

Exploring A Comparison of Complementary and Alternative Medicine Use Among African
American and White Patients with Cancer

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Abstract

Objectives: Cancer patients use complementary and alternative medicine (CAM) despite limited research on safety and efficacy of use during cancer treatment. Types of CAM used have been shown to vary by race. The purpose of this study was to compare attitudes toward CAM and holistic health beliefs among AA and White cancer patients, and to also determine the types of CAM providers and CAM treatments used and reasons for their use.

Methodology: This study utilized a cross-sectional survey design. Two validated survey instruments, Holistic Complementary and Alternative Health Questionnaire (HCAHQ) and International Complementary and Alternative Medicine (I-CAM-Q), were administered in an outpatient oncology clinic. The HCAHQ measured attitudes toward health and CAM, and the I-CAM-Q evaluated types of CAM providers and treatments used. Patients were selected by convenience sampling based on the daily clinic schedule, were 18 years or older, AA or White race, had a cancer diagnosis, and were either receiving or had received cancer treatment in the last 12 months. Participation in the study was voluntary, and there was no incentive for participation. A total of 100 patients (50 per group) signed informed consent and completed both surveys. Independent t-tests and Pearson Chi-Square were used for statistical analyses.

Results: Attitudes toward CAM and holistic health beliefs did not significantly differ between AA and White cancer patients. Similarly, there was no statistically significant difference in the types of CAM providers visited, types of CAM treatments received, and reasons for CAM use. However, AA used meditation significantly more than White cancer patients ($p = .003$).

Conclusions: The use of CAM is common in cancer patients despite race. AA and White cancer patients tend to utilize the same types of CAM. Healthcare providers should increase their

knowledge regarding CAM and collaborate with CAM providers to promote discussion, enhance disclosure, and improve safety of CAM use during cancer treatment.

Keywords: complementary and alternative medicine, cancer, holistic health

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List of Operational Definitions

Acupuncture¹ is a family of procedures involving stimulation of anatomical points on the body by a variety of techniques. The acupuncture technique most scientifically studied involves penetrating the skin with thin, solid, metallic needles that are manipulated by the hands or by electrical stimulation.

Ayurveda¹ is a medical system that originated in India several thousand years ago. Ayurveda is based on theories of health and illness, and on the ways to prevent, manage, or treat health problems. Ayurveda aims to integrate and balance the body, mind, and spirit by cleansing the body of substances that can cause disease. This, in turn, can help reestablish harmony and balance.

Biofeedback¹ is a technique that uses simple electronic devices to teach clients how to consciously regulate bodily functions, such as breathing, heart rate, and blood pressure to improve overall health.

Chiropractic manipulation¹ is a form of health care that focuses on the relationship between the body's structure, primarily the spine, and its function.

Deep-breathing exercises¹ is an active process that involves conscious control over breathing in and out.

Dietary supplements² are intended to supplement the diet and contains one or more dietary ingredients (vitamins, minerals, herbs or other botanicals, amino acids, and certain other substances) or their constituents.

Energy healing therapy¹ is a technique that involves channeling healing energy through the hands of the practitioner into the client's body to restore normal energy balance and health.

Folk medicine¹ are systems of healing such as Curanderismo and Native American healing. Folk healers usually participate in a training regimen of observation and imitation, with healing often considered a gift passed down through several family generations. Folk healers may employ a range of remedies including prayer, healing touch or laying on of hands, charms, herbal teas or tinctures, and magic rituals.

Functional medicine³ focuses on the underlying causes of disease and promotes optimal wellness.

Guided imagery¹ is used for healing or health maintenance and involves a series of relaxation techniques followed by visualization of detailed images that are usually of a calm and peaceful nature.

Homeopathy¹ treatment is a system of medical practices based on the theory that any substance that can produce symptoms of disease or illness in a healthy person can cure those symptoms in a sick person.

Hypnosis¹ is an altered state of consciousness characterized by increased responsiveness to suggestion by a hypnotist or hypnotherapist.

Meditation¹ is a group of techniques in which individuals learn to focus their attention and suspend the stream of thoughts that normally occupy the mind. This practice is believed to result in a state of greater physical relaxation, mental calmness, and psychological balance.

Naturopathy¹ is an alternative medical approach based on the belief that there is a healing power in the body that establishes, maintains, and restores health. Treatments of naturopathy include nutrition and lifestyle counseling, dietary supplements, medicinal plants, exercise, homeopathy, and treatments from traditional Chinese medicine.

Nonvitamin, nonmineral dietary supplements¹ includes herbs or other nonvitamin supplements such as pills, capsules, tablets, or liquids that have been labeled as dietary supplements.

Osteopathic manipulation¹ is a full-body system of hands-on techniques to alleviate pain, restore function, and promote health and wellbeing.

Qi gong¹ is an ancient Chinese discipline combining the use of gentle physical movements, mental focus, and deep breathing directed toward specific parts of the body.

Tai chi¹ is a mind-body practice that originated in China as a martial art. Individuals doing tai chi move their bodies slowly and gently while breathing deeply and meditating. Many practitioners believe that tai chi helps the flow throughout the body of a proposed vital energy called “qi.”

Traditional healer¹ is someone who employs any one of a number of ancient medical practices that are based on indigenous theories, beliefs, and experiences handed down from generation to generation. The methods used by traditional healers have evolved to reflect the different philosophical backgrounds and cultural origins of the healer.

Yoga¹ is a combination of breathing exercises, physical postures, and meditation used to calm the nervous system and balance the body, mind, and spirit.

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Chapter One

Introduction

Complementary and alternative medicine (CAM) use is common in the United States. The National Center for Complementary and Integrative Health (NCCIH) defines CAM as “any medical and health care systems, practices, or products that are not generally considered part of conventional medicine” (2017). According to the National Health Interview Survey’s (NHIS) National Health Statistics Reports, conducted annually by the Centers for Disease Control and Prevention’s (CDC) National Center for Health Statistics in which tens of thousands of Americans are interviewed about their health and illness-related experiences, about one-third of U.S. adults aged 18 years and over reported having used one or more complementary approach within the past 12 months (Clarke et al., 2015; NCCIH, 2017).

CAM approaches can be classified as either “complementary” when used together with conventional medicine or as “alternative” when used in place of conventional medicine. However, most people who use CAM do so with conventional medicine (NCCIH, 2018). Moreover, there are categories of CAM approaches. The NCCIH (2018) categorizes CAM into natural products, mind and body practices, and “other complementary health approaches.” Natural products comprise herbs, vitamins and minerals, and probiotics, which are often sold as dietary supplements. Mind and body practices, which are a large and diverse group of procedures or techniques administered or taught by trained practitioners, involve relaxation techniques, meditation, Tai chi, Qi gong, hypnotherapy, yoga, and chiropractic and osteopathic manipulation. Other types of CAM approaches that may not fit within these categories include practices of traditional healers, Ayurvedic medicine, traditional Chinese medicine, homeopathy, naturopathy, functional medicine, and spiritual prayer (Adams & Jewell, 2007; NCCIH, 2018). According to a

report by the NHIS, from 2002-2012, the most commonly used forms of CAM in the United States were nonvitamin and nonmineral dietary supplements. This was followed by deep breathing exercises, yoga, and chiropractic and osteopathic manipulation (Clarke et al., 2015). Other forms of CAM including, yoga, meditation, and chiropractic manipulation have also increased since 2017 (Clarke, Barnes, et al., 2018).

Predictors of CAM use have been associated with several factors such as sociodemographics and health reasons. Increased use of CAM associated with sociodemographic factors include White race, young age, female gender, having college or higher education, and having a higher income (Bishop & Lewith 2010; Clarke et al., 2015; Garland et al., 2013, Molassiotis et al., 2005). Specific health reasons associated with CAM use include musculoskeletal pain, cardiovascular disease, diabetes, and cancer, and even for no specific condition (Bishop & Lewith, 2010).

Among different ethnic/racial groups, CAM use has been difficult to ascertain since prevalence, patterns, and types of CAM modalities used has been shown to differ among studies (Adams & Jewell, 2007; Bishop & Lewith, 2010; Mackenzie et al., 2003). However, in general, Whites tend to use CAM more frequently than AA and Hispanics who have been shown to prefer spiritual healing and prayer for health reasons (Bishop & Lewith, 2010; Clarke et al., 2015; Gillium & Griffith, 2010). Moreover, lack of understanding of the definition of CAM, and the different categories used to classify types of CAM in previous studies and national surveys, have led to the under-representation of utilization of CAM among racial/ethnic groups (Barnett et al., 2003; Mackenzie et al., 2003).

Background

Cancer is the second leading cause of death behind heart disease among the U.S. population (Centers for Disease Control and Prevention [CDC], 2018). In 2019, there was an estimated 1,762,450 new cancer cases, and 606,880 cancer deaths in the United States (National Cancer Institute [NCI], 2019). AA men have disproportionately high cancer incidence rates compared to other men, and AA women had the second highest cancer incidence rates behind Whites in 2016 (CDC, 2020).

People with cancer tend to use CAM more frequently than cancer-free adults (Buckner et al., 2018; Mao et al., 2007; Mao et al., 2011; Molassiotis et al., 2005). Prevalence of CAM use among all cancer patients ranges from 10-80% depending on the type of CAM approach used (Bishop & Lewith, 2010; Paul et al., 2013). Among western countries including Europe, Australia, New Zealand and the United States, about 40% of cancer patients reported “current use” of CAM with prevalence being the highest in the United States (Horneber et al., 2012). In fact, trends of CAM use among cancer patients have continued to increase from an estimated 25% in the 1970s and 1980s to more than 32% in the 1990s and 49% after 2000 (Hornberger et al., 2012). However, despite increased use of CAM, disclosure of CAM use to healthcare providers remained low, particularly among ethnic minorities (Chang et al., 2011; Chao et al., 2008).

In general, the decision to use CAM has been shown to be influenced by individual preference, health status, healthcare and cultural beliefs, access to CAM, and social norms (Adams & Jewell, 2007; Bishop & Lewith, 2010; Buckner et al., 2010; Caswell & Want, 2018; Cuellar et al., 2003; Farooqui, 2017; Gillium & Griffith, 2010; Kwon et al., 2019; Mackenzie et al., 2003). Further, other factors such as availability, cost, and knowledge of types of CAM also

impact use. In cancer patients specifically, reasons for CAM use have included for the treatment of cancer, to improve immunity, and to mitigate side effects from therapy such as anxiety, depression, pain, sleep problems, fatigue, spiritual distress, problems with daily tasks, dyspnea, and weight changes (Abuelgasim et al., 2018; Buckner et al., 2018; Chang et al., 2011; Farrhani et al., 2019; Jerimini et al., 2019; Kwon, et al., 2019). Other disease-related reasons reported include to cure cancer and/or to prevent progression of disease (Chang et al., 2011). Despite potential risks associated with CAM while receiving cancer-directed therapy, specifically herb-drug interactions, many cancer patients believe CAM to be safe and harmless (Adams & Jewell, 2007; Jerimini et al., 2019; Yeung et al., 2018).

Statement of the Problem

Treatment for cancer is complex and often includes a multimodality approach with a combination of surgery, chemotherapy, and radiation depending on cancer type. While some CAM approaches have been shown to help mitigate cancer-related or treatment-related symptoms, there is limited data on the safety and efficacy of such approaches. Of significance is the difference in prevalence and type of CAM used among racial/ethnic groups, specifically AA and White patients. Since most national surveys under-represent AA, the true prevalence of CAM use is unknown in both the general population and within patients with cancer. Further, non-disclosure of CAM use also contributes to underestimation of use among minorities. Therefore, underestimation of prevalence and non-disclosure may contribute to safety concerns with CAM use in the setting of cancer care.

Significance of the Problem

There continues to be wide health disparities between AA and Whites regarding health status, use of health care services, and cancer-specific mortality (Pan et al., 2017; Singh & Jemal,

2017). In fact, in 2018, AA were more likely to self-report fair or poor health status, and have less insurance coverage, access, and use of health care services when compared to Whites (Artiga & Orgera, 2019). Further, when compared to Whites, AA had a higher uninsured rate (19% vs. 8%), which results in lack of usual medical care, postponement of or not seeking medical care due to cost, and postponement or inability to purchase needed prescription medications due to drug costs (Tolbert, Orgera, Singer, & Damico, 2019). Among this population, Barnett et al. (2003), Jones et al. (2018), and MacKenzie et al. (2003) found that insurance status was the strongest predictor of CAM use. Hence, such therapies may be perceived as a more cost-effective approach to medical care to compensate for the high cost of cancer care. As a result, this philosophy may delay cancer care or hinder the effectiveness of therapy.

In addition, national health expenditures for CAM represents a substantial financial burden. According to the National Health Statistics Report in 2012, a total of 55.2 million adults (23.5%) had at least one expenditure for some complementary health approach (Nahin et al., 2012). During this same year, a total of \$28.3 billion dollars were spent on out-of-pocket costs for CAM. Of this, \$14.1 billion was spent on visits to complementary practitioners. Another \$12 billion was spent on natural products, and \$2.2 billion was spent on self-care approaches. Consequently, in 2012, total out-of-pocket expenditures for CAM were comparable to out-of-pocket costs for conventional physician services and prescription drug use (Nahin et al., 2019).

Purpose of the Research

The purpose of this study was to compare attitudes toward CAM and holistic health beliefs, and to compare the types of CAM providers and treatments used, and reasons for their use among AA and White cancer patients in an outpatient oncology clinic.

Significance of the Research

CAM use increases after a cancer diagnosis (Buckner et al., 2018). In fact, Molassiotis et al. (2005) reported a 30% increase in CAM use after cancer diagnosis. Moreover, the number of patients who reported use of biologic products increased from 15.6% pre-diagnosis to 51.8% after diagnosis (Buckner et al., 2018). Of specific biologic products, use of herbal medicine tripled after cancer diagnosis (Molassiotis et al., 2005).

Findings from this current study may help healthcare providers better understand which types of CAM providers and CAM treatments are used more commonly by ethnic/racial groups. It further will explore how attitudes toward CAM and holistic health beliefs may contribute to the use of CAM. Because cultural competency is important for healthcare providers, awareness of CAM use and the reasons for use may enhance clinical practice such that patients and healthcare providers enhance communication regarding CAM. Such improved communication will inform healthcare providers of patients' beliefs systems, which impact perception of health and approach to healthcare. It will also improve disclosure of CAM use, thus reducing the risk of potential untoward interactions and side effects related to concomitant use of CAM with cancer treatment.

Research Questions and Hypotheses

RQ1: Is there a difference in attitudes toward CAM between African American and White cancer patients?

H1.1A: There is a significant difference in attitudes toward CAM between African American and White cancer patients.

H1.10: There is no significant difference in attitudes toward CAM between African American and White cancer patients.

RQ2: Is there a difference in holistic health beliefs between African American and White cancer patients?

H2.1A: There is a significant difference in holistic health beliefs between African American and White cancer patients.

H2.10: There is no significant difference in holistic health beliefs between African American and White cancer patients.

RQ3: Is there a difference in the types of CAM providers visited by African American and White cancer patients?

H3.1A: There is a significant difference in the types of CAM providers visited by African American and White cancer patients.

H3.10: There is no significant difference the types of CAM providers visited by African American and White cancer patients.

RQ4: Do the reasons for visiting CAM providers differ between African American and White cancer patients?

H4.1A: There is a significant difference in the reasons for visiting CAM providers between African American and White cancer patients.

H4.10: The reasons for visiting CAM providers do not significantly differ between African American and White cancer patients.

RQ5: Is there a difference in the types of CAM treatments received between African American and White cancer patients?

H5.1A: There is a significant difference in the types of CAM treatments received between African American and White cancer patients.

H5.10: There is no significant difference in the types of CAM treatments received between African American and White cancer patients.

RQ6: Do the reasons for receiving CAM treatments differ between African American and White cancer patients?

H6.1A: There is a significant difference in the reasons for receiving CAM treatments between African Americans and White cancer patients.

H6.10: The reasons for receiving CAM treatments do not significantly differ between African American and White cancer patients.

RQ7: Is there a difference in the types of self-help practices used between African American and White cancer patients?

H7.1A: There is a significant difference in the types of self-help practices used between African American and White cancer patients.

H7.10: There is a no significant difference in the types of self-help practices used between African American and White cancer patients.

RQ8: Do the reasons for using self-help practices differ between African American and White cancer patients?

H8.1A: There is a significant difference in the reasons for self-help practice use between African American and White cancer patients.

H8.1b: There is a no significant difference in the reasons for using self-help practices between African American and White cancer patients.

Chapter Two

Review of the Literature

Three large national surveys have examined CAM use in the United States. The first national survey by Eisenberg et al. (1993) found that 34% of U.S. adults used at least one CAM therapy, with the highest prevalence by “non-black” persons aged 25-49 years. Likewise, in national study by Astin (1998), a reported 40% of U.S. adults used some form of alternative medicine within the previous year with CAM use varying by ethnic groups (Whites, 41%, Hispanics, 40%, and Blacks, 29%), but racial/ethnic differences did not predict use. In a follow-up survey by Eisenberg et al. (1998), they found a dramatic rise in CAM use by the American public from 33.8% in 1990 to 42.1% in 1997. All three of these national surveys were conducted with predominant White participants, which under-estimated the use of CAM among other ethnic/racial groups and specifically within the AA population. In addition, the types of reported CAM used within these surveys differed by race.

Among AA, cultural beliefs and traditions have played a significant role in CAM use. When examining the elderly, the use of spirituality, prayer, hope and healing, faith healing, music and healing rhythms, rituals, potions, roots, plants, and herbs have been shown to be used to treat certain illnesses and conditions as a result of belief practices passed from generation to generation. These practices have been shown to be deemed “tried and true,” and reflected traditions from their cultural ancestors and indigenous healing practices derived from Africa (Arcury et al., 2005; Barnett et al., 2003; Harley, 2006).

Likewise, AA worldviews have greatly influenced their beliefs toward and use of indigenous healing and helping practices (Harley, 2006). Societal factors such as racial discrimination, medical mistrust, healthcare disparities, lack of access, and increasing health care

costs have influenced use of indigenous healing practices particularly in elderly AA (Harley, 2006). In a study by Penner et al. (2016) of AA cancer patients, perceived discrimination was shown to be positively correlated with patient preference for control over their own treatment. Such perceived discrimination impacted race-related attitudes and beliefs toward healthcare behaviors (Penner et al., 2016). Shippee, Schafer, and Ferraro (2012) evaluated the results from a national survey conducted in 1995-1996 of AA adults and CAM use based on perceived experience with racial discrimination. They concluded that persons who experienced both medical and nonmedical racial discrimination had a higher predicted probability of CAM use.

Differences in CAM Use by Race

To better understand the influence of race on CAM use, several studies have examined the prevalence of CAM use and types of CAM used among different ethnic/racial groups. Likewise, multiple studies have found that certain types of CAM are used more frequently among Hispanics, Asians, and AA when compared to Whites (Bishop & Lewith, 2010; Clarke et al., 2015; Kronenberg et al., 2006). Kronenberg et al. (2006) evaluated the prevalence and pattern of CAM use among women in four racial/ethnic groups (Non-Hispanic Whites, African Americans, Mexican Americans, and Chinese Americans). The study found the prevalence of CAM use to be highest among Whites (52%) and lowest among Mexican Americans (36%). Prevalence of use among AA was 37.9%. Whites were more likely to see a physician and use CAM whereas AA were more likely to see a physician but not use CAM (Kronenberg et al., 2006). They concluded that the type of CAM approach used was influenced by race/ethnicity such that Whites used more manipulation, mind-body practices, and vitamins. Mexican Americans used more medicinal herbs consistent with healing traditions from Mexico. Chinese Americans used more nonprescription Chinese medicine, and AA used more vitamins and

spirituality/prayer (Kronenberg et al., 2006). MacKenzie et al. (2003) found similar results regarding ethnic-specific CAM use. They concluded that when compared to Whites, Asian Americans were more likely to use acupuncture, and AA were more likely to use herbs and home remedies. Similar to the findings by Kronenberg et al. (2006), Mackenzie et al. (2003) concluded that Whites were more likely to use chiropractic manipulation when compared to AA, Latinos, or Asian Americans. Shive (2006) had similar findings in regards to differences in types of CAM used based on racial/ethnic group.

Cuellar et al. (2005) and Arcury et al. (2005) also evaluated the use of CAM by minority ethnic groups and Whites over age 50 years in rural communities where access to healthcare was limited and poverty among rural minorities was high. When focusing specifically on the use of CAM in AA, both studies showed that CAM use was frequent among older AA in rural communities. Most of the rural older adults used at least one CAM approach. Arcury et al. (2005) found that AA used more home and folk remedies when compared to other ethnic groups, while Cuellar et al. (2005) found that AA were more likely to use prayer, vitamins, exercise, meditation, and herbs. They both concluded that healthcare providers need to be aware of the influence of home and folks remedies used by AA, particularly those who were older and resided in rural areas (Arcury et al., 2005; Cuellar et al., 2005).

Prevalence and Type of CAM Use Among African Americans

Although most studies evaluating the use of CAM within the United States involved Whites, a few studies have focused on its use primarily among AA. CAM use among AA adults trended down from 22.9% in 2007 to 19.3% in 2012 (Nahin et al., 2009). However, from a study using data from the 2002 National Health Interview Survey of 4,265 AA, results found that 69% (2,952) of AA used CAM in the previous year (Barner et al., 2010). Consistent with other

studies, the majority used CAM to treat chronic medical conditions (Barner et al., 2010; Kronenberg et al., 2006). Common conditions included back pain, joint pain, osteoporosis, and depression/anxiety (Barner et al., 2010; Kronenberg et al., 2006). Several sociodemographic predictors of CAM use for treatment among AA have included having a college education, smaller family size, higher income, more physician visits, and having depression/anxiety (Barner et al. 2010; Lee et al., 2000). However, Hsiao et al. (2006) evaluated ethnic-specific CAM and found no specific association between higher education and CAM use among racial/ethnic groups except in American Indian-specific CAM approaches.

In a study by Barner et al. (2010) of AA CAM users, 75% used alternative medical systems such as acupuncture, Ayurveda, homeopathy, and naturopathy. Manipulative and body-based therapies (chiropractic and massage) were also common approaches used. Less than 50% used biologically based therapies (herbs, special diets, megavitamins) for treatment of medical conditions with the exception of folk medicine or “home remedies,” which were used by 78% of CAM users (Barner et al., 2010). Similarly, other studies have found that AA use a variety of CAM modalities such as prayer, relaxation techniques, vitamin supplements and special diets, biofeedback, and energy healing/Reiki for treatment of chronic medical conditions and cancer-related side effects (Barner et al., 2010; Barnett et al., 2003; Jones et al., 2018). MacKenzie et al. (2003) and Molassiotis et al. (2005) found that AA most commonly use herbs. Reasons that have been cited for using CAM among AA included the ability to avoid prescription medicines, preference for other approaches before going to the physician, and CAM therapies worked well or made them feel good or healthy (Shive et al., 2006).

Barnett et al. (2003) examined low income, urban AA of all ages, and found that CAM use was most common in women and men over the age of 40. In fact, older AA (>60 years of

age) preferred home remedies first for minor illnesses. However, older AA reported that they would go to a physician for serious illnesses such as hypertension or diabetes, but would use alternative medicine for cancer if conventional medicine had negative side effects (Barnett et al., 2003). Cui et al. (2012) had similar findings regarding CAM use among older (50-59 years) AA with a lower income but noted a sharp decline in use in those 60 and older.

In contrast to CAM use for treatment of medical conditions, prevention has been another motivator for CAM use among AA. Shive et al. (2006) examined racial/ethnic disparities in primary and secondary preventive health behaviors and attitudes toward health, and evaluated its impact on CAM use. Of 6,305 participants, of which 16% were AA, Whites were more likely to have visited a physician within the last year. In contrast, AA believed that health was dependent on care of self, and thought it was better to care for one's own health than to go to the physician. These beliefs were contributors to CAM use (Shive et al., 2006). Yoon, Horne, and Adams (2004) examined elderly AA women, and found that 33% used herbal products within the last year. Reasons mentioned for use included maintaining health, prevention of possible health problems, and for treating health problems. Of those users, 57.9% reported good or excellent overall health. This finding differed from Astin's (1998) study in which poorer health was associated with CAM use among all racial/ethnic groups.

Cancer and CAM

Breast cancer is the most common cancer type in which patients use CAM (Clarke, 2018). In fact, more than 80% of all women with breast cancer report using some form of CAM (Boon et al., 2007). Kronenberg et al. (2006) and Lee et al. (2000) found that Whites were more likely to use CAM for a cancer-related condition. However, other studies have shown that patients across racial/ethnic groups experiencing a serious or chronic illness, such as cancer, are

more likely to utilize some type of CAM modality when compared to cancer-free adults (Barnett et al., 2003; Hsiao et al., 2006).

A small number of studies have focused on CAM use among ethnic minorities with cancer. In a study by Lee et al. (2000) of 379 breast cancer patients, 100 of which were AA, 45% used CAM. They concluded that of those AA CAM users, spiritual healing (36%) was most commonly used while dietary and physical therapies (acupuncture, massage, yoga, Tai chi, Qi gong) were least likely used when compared to Latinos, Chinese, and Whites. Jones et al. (2018) evaluated 165 medically underserved cancer patients, of which 43% were AA. They also found prayer to be the most commonly used CAM modality by AA. Further, in a small study of CAM use among 14 AA prostate cancer patients, all patients reported using prayer as a type of coping mechanism (Jones et al., 2007). One reported using meditation, and another reported using herbs (Jones et al., 2007). Similar to cancer-free patients, a sense of control over one's health has been shown to be a significant predictor of CAM use among cancer patients particularly in AA (Arthur et al., 2012; Barnett et al., 2003; Robinson et al., 2007; Vidal et al., 2013).

Other previous studies have examined CAM use among cancer survivors (Bright-Ghebry et al., 2011; Clarke, 2018; John et al., 2016; Mao et al., 2011). According to Clarke (2018), about 1 in 3 cancer survivors used CAM therapy. In one of the few studies evaluating AA breast cancer survivors who completed a 1999 Black Women's Health Study questionnaire and self-reported having been diagnosed with breast cancer between 1995-1999, Bright-Ghebry et al. (2011) found that 681 (68.2%) breast cancer survivors had used either herbals or vitamin supplements or both, 53.6% used vitamin supplements, and 39% had used one or more herbal supplements. Most common herbs used were garlic, ginkgo, and echinacea. In these patients, CAM use was

associated with being well-educated, postmenopausal, and a nonsmoker (Bright-Ghebry et al., 2011).

Further, in a population-based study of cancer (breast, prostate, colorectal, gynecological, melanoma, multiple cancers, and other) survivors, compared to those who had never had cancer, survivors were more motivated to use and disclose CAM use (Mao et al., 2011). Cancer survivors were more likely to report use of vitamins/minerals, herbs/nonvitamin supplements, manipulative and body-based therapies, and alternative medical systems when compared to cancer-free adults (John et al., 2016; Mao et al., 2011). Reasons for use of CAM in cancer survivors has been associated with promoting general wellness, energy, immune function, pain control, psychological distress, and insomnia (John et al., 2016; Mao et al., 2011). Other reasons for use included lack of efficacy of medical management, costs of medical treatment, and therapy was recommended by practitioner or family member (Mao et al., 2011). Only 3.9% of cancer survivors reported using CAM specifically to treat their cancer (Mao et al., 2011).

Influences Toward CAM Use

Attitudes and Beliefs

Attitudes and beliefs about health and health status influences CAM use. McFadden, Hernandez, and Ito (2010) found that having a philosophical congruence with CAM and with holistic balance was associated with increased CAM use. Similar findings were discussed by Astin (1998) and Arthur et al. (2012). In a multivariate analysis study by Arthur et al. (2012) of attitudes and beliefs toward CAM use among patients undergoing cancer treatment, CAM users believed there was a holistic connection between their physical, mental, and spiritual well-being. Hence, patients believed that cancer treatment should be holistic to be successful such that physicians were not the sole healers. Patients further reported that beliefs, the mind, and God

were also elements of their health (Arthur et al., 2012). Among AA men who preferred prayer as a type of CAM, Jones et al. (2007) found that cultural beliefs about CAM including the importance of spiritual needs as a CAM modality, the value of education in relation to CAM, the importance of trust in selected healthcare providers, and the usefulness of CAM were associated with consideration of CAM use.

Schernhammer et al. (2009) also evaluated factors that influenced attitudes toward CAM use with cancer therapy. They found that having a more positive attitude regarding curability of cancer contributed to a more positive attitude toward CAM. Further, those persons who had a positive experience or knew someone with a cancer cure, women, people with a higher education, and over 70 years of age placed high value on CAM.

Other beliefs such as efficacy of CAM and positive social norms affect use (Bauml et al., 2015). In a study by Kwon et al. (2019) of 283 cancer patients undergoing treatment, use of CAM was significantly associated with a belief in CAM efficacy. Bauml et al. (2015) examined the attitudes and beliefs about CAM of 969 cancer patients using the Attitudes and Beliefs about CAM (ABCAM) instrument, which asked questions within three domains: expected benefits, perceived barriers, and subjective norms. They concluded that females, persons aged ≤ 65 , having some college, active employment, and those having a history of CAM use were associated with greater expected benefit and also a perceived greater benefit from CAM.

Knowledge of CAM

Despite external influences and factors that affect CAM use, in one study of cancer patients, only 7% reported having sufficient knowledge of CAM. In fact, 60% of patients reported having insufficient knowledge of CAM (Kwon et al., 2019). Among AA patients with cancer, lack of knowledge regarding acupuncture, meditation, yoga, and herbs were found to be

most common (Jones et al., 2018). In contrast, other studies evaluating awareness and knowledge about CAM in AA found that in general AA were aware, knowledgeable, and interested in CAM therapies (Barnett et al., 2003; Jones, et al., 2018). Jones et al. (2018) found that in a study of cancer patients in which 43.7% were AA, patients reported high awareness and knowledge of CAM therapies. However, when discussing knowledge of CAM, AA perceived CAM to mean “alternative medicine,” “holistic,” and “old-fashioned ways of healing” (Barnett et al., 2003), while other AA better understood “home remedies,” “natural,” and “healing” (Barnett et al., 2003). Of CAM therapies, knowledge of prayer was the highest (97%) and of herbs was the lowest (60%) (Jones et al., 2018).

Barriers to CAM Use

Despite the popularity of CAM use, there are many reasons for CAM non-use. According to Arthur et al. (2012), CAM nonusers reported having a greater trust in their physician and conventional medicine, felt CAM therapy was not part of doctor’s orders, and believed the decision to use CAM was made when there was distrust in biomedicine. Schernhammer et al. (2009) also found that satisfaction with conventional medicine was inversely related with value placed on CAM. This finding contradicted earlier studies addressing satisfaction with conventional medicine and CAM use (Astin, 1998). Among cancer patients, Arthur et al. (2012) and Kwon et al. (2019) found CAM use was not associated with dissatisfaction with conventional medicine but was preferred to be used as an adjunct with conventional medicine.

Other barriers found in several studies that hinder CAM included lack of interest, belief, or knowledge of CAM therapy, lack of disclosure of CAM options as part of their treatment by their healthcare provider, concerns with untoward interactions with cancer treatment, and having

never thought of CAM (Abuelgasim et al., 2018; Farooqui, 2017; Jermini et al., 2019; McFadden et al., 2010; Molassiotis et al., 2005). Bauml et al. (2015) found that “nonwhite” patients perceived more barriers that prevented them from using CAM, such as transportation to CAM appointments and concern about side effects. Other barriers specific to AA included cost of certain CAM and lack of trust in CAM therapies and the healthcare system (Barnett et al., 2003; Jones et al., 2018).

Disclosure of CAM Use

Disclosure of CAM use to healthcare providers, in general, is often limited. Lack of sufficient data to examine efficacy and safety of CAM with prescription medications and chemotherapeutic agents may impact treatment efficacy and increase patient side effects (Jones et al., 2018). Chao et al. (2008) used data from two surveys that oversampled minorities to examine disclosure prevalence. They found that disclosure of any CAM use was lowest among Asian Americans and highest among non-Hispanic Whites. When compared to non-Hispanic Whites, AA, Latinos, and Asian Americans were significantly less likely to disclose any CAM or self-care CAM. However, AA were more likely to discuss using provider-based CAM (Chao et al., 2008). Arthur et al. (2012) found most people reported more nutrition-based CAM. Issues with access such as insurance and cost were not associated with disclosure. However, race/ethnicity did contribute to nondisclosure regardless of access to and quality of care. Age was another factor (Chao et al., 2008). Barnett et al. (2003) argued that older AA CAM users (> 65 years) would not report use of CAM to their physician. Reasons for non-disclosure included feeling that physicians would not approve. However, persons who did disclose CAM use felt that AA or Asian physician were more likely to accept remedies. Conversely, AA less than 30 years old were also least likely to disclose CAM use (Barnett et al., 2003). In a study by Yoon et al.

(2004), up to 40% of elderly AA CAM users did not discuss CAM use with their healthcare providers and mixed herbal, prescription, and over-the-counter products.

Lack of CAM disclosure among cancer patients is also a problem. In the study by Kwon et al. (2019), only 25% of patients discussed CAM with their oncologists. Arthur et al. (2012) found that of those cancer patients who used some form of CAM therapy, 64% (14/22) reported that they disclosed CAM use to a healthcare provider. According to Vidal et al. (2013), of patients with breast cancer who used CAM, 60% did not disclose use to their providers. Reasons for non-disclosure included physicians being more concerned with medication side effects, CAM use was not a matter to discuss with a doctor, physicians hate to discuss CAM, and physicians will stop my use of CAM (Arthur et al., 2012; Kwon et al., 2019).

Theoretical Frameworks

The decisions regarding health and how to manage a health-related condition are one of individual choice, and are driven by multiple factors. Several theoretical frameworks have been identified that may explain why some people use CAM and others do not. In a systematic review of theoretical frameworks of why people choose CAM, Andersen's socio-behavioral model, the theory of planned behavior, and health locus of control (HLoC) theory were found to be associated with a propensity to use CAM (Lorenc et al., 2009). Similarly, HLoC theory, in particular, is a predictor of CAM use in people with cancer (Henderson & Donatelle, 2003).

Socio-behavioral Model

The socio-behavioral model, developed by Ronald M. Andersen in 1968, focused on why people use health services by identifying three determinants (Andersen, 1995). These determinants were predisposing factors, enabling or impeding factors, and their need for care (Andersen, 1995). Predisposing factors could be characterized by demographics such as age,

gender, education, race, and marital status; and beliefs and values such as spirituality, openness, health effort and commitment, holistic beliefs, self-reliance, and having an internal locus of control. Enabling factors included resources such as income and health insurance, access to CAM practitioners, and availability or referral to CAM. Need factors evaluated need and perceived need. Evaluated need included how certain conditions predict certain types of CAM used, such as having more health problems, having chronic health problems, behaviors such as smoking or drinking, or symptoms such as pain or depression. Perceived need included self-rated health and perception of illness as serious, or intruding on daily life (Andersen, 1995; Lorenc et al., 2009). An additional component of the theory, which included health outcomes based on perceived versus evaluated health status and consumer satisfaction, was added to the model in the 1990s. This theory examined both objective and subjective factors that influence CAM use.

Theory of Planned Behavior

The theory of planned behavior was introduced in 1985 by Icek Ajzen. This theory predicts human behavior by examining behavioral intentions based on three major constructs. These include the patient's attitude towards the behavior, perceived control, and subjective norms (Ajzen, 2011; Baulm et al., 2015). The theory argues that an individual chooses a particular behavior as a result of expected consequences of the behavior, either positive or negative; such examples include experiencing pain, pleasure, regret, fear, elation, or other emotions (Ajzen, 2011). In cases of cancer patients, Hirai (2008) argued that attitude towards behavior may include perceived effectiveness of treatment and anxiety regarding side-effects. Perceived control is the individual's perception of the extent to which performance of the behavior is easy or difficult, and is synonymous with the concept of self-efficacy (Ajzen, 1991). The theory also argues that relative difficulty in engaging in a behavior and social normative

pressures regarding the behavior influences decision toward a particular act or behavior.

Subjective norms in cancer regarding CAM include expectation from family members, and norms of medical staff towards the patients (Hirai, 2008). Further, factors of a personal nature such as personality and broad life values, and exposure to media and other sources of information, influence the beliefs people hold that affects behavior (Ajzen, 2011).

Health Locus of Control Model

Another healthcare behavior model that takes into account psychological influences on behavior is the HLoC. This model purports that individuals review events as under their control (internal locus of control) or out of their control (external locus of control) (Wallston, 1992). Those having a high internal locus of control are more likely to carry out health-promoting behaviors. In contrast, those with high external locus of control, who attribute their health to chance, will be more unlikely to engage in health-enhancing activities (Wallston, 1992).

Gaps in the Literature

The literature supports that prevalence and type of CAM use varies based on many factors (age, gender, socioeconomic status, education, and race). However, most of the literature underrepresents ethnic minority populations when assessing CAM use. Further, few recent studies have explored reasons for variations in CAM use among racial/ethnic groups. Similarly, there is limited data that focuses on separate ethnic groups particularly in the setting of a cancer diagnosis and undergoing cancer treatment. There have been no studies that focus primarily on CAM use among AA cancer patients receiving treatment within a comprehensive cancer center that includes both conventional and complementary medicine as part of integrative health care. Finally, there have been no U.S. studies that have used the Holistic Complementary and Alternative Medicine Questionnaire (HCAHQ) to assess why patients choose CAM.

Chapter Three

Methodology

Study Design

This study was a cross-sectional survey design in which patients from a breast medical oncology and hematology/oncology outpatient clinic at Cancer Treatment Centers of America were recruited. Two survey instruments were used in this study to answer the research questions. The first survey instrument used was the Holistic Complementary and Alternative Health Questionnaire (HCAHQ) developed by Hyland, Lewith, and Westoby (2003). This survey measures attitudes toward CAM and its effectiveness, and beliefs in a holistic model of health. The survey was derived from two “parent” questionnaires. The first such questionnaire is called the Attitudes to Alternative Medicine Scale (AAMS), which measures attitudes toward CAM. The items of the AAMS were generated using qualitative methodology followed by quantitative analysis. Six items from the AAMS were selected to be used on the HCAHQ (Hyland et al., 2003). Another five items were retrieved from a holistic health questionnaire from a previous pilot study measuring holistic health beliefs. Items from this questionnaire were also derived from a qualitative methodology. The items from the previous questionnaires selected for the HCAHQ were based on content validity (Hyland et al., 2003).

The second survey instrument used for this study was the International Complementary and Alternative Medicine Questionnaire (I-CAM-Q; Quandt et al., 2009). This survey was designed to provide a common, standard form to measure CAM use across different languages and populations. This allowed for more consistency and accuracy in determining CAM use prevalence within a defined period of time (Quandt et al., 2009). The survey was created during a workshop in 2006 by the National Research Center in Complementary and Alternative

Medicine (NAFKAM), University of Tromsø, Norway, and the Norwegian Research Council.

The penultimate version of the questionnaire was pretested by the authors with nine respondents within the United States and Canada. The final version was completed by nine patients including both men and women of different ages and educational level, and who had a variety of diagnoses.

Target Population

The study population was comprised of AA and White patients with a cancer diagnosis, who were either currently receiving cancer-directed treatment or who had received cancer-directed treatment within the past 12 months at Cancer Treatment Centers of America. Cancer-directed treatment was defined as chemotherapy, immunotherapy, anti-estrogen therapy, or a combination of chemoimmunotherapy. Cancer Treatment Centers of America is a comprehensive cancer center that focuses on integrative cancer care, and is located in Newnan, Georgia near Metro Atlanta. This cancer center offers conventional chemotherapy as well as integrative medicine such as naturopathy, nutrition, chiropractic care, acupuncture, and spiritual support as adjunct therapy. All patients had access to these consultative services throughout and beyond their treatment course. Patients evaluated and treated at Cancer Treatment Centers of America came from all over the United States.

Sampling

Participants for this study were selected by the researcher by convenience sampling. The researcher was an employee of Cancer Treatment Centers of America and worked in the outpatient breast medical oncology and hematology/oncology clinic. This outpatient clinic was staffed by three healthcare providers including one medical doctor, one nurse practitioner, and one physician assistant. The three team members worked collaboratively to share responsibility

for the patients evaluated and managed in the clinic. The medical doctor served as the supervising physician for both the nurse practitioner and physician assistant. Therefore, all patients' visits were co-managed with the medical doctor.

Inclusion

Eligible participants in this study were aged 18 years or older, AA or White race, had a current or past cancer diagnosis/malignant hematology, and were able to read, write, and provide informed consent. Participants were currently receiving treatment, had received treatment for cancer within the past 12 months, or had a hematologic malignancy in which current treatment included active surveillance. Participants had to have an Eastern Cooperative Oncology Group (ECOG) performance status of ≤ 2 (ambulatory and capable of all self-care but unable to carry out any work; up and about more than 50% of waking hours), which denoted quality of health on a scale of 0-5.

Exclusion

Patients of other racial/ethnic groups were excluded. The patient population at Cancer Treatment Centers of America was predominantly AA and White race. Therefore, other racial/ethnic groups were under-represented. Further, this study was specifically focusing on the comparison between AA and White patients. Finally, patients with an ECOG performance status of 3 (capable of only limited self-care; confined to bed or chair more than 50% of waking hours) were excluded.

Sample Size

The sample size was based on a calculation of the average number of patients seen in the breast medical oncology and hematology/oncology clinic by the three healthcare providers within 1 week. The researcher estimated approximately 150 patients seen by the three healthcare

providers in 1 weeks' time; however, some patients were seen more than once in the week.

Therefore, approximately 140 different patients were seen in 1 week. The statistical tool, nQuery version 8.5.2, was used to perform Fisher's Exact Test to determine 80% power using alpha 0.05. Based on this, the total sample size needed for this study was 96. The study goal was to recruit at least 48 AA and 48 White patients.

Data Collection

The researcher collaborated with the aforementioned healthcare providers and two medical assistants to ensure adequate support of the study. Each medical assistant was trained by the researcher to administer the surveys to the participant. Prior to each day of clinic or the day of clinic, the researcher screened each of the three healthcare providers' clinic schedules to determine which patients were potential candidates for the study based on the inclusion criteria. Once identified, the researcher or nurse practitioner explained the purpose of the study, and the researcher, nurse practitioner, or medical assistant provided the patient the informed consent form while in the examination room either prior to or after the individual's healthcare provider visit. After signing the informed consent, the participant was given both survey instruments to complete. Participation in the study was voluntary and no incentives were offered. However, a statement of gratitude and appreciation was included in the consent statement. The consent statement also described patient confidentiality and voluntary involvement in the study.

The HCAMQ and the I-CAM-Q were both self-reported paper-based surveys. Each participant was given one copy of each survey. No more than 15-20 minutes were needed to complete both surveys. Each survey was coded with a number, and there was one set of each HCAMQ and I-CAM-Q with the same number to represent each individual participant. Hence, each participant was assigned a number to correspond with the survey. Only the researcher was

able to associate the patient's name with the assigned number. After completion, the researcher or the trained medical assistant collated both surveys to ensure that each respondent had completed both survey instruments. Every attempt was made by the researcher or medical assistant to ensure each participant completed each survey question appropriately. However, this was not always possible due to appointment time constraints or a patient leaving the room prior to review of the surveys by the researcher or medical assistant. All surveys were kept in a sealed envelope and stored in the researcher's office. Surveys were collected daily until the desired number of surveys was obtained.

A medical record abstraction was conducted by the researcher to obtain participants' clinical (cancer type, date of diagnosis, and type of treatment received) and demographic (age, gender, and race) information. This information was then linked to the number code used for each survey. Clinical and demographic information as well as responses from each survey were recorded in a Microsoft Excel spreadsheet by the researcher prior to being entered in a statistical software tool. A second person, selected by the researcher, verified entries into Microsoft Excel for every tenth HCAMQ and I-CAM-Q survey for accuracy.

Instrumentation

The HCAMQ survey was a self-reported questionnaire that was used to assess attitudes toward CAM and holistic health beliefs (Appendix A). This survey was validated in two different environments within an outpatient rheumatology department at Southampton General Hospital and the Centre for the Study of Complementary Medicine, Southampton (Hyland et al., 2003). Six items addressed attitudes toward CAM by assessing belief in the scientific validity of CAM, and five items were related to holistic health (HH) beliefs and its relation to patients' internal and external control of health issues (Hyland et al., 2003). HH beliefs are beliefs about

the role of nature and science in healthcare as well as individual, societal, and healthcare provider responsibilities. These beliefs impact CAM use (Robinson et al., 2007). Constructs from the socio-behavioral model, such as predisposing, enabling, and need factors, and the theory of planned behavior, such as patient's attitude toward behavior, were examined by this questionnaire.

Within the HCAMQ, items 2 and 4 examined the lack of scientific evidence for CAM and whether CAM may be dangerous. Items 6 and 8 investigated when CAM should be used, and items 9 and 11 investigated how CAM works and for which ailments it should be used (mild or serious illness) (Hyland et al., 2003). To assess HH beliefs, items 1, 3, and 10 explored how lifestyle can affect health and whether lifestyle can be controlled with the objective of the changing health status. In contrast, items 5 and 7 evaluated the effects of psychological factors such as symptoms of depression, stressful life events, and conflict on overall health status (Hyland et al., 2003). Responses to each item were made using a 6-point response format (strongly agree, agree, mildly agree, mildly disagree, disagree, and strongly disagree). The total score was obtained by adding up the CAM subscale items and the HH subscale items based on a scoring system derived from the Scoring of the Holistic Complementary and Alternative Health Questionnaire table. A lower score indicated a more positive attitude toward CAM and HH (Hyland et al., 2003).

The I-CAM-Q was also a self-reported questionnaire that was used to evaluate the type of CAM providers visited, prevalence of CAM use, type of CAM used, and for what main reason CAM was used (Appendix B). This questionnaire examined the socio-behavioral model construct of predisposing factors such as internal locus of control and enabling factors such as access to CAM practitioners, as well as perceived need for care. It also explored patients' need

for control over their care as explained by the theory of planned behavior and health locus of control model. Further, this questionnaire was devised to be culture-neutral and provided a short list of common CAM modalities (Quandt et al., 2009). There were four sections, each with introductory instructions and slightly different options (Quandt et al., 2009). There were additional sections for the researcher to add in specific options for each category and for the study participant to add specific options. Due to the comprehensiveness of the survey, the researcher decided to not add any additional options. However, the study participant could add additional information for each category.

For I-CAM-Q questionnaire, section 1 included questions about “visiting healthcare providers.” Six specific types of providers were listed based on a list of core health care providers used by the World Health Organization: (1) physician; (2) chiropractor; (3) homeopath; (4) acupuncturist; (5) herbalist; and (6) spiritual healer. There was space for a specified option to be used for a locally available practitioner appropriate to the population surveyed or a practitioner relevant to the health condition of the patient. Respondents are asked whether they have seen the provider(s) within the last 12 months. If so, respondents indicate the number of times seen in the last 3 months, for what main reason, and how helpful it was to see the provider(s) (Quandt et al., 2009).

In section 2 respondents are asked to indicate if “complementary treatments were received from physicians.” If respondents report not having seen a physician in the last 12 months, they skip to section 3. If they have seen a physician in the last 12 months, respondents are asked to indicate whether they have received any of five complementary treatments in the past 12 months. These include (1) manipulation; (2) homeopathy; (3) acupuncture; (4) herbs; and (5) spiritual healing. There was space for a researcher-specified option and one “other”

respondent-specified treatment. Respondents indicate the number of times seen in the last 3 months, for what main reason, and how helpful it was to see the providers (Quandt et al., 2009).

The next section, section 3, inquired about “use of herbal medicine and dietary supplements.” Respondents are asked to list up to three products used in the last 12 months in each of the four categories: (1) herbs/herbal medicine; (2) vitamins/minerals; (3) homeopathic remedies; and (4) other supplements. For each type of product listed, respondents are asked to indicate if they currently use it, for what main reason, and how helpful they found the products (Quandt et al., 2009).

The final section covered “self-help practices.” Respondents are asked if they have used each of the following self-help practices in the last 12 months: meditation; yoga; Qi gong; Tai chi; relaxation techniques; traditional healing practices; or prayer for own health. There was space for a researcher-specified option and one “other” respondent-specified self-help practice. Respondents indicate the number of times used in the last 3 months, for what main reason, and how helpful they found the self-help practice (Quandt et al., 2009).

Permission to use the HCAMQ and I-CAM-Q were requested and obtained from the authors of each questionnaire. An email was sent to Dr. Michael Hyland on February 15, 2020. Permission to use the HCAM-Q was granted on February 16, 2020. A copy of the authorization can be found in Appendix C. Also, an email was sent to Dr. Sara Quandt on February 15, 2020. Permission to use the I-CAM-Q was granted on February 18, 2020. A copy of the authorization can be found in Appendix D.

Data Analysis

Data analysis for this study was quantitative using independent and dependent variables. The independent variable was race. The dependent variables were attitudes toward CAM and

holistic health beliefs, type of CAM provider visited, reasons for visiting CAM provider, type of CAM received, reasons for receiving CAM, type of self-help practice used, and reasons for using self-help practices. A code book was created from each survey instrument to create a coding scheme for each variable and possible answer, and to help facilitate response entry into a Microsoft Excel spreadsheet by the researcher (Appendix E, Table 1 and Table 2). Data were recoded to combine types of reasons for visiting CAM providers, receiving CAM, and self-help practices use. A “medical condition” was used to denote an acute or long-term medical condition as a reason. Then a data analysis table was created to map each variable data item to the hypotheses for each research question and to determine the statistical test for analysis (Appendix F, Table 3). IBM’s Statistical Package for the Social Sciences (SPSS) software v25 was used to import data from Excel for statistical analyses (<https://www.ibm.com/products/spss-statistics>).

Descriptive statistics, including mean, frequencies, and percentages, were used for clinical data such as cancer type, type of treatment, and demographic data such as age, gender, and race. Inferential statistics were used to answer the stated research questions. To compare the relationship between race and attitudes toward CAM and holistic health beliefs, an independent t-test was used. Pearson Chi-square was used to compare the relationship between race and type of CAM provider visited, reason for visiting the CAM provider, type of CAM treatment received, reason for receiving CAM, type of self-help practice used, and reason for self-help practice use. Institutional Review Board (IRB) approval was needed to conduct this study (Appendix G).

Chapter Four

Results

Patient Demographics and Disease Characteristics

From August 2020 through September 2020, a total of 100 patients completed both surveys. One patient did not meet the inclusion criteria of having received treatment within the past 12 months and was excluded from the analyses. Of the remaining 99 patients, 50 were AA and 49 were White race. The mean age was 56 years ($SD = 10.84$). Seventy-eight patients (79%) were female. Fifty-seven patients (58%) had a breast cancer diagnosis, while 42 participants had a malignant hematologic diagnosis that included either multiple myeloma, chronic lymphocytic leukemia, Hodgkin's, or Non-Hodgkin's lymphoma. The majority of the patients were on active treatment (90%) and had a ECOG performance status of 0-1 (90%) (Table 4).

Table 4*Patient Demographics and Disease Characteristics*

Patient characteristics	n	% (rounded)
Age, years		
25-39	9	9
40-55	35	35
56-74	53	54
>= 75	2	2
Gender		
Male	21	21
Female	78	79
Race		
African American	50	51
White	49	49
Cancer Type		
Breast	57	58
Hematology	42	42
Diagnosis date		
<= 12 months	22	22
> 12 months	77	78
Performance status		
0-1	89	90
2	10	10

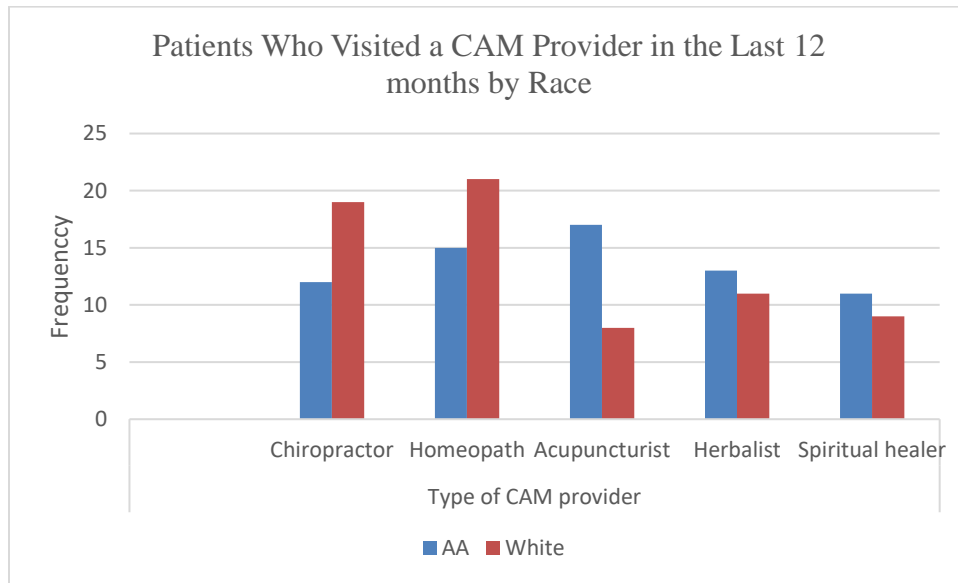
Attitudes Toward CAM Use and Holistic Health Beliefs

The first two hypotheses were that there was a significant difference in attitudes toward CAM and holistic health among African American and White cancer patients. Attitudes toward CAM and holistic health beliefs were assessed for each patient and categorized by race by adding CAM and holistic health (HH) subscale scores from the HCAMQ. The maximum possible total score for the CAM subscale was 36, and maximum possible total score for the HH subscale was 30. Lower scores indicated a more positive attitude towards CAM and HH. The mean CAM subscale score for AA was 18.7 ($SD = 4.10$) and 20.3 ($SD = 4.31$) for White patients. CAM subscale scores were not calculated for two AA participants due to incomplete survey responses. The mean HH subscale score was 8.8 ($SD = 4.21$) for AA and 7.8 ($SD = 1.96$) for White patients. Inferential statistics with an independent t-test was used to determine if there was a difference in the distribution of CAM and HH mean scores between the two races.

Results showed the difference in the distribution between the two means of CAM subscale scores, $t(95) = -1.84$, $p = .07$, and HH subscale scores, $t(66) = 1.46$, $p = .15$, were not statistically significant. Hence, AA and White cancer patients' attitudes toward CAM and its efficacy, and toward the importance of holistic health did not differ. Based on these findings, the researcher failed to reject the null hypothesis (hypotheses 1 and 2).

Type of CAM Providers Visited in the Last 12 Months

The third hypothesis was that there was a significant difference in the types of CAM providers visited by AA and White cancer patients. Figure 1 shows the frequencies of cancer patients who visited each type of CAM provider within the last 12 months by race. Pearson Chi-square statistical test was used to test type of CAM provider visited against race (Table 5).

Figure 1**Table 5**

Pearson Chi-square Test Values for Type of CAM Provider Visited in the Last 12 Months Against Race

Type of CAM provider	N	Degrees of freedom	Chi Square statistic	P value
Chiropractor	98	1	2.75	.10
Homeopath	97	1	3.58	.17
Acupuncturist	97	1	3.65	.06
Herbalist	97	1	.09	.77
Spiritual healer	97	1	.12	.81

Based on Figure 1, White patients preferred to visit chiropractors or homeopathic specialists in the last 12 months while AA patients preferred acupuncturists, herbalists, and spiritual healers. Despite this preference for specific CAM providers, there was not a statistically significant difference between the types of CAM providers last visited by AA and White cancer

patients (Table 5). Based on this finding, the researcher failed to reject the null hypothesis (hypothesis 3).

Reason for Last Having Visited a CAM Provider

The fourth hypothesis was that there was a significant difference in the main reason for last visiting CAM providers among African American and White cancer patients. Table 6 shows the type of CAM provider and the main reason patients by race last visited such provider. Pearson Chi-square was used to test the main reason for last visiting each type of CAM provider within the last 12 months against race (Table 7).

Table 6

Main Reason for Last Visited CAM Provider by Race

CAM provider	Reason for use	African American race	White race
Chiropractor		N=11	N=19
		n (%)	n (%)
	Medical condition	5 (45)	14 (74)
	General well-being	6 (55)	5 (26)
Homeopath		N=15	N=21
		n (%)	n (%)
	Medical condition	7 (47)	12 (57)
	General well-being	8 (53)	9 (43)
Acupuncturist		N=16	N=7
		n (%)	n (%)
	Medical condition	9 (56)	5 (71)
	General well-being	5 (44)	2 (29)
Herbalist		N=13	N=8
		n (%)	n (%)
	Medical condition	9 (69)	4 (50)
	General well-being	4 (31)	4 (50)

CAM provider	Reason for use	African American race	White race
Spiritual healer		N=12	N=8
		n (%)	n (%)
	Medical condition	7 (58)	3 (38)
	General well-being	5 (42)	5 (62)

Table 7

Pearson Chi-square Test Values for Main Reason for Last Visited a CAM Provider Against Race

Type of CAM provider	N	Degrees of freedom	Chi-Square statistic	P value
Chiropractor	30	1	2.39	.24
Homeopath	36	1	.39	.74
Acupuncturist	23	1	.47	.66
Herbalist	21	1	.78	.65
Spiritual healer	20	1	.83	.65

In the last 12 months, the main reason for seeking a specific type of CAM provider included for either general well-being or for a medical condition. AA preferred to seek care from chiropractors and homeopathic specialists for general well-being, but sought care from acupuncturist, herbalist, and spiritual healers for a medical condition. Conversely, White patients preferred chiropractors, homeopathic specialists, and acupuncturist to treat a medical condition, and spiritual healers for general well-being.

When comparing the proportion of patients who sought CAM treatment from a CAM provider and evaluating the main reason for seeking such CAM provider against race, there was no statistically significant difference in the main reason why patients sought CAM providers

(Table 7). Hence, the main reason for seeking CAM providers did not differ between AA and White patients. Therefore, the researcher failed to reject the null hypothesis (hypothesis 4).

CAM Treatments Received

The fifth hypothesis was that there was a significant difference in the types of CAM treatments received between AA and White cancer patients. Figure 2 shows the frequencies of cancer patients who reported having received CAM treatment in the last 12 months by race and type of CAM. Pearson Chi-square was used to test type of CAM treatment received in the last 12 months against race (Table 8).

Figure 2

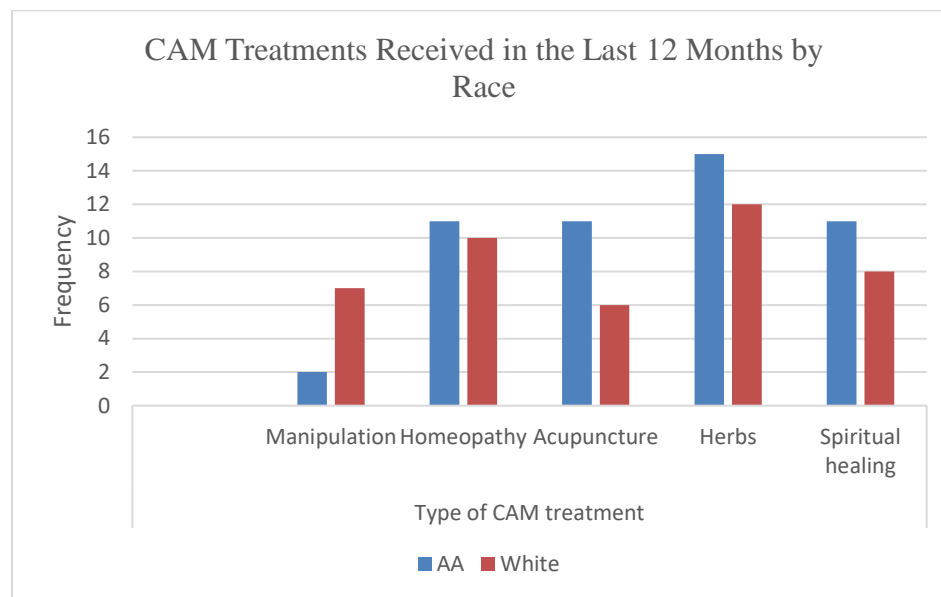


Table 8

Pearson Chi-square Test Values for Each Type of CAM Treatment Received in the Last 12 Months Against Race

Type of CAM treatment	N	Degrees of freedom	Chi-Square statistic	P value
Manipulation	93	1	2.96	.16
Homeopathy	93	1	.09	.76

Type of CAM treatment	N	Degrees of freedom	Chi-Square statistic	P value
Acupuncture	93	1	1.93	.19
Herbal medicine	93	1	.57	.45
Spiritual healing	90	1	.60	.61

Herbal medicine treatment was the most commonly received CAM treatment by both AA and White patients. AA reported receiving more herbal medicine, homeopathy therapy, acupuncture, and spiritual healing, while White patients received more manipulation in the last 12 months (Figure 2). However, the use of different types of CAM treatments did not significantly differ among AA and White patients (Table 8). Therefore, the researcher failed to reject the null hypothesis (hypothesis 5).

Reason for Last Receiving CAM Treatment

The sixth hypothesis was that there was a significant difference in the main reason for using CAM among African American and White cancer patients. Table 9 shows types of CAM treatments and the main reason each patient by race last received treatment. Pearson Chi-square was used to test the main reason for last receiving CAM treatment within the last 12 months against race (Table 10).

Table 9

Reason for Last Receiving Each Type of CAM Treatment by Race

CAM treatment	Reason for use	African American race	White race
Manipulation		N=1 n (%)	N=7 n (%)
	Medical condition	0	4 (57)
	General well-being	1 (100)	3 (43)

CAM treatment	Reason for use	African American race	White race
Homeopathy		N=10	N=10
		n (%)	n (%)
	Medical condition	5 (50)	6 (60)
	General well-being	5 (50)	4 (40)
Acupuncture		N=11	N= 6
		n (%)	n (%)
	Medical condition	6 (55)	3 (50)
	General well-being	5 (45)	3 (50)
Herbal medicine		N=15	N=10
		n (%)	n (%)
	Medical condition	8 (53)	5 (50)
	General well-being	7 (47)	5 (50)
Spiritual healing		N=11	N=7
		n (%)	n (%)
	Medical condition	3 (27)	3 (43)
	General well-being	8 (73)	4 (57)

Table 10

Pearson Chi-square Test Values for the Main Reason for Last Receiving CAM Treatment Received in the Last 12 months Against Race

Type of CAM treatment received	N	Degrees of freedom	Chi-Square statistic	P value
Manipulation	8	1	1.14	1.00
Homeopathy	20	1	.20	1.00
Acupuncture	17	1	.03	1.00
Herbal medicine	25	1	.03	1.00

Type of CAM treatment received	N	Degrees of freedom	Chi-Square statistic	P value
Spiritual healing	18	1	.47	.63

Both AA and Whites reported having last received each type of specific CAM treatment for a medical condition. However, regarding spiritual healing, both AA and White patients reported receiving this type of CAM treatment for a general well-being (Table 9). Therefore, the main reason for last having received CAM treatments in the last 12 months was not statistically significant among AA and White cancer patients (Table 10). The researcher failed to reject the null hypothesis (hypothesis 6).

Use of Self-Help Practices

The seventh hypothesis was that there was a significant difference in the types of self-help practices used among AA and White cancer patients. Figure 3 shows the frequencies of cancer patients who reported having used a self-help practice in the last 12 months. Pearson Chi-square was used to test the type of self-help practice used in the last 12 months against race (Table 11).

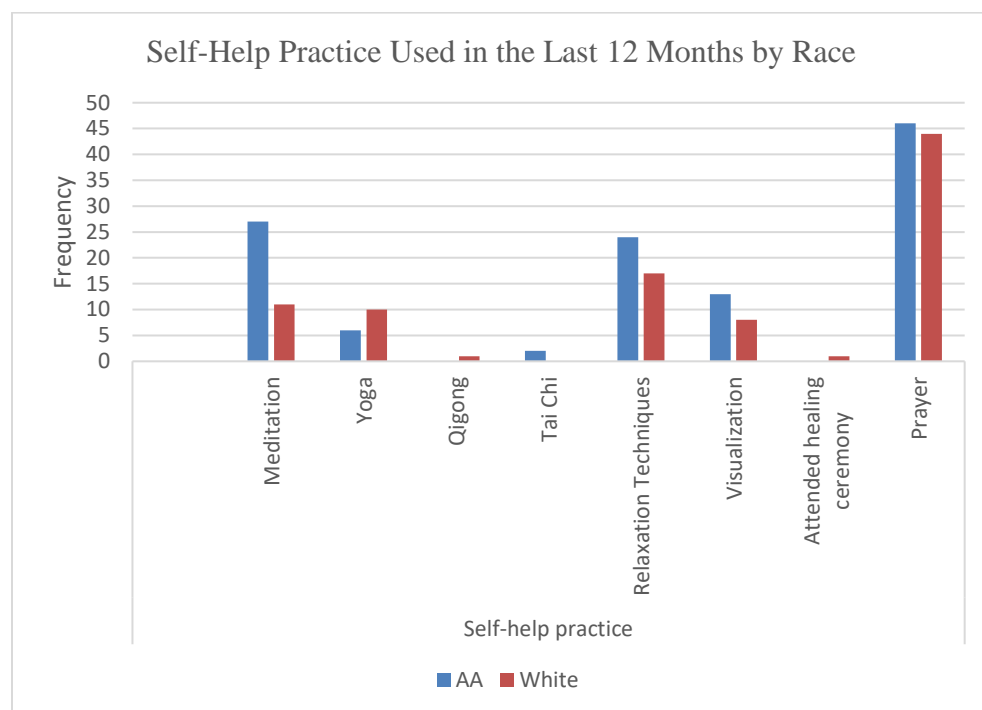
Figure 3

Table 11

Pearson Chi-Square Test Values for Each Type of Self-Help Practice Used in the Last 12 months Against Race

Type of self-help practice	N	Degrees of freedom	Chi-square statistic	P value
Meditation	92	1	8.92	.003
Yoga	92	1	1.43	.28
Qigong	92	2	2.14	.34
Tai Chi	92	1	1.96	.50
Relaxation	92	1	1.64	.20
Visualization	92	1	1.27	.26
Healing Ceremony	92	1	1.06	.49
Prayer	97	1	.18	.72

Prayer, relaxation techniques, yoga, visualization, and meditation were the most commonly used self-help practices in this study. Both AA and White patients used prayer the most. Qigong, Tai Chi, and attending a healing ceremony were the least commonly used self-help practices in both groups. AA were more likely to use a self-help practice with the exception of yoga (Figure 3). The use of meditation significantly differed between AA and White patients such that AA used meditation more frequently in the last 12 months ($p = .003$) (Table 11). Hence, use of self-help practices did differ between AA and White patients. Based on this finding, the researcher rejected the null hypothesis (hypothesis 7).

Reason for Last Use of Self-Help Practice

The eighth and final hypothesis was that there was a significant difference in the main reason for using self-help practices among African American and White cancer patients. Table

12 shows types of self-help practices used and the main reason for use by race. Pearson Chi-square was used to test the main reason for last receiving CAM treatment within the last 12 months against race (Table 13). No statistical analysis was able to be performed for Qi gong (N = 1 White), Tai chi (N = 2 AA), and attending a healing ceremony (N = 2; 1 AA and 1 White) due to a lack of a comparable variable.

Table 12

Main Reason for Last Use of Self-Help Practice by Race

Type of self-help practice	Reason for use	African American race	White race
Meditation		N=26 n (%)	N=11 n (%)
	Medical condition	6 (22)	4 (36)
	General well-being	20 (74)	7 (64)
Yoga		N=6 n (%)	N=9 n (%)
	Medical condition	2 (33)	4 (44)
	General well-being	4 (67)	5 (56)
Relaxation Techniques		N=23 n (%)	N=14 n (%)
	Medical condition	5 (22)	7 (50)
	General well-being	18 (78)	7 (50)
Visualization		N=12 n (%)	N=7 n (%)
	Medical condition	4 (33)	2 (29)
	General well-being	8 (67)	5 (71)
Prayer		N=43 n (%)	N=40 n (%)
	Medical condition	16 (37)	16 (40)
	General well-being	27 (63)	24 (60)

Table 13

Pearson Chi-square Test Values for the Main Reason for Last Using a Self-Help Practice in the Last 12 months Against Race

Type of self-help practice	N	Degrees of freedom	Chi-Square statistic	P value
Meditation	37	1	3.17	.15
Yoga	15	1	.19	1.00
Relaxation	37	1	.69	.44
Visualization	19	1	.05	1.00
Prayer	83	1	.07	.83

More AA and White cancer patients reported the main reason for last use of various self-help practices was for general well-being compared to for a medical condition (Table 12).

Hence, there was not a statistically significant difference in the main reason for last use of a self-help practice among AA and White cancer patients. Thus, AA and White cancer patients did not differ in the main reason for last use of self-help practices (Table 13). Based on this finding, the researcher failed to reject the null hypothesis (hypothesis 8).

Chapter Five

Discussion, Future Research, and Conclusion

Discussion

The purpose of this study was to compare attitudes toward CAM and holistic health beliefs, and to determine the types of CAM providers and treatments used and reasons for use among AA and White cancer patients in an outpatient oncology clinic. The results of this current study suggest that AA and White cancer patients' attitudes toward CAM and its efficacy and holistic health beliefs did not differ. Further, both races had positive attitudes toward CAM and holistic health beliefs. These positive attitudes and holistic health beliefs may have been contributors to the use of CAM as suggested by prior studies. Although this current study did not examine to what extent these attitudes and beliefs impacted CAM use, it did find that a proportion of AA and White cancer patients do seek CAM providers, receive CAM treatments, and use self-help practices during cancer treatment. Moreover, these types of CAM providers, treatments received, and self-help practices used did not differ between AA and White cancer patients. However, of the various types of self-help practices, AA used meditation significantly more than White cancer patients within the last 12 months.

Interestingly, however, the main reason for seeking a CAM provider did differ between AA and White patients. Of those AA who sought chiropractors and homeopaths, they did so for general well-being, whereas more Whites did so for a medical condition. Likewise, AA sought spiritual healers for a medical condition, while more Whites did so for general well-being. Conversely, of the more common CAM providers seen by AA, they reported doing so for a medical condition similar to Whites. However, these differences were not statistically significant.

Similarly, of those patients of both races who reported having received CAM treatment in the last 12 months, the main reason for doing so was consistent with the same reason for last having seen a CAM provider who provided that specific treatment. Lastly, both AA and White patients reported the main reason for utilizing self-help practices was for general well-being. These findings suggest that AA and White patients prefer to seek CAM providers and CAM treatments for different reasons even in the setting of cancer care. However, in regards to self-help practices that are self-directed, both AA and White patients prefer these practices for the same reason.

This current study did not specify for which medical condition patients sought a CAM provider or received CAM. However, of importance, this current study examined CAM use in the setting of a recent cancer diagnosis, which correlated with either having received a cancer treatment or currently receiving treatment. Therefore, it may be extrapolated that the medical condition for which patients sought CAM could have been for cancer or cancer-associated conditions. These findings suggest that CAM use was either initiated or use increased after the cancer diagnosis. This corresponds to previous study findings of increased utilization of CAM in the setting of cancer, and underscores the importance of CAM use by patients as an adjunct to cancer care (Barnett et al., 2003; Hsiao et al., 2006; Mao et al., 2011).

In this current study, several trends were noted regarding the utilization of CAM providers and CAM treatments as several statistical analyses approached statistical significance. For example, upon first glance, there appeared to be a difference between the utilization of CAM providers such as chiropractors, homeopathic specialists, and acupuncturists between AA and White patients. In addition, there also appeared to be a difference in the utilization of acupuncture and manipulation between AA and Whites. Perhaps a larger sample size would have

shown a larger difference in uptake of CAM providers and CAM treatments to have met statistical significance.

Other factors were important in this study. For instance, race, age, and access to CAM, which have been shown to be predictors and influencers of CAM use, were addressed. Regarding race, previous national surveys and studies examining prevalence and types of CAM used examined a predominantly White population. These studies concluded White race was a predictor of CAM use both in the general population and in cancer patients (Bishop & Lewith 2010; Clarke et al., 2015; Garland et al., 2013; Gillium & Griffith, 2010; Kronenberg et al., 2006; Lee et al., 2000; Molassiotis et al., 2005). This current study focused specifically on recruiting AA patients to compare CAM use and types of CAM used to White cancer patients. Results from this study found that AA used all types of CAM, and utilized several types of CAM providers and treatments more than Whites, which contradicted the findings of Kronenberg et al. (2006).

Likewise, similar to findings by Kronenberg et al. (2006), MacKenzie et al. (2003), Shrive (2006), Bishop and Lewith (2010), and Clarke et al. (2015), this current study also found ethnic-specific CAM. AA in particular had increased use of meditation, herbs, and prayer in this current study, and these findings were consistent with other studies (Barnett et al., 2010; Barrett et al., 2003; Cuellar et al., 2005; Jones et al., 2018; Lee et al., 2000; MacKenzie et al., 2013; Molassiotis et al., 2003). Of significance, White patients also tended to use herbs and prayer more frequently than other types of CAM. These findings highlight that both AA and White patients tend to utilize herbs and prayer during cancer treatment. As a result, it is imperative to continue to research the safety of concomitant use of herbs with cancer therapy. It is also important for the healthcare team to be aware of the impact of spiritual health and well-being for cancer

patients as this study points out how positive attitudes towards CAM and holistic health can affect CAM use.

In other studies, examining other sociodemographic factors such as age on CAM use, older AA (> 60 years) were more likely to use CAM compared to younger AA (Barnett et al., 2003; Cui et al., 2012). This current study population consisted predominantly of female breast cancer patients. Breast cancer patients have been shown to use CAM more than other cancer types. According to Surveillance, Epidemiology, and End Results data, the median age of breast cancer is 55-64 years, which was similar to this study population (National Cancer Institute, 2020). However, in this study, the age range was wide. Therefore, this current study found that age was independent of CAM use, and that both AA and White patients of all ages used some form of CAM.

Access to CAM was also a contributing factor as this study was conducted in a comprehensive cancer center that utilizes integrated medicine. The extent of impact of this access on patient utilization of CAM was unknown in this current study. However, access may have increased patient knowledge and utilization of CAM. Specifically, the cancer facility utilized naturopathic physicians, who prescribe naturopathic medicine such as herbs and supplements, and pastoral support. This may have contributed to the increased use of herbal medicine and prayer in this current study.

Limitations

There were several limitations to this study. First, participants were asked to recall use of CAM within the preceding 12 months. As a cancer diagnosis and receiving chemotherapy is a stressful time, the ability to recall specific information regarding degree of CAM use may have been hindered and impacted accuracy of survey responses. Likewise, patients were asked to

complete the surveys either prior to or after their healthcare provider visit. This may have impacted accuracy due to anxiety or other psychological distress associated with the visit.

Another limitation is related to the surveys themselves. When validating the HCAMQ, the authors did not find a difference between the conventional group who did not use CAM and the CAM group regarding holistic health beliefs. The lack of difference between the two groups regarding holistic health contradicted the concept that holistic health beliefs affect decision to use CAM. Therefore, by using this questionnaire, this study did not correlate CAM and HH subscale scores with extent or duration of CAM use. Moreover, when completing the I-CAM-Q, several respondents failed to answer portions of the questions, which reduced response rates. Finally, a small sample size was another limitation that reduces the generalizability of the study findings.

Delimitations

One delimitation for this study included the researcher using convenience sampling to recruit participants. Second, patients were selected from one practice that focused solely on the treatment for breast cancer and hematologic malignancies. Therefore, the variation of cancer diagnoses was limited, which may impact generalizability of the results to all cancer types. Lastly, this practice was selected because the researcher previously worked within the practice, which enhanced access to the study population.

Future Research

This current study confirms that cancer patients utilize all types of CAM during or after cancer treatment regardless of race. As a result, more research is needed to assess the safety and efficacy of CAM, and to examine the attitudes and practices of healthcare providers regarding integration of CAM into cancer care. Potential lack of knowledge of CAM by healthcare

providers coupled with the lack of evidence regarding safety and efficacy of CAM may be barriers to inclusion in cancer care by providers. However, because several studies including this one have shown that use is common by patients undergoing cancer treatment, it is important to further research to prevent patients' risk of harm.

Moreover, further studies should explore how physicians' assumptions regarding CAM impact their decision to recommend CAM based on these assumptions and a patient's ethnicity/race. Such assumptions need to be better understood to determine how CAM use is approached from a healthcare provider perspective. Also, since disclosure of use is impacted by the race of the patient and healthcare provider, understanding the healthcare providers' perception of CAM may bridge the gap between patient and provider to increase trust, which is often a barrier for AA.

Conclusion

The use of CAM and visiting CAM providers during cancer treatment did not differ between AA and White cancer patients in this study. However, AA did use meditation significantly more than White cancer patients. In addition, attitudes toward CAM and its efficacy and holistic health beliefs did not differ between AA and White cancer patients. However, this study did find ethnic-specific CAM, but also noted an increased use of herbs and prayer by both AA and White cancer patients.

Literature is vast regarding CAM use in White adults, but this study focused on a comparison of CAM utilization between AA and Whites. It further focused on a specific population, cancer patients either recently or currently undergoing cancer treatment, to draw attention to this group due to issues of concern with safety and efficacy of such therapies when used in conjunction with cancer treatment. Since safety and efficacy of these therapies in the

setting of cancer treatment remains largely unknown and non-disclosure of CAM use is common, it will be important for healthcare providers to initiate conversations with patients regarding the use of CAM. Moreover, the need for cultural competency is key within the healthcare system; therefore, understanding who uses CAM and for what reasons is paramount to enhance safety and promote patient-centered care.

Finally, findings from this study may encourage healthcare providers to increase their knowledge regarding CAM and collaborate with CAM providers to provide multidisciplinary care. Such collaboration will help better meet the needs of the patient based on their beliefs and preferred practices. As a result, more healthcare providers may consider safely integrating CAM into cancer care.

References

- Abuelgasim, K. A., Alsharhan, Y., Alenzi, T., Alhazzani, A., Ali, Y. Z., & Jazieh, A. R. (2018). The use of complementary and alternative medicine by patients with cancer: a cross-sectional survey in Saudi Arabia. *BMC Complementary and Alternative Medicine*, 18(1), 88. doi.org/10.1186/s12906-018-2150-8
- Adams, M. & Jewell, A. P. (2007). The use of complementary and alternative medicine by cancer patients. *International Seminars in Surgical Oncology* (Vol. 4, No. 1, p.10). BioMed Central. doi:10.1186/1477-7800-4-10
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision*, 50(2), 179-211. doi.org/10.1016/0749-5978(91)90020-T
- Ajzen I. (2011). The theory of planned behaviour: Reactions and reflections. *Psychology Health*, 26, 1113-1127.
- Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care: Does it matter? *Journal of Health and Social Behavior*, 1-10.
- Andersen, R. M. (1968). *A behavioral model of families' use of health services*. Centre for Administration Studies: University of Chicago.
- Arcury, T. A., Bell, R. A., Vitolins, M. Z., & Quandt, S. A. (2005). Rural older adults' beliefs and behavior related to complementary and alternative medicine use. *Complementary Health Practice Review*, 10(1), 33-44. doi:10.1177/1533210105274453
- Arthur, K., Belliard, J. C., Hardin, S. B., Knecht, K., Chen, C., & Montgomery, S. (2012). Practices, attitudes, and beliefs associated with complementary and alternative medicine (CAM) use among cancer patients. *Integrative Cancer Therapies*, 11(3), 232-242. doi:10.1177/1534735411433832

Artiga, S., & Orgera, K. (2019). *Key facts on health and health care by race and ethnicity*.

Kaiser Family Foundation. Retrieved March 30, 2020, from

<https://www.kff.org/disparities-policy/report/key-facts-on-health-and-health-care-by-race-and-ethnicity/>

Astin, J. A. (1998). Why patients use alternative medicine: Results of a national study. *Journal of American Medical Association*, 279, 1548-1553.

Barner, J. C., Bohman, T. M., Brown, C. M., & Richards, K. M. (2010). Use of complementary and alternative medicine (CAM) for treatment among African Americans: A multivariate analysis. *Research in Social Administrative Pharmacy*, 6(3), 196-208.

doi:10.1016/j.sapharm.2009.08.001

Barnett, M. C., Cotroneo, M., Purnell, J., Martin, D., Mackenzie, E., & Fishman, A. (2003). Use of CAM in local African-American communities: Community-partnered research. *Journal of the National Medical Association*, 95(10), 943.

Bauml, J. M., Chokshi, S., Schapira, M. M., Im, E., Li, S. Q., Langer, C. J., Ibrahim, S. A., & Mao, J. J. (2015). Do attitudes and beliefs regarding complementary and alternative medicine impact its use among patients with cancer? A cross-sectional survey. *Cancer*, 121(14), 2431-2438. doi:10.1002/cncr.29173

Bishop, F. L., & Lewith, G. T. (2010). Who uses CAM? A narrative review of demographic characteristics and health factors associated with CAM use. *Evidence-Based Complementary and Alternative Medicine*, 7(1), 11-28. doi:10.1093/ecam/nen023

Boon, H. S., Olatunde, F., & Zick, S. M. (2007) Trends in complementary/alternative medicine use by breast cancer survivors: Comparing survey data from 1998 and 2005. *BMC Women's Health*, 7(4). doi:org/10.1186/1472-9874-7-4

- Bright-Ghebry, M., Makambi, K. H., Rohan, J. P., Llanos, A., Rosenberg, L., Palmer, J. R., & Adams-Campbell, L. L. (2011). Use of multivitamins, folic acid and herbal supplements among breast cancer survivors: The black women's health study. *BMC Complementary and Alternative Medicine*, 11(1), 30.
- Buckner, C. A., Lafrenie, R. M., Denommee, J. A., Caswell, J. M., & Want, D. A. (2018). Complementary and alternative medicine use in patients before and after a cancer diagnosis. *Current Oncology*, 25(4), e275-e281.
- Campesino, M., & Koithan, M. (2010). Complementary therapy use among racial/ethnic groups. *Journal Nursing Practice*, 6(8), 647-648. doi:10.1016/j.nurpra.2010.05.001
- Centers for Disease Control and Prevention. (2018). *U. S. cancer statistics working group. U. S. Cancer Statistics Data Visualizations Tool, based on November 2018 submission data (1999-2016)*. U. S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute. Retrieved January 26, 2020, from <https://gis.cdc.gov/Cancer/USCS/DataViz.htm>
- Centers for Disease Control and Prevention. (2020). *Cancer incidence among African Americans, United States—2007–2016*. USCS Data Brief, no. 15. Atlanta, GA: Centers for Disease Control and Prevention, US Department of Health and Human Services. Retrieved from <https://www.cdc.gov/cancer/uscs/about/data-briefs/no15-cancer-incidence-African-Americans-2007-2016.htm>
- Chang, K. H., Brodie, R., Choong, M. A., Sweeney, K. J., & Kerin, M. J. (2011). Complementary and alternative medicine use in oncology: A questionnaire survey of patients and health care professionals. *BMC Cancer*, 11(1), 196

- Chao, M. T., Wade, C., & Kronenberg, F. (2008). Disclosure of complementary and alternative medicine to conventional medical providers: Variation by race/ethnicity and type of CAM. *Journal of the National Medical Association, 100*(11), 1341-1349.
- Clarke, T. C. (2018). The use of complementary health approaches among US adults with a recent cancer diagnosis. *Journal of Alternative and Complementary Medicine, 24*(2), 139-145.
- Clarke, T. C., Black, L. I., Stussman, B. J., Barnes, P. M., & Nahin, R. L. (2015). Trends in the use of complementary health approaches among adults: United States, 2002-2012. *National Health Statistics Reports, 79*, 1-9.
- Clarke, T. C., Barnes, P. M., Black, L. I., Stussman, B. J., & Nahin, R. L. (2018). *Use of yoga, meditation, and chiropractors among U.S. adults aged 18 and over*. NCHS Data Brief, no 325. Hyattsville, MD: National Center for Health Statistics. Retrieved from <https://www.cdc.gov/nchs/data/databriefs/db325-h.pdf>
- Cuellar, N., Aycock, T., Cahill, B., & Ford, J. (2003). Complementary and alternative medicine (CAM) use by African American and Caucasian American older adults in a rural setting: A descriptive comparative study. *BMC Complementary and Alternative Medicine, 3*(1), 1-7.
- Cui, Y., Hargreaves, M. K., Shu, X., Liu, J., Kenerson, D. M., Signorello, L. B., & Blot, W. J. (2012). Prevalence and correlates of complementary and alternative medicine service use in low-income African Americans and Whites: A report from the Southern Community Cohort Study. *Journal of Alternative and Complementary Medicine, 18*(9), 844-849.
doi:10.1089/acm.2011.0363

- Eisenberg, D. M., Davis, R. B., Ettner, S. I., Appel, S., Wilkey, S., Van Rompay, M., & Kessler, R. C. (1998). Trends in alternative medicine use in the United States, 1990-1997: Results of a follow-up national survey. *Journal of American Medical Association*, 280(18), 1569-1575.
- Eisenberg, D. M., Kessler, R. C., Foster, C. Norlock, F. E., Calkins, D. R., & Delbanco, T. L. (1993). Unconventional medicine in the United States—prevalence, costs, and patterns of use. *New England Journal of Medicine*, 328(4), 246-252.
- Farahani, A. S., Salmani, N., Khoshnazar, T. A. S. K., Karami, M., Hatamipour, K., Yazdani, S., Pourzarhagh, P., & Rassouli, M. (2019). The perspective of cancer patients on the use of complementary medicine. *International Journal of Cancer Management*, 12(2), e89916. doi:10.5812/ijcm.89916
- Farooqui, M. (2017). Complementary and alternative medicine (CAM) use among cancer patients: An overview and the decision making. *Alternative Integrative Medicine*, 6, 4. doi:10.4172/2327-5162.1000253
- Harley, D. A. (2006). Indigenous healing practices among rural elderly African Americans. *International Journal of Disability, Development and Education*, 53(4), 443-452. doi:10.1080/10349120601008605
- Garland, S. N., Valentine, D., Desai, K., Li, S. Langer, C., Evans, T., & Mao, J. J. (2013). Complementary and alternative medicine use and benefit finding among cancer patients. *Journal of Alternative and Complementary Medicine*, 19(11), 876-881.
- Gillium F., & Griffith, D. M. (2010). Prayer and spiritual practices for health reasons among Americans adults: The role of race and ethnicity. *Journal of Religion and Health*, 49(3), 283-295.

- Henderson, J., & Donatelle, R. J. (2003). The relationship between cancer locus of control and complementary and alternative medicine use by women diagnosed with breast cancer. *Psycho-oncology*, 12, 59-69. doi:10.1002/pon.636
- Hirai, K., Komura, K., Tokoro, A., Kuromaru, T., Ohshima, A., Ito, T. Sumiyoshi, Y., & Hyodo, I. (2008). Psychological and behavioral mechanisms influencing the use of complementary and alternative medicine (CAM) in cancer patients. *Annals of Oncology*, 19(1), 49-55.
- Horneber, M., Bueschel, G., Dennert, G., Less, D., Ritter, E., & Zwahlen, M. (2012). How many cancer patients use complementary and alternative medicine: A systematic review and meta-analysis. *Integrative Cancer Therapies*, 11(3), 187-203. doi:10.1177/1534735411423920
- Hsiao, A. F., Wong, M. D., Goldstein, M. S., Yu, H., Andersen, R. M., Brown, R., Becerra, L. M., & Wenger, N. S. (2006). Variation in complementary and alternative medicine (CAM) use across racial/ethnic groups and the development of ethnic-specific measures of CAM use. *Journal of Alternative & Complementary Medicine*, 12(3), 281-290.
- Hyland, M. E., Lewith, G. T., & Westoby, C. (2003). Developing a measure of attitudes: The holistic complementary and alternative medicine questionnaire. *Complementary Therapies in Medicine*, 11(1), 33-38. doi.org/10.13072/midss.82
- Jermi, M., Dubois, J., Rodondi, P., Zaman, K., Buclin, T., Csajka, C., Orcurto, A., & Rothuizen, L. E. (2019). Complimentary medicine use during cancer treatment and potential herb-drug interactions from a cross sectional study in an academic centre. *Scientific Reports*, 9(1), 1-11. doi.org/10.1038/s41598-019-41532-3

John, G. M., Hershman, D. L., Falci, L., Shi, Z., Tsai, W., & Greenlee, H. (2016).

Complementary and alternative medicine use among US cancer survivors. *Journal of Cancer Survivors*, 10(5), 850-864.

Jones, D., Cohen, L., Rieber, A., Urbauer, D., Fellman, B., Fisch, M., & Nazario, A. (2018).

Complementary and alternative medicine use in minority and medically underserved oncology patients: Assessment and implications. *Integrative Cancer Therapies*, 17(2), 371-379. doi:10.1177/1534735417735892

Jones, R. A., Taylor, A., G., Bourguignon, C., Steeves, R., Fraser, G., Lippert, M., Theodorescu,

D., Mathews, H., & Kilbridge, K. L. (2007). Complementary and alternative medicine modality use and beliefs among African American prostate cancer survivors. *Oncology Nursing Forum*, 34(2), 359. NIH Public Access.

Kronenberg, F., Cushman, L. F., Wade, C. M., Kalmuss, D., & Chao, M. T. (2006).

Race/ethnicity and women's use of complementary and alternative medicine in the United States: Results of a national survey. *American Journal of Public Health*, 96(7), 1236-1242.

Kwon, J. H., Lee, S., Lee, M. A., Kang, J. H., Kim, J. Y., Lee, H. J., Bae, W. K., Kim, M., Chie.,

E. K., Kim, J., Kim, Y. H., Chung, H. C., & Rha, S. Y. (2019). Behaviors and attitudes toward the use of complementary and alternative medicine among Korean cancer patients. *Cancer Research Treatment*, 51(3), 851-860. doi.org/10.1413/crt.2019.137

Lee, M. M., Lin, S. S., Wensch, M. R., Adler, S. R., & Eisenberg, D. (2000). Alternative

therapies used by women with breast cancer in four ethnic populations. *Journal of the National Cancer Institute*, 92(1), 42-47.

- Lorenc, A., Ilan-Clarke, Y., Robinson, N., & Blair, M. (2009). How parents choose to use CAM: A systematic review of theoretical models. *BMC Complementary and Alternative Medicine* 9(1), 9. doi.org/10.1186/1472-6882-9-9
- Mackenzie, E. R., Taylor, L., Bloom, B. S., Hufford, D. J., & Johnson, J. C. (2003). Ethnic minority use of complementary and alternative medicine (CAM): A national probability survey of CAM utilizers. *Alternative Therapies in Health and Medicine*, 9(4), 50-57.
- Mao, J. J., Farrar, J. T., Xie, S. X., Bowman, M. A., & Armstrong, K. (2007). Use of complementary and alternative medicine and prayer among a national sample of cancer survivors compared to other populations without cancer. *Complementary Therapies in Medicine*, 15(1), 21-29.
- Mao, J. J., Palmer, C., Healy, K., Desai, K., & Amsterdam, J. (2011). Complementary and alternative medicine use among cancer survivors: A population-based study. *Journal Cancer Survivorship*, 5(1), 8-17. doi:10.1007/s11764-010-0153-7
- McFadden, K. L., Hernandez, T. D., & Ito, T. A. (2010). Attitudes toward complementary and alternative medicine influence its use. *Explore*, 6(6), 380-388. doi:10.1016/j.explore.2010.08.004
- Molassiotis, A., Fernandez-Ortega, P., Pud, D., Ozden, G., Scott, J. A., Panteli, V., Marguiles, A., Browall, M., Magri, M., Selvekerova, S., Madsen, E., Milovics, L., Bruyns, I., Gudmundsdottir, G., Hummerston, S., Ahmad, A. M., Platin, N., Kearney, N., & Patiraki, E. (2005). Use of complementary and alternative medicine in cancer patients: A European survey. *Annals of Oncology*, 16, 655-663. doi:10.1093/annonc/mdi110
- Nahin, R., Barnes, P. M., & Stussman, B. J. (2016). Expenditures on complementary health approaches: United States, 2012.

National Cancer Institute. Surveillance, Epidemiology, and End Results Program. (2019).

Cancer stat facts: Cancer of any site. Retrieved from

<https://seer.cancer.gov/statfacts/html/all.html>

National Cancer Institute. Surveillance, Epidemiology, and End Results Program. (2020).

Cancer stat facts: Female breast cancer. Retrieved from

<https://seer.cancer.gov/statfacts/html/breast.html>

National Center for Complementary and Integrative Health. (2017). *About NCCIH.* Retrieved

from <https://nccih.nih.gov/about>

National Center for Complementary and Integrative Health. (2018). *Complementary, alternative, or integrative health: What's in a name?* Retrieved from

<https://nccih.nih.gov/health/integrative-health>

Pan, H. Walker, G. V. Grant, S. R., Allen, P. K., Jiang, J., Guadagnolo, B. A., Smith, B. D., Koshy, M., Rusthoven, C. G., & Mahmood, U. (2017). Insurance status and racial disparities in cancer specific mortality in the United States: A population-based analysis. *Cancer Epidemiology and Prevention Biomarkers*, 26(6), 869-875. doi:10.1158/1055-9965.EPI-16-0976

Paul, M., Davey, B., Senf, B., Stoll, C., Munstedt, K., Mucke, R., Micke, O., Prott, F. J., & Huber, J. (2013). Patients with advanced cancer and their usage of complementary and alternative medicine. *Journal of Cancer Research and Clinical Oncology*, 139(9), 1515-1522.

Penner, L. A., Dovidio, J. F., Hagiwara, N., Foster, T., Albrecht, T. L., Chapman, R. A., & Eggly, S. (2016). An analysis of race-related attitudes and beliefs in black cancer

- patients: Implications for health care disparities. *Journal of Health Care for the Poor and Underserved*, 27(23), 1503.
- Quandt, S. A., Verhoef, M. J., Arcury, T. A., Lewith, G. T., Steinsbekk, A., Kistofferen, A. E., Wahner-Roedler, D. L., & Fonnebo, V. (2009). Development of an international questionnaire to measure use of complementary and alternative medicine (I-CAM-Q). *Journal of Alternative and Complimentary Medicine*, 15(4), 331-339.
doi:10.1089/acm.2008.0521
- Robinson, A., Chesters, J., & Cooper, S. (2007). People's choice: Complementary and alternative medicine modalities. *Complementary Health Practice Review*, 12(2), 99-119.
doi:10.1177/1533210107302436
- Schernhammer, E. S., Haidinger, G., Waldhor, T. & Vutuc, C. (2009). Attitudes about the use of complementary and alternative medicine in cancer treatment. *Journal of Alternative and Complementary Medicine*, 15(10), 115-1120. doi:10.1089/am.2009.0083
- Shippee, T. P., Schafer, M. H., & Ferraro, K. F. (2012). Beyond the barriers: Racial discrimination and use of complementary and alternative medicine among Black Americans. *Social Science Medicine*, 74(8), 115-1162.
doi:10.1016/j.socscimed.2012.01.003
- Shive, S. E., Ma, G., X., Tan, Y., Toubbeh, J. I., Parameswaran, L., & Halowich, J. (2006). Racial differences in preventive and complementary health behaviors and attitudes. *Journal of Health Disparities Research and Practice*, 1(1), 75-92.
- Singh, G. K., & Jemal, A. (2017). Socioeconomic and racial/ethnic disparities in cancer mortality, incidence, and survival in the United States, 1950-2014: Over six decades of

- changing patterns and widening inequalities. *Journal of Environmental and Public Health*, 2017.
- The Institute For Functional Medicine. (2020). *Functional medicine determines how and why illness occurs and restores health by addressing the root causes of disease for each individual*. Retrieved from <https://www.ifm.org/functional-medicine/>
- Tolbert, J., Orgera, K., Singer, N., & Damico, A. (2019). *Key facts about the uninsured population*. Henry J. Kaiser Family Foundation Issue Brief. Retrieved from <https://www.kff.org/uninsured/issue-brief/key-facts-about-the-uninsured-population/>
- Vidal, M., Carvalho, C., & Bispo, R. (2013). Use of complementary and alternative medicine in a sample of women with breast cancer. *Sage Open*, 3(3), 2158244013502497.
- Wallston, K. A. (1992). Hocus-pocus, the focus isn't strictly on the locus: Rotter's social learning theory modified for health. *Cognitive Therapy and Research*, 16(2): 183-199. doi:10.1007/BF01173488
- Yoon, S. L. , Horne, C. H., & Adams, C. (2004). Herbal product use by African American older women. *Clinical Nursing Research*, 13(4), 271-288. doi:10.177/1054773804267877
- Yeung, K. S., Gubili, J., & Mao, J. J. (2018). Herb-drug interactions in cancer care. *Oncology*, 32(10).

Appendix A

Holistic Complementary and Alternative Medicine Questionnaire (HCAMQ)

(see next page)

Holistic Complementary and Alternative Health Questionnaire

Listed below are a number of statements concerning your health and complementary medicine. Please decide to what extent you agree or disagree with each statement. For each statement you should circle the number that corresponds most closely to your own view. There are no right or wrong answers. **Please do not leave out any statements.**

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Mildly agree</i>	<i>Mildly disagree</i>	<i>Disagree</i>	<i>Strongly disagree</i>
1 Positive thinking can help you fight off a minor illness	1	2	3	4	5	6
2 Complementary medicine should be subject to more scientific testing before it can be accepted by conventional doctors	1	2	3	4	5	6
3 When people are stressed it is important that they are careful about other aspects of their lifestyle (e.g. healthy eating) as their body already has enough to cope with	1	2	3	4	5	6
4 Complementary medicine can be dangerous in that it may prevent people getting proper treatment	1	2	3	4	5	6
5 The symptoms of an illness can be made worse by depression	1	2	3	4	5	6
6 Complementary medicine should only be used as a last resort when conventional medicine has nothing to offer	1	2	3	4	5	6
7 If a person experiences a series of stressful life events they are likely to become ill	1	2	3	4	5	6
8 It is worthwhile trying complementary medicine before going to the doctor	1	2	3	4	5	6
9 Complementary medicine should only be used for minor ailments and not for the treatment of more serious illness	1	2	3	4	5	6
10 It is important to find a balance between work and relaxation in order to stay healthy	1	2	3	4	5	6
11 Complementary medicine builds up the body's own defences, so leading to a permanent cure	1	2	3	4	5	6

Scoring of the Holistic Complementary and Alternative Health Questionnaire (HCAMQ)

The total score is obtained by adding up over all 11 questions the numbers shown in the following table. The CAM subscale is obtained by adding up over the six CAM items (labelled in the table) and the HH subscale by adding up over the five HH items (labelled in the table). A lower score indicates a more positive attitude towards CAM and HH.

<i>Item number 4 type</i>	<i>Strongly agree</i>	<i>Agree</i>	<i>Mildly agree</i>	<i>Mildly disagree</i>	<i>Disagree</i>	<i>Strongly disagree</i>
1 HH	1	2	3	4	5	6
2 CAM	6	5	4	3	2	1
3 HH	1	2	3	4	5	6
4 CAM	6	5	4	3	2	1
5 HH	1	2	3	4	5	6
6 CAM	6	5	4	3	2	1
7 HH	1	2	3	4	5	6
8 CAM	1	2	3	4	5	6
9 CAM	6	5	4	3	2	1
10 HH	1	2	3	4	5	6
11 CAM	1	2	3	4	5	6

Appendix B

International and Alternative Medicine Questionnaire (I-CAM-Q)

CNAFKAM International CAM Questionnaire (I-CAM-Q):

**RECOMMENDED FOR USE IN STUDIES OF
COMPLEMENTARY AND ALTERNATIVE MEDICINE (CAM) --
Self-Administered Version**

1. **Visiting health care providers:** Health problems may be attended to by a variety of complementary and conventional health care providers.

Have you seen any of the following providers in the last 12 months?	Yes No		Number of times you saw this provider in the last 3 months?	Please indicate the <u>main</u> reason you <u>last</u> saw the provider (Check only <i>one</i>).				How helpful was it for you to see this provider? (Check only <i>one</i>)			
				For an acute illness/condition, one that lasted less than one month	To treat a long-term health condition (one that lasted more than one month) or its symptoms	To improve well-being	Other (Please specify the other reason)	Very	Somewhat	Not at all	Don't know
Physician	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chiropractor	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Homeopath	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Acupuncturist	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Herbalist	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spiritual healer	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Specified option: _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Have you seen any of the following providers in the last 12 months?	Yes No	Number of times you saw this provider in the last 3 months?	Please indicate the <u>main</u> reason you <u>last</u> saw the provider (Check only one).				How helpful was it for you to see this provider? (Check only one)			
			For an acute illness/condition, one that lasted less than one month	To treat a long-term health condition (one that lasted more than one month) or its symptoms	To improve well-being	Other (Please specify the other reason)	Very	Somewhat	Not at all	Don't know
Other (please specify): _____	<input type="checkbox"/> <input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify): _____	<input type="checkbox"/> <input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Complementary treatments received from physicians (MDs)

If you have **not** seen a physician in the past 12 months, please go to question 3.

Some physicians provide complementary, as well as conventional treatments

Have you received any of the following complementary treatments from a physician in the last 12 months?	Yes No		Number of times you received this treatment in the last 3 months?	Please indicate the <u>main</u> reason you <u>last</u> received this treatment (Check only one).				How helpful was it to receive treatment from the physician? (Check only one)			
				For an acute illness/condition, one that lasted less than one month	To treat a long-term health condition (one that lasted more than one month) or its symptoms	To improve well-being	Other (Please specify the other reason)	Very	Somewhat	Not at all	Don't know
Manipulation	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Homeopathy	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Acupuncture	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Herbs	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spiritual healing	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Specified option: _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify): _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Use of Herbal Medicine and Dietary Supplements, including tablets, capsules and liquids.

For each category below, please list up to three products you have used in the last 12 months.	Do you currently use this product? Yes No	Please indicate the <u>main</u> reason that applies to your <u>last</u> use (Check only one).				How helpful did you find this product? (Check only one)
		For an acute illness/condition, one that lasted less than one month	To treat a long-term health condition (one that lasted more than one month) or its symptoms	To improve well-being	Other (Please specify)	Very Somewhat Not at all Don't know
Herbs/Herbal Medicine						
_____	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
_____	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
_____	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Vitamins/Minerals						
_____	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
_____	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
_____	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Homeopathic remedies						
_____	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
_____	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
_____	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Other Supplements						
_____	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
_____	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

For each category below, please list up to three products you have used in the last 12 months.	Do you <u>currently</u> use this product?		Please indicate the <u>main</u> reason that applies to your <u>last</u> use (Check only one).				How helpful did you find this product? (Check only one)			
	Yes	No	For an acute illness/condition, one that lasted less than one month	To treat a long-term health condition (one that lasted more than one month) or its symptoms	To improve well-being	Other (Please specify)	Very	Somewhat	Not at all	Don't know
<div></div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<div></div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Self Help Practices

Have you used any of the following self-help practices in the last 12 months?	Yes No	Number of times you used this practice in the last 3 months?	Please indicate the <u>main</u> reason that applies to your <u>last</u> use of the self-help practice (Check only one).				How helpful did you find this self-help practice? (Check only one)			
			For an acute illness/condition, one that lasted less than one month	To treat a long-term health condition (one that lasted more than one month) or its symptoms	To improve well-being	Other (Please specify the other reason)	Very	Somewhat	Not at all	Don't know
Meditation	<input type="checkbox"/> <input type="checkbox"/>	____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Yoga	<input type="checkbox"/> <input type="checkbox"/>	____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Qigong	<input type="checkbox"/> <input type="checkbox"/>	____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tai Chi	<input type="checkbox"/> <input type="checkbox"/>	____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relaxation techniques	<input type="checkbox"/> <input type="checkbox"/>	____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visualization	<input type="checkbox"/> <input type="checkbox"/>	____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Attended traditional healing ceremony	<input type="checkbox"/> <input type="checkbox"/>	____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Praying for own health	<input type="checkbox"/> <input type="checkbox"/>	____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Specified option: _____	<input type="checkbox"/> <input type="checkbox"/>	____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify): _____	<input type="checkbox"/> <input type="checkbox"/>	____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix C

Permission to Use HCAM-Q

From: soroberson@aol.com <soroberson@aol.com>
Sent: 15 February 2020 22:19
To: Michael Hyland <M.Hyland@plymouth.ac.uk>
Subject: Request to use the HCAMQ

Greetings Dr. Hyland,

My name is Soonja Sawyer, and I am currently enrolled in the Doctor of Health Sciences program at Radford University in Radford, Virginia. As part of the program requirements, I am completing a capstone project evaluating differences in the beliefs and use of complementary and alternative medicine among Caucasian and African American cancer patients.

I would like to use the Holistic Complimentary and Alternative Health Questionnaire (HCAMQ) as a survey instrument for this project at the cancer center in which I am employed. Our center is an integrative medicine cancer facility; therefore, the information obtained from my study may help guide our clinical practice and improve our integrative medicine programs.

Do you have any objections to me using the HCAMQ?

Thank you,
 Soonja

To: soroberson@aol.com <soroberson@aol.com>
 Sent: Sun, Feb 16, 2020 2:16 pm
 Subject: RE: Request to use the HCAMQ

Dear Soonja

Of course you can use it – it is free for all to use. Thank you for asking. It isn't necessary but the fact that you have done so has an advantage. If you read your email carefully you will see you have spelled Complimentary and Complementary

So I can give you additional advice: Take care to get it right!

J

Good luck with your work

Michael

Michael E. Hyland PhD CPsychol FBPS
 Professor of Health Psychology, Plymouth Marjon University and Honorary Professor, University of Plymouth
 Websites
 General: <https://www.plymouth.ac.uk/staff/michael-hyland>
 General Research: <http://www.psy.plymouth.ac.uk/research/mhyland/>
 Respiratory: www.saq.org.uk www.linq.org.uk
 Body reprogramming: www.bodyreprogramming.org

Appendix D

Permission to Use I-CAM-Q

✉ soroberson (soroberson@aol.com)

Sat, Feb 15, 2020 4:54 pm

To: squandt Details ▾

Greetings Dr. Quandt,

My name is Soonja Sawyer, and I am currently enrolled in the Doctor of Health Sciences program at Radford University in Radford, Virginia. As part of the program requirements, I am completing a capstone project evaluating differences in the beliefs and use of complementary and alternative medicine among Caucasian and African American cancer patients.

I would like to use the International Complementary and Alternative Medicine questionnaire (I-CAM-Q) as a survey instrument for this project at the cancer center in which I am employed. Our center is an integrative medicine cancer facility; therefore, the information obtained from my study may help guide our clinical practice and improve our integrative medicine programs.

Do you have any objections to me using the I-CAM-Q?

Thank you,
Soonja

✉ Sara A. Quandt (squandt@wakehealth.edu)

Tue, Feb 18, 2020 9:24 am

To: you Details ▾

I-CAM-Q.doc (162 KB)

I-CAM-Q Interviewer administer...doc (199 KB)

Soonja,

You are most welcome to use the I-CAM-Q. Please give credit in any publications. I have attached word versions of the questionnaire for your use.

Sara A. Quandt, PhD
Professor
Department of Epidemiology and Prevention
Division of Public Health Sciences
Wake Forest School of Medicine
Medical Center Boulevard
Winston-Salem, North Carolina 27157-1063
(336) 716-6015; fax (336) 713-4300
e-mail: squandt@wakehealth.edu

Appendix E

Instrument Variables and Coding for HCAMQ and I-CAM-Q

Table 1: Instrument Variables and Coding for HCAMQ

HCAMQ Codebook			
Question	Variables	Values	Data Type
1: Positive thinking can help fight off a minor illness	POSTTHI	1: Strongly Agree 2: Agree 3: Mildly agree 4: Mildly disagree 5: Disagree 6: Strongly disagree 77: System missing	Categorical (Ordinal)
2: Complementary medicine should be subject to more scientific testing before it can be accepted by conventional doctors	SCIENTEST	1: Strongly Agree 2: Agree 3: Mildly agree 4: Mildly disagree 5: Disagree 6: Strongly disagree 77: System missing	Categorical (Ordinal)
3. When people are stressed it is important that they are careful about other aspects of their lifestyle (e.g., healthy eating) as their body already has enough to cope with	STRESTYLE	1: Strongly Agree 2: Agree 3: Mildly agree 4: Mildly disagree	Categorical (Ordinal)

		5: Disagree 6: Strongly disagree 77: System missing	
4. Complementary medicine can be dangerous in that it may prevent people getting proper treatment	CAM_DANG	1: Strongly Agree 2: Agree 3: Mildly agree 4: Mildly disagree 5: Disagree 6: Strongly disagree 77: System missing	Categorical (Ordinal)
5. The symptoms of an illness can be made worse by depression	DEPRESS	1: Strongly Agree 2: Agree 3: Mildly agree 4: Mildly disagree 5: Disagree 6: Strongly disagree 77: System missing	Categorical (Ordinal)
6: Complementary medicine should only be used as a last resort when conventional medicine has nothing to offer	LASTRES	1: Strongly Agree 2: Agree 3: Mildly agree 4: Mildly disagree 5: Disagree 6: Strongly disagree 77: System missing	Categorical (Ordinal)

7. If a person experiences a series of stressful life events they are likely to become ill	STRESEVE	1: Strongly Agree 2: Agree 3: Mildly agree 4: Mildly disagree 5: Disagree 6: Strongly disagree 77: System missing	Categorical (Ordinal)
8. It is worthwhile trying complementary medicine before going to the doctor	TRYCAM	1: Strongly Agree 2: Agree 3: Mildly agree 4: Mildly disagree 5: Disagree 6: Strongly disagree 77: System missing	Categorical (Ordinal)
9. Complementary medicine should only be for minor ailments and not for treatment of more serious illness	CAMMINOR	1: Strongly Agree 2: Agree 3: Mildly agree 4: Mildly disagree 5: Disagree 6: Strongly disagree 77: System missing	Categorical (Ordinal)
10: It is important to find a balance between work and relaxation in order to stay healthy	BALHEALTH	1: Strongly Agree 2: Agree 3: Mildly agree	Categorical (Ordinal)

		4: Mildly disagree 5: Disagree 6: Strongly disagree 77: System missing	
11. Complementary medicine builds up the body's own defenses, so leading to a permanent cure	CAMDEFEN	1: Strongly Agree 2: Agree 3: Mildly agree 4: Mildly disagree 5: Disagree 6: Strongly disagree 77: System missing	Categorical (Ordinal)
Dependent Variables			
Attitudes toward CAM subscale	CAM_Sub	Total sum score of items 2, 4, 6, 8, 9, 11	Continuous
Holistic health beliefs subscale	HH_Sub	Total sum score of items 1, 3, 5, 7, 10	Continuous

Table 2: Instrument Variables and Coding for ICAMQ

ICAMQ Codebook			
Question	Variables	Values	Data Type
“Visiting health care providers”			
1: Have you seen any providers within the last 12 months?	TYPE_PROVID	Multiple responses allowed; see below	
	PHYSICIAN	1: Yes 2: No 77: No answer	Categorical (Nominal, dichotomous)
	CHIRO	1: Yes 2: No 77: No answer	Categorical (Nominal, dichotomous)
	HOMEOP	1: Yes 2: No 77: No answer	Categorical (Nominal, dichotomous)
	ACUPUNC	1: Yes 2: No 77: No answer	Categorical (Nominal, dichotomous)
	HERBAL	1: Yes 2: No 77: No answer	Categorical (Nominal, dichotomous)

	SPIRHEAL	1: Yes 2: No 77: No answer	Categorical (Nominal, dichotomous)
	OTHER	[specified other provider]	String
	OTHER	[specified other provider]	String
1a: If yes, number of times you saw this provider in the last 3 months	NUM_VISIT	Multiple responses allowed; see below	
	PHYSICIAN	0 — —	Continuous
	CHIRO	0 — —	Continuous
	HOMEOP	0 — —	Continuous
	ACUPUNC	0 — —	Continuous
	HERBAL	0 — —	Continuous
	SPIRHEAL	0 — —	Continuous
	OTHER	0 — —	Continuous

1a1. Number of times you saw this provider in the last 3 months	NUMVISIT_RC		
	PHYSICIAN	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
	CHIRO	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
	HOMEOP	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
	ACUPUNC	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
	HERBAL	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
	SPIRHEAL	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)

	OTHER	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
1b: Please indicate the main reason you last saw the provider	REASON_PROV	Multiple responses allowed; see below	
	PHYSICIAN	1: For an acute illness/condition, one that lasted less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	Categorical (nominal)
		[description for “other” reason]	String
	CHIRO	1: For an acute illness/condition, one that lasted less than one month	Categorical (nominal)

		2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	
		[description for “other” reason]	String
	HOMEOP	1: For an acute illness/condition, one that lasted less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	Categorical (nominal)

		[description for “other” reason]	String
	ACUPUNC	1: For an acute illness/condition, one that lasted less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	Categorical (nominal)
		[description for “other” reason]	String
	HERBAL	1: For an acute illness/condition, one that lasted less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms	Categorical (nominal)

		3: To improve well-being 4: Other 00: System Missing 77: No answer	
		[description for “other” reason]	String
	SPIRHEAL	1: For an acute illness/condition, one that lasted less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	Categorical (nominal)
		[description for “other” reason]	String
	OTHER_PROV	1: For an acute illness/condition, one that lasted less than one month	Categorical (nominal)

		2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	
		[description for “other” reason]	String
	REASON_PROV_RC	1: Medical condition 2: General Well-being	
1c: How helpful was it for you to see this provider	HELPFUL_PROV	Multiple responses allowed; see below	
	PHYSICIAN	1: Very 2: Somewhat 3: Not at all 4: Don’t know 00: System Missing 77: No answer	Categorical (ordinal)

	CHIRO	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)
	HOMEOP	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)
	ACUPUNC	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)
	HERBAL	1: Very 2: Somewhat 3: Not at all 4: Don't know	Categorical (ordinal)

		00: System Missing 77: No answer	
	SPIRHEAL	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)
	OTHER_PROV	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)
"Complementary treatments received from physicians (MD)"			
2: Have you received any of the following complementary treatments from a physician in the last 12 months?	CAM_TRMT	Multiple responses allowed; see below	
If you have not seen a physician in the past 12 months, please go to question 3.		00: System Missing [skip to question 3]	

	MANIP	1: Yes 2: No 00: System Missing 77: No answer	Categorical (Nominal, dichotomous)
	HOMEOP	1: Yes 2: No 00: System Missing 77: No answer	Categorical (Nominal, dichotomous)
	ACUPUNC	1: Yes 2: No 00: System Missing 77: No answer	Categorical (Nominal, dichotomous)
	HERBS	1: Yes 2: No 00: System Missing 77: No answer	Categorical (Nominal, dichotomous)
	SPIRITHEAL	1: Yes 2: No 00: System Missing 77: No answer	Categorical (Nominal, dichotomous)

	OTHER_CAM	1: Yes 2: No 00: System Missing 77: No answer	Categorical (Nominal, dichotomous)
		[the description if someone checked “OTHER” for complementary treatment]	String
2a: If yes, number of times you received this treatment in the last 3 months	NUM_CAM	Multiple responses allowed; see below	
	MANIP	0 — —	Continuous
	HOMEOP	0 — —	Continuous
	ACUPUNC	0 — —	Continuous
	HERBS	0 — —	Continuous
	SPIRITHEAL	0 — —	Continuous
	OTHER	0 — —	Continuous

2a1: Number of times you received this treatment in the last 3 months?	NUMCAM_RC		
	MANIP	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
	HOMEOP	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
	ACUPUNC	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
	HERBS	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
	SPIRITHEAL	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
	OTHER_CAM	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)

2b: Please indicate the main reason you last received this treatment	REASON_CAM	Multiple responses allowed; see below	
	MANIP	<p>1: For an acute illness/condition, one that lasted less than one month</p> <p>2: To treat a long-term health condition (one that lasted more than one month) or its symptoms</p> <p>3: To improve well-being</p> <p>4: Other</p> <p>00: System Missing</p> <p>77: No answer</p>	Categorical (nominal)
		[the description if someone checked “other” for reason you last received treatment]	String
	HOMEOP	<p>1: For an acute illness/condition, one that lasted less than one month</p> <p>2: To treat a long-term health condition (one that lasted more</p>	Categorical (nominal)

		than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	
		[the description if someone checked “other” for reason last received treatment]	String
	ACUPUNC	1: For an acute illness/condition, one that lasted less than one month 2: To treat a long- term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	Categorical (nominal)
		[the description if someone checked “other” for reason	String

		last received treatment]	
	HERBS	<p>1: For an acute illness/condition, one that lasted less than one month</p> <p>2: To treat a long-term health condition (one that lasted more than one month) or its symptoms</p> <p>3: To improve well-being</p> <p>4: Other</p> <p>00: System Missing</p> <p>77: No answer</p>	Categorical (nominal)
		[the description if someone checked “other” for reason last received treatment]	String
	SPIRITHEAL	<p>1: For an acute illness/condition, one that lasted less than one month</p> <p>2: To treat a long-term health condition (one that lasted more</p>	Categorical (nominal)

		than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	
		[the description if someone checked “other” for reason last received treatment]	String
	OTHER_CAM	1: For an acute illness/condition, one that lasted less than one month 2: To treat a long- term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	Categorical (nominal)

		[the description if someone checked “other” for reason last received treatment]	String
	REASON_CAM_RC	1: Medical condition 2: General Well-being	
2c: How helpful was it to receive treatment from the physician?	HELPFUL_CAM	Multiple responses allowed; see below	
	MANIP	1: Very 2: Somewhat 3: Not at all 4: Don’t know 00: System Missing 77: No answer	Categorical (ordinal)
	HOMEOP	1: Very 2: Somewhat 3: Not at all 4: Don’t know 00: System Missing 77: No answer	Categorical (ordinal)
	ACUPUNC	1: Very 2: Somewhat	Categorical (ordinal)

		3: Not at all 4: Don't know 00: System Missing 77: No answer	
	HERBS	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)
	SPIRITHEAL	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)
	OTHER_CAM	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)

“Use of Herbal Medicine and Dietary Supplements”			
3: For each category, please list up to three products you have used in the last 12 months; and mark if currently using this product			
	CURRENT_DS	1: Yes 2: No	Categorical (Nominal, dichotomous)
CATEGORY: Herbs Current use	HERB1	1: Yes 2: No 00: System Missing 77: No answer	Categorical (Nominal, dichotomous)
		[the description if someone enters a type of HERB1]	String
	HERB2	1: Yes 2: No 00: System Missing 77: No answer	Categorical (Nominal, dichotomous)
		[the description if someone enters a type of HERB2]	String
	HERB3	1: Yes 2: No	Categorical (Nominal, dichotomous)

		00: System Missing 77: No answer	
		[the description if someone enters a type of HERB3]	String
Category: Vitamins/Minerals Current use	VITMIN1	1: Yes 2: No 00: System Missing 77: No answer	Categorical (Nominal, dichotomous)
		[the description if someone enters a type of VITMIN1]	String
	VITMIN2	1: Yes 2: No 00: System Missing 77: No answer	Categorical (Nominal, dichotomous)
		[the description if someone enters a type of VITMIN2]	String
	VITMIN3	1: Yes 2: No 00: System Missing 77: No answer	Categorical (Nominal, dichotomous)

		[the description if someone enters a type of VITMIN3]	String
Category: Homeopathic remedies Current use	HOMEREM1	1: Yes 2: No 00: System Missing 77: No answer	Categorical (Nominal, dichotomous)
		[the description if someone enters a type of HOMEREM]	String
	HOMEREM2	1: Yes 2: No 00: System Missing 77: No answer	Categorical (Nominal, dichotomous)
		[the description if someone enters a type HOMEREM]	String
	HOMEREM3	1: Yes 2: No 00: System Missing 77: No answer	Categorical (Nominal, dichotomous)
		[the description if someone enters a	String

		type HOMEREM]	
Category: Other supplements Current use	OTHERSUP1	1: Yes 2: No 00: System Missing 77: No answer	Categorical (Nominal, dichotomous)
		[the description of other if someone self-reported use of other supplements]	String
	OTHERSUP2	1: Yes 2: No 00: System Missing 77: No answer	Categorical (Nominal, dichotomous)
		[the description of other if someone self-reported use of other supplements]	String
	OTHERSUP3	1: Yes 2: No 00: System Missing 77: No answer	Categorical (Nominal, dichotomous)
		[the description of other if someone self-reported use	String

		of other supplements]	
	CURRENT_DS_RC	1: Yes 2: No	
3b: Please indicate the main reason you last used herbal medicine and dietary supplements?	REASON_DS	Multiple responses allowed; see below	
CATEGORY: Herbs	HERB1	1: For an acute illness/condition, one that lasted less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	Categorical (nominal)
		[the description of “other” if someone self-reported use of herbs]	String
	HERB2	1: For an acute illness/condition, one that lasted	Categorical (nominal)

		less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	
		[the description of “other” if someone self-reported use of herbs]	String
	HERB3	1: For an acute illness/condition, one that lasted less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other	Categorical (nominal)

		00: System Missing 77: No answer	
		[the description of “other” if someone self-reported use of herbs]	String
Category: Vitamins/Minerals	VITMIN1	1: For an acute illness/condition, one that lasted less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	Categorical (nominal)
		[the description of “other” if someone self-reported use of vitamin/mineral]	String
	VITMIN2	1: For an acute illness/condition, one that lasted	Categorical (nominal)

		less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	
		[the description of “other” if someone self-reported use of vitamin/minerals]	String
	VITMIN3	1: For an acute illness/condition, one that lasted less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other	Categorical (nominal)

		00: System Missing 77: No answer	
		[the description of “other” if someone self-reported use of vitamin/minerals]	String
Category: Homeopathic remedies	HOMEREM1	1: For an acute illness/condition, one that lasted less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	Categorical (nominal)
		[the description of “other” if someone self-reported use of homeopathic remedies]	String
	HOMEREM2	1: For an acute illness/condition, one that lasted	Categorical (nominal)

		less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	
		[the description of “other” if someone self-reported use of homeopathic remedies]	String
	HOMEREM3	1: For an acute illness/condition, one that lasted less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being	Categorical (nominal)

		4: Other 00: System Missing 77: No answer	
		[the description of “other” if someone self-reported use of homeopathic remedies]	String
Category: Other supplements	OTHERSUP1	1: For an acute illness/condition, one that lasted less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	Categorical (nominal)
		[the description of “other” if someone self-reported use of homeopathic remedies]	String

	OTHERSUP2	<p>1: For an acute illness/condition, one that lasted less than one month</p> <p>2: To treat a long-term health condition (one that lasted more than one month) or its symptoms</p> <p>3: To improve well-being</p> <p>4: Other</p> <p>00: System Missing</p> <p>77: No answer</p>	Categorical (nominal)
		[the description of “other” if someone self-reported use of homeopathic remedies]	String
	OTHERSUP3	<p>1: For an acute illness/condition, one that lasted less than one month</p> <p>2: To treat a long-term health condition (one that lasted more than one month) or its symptoms</p>	Categorical (nominal)

		3: To improve well-being 4: Other 00: System Missing 77: No answer	
		[the description of “other” if someone self-reported use of homeopathic remedies]	String
	REASON_DS_RC	1: Medical condition 2: General well-being	
3c: How helpful did you find this product?	HELP_DS	Multiple responses allowed; see below	
Category: Herbs	HELPHERB1	1: Very 2: Somewhat 3: Not at all 4: Don’t know 00: System Missing 77: No answer	Categorical (ordinal)
	HELPHERB2	1: Very 2: Somewhat	Categorical (ordinal)

		3: Not at all 4: Don't know 00: System Missing 77: No answer	
	HELPHERB3	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)
Category: Vitamins/Minerals	HELPVITMIN1	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)
	HELPVITMIN2	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)

	HELPVITMIN3	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)
Category: Homeopathic remedies	HELPHOMEREM1	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)
	HELPHOMEREM2	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)
	HELPHOMEREM3	1: Very 2: Somewhat 3: Not at all 4: Don't know	Categorical (ordinal)

		00: System Missing 77: No answer	
“Self-Help Practices”			
4: Have you used any of the following self-help practices in the last 12 months?	SELFHELP	Multiple responses allowed; see below	
	MEDIT	1: Yes 2: No 77: No answer	Categorical (Nominal, dichotomous)
	YOGA	1: Yes 2: No 77: No answer	Categorical (Nominal, dichotomous)
	QIGONG	1: Yes 2: No 77: No answer	Categorical (Nominal, dichotomous)
	TAICHI	1: Yes 2: No 77: No answer	Categorical (Nominal, dichotomous)
	RELAX	1: Yes 2: No 77: No answer	Categorical (Nominal, dichotomous)
	VISUAL	1: Yes 2: No 77: No answer	Categorical (Nominal, dichotomous)

	HEALCERE	1: Yes 2: No 77: No answer	Categorical (Nominal, dichotomous)
	PRAYER	1: Yes 2: No 77: No answer	Categorical (Nominal, dichotomous)
	OTHER_SHP	1: Yes 2: No 77: No answer	Categorical (Nominal, dichotomous)
4a: If yes, number of times used this practice in the last 3 months?	MEDIT	0 — —	Continuous
	YOGA	0 — —	Continuous
	QIGONG	0 — —	Continuous
	TAICHI	0 — —	Continuous
	RELAX	0 — —	Continuous
	VISUAL	0 — —	Continuous
	HEALCERE	0 — —	Continuous
	PRAYER	0	Continuous

		— —	
	OTHER_SHP	0 — —	Continuous
4a1. Number of times you used this practice in the last 3 months	SELFHELP_RC		
	MEDIT	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
	YOGA	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
	QIGONG	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
	TAICHI	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
	RELAX	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)

	VISUAL	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
	HEALCERE	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
	PRAYER	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
	OTHER_SHP	1: 0-5 times 2: 5-10 times 3: more than 10 times	Categorical (ordinal)
4b: Please indicate the main reason you last used the self-help practice.	REASON_SHP	Multiple responses allowed; see below	
	MEDIT	1: For an acute illness/condition, one that lasted less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms	Categorical (nominal)

		3: To improve well-being 4: Other 00: System Missing 77: No answer	
		[the description of “other”]	String
	YOGA	1: For an acute illness/condition, one that lasted less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	Categorical (nominal)
		[the description of “other”]	String
	QIGONG	1: For an acute illness/condition, one that lasted less than one month	Categorical (nominal)

		<p>2: To treat a long-term health condition (one that lasted more than one month) or its symptoms</p> <p>3: To improve well-being</p> <p>4: Other</p> <p>00: System Missing</p> <p>77: No answer</p>	
		[the description of “other”]	String
	TAICHI	<p>1: For an acute illness/condition, one that lasted less than one month</p> <p>2: To treat a long-term health condition (one that lasted more than one month) or its symptoms</p> <p>3: To improve well-being</p> <p>4: Other</p> <p>00: System Missing</p> <p>77: No answer</p>	Categorical (nominal)

		[the description of “other”]	String
	RELAX	<p>1: For an acute illness/condition, one that lasted less than one month</p> <p>2: To treat a long-term health condition (one that lasted more than one month) or its symptoms</p> <p>3: To improve well-being</p> <p>4: Other</p> <p>00: System Missing</p> <p>77: No answer</p>	Categorical (nominal)
		[the description of “other”]	String
	VISUAL	<p>1: For an acute illness/condition, one that lasted less than one month</p> <p>2: To treat a long-term health condition (one that lasted more than one month) or its symptoms</p>	Categorical (nominal)

		3: To improve well-being 4: Other 00: System Missing 77: No answer	
		[the description of “other”]	String
	HEALCERE	1: For an acute illness/condition, one that lasted less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	Categorical (nominal)
		[the description of “other”]	String
	PRAYER	1: For an acute illness/condition, one that lasted less than one month	Categorical (nominal)

		2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	
		[the description of “other”]	String
	OTHER_SHP	1: For an acute illness/condition, one that lasted less than one month 2: To treat a long-term health condition (one that lasted more than one month) or its symptoms 3: To improve well-being 4: Other 00: System Missing 77: No answer	Categorical (nominal)

		[the description of “other”]	String
	REASON_SHP_RC	1: Medical condition 2: General Well-being	
4c: How helpful did you find this self-help practice?	HELP_SELFH	Multiple responses allowed; see below	
	MEDIT	1: Very 2: Somewhat 3: Not at all 4: Don’t know 00: System Missing 77: No answer	Categorical (ordinal)
	YOGA	1: Very 2: Somewhat 3: Not at all 4: Don’t know 00: System Missing 77: No answer	Categorical (ordinal)
	QIGONG	1: Very 2: Somewhat 3: Not at all 4: Don’t know	Categorical (ordinal)

		00: System Missing 77: No answer	
	TAICHI	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)
	RELAX	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)
	VISUAL	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)
	HEALCERE	1: Very 2: Somewhat	Categorical (ordinal)

		3: Not at all 4: Don't know 00: System Missing 77: No answer	
	PRAYER	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)
	OTHER_SHP	1: Very 2: Somewhat 3: Not at all 4: Don't know 00: System Missing 77: No answer	Categorical (ordinal)
Dependent Variables			
Type of healthcare providers	TYPE_PROVIDER		Categorical
Reason for seeing a healthcare provider	REASON_PROV_RC		Categorical
Type of CAM treatment	CAM_TRMT		Categorical
Reason for using CAM treatment	REASON_CAM_RC		Categorical

Current use of herbs/dietary supplements	CURRENT_DS_RC		Categorical
Reason for using herb/dietary supplements	REASON_DS_RC		Categorical
Use of self-help practices	SELFHELP		Categorical
Reason for using self-help practices	REASON_SHP_RC		Categorical

Appendix F

Data Analysis Table

Table 3: Data Analysis Table

(IV: Independent Variable; DV: Dependent Variable)

RQ1: Is there a difference in attitudes toward CAM use among African American and White cancer patients?						
Hypotheses	IV	IV data	DV	DV data	Statistical test	
H1.1A: There is a significant difference in attitudes toward CAM among African Americans and White patients.	RACE 1:African American 2:White	Categorical	CAM_Sub	Continuous	Independent t-test	
RQ2: Is there a difference in holistic health beliefs regarding CAM among African American and White cancer patients?						
H2.1A: There is a significant difference in holistic health beliefs among African American and White patients.	RACE 1:African American 2:White	Categorical	HH_Sub	Continuous	Independent t-test	
RQ3: Is there a difference in the type of CAM provider visited by African American and White cancer patients?						
H3.1A: There is a significant difference in the type of CAM provider	RACE 1:African American 2:White	Categorical	TYPE_PROVID	Categorical	Chi-Square	

visited by African American and White patients differ.						
RQ4: Do the reasons for visiting CAM providers differ among African American and White cancer patients?						
H4.1A: There is a significant difference in the main reason for visiting CAM providers among African American and White patients.	RACE 1:African American 2:White	Categorical	REASON_PROV_RC	Categorical	Chi-Square	
RQ5: Is there a difference in the types of CAM received among African American and White cancer patients?						
H5.1A: There is a significant difference in the types of CAM received among African American and White patients.	RACE 1:African American 2:White	Categorical	CAM_TRMT	Categorical	Chi-Square	
RQ6: Do the reasons for receiving CAM therapy differ among African American and White cancer patients?						
H6.1A: There is a significant difference in the main reason for receiving CAM	RACE 1:African American 2:White	Categorical	REASON_CAM_RC	Categorical	Chi-Square	

treatment among African American and White patients.						
RQ7: Is there a difference in the types of self-help practices used among African American and White cancer patients?						
H9.1A: There is a significant difference in the type of self-help practices used among African American and White patients.	RACE 1:African American 2:White	Categorical	SELFHELP	Categorical	Chi-Square	
RQ8: Do the reasons for using self-help practices differ among African American and White cancer patients?						
H10.1A: There is a significant difference in the main reason for use of self-help practices among African American and White patients.	RACE 1:African American 2:White	Categorical	REASON_SHP_RC	Categorical	Chi-Square	

Appendix G

Institutional Review Board (IRB)

An initial IRB application was submitted and approved by the Western IRB affiliated with Cancer Treatment Centers of America on July 21, 2020. This was followed by an IRB Institutional Authorization Agreement between Western IRB and Radford University which was initiated and finalized on August 10, 2020.