions. According to White et al. (2012) this allows for external validation.

To improve dependability and data validity, I used audit trails for an independent study follow-up. Triangulation was used to establish the research's dependability as recommended by Heiniger et al. (2015). To maintain conformability, I applied reflexivity in the study through a knowledge construction process in every stage of the study, as recommended by Koo et al. (2012). I used a coding strategy and NVivo for data storage and retrieval to maintain intra-coder and inter-coder reliability.

Ethical Procedures

I competed Walden University's Institutional Review Board's (IRB) application process, including using their informed consent forms. These forms may have included "Initial Approval Requests" or "Project Closure." I fulfilled the conditions of the IRB prior to conducting the research. The IRB process involves obtaining institutional permission from the IRB prior to dealing with human participants (Kim, Chapman, & Vallina, 2012).

To ensure that the participants' data privacy and integrity, I conducted an ethical review. Researchers must be able to provide potential participants with an overview of the study, as well as study rationales and procedures, so they may make informed decisions about joining a study. Researchers also must justify any use of deception in the study, along with means of documentation. I obtained prior consent from the IRB and the participants to avoid future problems. Following these requirements ensured that there are no ethical dilemmas with the research (Christy & Rawl, 2013).

In addition to obtaining signed consent from participants, I maintained the confidentiality of the collected data by storing them in a password-protected computer in a locked office. The data is available only to stakeholders who are affiliated with the study. More importantly, I will destroy all the data and other documentation 5 years following completion of the study. I will adhere to a high standard of ethical conduct during the study.

Summary

This chapter included the study's research methodology, design, rationale, and my role as the researcher. I discussed and clarified issues of trustworthiness, and I provided a summary of the chapter. After I gained IRB approval, I presented my findings in Chapter 4, and discuss the findings in Chapter 5.

Chapter 4: Results

Introduction

The purpose of this study was to investigate the perceptions of Vietnamese Americans about colorectal cancer (CRC) screening. The following are the three questions for this study:

RQ1: What knowledge do Vietnamese Americans possess of CRC screening?

RQ2: How does Vietnamese-English affect CRC screening decisions for male and female Vietnamese Americans ages 50 to 75?

RQ3: What beliefs and perceptions influence Vietnamese Americans' decisions about undergoing or refusing CRC screening?

In addition to the study's purpose and research questions, Chapter 4 includes the pilot study, research setting, and demographics. The data collection, data analysis, evidence of trustworthiness, and final results are also included in Chapter 4. I also provide an overview and final discussion of the key results. The pilot study, discussed directly below, facilitated testing the validity of my data collection instrument.

Pilot Study

A pilot study, conducted prior to the main study, ensures that data collection proceeds without any issues (Simon, 2011). I conducted the pilot study in November 2016, when I interviewed two participants for preliminary qualitative data collection and testing the instruments used in the main study. The Walden University IRB approved the study (#10-27-16-0375869; expiration date 10/27/2017). The two pilot study participants were recruited independently of the main study participants. See the recruitment flyer

(Appendix D or D1), and interview questionnaires (Appendix B). I obtained relevant information from the respondents, which validated that the interview questions were satisfactorily understood by the respondents. The pilot study participants did not ask for additional explanation during the interview process, and both participants indicated that all study documents were easy to comprehend. The information received, in this case, was not recorded for inclusion in the dissertation. The pilot study was successful and allowed me to move forward with the main study without any changes to the original proposal.

Research Setting

I carefully chose questions that could increase the chance of the interviewees giving the answers about their perceptions, rather than eliciting the answers I may have hoped to hear. The research setting for data collection was a local Vietnamese community center near where most of the participants lived. There were few challenges experienced during the data collection phase. Because I personally went to collect the data from the interviewees, I could ascertain when the interviewees did not want to answer the questions. During the first data collection session, some of the participants seemed afraid to answer questions if they thought that there could be a follow-up that would get too personal. Some of the participants appeared tired, and some seemed to have little time, so I kept the session time limited to an hour or less. Regardless of the condition and the limited time, I was able to collect the required data, and was ready to begin the analysis. The only concern was time, and by keeping the length of interviews relatively short, most of the participants were lively during the sessions.

Demographics

There were 11 participants included in the study. This part of the chapter describes each participant's ID (in lieu of their true name), age, gender, occupation, interview date, and interview location. Three participants were interviewed on November 2, the first day. The first person was TT#01. TT#01 was a 51-year-old man and was one of the youngest participants in the study. TT#01 worked as a supervisor at a local hospital and had recently joined the Vietnamese American community in Iowa (VACI). The second person I interviewed on that day was VN#02. VN#02 was 54-year-old man who worked as a public-school educator. He had belonged to the VACI for many years already, and helped many others with their academic needs. KN#03 was the third participant interviewed that day. KN#03 was a 52-year-old woman who worked as a teacher. KN#03 joined the VACI many years earlier, and helped other Vietnamese newcomers settle in Iowa, especially with learning English as second language (ESL).

CT#04 was my fourth participant and was interviewed on the second day of data collection. He was a 65-year-old man who owned a grocery store. He had a busy schedule, so I interviewed him at his business office. I had two participants scheduled for my third day. My fifth participant, NT#05 was a 50-year-old woman who worked as a nurse. She worked long hours and took care of her family. I therefore interviewed her early on a Saturday morning at a local library. On the same day, I interviewed my sixth participant, JS#06, a 56-year-old woman who worked as a teacher. She also helped her husband with the family business. Due to her busy schedule, the interview took place in the evening at her home. JS#06 also shared that she had a younger sister currently undergoing chemo treatment for stage three colon cancer.

The next data collection day, I interviewed my seventh participant, PL#07, a 62-year-old retired man. He spent most of his time with his grandchildren, so his schedule was more flexible and I interviewed him at his own home. That same day, I interviewed my eighth participant, DL#08, a 58-year-old woman who was a clinical officer. She was busy with her work and with preparing dinner for her family, so I scheduled for her interview after her family dinner time. She was interested in this research because one of her family members was diagnosed with colon cancer a few years ago.

The ninth participant was scheduled on the following day. DL#09 was a 50-year-old man who worked as a technician. DL#09 was busy with his work, so I conducted his interview at his home after work. On the following day, I interviewed my tenth participant, CP#10, a 73-year-old man who was long retired. I conducted the interview with him at his home. My final participant was scheduled last because he had been out of town. CV#11 was a 61-year-old man who worked part time as a clerk. I interviewed him after work at his place of business. The participants' demographic information is also presented in Table 1.

Table 1

Participant Demographic Profiles

#	Initial/ID	Gender	Age	Occupation	Date	Interview Location
1	TT#01	M	51	Supervisor	11/02/2016	VACI
2	VN#02	M	54	Educator	11/02/2016	VACI
3	KN#03	F	52	Teacher	11/02/2016	VACI
4	CT#04	M	65	Owner	11/03/2016	Office
5	NT#05	F	50	Nurse	11/05/2016	Library
6	JS#06	F	56	Teacher	11/05/2016	Home
7	PL#07	M	62	Retired	11/06/2016	Home
8	DL#08	F	58	Clinical	11/06/2016	Home
9	DL#09	M	50	Tech	11/07/2016	Home
10	CP#10	M	73	Retired	11/08/2016	Home
11	CV#11	M	61	Owner	11/15/2016	Office

I conducted my first three interviews at VACI. Two out of 11 of my participants owned a business, so I interviewed them at their own office. One of my 11 participants was interviewed at a public library because she normally went to the library on her day off. The remaining interviews were at the participants' own homes.

Research Procedures

Data Collection

The 11 participants were selected for the study using non-probability sampling. Because of the size of the target population and the short time frame for the research, the sample size remained small throughout the study. The sample consisted of Vietnamese American men and women, ages 50 to 75, currently living in Iowa. Firsthand information was acquired while I spoke to the participants and recorded their views on CRC screening. Of the 11 participants, the majority (*n*=7) were men. Most of the respondents lived in Des Moines, with five living in Des Moines and two in Clive. The remaining four lived in Johnston, West Des Moines, Urbandale, and Waukee.

Seven participants were under age 60. The oldest person in the study was 73 years old, and the youngest was 50. The respondents in this study were middle aged (ages 45-65) and seniors over age 65. The reason for using this age group of Vietnamese Americans is because the study focused on views about CRC screening, which normally begins at age 50.

The people in the study had many different occupations. There were two participants who were retired, two were teachers, two owned businesses, one was a supervisor, one a nurse, one an educator, and one a technician. The variety of occupations meant that people with diverse views could be represented in the experience with, and perceptions of, CRC screening. There were four types of locations where interviews took place, depending on the location of the people and the occupation. People who were retired were interviewed at home. There were two people in this case. The two people whose jobs were demanding and who did not have much free time for the interview were interviewed at their workplace. The nurse was interviewed at Urbandale Public Library due to limited time away from the job. Finally, the majority who lived in Iowa were interviewed in the Vietnamese American Community Centre. There were four participants in this category.

Before proceeding with the interview, the participants signed an informed consent form. I informed them that they could discontinue the interview at any time. We proceeded with the interview using a digital audio voice recorder on a table facing the individual. I also used an iPhone as a backup. The modes of data collection included observation, interviews, and focus groups, however the focus group data were not used beyond preliminary research and are not discussed in this dissertation.

The most important data collected for the study came from the interviews. The individual interviews gave the best data for the analysis. The data were recorded on paper per the answers given in the interview. The data were later coded using Nvivo11 software, the main software used in the analysis. In the previous chapter, I discussed three instruments used for data collection. There were slight variations in the data collected due to lack of recorded observations.

As stated above, I had originally planned to use focus groups to acquire general perceptions of the Iowa people on the CRC screenings. I discovered that focus groups were not useful due to small sample size and fears of some respondents about speaking openly in the group. In addition, I did not want to breach confidentiality and take the chance of the participants feeling uncomfortable.

Before the analysis was done, I had made some assumptions about the population. The CRC services in the area were offered free but very few people who knew about them. I assumed that the level of illiteracy in the area was high or the people were poor and feared the neighborhood from which the services were offered.

During data collection, I encountered some unusual circumstances. The first one was fear about answering questions, which made it clear that focus groups would not work for this particular community. When I tried the focus group, from the start there were some participants who did not give a relevant answer. They only answered in the affirmative or negative, and these answers could not be usefully recorded. It was difficult to gather information under these circumstances because people did not feel free to express their views on CRC screening. The majority even stated that they never knew of these services. I had recruited two new people to the group to mobilized discussion, resulting in more openness. Although the focus groups became more helpful, they were still only useful for preliminary research. No focus group data are included in this dissertation.

Data Analysis

Once the data were collected, interview responses were recorded in an MS Word document, with analysis to be done with NVivo11 software. By using NVivo11, I could maintain an accurate database and identify potential themes that emerged from recorded data. I used different procedures to ensure that the data were analyzed, and that the analysis reflected what was in the data. For example, I audio-recorded interviews and then transcribed and coded the interview responses. I coded all the responses from the interview questions IQ1 to IQ13 with different codes that were easy to understand and related to the interview questions. Through the process of coding, it was easy for me to identify the themes and concepts from the interview responses. The coding was done through the nodes that were found using the software. There were thirteen nodes that emerged through the data analysis. The nodes were based on answers to the interview questions. The nodes included: (a) ways to improve barriers in communication, (b) social networks and CRC, (c) seen CRC screening, (d) personal physician, (e) language translators, (f) how you learned about the disease, (g) educational programs for learning the English language, and (h) CRC screening embarrassing. The nodes represented parts of the responses from the interviews that were used in explaining the results. The themes, on the other hand, were obtained from coding the data. Themes included: (a) no education programs, (b) few education programs, (c) I do not know about CRC, (d) I have a personal physician, (e) I do not have a personal physician, and (f) others found during the data analysis. The consistent themes that I found made it clear that there was a common flow of information concerning the use of the CRC screening.

It was found that English was a problem for most of the Vietnamese Americans. There were few errors during data collection because the information was asked in simple English. Throughout the process of data collection, time limitations resulted in the sample size being too small. While it was important to pay close attention to what the respondents said during the interviews, it was difficult to record all the conversations. There were cases of insufficient data being collected due to language barriers. The discrepant cases were recorded and used to explain the study’s limitations. Once the data were analyzed, I related the findings to previous knowledge from the literature review.

Evidence of Trustworthiness

Credibility

Any threats to the study were associated with data collection. Both primary and secondary data were used in the study. Different strategies used in the study ensured that credibility was achieved. The first strategy was that data were collected from relevant sources. I collected the data from people who were found to have experience in CRC screening. I also made sure to interview people who had a sufficient understanding of English. Data triangulation was used to improve the level of credibility. The interviews were long enough to ensure that the interviewees had enough time to answer the questions. The literature review also improved the credibility by adding secondary sources.

Transferability

A second element used to improve the trustworthiness of the research was transferability. The research findings and any other information are not generalizable or transferable to any other group or individual because the purposeful, non-probability sampling methods used do not allow for inference to a larger population. Other strategies were used to support the research’s transferability. There was a detailed explanation of the results and any other finding in the study. The study also used direct quotes from respondents’ answers given during the interviews, as advised by Polit and Beck (2014). The study ensured that there were no ‘yes’ and ‘no’ answers because these answers provide limited information. Explanations of the respondents’ perceptions and ideas were used in the study. The results could then be useful in other contexts, such as health centers, to create better strategies for improving health outcomes particularly for marginalized populations in the United States and Asian American subgroups.

Dependability

Dependability was the third concept that was used to ensure the study’s trustworthiness. Through the analysis of the qualitative data acquired from the interviews, conclusions about the target population could be drawn. The Nvivo11 software arranged the data in a manner that could easily be analyzed. Triangulation was also used for improving the study’s dependability. Information from the literature review was used to investigate what other researchers had found relative to CRC screening in different locations and groups, and findings triangulated with findings from this study. The results of these studies were confirmed and will be discussed in the findings and results sections. It was easy to verify what other researchers had done based on the conclusions from this study. The interviews, observations and focus groups were well organized to ensure that there were valid results.

Confirmability

Confirmability was the last item that was used to improve the study’s trustworthiness. Maintaining my neutrality was one way to improve the study’s confirmability. There were two areas of data collection that played major roles in completing the study. The literature review and its findings were very important, and it was also triangulated with the study to confirm validity. The Nvivo11 software also improved the study’s confirmability by facilitating analysis of the qualitative data from the questionnaires. The software helped ensure that there were valid results that were free from errors through coding of the interview responses. The conceptual and theoretical framework facilitated the data analysis, and was another means toward improving the confirmability of the study.

Study Results

Results of RQ1

RQ1: What knowledge do Vietnamese Americans possess of CRC screening?

Findings for the first research question came from data about the knowledge possessed by Vietnamese Americans study participants about CRC screening. The question was answered through interview questions IQ1, IQ2, IQ3, and IQ4. The first question asked about Vietnamese-American’s knowledge of programs that screen for CRC. It was found that little was known about CRC screening. Due to the small sample size, the study looked at the respondents’ top five perceptions. There were differences in how participants answered the questions. IQ1 showed that 10 out of 11 did not know anything about the disease, and two out of 11 stated that there were rare cases. Only one person was aware of the existence of the disease, though stated that cases were rare.

Table 2

Knowledge about CRC

#	Common Themes Reported by the Interviewees	Frequency	Percentage
1	I am not aware	10	90.91%
2	I do not know what CRC is	9	81.82%
3	CRC is very rare in VACI	2	18.18%
4	Few educational program about CRC screening	1	9.09%
5	I am not sure	1	9.09%

The next interview question investigated the role of social networks in creating awareness of CRC among these Vietnamese Americans. I found that the majority knew about CRC screening through family members and doctors (9 out of 11). Five out of 11 knew about the disease through people who had suffered from the disease. There were very few people who stated that they did not know about the disease.

Table 3

Social Networks on CRC

#	Common Themes Reported by Interviewees	Frequency	Percentage
1	From family members	9	81.82%
2	Through people who had colorectal cancer	5	45.45%
3	Not too much through social network	2	18.18%
4	I don’t hear from social networks	1	9.09%
5	Yes through Internet	1	9.09%

Questions IQ3 and IQ4 showed that there was little knowledge of the occurrence of the disease in the community. A few of the respondents knew what the disease is, however some never knew of the disease's existence or had direct or indirect personal experience with the disease. It was clear that there was not enough information about the disease within the community.

Results of RQ2

RQ2: How does Vietnamese-English affect CRC screening decisions for male and female Vietnamese Americans ages 50 to 75?

The second research question tested the impact of knowledge of English in creating awareness of the disease. Vietnamese-English affected CRC screening decisions for male and female Vietnamese Americans ages 50 to 75, according to the results found in the data. Questions IQ5 through IQ8 were used to answer the second research question RQ2.

Table 4

Presence of Language Translators

#	Common Themes Reported by the Interviewees	Frequency	Percentage
1	No, there is no language translator in our community	10	90.91%
2	Yes, we do have translators	1	9.09%
3	I have no idea	1	9.09%
4	I do not believe	1	9.09%
5	Few cases	1	9.09%

Questions IQ6 and IQ7 were also used to test how communication in English could be improved in the community to ensure that people knew about CRC screening. The results showed that there had been no attempt to improve knowledge of English around CRC screening. Poor knowledge of the disease negatively affected the understanding of the CRC screening in the community. It was found in IQ8 that almost all the terms that were used in the medical departments were difficult to understand. Ten of the 11 participants revealed that all the terms that were used in the medical departments were difficult for the respondents. Also, eight out of 11 stated that they never understood the meaning of the medical terms used. Prep terms were also found to be difficult to understand, as five out of 11 reported.

Table 5

Difficulties Related to CRC Terminology

#	Common Themes reported by the Interviewees	Frequency	Percentage
1	All medical terms are difficult	10	90.91%
2	I do not understand them	8	72.73%
3	I think the prep is the hardest thing	6	54.55%
4	They are hard for regular people	1	9.09%
5	I rarely understand them	1	9.09%

Research question 2 revealed that English was a knowledge barrier for these Vietnamese Americans in understanding CRC screening. One of the respondents stated, “Of course, there are so many medical terms that are harder to understand than daily conversation. This has been affecting me a lot because it's not easy to share personal issues such as questions/answers about CRC screening and its procedures.” The statement was evidence of the challenges the community faces in gaining knowledge and access to CRC screening.

Results of RQ3

RQ3: What beliefs and perceptions influence Vietnamese Americans’ decisions about undergoing or refusing CRC screening?

Research question 3 investigated factors related to the beliefs and perception of Vietnamese Americans that may have affected their decisions. Interview questions IQ9 through IQ13 were used to answer this question. It was found that there were different factors that affected the understanding and decisions made by these Vietnamese Americans on CRC screening. For IQ9, eight out of 11 stated that CRC procedures are embarrassing, and six out of 11 stated that screening was not embarrassing because it was for their health. Since CRC screening was done for their benefit, they said that it was not unpleasant or embarrassing.

Table 6

CRC Screenings Embarrassing and Unpleasant

#	Common Themes Reported by the Interviewees	Frequency	Percentage
1	I found it's embarrassing because of the procedure	8	72.73%
2	No, I do not because it's for my health	6	54.55%
3	No, I understand this procedure is for my health	6	54.55%
4	No, not much personally other than the prep	3	27.27%
5	I have not gone thru the CRC screening yet	1	9.09%

Questions IQ11, IQ10, and IQ13 showed that there were different perceptions by the community towards CRC screening. Nine out of 11 participants stated that education was the key strategy in improving the perception of the Vietnamese on CRC screening. Local leaders were also found to play a significant role in reducing negative perceptions of CRC screening. According to participant 3, “I think that we need to educate our people and provide them more of the information on the important of CRC. Also, they need information on the importance of CRC screening instead of waiting until it happens to them.” Research question 3 was answered and it was found that culture, local leaders, and educations played major roles in the decisions made by the Vietnamese on CRC screening.

Table 7

Strategy and Perception on CRC

#	Common Themes reported by the Interviewees	Frequency	Percentage
1	Educate middle aged/seniors and give them more information	9	81.82%
2	Educate through community gatherings	5	45.45%
3	Effective communication improvement	4	36.36%
4	Get involved with their healthcare matters	1	9.09%
5	Share information through posters, brochures, and translators	1	9.09%

Summary

Through this study, I found that there was little that had been done toward improving the perception of the Vietnamese Americans about CRC Screening. At the time of the study, it was found that there were negative perceptions of the community about CRC screening. It was clear from the study that there were more people who did not understand what CRC screening was. Therefore, education and creating awareness of CRC screening should be the first strategy. There should be additional forms of education that will improve the knowledge of the CRC screening in the community, helping them change their perception of the disease and the screening procedures involved. It was also found that there was a language barrier, because very few of the people in the community could understand the terms that were used with patients in this area of medicine. Having a personal physician was an option that helped with the language barrier and increasing understanding, but not all respondents would be able to afford the expense of a private doctor. Therefore, creating awareness and providing translators in the public health centers could reduce negative perceptions.

Finally, the third research question investigated the factors that resulted in negative perceptions and what could be done to ensure that there were positive perceptions. There were three areas that were found to affect the understanding and decisions made by this group of Vietnamese Americans about CRC screening. Health education, English language, and translators should be emphasized in the community. Culture, education, and local leaders could be used as a strategy for improving Vietnamese American perceptions of CRC screening.

Chapter 4 provided an overview of the key results in this study of perceptions of CRC screening. In this chapter, I also described the pilot study, research setting, demographics, data collection, data analysis, evidence of trustworthiness, and final results. Chapter 5 covers discussion, conclusions, and recommendations. Then I address study limitations, recommendations and implications, followed by the chapter conclusion.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

In this qualitative phenomenological study, I sought to determine the barriers that hinder compliance with screening initiatives for CRC among Vietnamese men and women, ages between 50 and 75, living in Iowa of the United States. The study was justified by the high CRC mortality rates and low levels of interest in diagnostic screening for CRC of this ethnic subgroup. CRC is ranked third among the leading cancers and the second cause of cancer-related mortality in the United States (Damery, Clifford, & Wilson, 2010; Lau et al., 2013; Young & Womeldorph, 2013). For instance, Ma et al. (2012) noted that among Asian Americans, CRC is the second-most diagnosed cancer and the primary cause of mortality in this population subgroup. CRC screening is crucial in cancer prevention or control since regular screening leads to early identification and elimination of precancerous lesions before they become malignant.

Despite its critical role in CRC control and the availability of a spectrum of effective tests, CRC screening is characteristically underutilized, with only 43% of the U.S. population ages 50 and above having undergone a colonoscopy or sigmoidoscopy within 10 and 5 years, respectively. The overall screening rates are lower among Asian Americans. Researchers have attributed these low compliance rates to factors attributable to the particular characteristics of this population subgroups. Previous literature has identified these factors to include negative attitudes towards the tests, lack of knowledge regarding CRC, fear of positive test results, inadequate social support, and insufficient physician references. Based on the premise that there were factors specific to this subgroup preventing CRC screening compliance, I employed a qualitative phenomenological approach to investigate CRC screening status and establish whether level of knowledge, English proficiency, and cultural beliefs had an influence on compliance with CRC screening among Vietnamese Americans ages 50 and above. To this end, this study was guided by three main research questions, including:

RQ1: What knowledge do Vietnamese Americans possess of CRC screening?

RQ2: How does Vietnamese-English affect CRC screening decisions for male and female Vietnamese Americans ages 50 to 75?

RQ3: What beliefs and perceptions influence Vietnamese Americans' decisions about undergoing or refusing CRC screening?

To answer these questions, I used a descriptive phenomenological approach involving a purposefully selected sample of 11 Vietnamese Americans living in Iowa. I chose a qualitative phenomenological approach because of Creswell's (2012) assertion that this methodology and design best facilitate interpreting data based on human actions. In addition, I found this approach useful because it allowed me to apply an interpretive structure to social research. I selected participants based on their experiences with CRC screening and their willingness to participate in the study.

For data collection, I decided to use open-ended interviews and direct observation as outlined in the guidelines provided by Rowe et al. (2012). I developed the open-ended interview questions using several literature sources such as Lee et al. (2015), Lau et al. (2013), Lopez et al. (2014), and Young and Womeldorph (2013). Since the focus of the study was three CRC screening determinants—LEP, level of health literacy, and the fatalistic beliefs of the participants—I modified each data collection tool to facilitate efficient data collection and processing. I recorded the collected data using MS Word and analyzed it using Nvivo11 software.

One of the key conclusions of this study is that negative perceptions, such as not believing in prevention, are the main barriers to adherence with CRC screening among Vietnamese Americans. Another key conclusion is that members of this community lack of knowledge of CRC screening procedures, along with a lack of English proficiency that created a barrier to gaining knowledge. Cultural beliefs reinforced the negative perceptions.

For the first research question, I investigated the level of knowledge held by Vietnamese Americans regarding CRC screening. I found that most of those interviewed had very little knowledge of CRC as a disease (90.9%), CRC screening protocols, and the availability of these services in the surrounding area of central Iowa. The results also show that those who have knowledge of CRC and screening protocols had primarily acquired this information through family, friends and doctors. For the second research question, I focused on understanding the role played by Vietnamese English in CRC screening decisions. The findings show that English fluency is significantly associated with the inclination to undergo testing, however participants who have less proficiency are less likely to attend screening.

For the third question, I sought to identify the beliefs and perceptions that influence screening decisions among Vietnamese Americans. I found that many respondents regarded the procedures as embarrassing, and thus would not voluntarily seek testing. However, six of the interviewees stated that since they consider the procedures to be potentially beneficial, they did not find them unpleasant. The results also demonstrate the role of education and community leaders in increasing awareness about CRC screening within this population subgroup. The current research shows the significance of culturally-targeted public awareness and education interventions in improving CRC screening and compliance among this subgroup.

Interpretation of the Findings

I used the qualitative phenomenological approach to investigate CRC screening status and establish whether the level of knowledge, English proficiency, and cultural beliefs have an influence on compliance with CRC screening among Vietnamese Americans ages 50 to 75. I discovered two significant findings. First, I replicated the observations made in previous studies on the low rates of colorectal cancer screening among Vietnamese Americans. Second, I attributed screening decisions among this population subgroup to such factors as English fluency levels, inadequate knowledge, and negative perceptions and cultural beliefs about CRC screening.

Previous researchers investigating this topic have found that Asian Americans have low rates of CRC screening due to a variety of tangible and psychological barriers (Lau et al., 2013; Maxwell et al., 2011a; Miles, Rainbow, & von Wagner, 2011). These constraints range from lack of education or knowledge about CRC and screening protocols, poor health awareness, language barriers, and limited access to care. The findings from this study were consistent with those conclusions. However, it is important to note that poverty is not included among the demographic variables investigated in this study. Previous studies have linked low socioeconomic status to lower compliance with CRC screening protocols. Poverty is a major factor because low-SES patients frequently do not have health insurance to cover preventive services such as CRC screening. Without insurance reimbursement, Vietnamese Americans often cannot afford CRC screening, perceiving the procedure only as an additional expense while ignoring its health benefits.

This study found that perceived barriers and health care access affect compliance with CRC screening. Perceived barriers are higher among newer immigrants and are associated with lower screening rates, which is consistent with previous studies linking length of stay in the United States to CRC screening. This observation may be explained by the fact that CRC screening necessitates high costs, physician's referral, and accessing limited government assistance programs. Thus, even if new immigrants understand the benefits of CRC screening, perceived barriers may act as a hindrance for compliance with CRC screening because Vietnamese Americans encounter more structural obstacles compared to those who have stayed longer in the United States.

Cancer fatalism is another perceived barrier that has an impact on individual decisions to seek CRC screening and treatment. Cancer fatalism and its role in cancer screening have rarely been studied among the Vietnamese American populations. While cancer fatalism was extremely low for this group of Vietnamese Americans, it was still a moderate obstacle to seeking CRC screening, particularly for individuals who had only recently immigrated to the United States. The problem of cancer fatalism may be attributed to the fact that recent immigrants have less education, less knowledge of CRC screening protocols, and lower income compared to less recent immigrants. This observation is consistent with previous studies indicating that insufficient knowledge of cancer and screening protocols hastened cancer fatalism.

This study also shows that the level of awareness in relation to CRC and the role of screening also affected compliance and noncompliance with screening protocols. This finding is consistent with previous research, which has shown that Asian Americans generally have little awareness of their personal ability to control the emergence and development of CRC through regular screening. Asian Americans' health ignorance also includes lack of knowledge about the risks of negative habits provoking the emergence of precancerous adenomas and transforming them into carcinomas. It has been shown extensively that individuals who lack awareness of CRC and screening are highly unlikely to seek screening. In particular, Nguyen et al. (2013) observed that being aware of colon polyps was positively linked to receipt of CRC screening, which was consistent with the current study's conclusions. This supports the conclusion made in the literature review that educational programs to improve knowledge of CRC and CRC screening targeting this population subgroup could go a long way toward improving CRC screening compliance rates.

This study also finds that perception of cancer screening had a significant role in influencing compliance with CRC screening. I observed that Vietnamese Americans who had positive perceptions of cancer screening were more likely to seek and adhere to screening compared to those who had negative perceptions of these protocols. When I queried the respondents further, I noted that attending a periodic health checkup acted as a crucial determinant for CRC screening. Participants who had undergone CRC screening such as a colonoscopy, FOBT or sigmoidoscopy stated that these tests were administered as part of a routine checkup. This observation is consistent with previous studies. It shows that routine health exams convey the perceptions held by individuals regarding preventive health and offers a unique opportunity for physicians to discuss preventive examinations like cancer screening.

Another finding consistent with previous studies was the role played by language, especially English language proficiency, in compliance and noncompliance in CRC screening. Specifically, this study indicated that individuals who were more fluent in English were more likely to get screened, while those who were less fluent are less likely to seek screening. Similar findings have been reported in previous studies in which English fluency presented significant challenges for patients to understand physician recommendations as well as the testing protocols such as those involved in FOBT. Notably, one study concluded that Vietnamese respondents often mistook FOBT for the ova and parasite stool test, arguing that they had undergone this test during their immigration process, and thus did not require retesting. A better and more explicit description of FOBT and other CRC screening protocols is necessary among immigrant populations to eliminate confusion with stool tests for parasites and prospected overestimates in FOBT self-reports.

Another crucial finding from this study is the fact that respondents depend mainly on their family and friends to gather knowledge about the disease. Also, this study shows that CRC-related experiences encountered in their social network (such as a relative being diagnosed and treated for CRC) acted as a strong motivator for individuals to seek screening for CRC. Previous literature has demonstrated that social networks exert a strong influence on the decision of Vietnamese patients to undergo CRC screening (Shaw et al., 2012; Nguyen et al., 2010). This study reaffirms the findings obtained by Walsh et al. (2004), which indicated that individuals who knew or were related to a CRC patient had a higher probability for undergoing screening. Numerous studies involving Vietnamese Americans and other Asian subgroups have demonstrated social support as a key facilitator for compliance with screening protocols for cancer (Ma, et al., 2012; Nguyen-Truong, et al., 2012). It is important to note that most of these studies are predominantly based on data from women. The face-to-face interview used as a preliminary study showed that male respondents were highly motivated by testimonials from family members and friends regarding CRC screening. Consequently, creating programs that promote the sharing of CRC experiences among family and friends may act to motivate members of this population to seek CRC screening.

The current study makes a unique contribution to the theoretical framework adopted for the study. Specifically, this study’s conceptual framework is structured around developing an understanding of people’s willingness to engage in preventing, screening, or controlling illness, and identifying the constructs that can influence such behaviors. In this study, the HBM model effectively described the CRC screening behaviors of Vietnamese Americans in Iowa. The results obtained in this study support the HBM model. The model was originally formulated for breast cancer screening. The current study modifies the HBM scale to make it appropriate for CRC screening by incorporating cultural items tailored specifically for the study population. This study expands the expediency of HBM to CRC screening, and advances its application among different ethnic groups.

According to the results of the current study, perceived barriers served as the greatest hindrance for Vietnamese Americans to comply with CRC screenings, even though they exhibited high observed benefits for CRC screening. While the HBM model has not previously been applied in studies investigating health behaviors among Vietnamese Americans, the model has been implemented in other areas, and the results of the current study indicate that it is an appropriate theoretical lens through which to study this population subgroup. The model is used per existing literature to formulate this descriptive study in a manner that generates in-depth knowledge of CRC screening behaviors among Vietnamese Americans. Essentially, this study expands the possibility of applying this model to other minority groups and immigrants, as well as examining other health behaviors.

Further, this study contributes to the HBM model by providing insight into the relationship between compliance in this community and perceived barriers, as well as the numerous dynamics involved in screening behaviors among the Vietnamese American population. At the most basic level, this study helps in the identification of the variables and the research direction that prospective studies should focus on, including delving deeper into cultural factors, and the negative effect of socioeconomic status on screening behaviors. Given the lack of sufficient research literature on this topic (especially among Vietnamese Americans) concerning CRC screening, this study creates a crucial background upon which future research can be contextualized. Finally, this study makes an important revelation about the current state of affairs in Vietnamese American health care and the scope of knowledge available which is crucial in the incorporation of cultural variables into screening promotion interventions.

Limitations of the Study

This descriptive phenomenological approach to study the factors influencing CRC screening decisions among Vietnamese Americans had some limitations. First, due to time constraints the study featured a very small, purposively selected sample, which may affect the generalizability of the results. Second, this study was limited by the fact that confidentiality, time, and cost of follow-up hindered the ability of the researcher to establish differences in CRC FOBT, colonoscopy, and/or both forms of screenings. Third, the study was limited in that it did not establish causality inferences among the variables of interest. Another possible limitation of the study was the fact that all the cancer screening outcomes were self-reported and may have been susceptible to recall bias. Moreover, there is the possibility that some of the perceived barriers reported in this research may have been attributed, in part, to self-report patterns. Further, the study did not describe the length of stay of the respondents in the United States, and therefore it was impossible to determine whether the respondents are first-generation Vietnamese Americans or recent immigrants. It was also difficult to ascertain whether differences persisted among second- and third-generation Vietnamese-Americans. In addition, the research was limited to the Vietnamese American population in Iowa, and the situation may have been different in other geographic regions. Finally, another limitation related to the HBM model used to understand CRC screening, however the model's use has varied in the incorporation of domain subscale elements across studies. This study did not incorporate cues to action when expanding the four subscales of the HBM, and this difference subsequently limited its ability to describe how events may drive individuals into health-related action.

Recommendations

Crucial recommendations emerge concerning future studies to increase CRC screening compliance among Vietnamese Americans. First, a larger study involving a bigger sample size is required to examine the barriers implicated in low CRC screening rates among Vietnamese Americans. Second, this study pointed to the crucial role of physicians and translators in compliance and non-compliance with CRC screening. Future studies should focus on clarifying the actual statistics related to referrals for screening by Vietnamese Americans doctors in contrast to non-Vietnamese physicians. Other studies could investigate reasons Vietnamese physicians do not make CRC screening recommendation to their patients. Third, this study's focus was restricted to acculturation measures related to awareness. It is important for future studies to investigate the role played by deeper acculturation factors such as ideals governing child rearing, notions of modesty, incentives to work, courtship practices, ordering of time, patterns of visual perception and handling emotions, and conceptions of justice.

A fourth recommendation is that future studies investigate the relationship between the duration of stay in the United States and CRC screening status to further explain the possible variations in compliance and non-compliance with CRC screening.

Fifth, prospective studies should focus on evaluating immigrants born in the United States as disaggregated subsets to support the formulation of culturally responsive and relevant interventions that may increase CRC screening rates. The sixth recommendation is tied to the implications of the study's findings. This study showed a significant impact of a range of culturally significant factors on compliance and non-compliance with CRC screening among Asian Americans. It is recommended that public health initiatives aimed at increasing CRC screening among these population subsets should include culturally targeted approaches. Finally, it is suggested that public education interventions be tailored according to language proficiency, involve physician participation, and educate on the risk of CRC as well as the significance of screening.

Implications

Potential Impact for Positive Social Change

The level of English language proficiency has been implicated as a crucial barrier to compliance with CRC screening among the Vietnamese American population subgroups. Consequently, policies in this area must address this challenge by formulating interventions that are tailored to the proficiency levels of the target population subsets. For instance, educational or instructional materials should be designed in the native language of the target community. In addition, providing translators in public health centers could reduce negative perceptions by helping people understand the terms and concepts in CRC screening.

Another implication for policymakers is the cost associated with CRC screening. Extensive literature has indicated that having health insurance is a key indicator and driver for individuals to seek screening. The absence of health insurance among people between the ages 50–75 (who are the key target for screening initiatives) but are not entitled to Medicare has been linked to employment in small retail businesses that lack company-sponsored insurance plans and to being recent immigrants. Although the cost and expenses involved in this process are justified within U.S. public health expenditure, it is important for policymakers to come up with ways that address the lack of health insurance among these population subsets. Presently, the Affordable Care Act, if it continues as-is, harbors the potential for increasing accessibility to preventive services for this underserved population.

Further, these results indicate that the use of effective information dissemination approaches can elicit outcomes such as community capacity building and sustainability. Indeed, co-learning opportunities that involve and reciprocally educate community members could potentially increase the identification of significant policies to attain these results. Yet, this topic is challenged by inadequate literature on culturally determined barriers as well as a lack of adopted interventions to increase compliance among this population. Researchers have begun to shift their focus on balancing community-based participatory research (CBPR) with randomized controlled studies in an effort to decrease inequalities.

Methodological, Theoretical, and/or Empirical Implications

This study has s implications for public health programs and policy formulation. Colorectal cancer is ranked third among the leading cancers and is the second cause of cancer-related mortality in the United States. Among Asian Americans, it is the second most diagnosed cancer and the major cause of mortality in this population subgroup. CRC screening is crucial in cancer prevention or control since timely screening leads to early identification and elimination of precancerous lesions before they become malignant. Despite its critical role in CRC control and the availability of a spectrum of effective tests, CRC screening is characteristically underutilized. The overall screening rates are lower among Vietnamese Americans. This study showed that, in the case of Vietnamese American patients, the key barriers to CRC screening were inadequate health awareness, lack of proficiency in the English language, lack of knowledge, and limited access to care.

The findings of this study expand the knowledge base on distinctive Vietnamese American behaviors regarding CRC screening. The Vietnamese American population is rapidly growing in the United States, and this subgroup harbors distinctive beliefs and health behaviors such as perceptions of preventive care. The results potentially augment cultural competency among healthcare practitioners through the discovery of new knowledge on CRC screening tendencies of Vietnamese Americans.

Recommendations for Practice

Based on these findings, healthcare providers must be reminded of their vital role in cancer screening. Healthcare practitioners have a unique opportunity to educate their patients as well as next of kin regarding the importance of screening and the benefits, limitations and uses of various CRC screening tests. There should be additional forms of education that will improve the knowledge of CRC screening in this community so they will change their perception of the disease and the procedures involved. Healthcare practitioners can help by understanding the diverse cultural factors and beliefs unique to this population concerning cancer screening. This way, professionals will demonstrate sensitivity to these beliefs and their potential to evolve into obstacles to early detection of CRC and treatment. Understanding the numerous factors related to CRC screening also helps healthcare practitioners to identify future interventions. Nurses and social workers could contribute by determining whether the patient or individual has a clear understanding of the need for the screening test, the screening protocols, and what activities will be done during the test. This, in turn, will advance communication regarding cancer, which is a culturally sensitive topic, ultimately increase screening compliance.

Conclusion

Asian Americans comprise a considerable part of the U.S. population, and Vietnamese Americans are the fastest growing ethnic subgroup. National statistics on CRC incidence, mortality, and screening uptake rates have indicated that colorectal cancer is the second most diagnosed cancer and the major cause of death in this population subgroup. Although the significance of CRC screening has been extensively linked to positive disease outcomes and survival rate, compliance with recommended screening protocols remains low among Asian Americans. The purpose of this study was to determine the factors that influenced compliance and non-compliance with screening initiatives for colorectal cancer among Vietnamese men and women living in the United States through a phenomenological research design. The target population was individuals aged above 50 years.

The results of the study indicated that the phenomenon of low compliance rates among the Vietnamese American ethnic group is attributed to a range of culturally-rooted factors. These factors included lack of knowledge, poor health awareness, lack of health insurance, the degree of proficiency in the English language, and limited access to care. CRC screening is the frontline intervention to better disease outcomes and survival prospects. Thus, this study's findings offer the potential for positive social change by informing health service and public health personnel about barriers that must be eliminated to increase recommended CRC screening compliance rates among Vietnamese Americans.

This study's findings revealed some key directions for future research and positive social change. First, future researchers should focus on examining the influence of deep cultural factors on compliance rates. Second, future researchers should focus on investigating the relationship between the duration of stay in the United States and CRC screening status to further explain the possible variations in compliance and non-compliance with CRC screening. Finally, researchers of prospective studies should focus on evaluating immigrants born in the United States as disaggregated subsets to support the formulation of culturally responsive and relevant interventions that may increase CRC screening rates.

The findings generated by this phenomenological research have the potential to elicit action that may result in sustainable positive social change in the form of improved health care outcomes for the Vietnamese Americans population in Iowa. It is evident that health practitioners are uniquely positioned to educate Vietnamese patients as well as next of kin regarding the importance, benefits, limitations, uses of CRC screening tests.

Dissemination of key findings study can help to increase awareness of CRC screening for the Vietnamese American population in Iowa. In addition, findings may inform health services and public health personnel on factors to include in the development of culturally appropriate initiatives to increase CRC compliance rates among Vietnamese and other population subsets. For instance, educational or instructional materials should be designed in the native language of the target community. The provision of language translators in health centers could help to minimize negative perceptions because people could better understand, in their native language, terms and concepts of CRC screening. This, in turn, would likely advance effective communication about CRC, a culturally sensitive topic, and in so doing ultimately decrease CRC incidence among Vietnamese Americans. An understanding of the study population's perspectives offers the promise of positive social change from health services and public health administrations to develop and implement cultural-tailored interventions that promote healthy lifestyles, prevention, early detection and, consequently, reduce CRC mortality rates and associated health care costs.

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Appendix A: Colorectal Cancer Screening Resources

Iowa Department of Human Services
Hoover State Office Building
1305 E. Walnut St., Des Moines, IA 50319
(800) 972 – 2017
http://www.dhs.iowa.gov

Colorectal cancer Support Group
Iowa Methodist Medical Center
1221 Pleasant St., Des Moines, IA 50309
(515) 241 – 4344
huunickm@ihs.org

American Cancer Society Office
8364 Hickman Rd., Ste D, Des Moines, IA 50325
(515) 253 – 0147
http://www.canceriowa.org

Community Support Advocates
333 SW 9th St., Des Moines, IA 50309
(515) 883 – 1776
http://www.teamcsa.org

Polk County Health Department
1907 Carpenter Ave., Des Moines, IA 50314
(515) 286 – 3798
Email: healthdept@co.polk.ia.us
http://www.polkcountyiowa.gov/health/

Appendix B: Interview Question Guide

The purpose of these open-ended questions was to lead the face-to-face interview process in order to obtain information interviewees respond to the research question of "CRC screening for Vietnamese population in Iowa". The questions were designed to encourage participants to share their personal story and provide insights why Vietnamese Americans, age group of 50 to 75 years old, did not do CRC screening.

1. What educational programs about CRC screening are in your community?
2. Do social networks provide any information about CRC screening and if so, where did you learn about the disease?
3. Do you have a personal physician, and if so does the physician explain to you the necessity of undergoing CRC screening and what it entails?
4. Where did you learn about the disease and how many members of your family understand the disease?
5. Is there any language translator in your community to explain the meaning of the screening and the terminologies involved in screening?
6. Can you provide ways to improve barriers in communication during screening among the age group of forty five to seventy?
7. Has there been any educational program for learning the English language for elderly people, and if so, has it been effective?
8. Which terms are difficult to understand when it comes to the process of screening? How has this affected you?

9. Do you find undergoing CRC screening embarrassing and unpleasant and if you do, please give the reasons?
10. What strategies would you recommend to improve medical education in your community to reduce any negative misconception of undergoing CRC screening?
11. Please highlight the perception that make Vietnamese Americans not to undergo CRC screening?
12. In your opinion what are best strategy to recommend helping Vietnamese Americans to overcome perceptions about screening?
13. What method can we use to approach local leaders in your community to help Vietnamese reduce the negative perceptions for undergoing screening?

Appendix D: Recruitment Flyer

Doctoral Research Study

My name is Michael Le, a Ph.D. student in Health Services at Walden University. I am conducting a research study about colorectal cancer screening for the Vietnamese American population in Iowa.

I am seeking Vietnamese American participants, between the ages of 50 and 75, who live in Iowa. The face-to-face interview will take approximately 45-60 minutes. At any time during the interview, research participants may withdraw if he or she feels uncomfortable with the question/content of the interview process.

There is a $10 gift card (QuikTrip or Walmart gift card) for complete participation in the study. I hope the study will benefit Vietnamese American by promoting colorectal cancer screening awareness and longer life expectancy.

The Institutional Review Board (IRB) approval number from Walden University for this study is 10-27-16-0375869 and expires on 10-26-2017.

If you have any question, please feel free to contact me at (515) 822-2271

Sincerely,

Michael Le, MBA, MHA
michael.le@waldenu.edu

Note: Photo reprinted with permission from iStock.

Appendix D1: Quảng Cáo Tuyển Dụng

Khảo Sát Nghiên Cứu Tiến Sỉ

Tôi tên là Lê Michael, một sinh viên tiến sỉ ngành Dịch Vụ Y Tế tai trường Đại Học Walden, điều khiển một cuộc nghiên cứu khảo sát có liên quan đến soi ruột tầm soát ung thư ruột kết và trực tràng trong dân số người Việt ở Mỷ tại Iowa.

Tôi đang tìm kiếm những người tham gia là người Việt ở Mỷ có độ tuổi giữa 50 và 75 sống tại Iowa. Cuộc phỏng vấn mặt đối mặt diển ra khoảng 45 đến 60 phút. Vào bất cứ lúc nào trong suốt thời gian phỏng vấn, những người tham gia cuộc nghiên cứu có thể rút lui nếu như anh ta hoặc cô ta cảm thấy không được thoải mái với câu hỏi/nội dung của quy trình phỏng vấn.

Có thẻ quà tặng trị giá $10 (thẻ quà tặng của QuikTrip hay Walmart) cho một cuộc tham gia khảo sát hoàn chỉnh. Người nghiên cứu này mong rằng cuộc khảo sát sẻ có lợi cho người Việt ở Mỷ thông qua việc quảng bá đến sự nhận thức việc soi ruột tầm soát bệnh ung thư ruột kết và trực tràng và hy vọng kéo dài tuổi thọ.

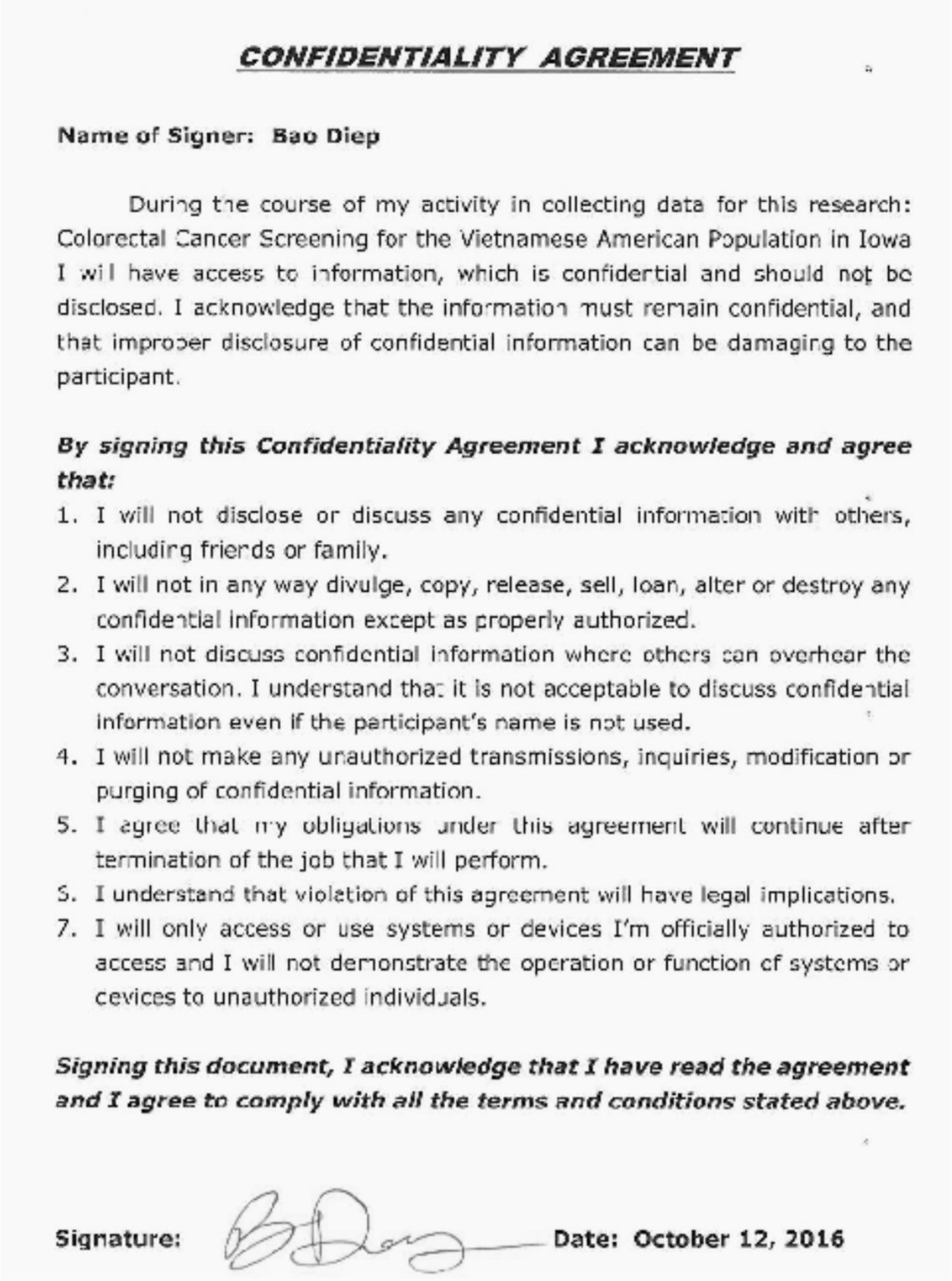
Số được chứng nhận của Hội Đồng Xét Duyệt từ Trường Đại Học Walden cho việc khảo sát này là số 10-27-16-0375869 và hết hạn vào ngày 10-26-2017.

Ngoài ra, có thông dịch viên người Việt tại địa điểm phỏng vấn. Nếu bạn có thắc mắc gì, xin vui lòng liên lạc tôi qua số điện thoại (515)822-2271.

Xin chân thành cám ơn,

Le Michael, Thạc Sỉ Quản Trị Kinh Doanh, Thạc Sỉ Quản Trị Chăm Sóc Sức Khỏe
Địa chỉ điện thư: Michael.le@waldenu.edu

Appendix E: Confidentiality Agreement



CONFIDENTIALITY AGREEMENT

Name of Signer: Bao Diep

During the course of my activity in collecting data for this research: Colorectal Cancer Screening for the Vietnamese American Population in Iowa I will have access to information, which is confidential and should not be disclosed. I acknowledge that the information must remain confidential, and that improper disclosure of confidential information can be damaging to the participant.

By signing this Confidentiality Agreement I acknowledge and agree that:

1. I will not disclose or discuss any confidential information with others, including friends or family.
2. I will not in any way divulge, copy, release, sell, loan, alter or destroy any confidential information except as properly authorized.
3. I will not discuss confidential information where others can overhear the conversation. I understand that it is not acceptable to discuss confidential information even if the participant's name is not used.
4. I will not make any unauthorized transmissions, inquiries, modification or purging of confidential information.
5. I agree that my obligations under this agreement will continue after termination of the job that I will perform.
6. I understand that violation of this agreement will have legal implications.
7. I will only access or use systems or devices I'm officially authorized to access and I will not demonstrate the operation or function of systems or devices to unauthorized individuals.

Signing this document, I acknowledge that I have read the agreement and I agree to comply with all the terms and conditions stated above.

Signature: ______________ **Date: October 12, 2016**

Appendix F: NIH Certification

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Michael Le** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 12/23/2012.

Certification Number: 1067421.