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COMPLEMENTARY AND ALTERNATIVE MEDICINE INTERESTS AMONG ONCOLOGY PATIENTS AT A MIDWESTERN HEALTH SYSTEM

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COMPLEMENTARY AND ALTERNATIVE MEDICINE INTERESTS AMONG ONCOLOGY PATIENTS AT A MIDWESTERN HEALTH SYSTEM

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ABSTRACT

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Aims and objectives. The aim for this study was to determine Complementary and Alternative Medicine (CAM) use and interest among cancer patients treated at a Midwestern Health System. This study also aimed to guide providers at the Midwestern Health System to become more aware of cancer patients' desire to use CAM to help cope with cancer diagnosis and reduce symptoms of treatment. **Background.** CAM use is increasing specifically among cancer patients and survivors. Higher proportions of CAM users are female, younger, and have a high level of education. Specifically in cancer patients, CAM use increased when cancer patients believed and acted on personal control of their health. **Design.** A descriptive cross-sectional study. **Methods.** A total of 411 cancer patients were mailed a survey with 177 cancer patients who participated in this study. The survey included questions on CAM use before cancer diagnosis and after cancer diagnosis, reasons for use, disclosure of CAM use to provider, and health beliefs. The data was analyzed using chi square and analysis of variance. **Results.** Results indicated a significant difference in CAM use by age, gender, and type of cancer. **Conclusions.** Future CAM research should target young adults ages 18-35 to gain a better understanding of this population. **Relevance to clinical practice.** Awareness of cancer patients desires, knowledge, and attitudes towards CAM can help providers give the best possible individualized care. Providers' awareness of their patients interests of CAM can lead to fewer barriers regarding use and education of CAM to promote health and well-being before, during, and after cancer diagnosis.

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INTRODUCTION

Complementary and Alternative Medicine Use among Cancer Patients

With one in three women and one in two men predicted to be diagnosed with cancer over a lifetime, many people will be personally impacted by cancer, either by experience or by knowing a survivor (American Cancer Society 2014a). The American Cancer Society estimates that 855,220 men and 810,320 women will be diagnosed with cancer in 2014. By 2022 it is estimated that almost 18 million cancer survivors will be living in the United States (American Cancer Society 2014b). With the high number of cancer diagnoses, there has been an increase in the use of complementary and alternative medicine (CAM) in the United States and internationally. It was recently reported that those who are diagnosed with cancer or are undergoing cancer treatments use CAM at a higher rate than those in the general public (Perlman *et al.* 2012). The literature on CAM use specifically in cancer patients is extensive. The literature is varied in the prevalence of CAM use among cancer patients and survivors, which stemmed from the differences of population, types of cancer, and definition of CAM used in each study (Crocetti *et al.* 1998).

Complementary and Alternative Medicine

CAM has a broad definition that encompasses the many forms of medicine used around the world. According to the National Center for Complementary and Alternative Medicine (NCCAM), CAM is "a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine"

(National Center for Complementary and Alternative Medicine (NCCAM) 2012, p.1). To help define what is outside of conventional medicine, people that receive CAM therapies are usually seen by alternative care providers including osteopathic doctors, acupuncturists, herbalists, or naturopathic physicians (Hedderson *et al.* 2004). Even though it is a broad term, there are similar characteristics which include treating the whole person's physical, mental, and spiritual elements and using the body's own healing energy at its maximum capacity (Smith *et al.* 2011). CAM can be grouped into five informal categories to help organize the many different techniques. These five categories, classified by the NCCAM, include mind and body medicine, alternative medical systems, manipulative and body-based practices, energy medicine, and biological-based practices. Many practices, like acupuncture, fit into more than one category and the distinctions among the five groups are not always black and white (NCCAM 2012).

Patients are increasingly becoming more interested in CAM and the boundaries between conventional medicine and unconventional medicine are becoming less distinct (Hedderson *et al.* 2004). Different types of CAM could mean different things depending on the person or culture. How CAM is accepted among individual cultures, along with the increased research on CAM, creates changes to the boundaries between conventional and unconventional medicine. With this flourishing interest, cancer centers are incorporating integrative health care programs, that are backed by increased research, to offer CAM therapies and more of what the patient is wanting in their healing process (Crocetti *et al.* 1998, Smith *et al.* 2011).

Marketing, trends, and the information on the internet has created growth of CAM (Pan *e at.* 2012). CAM is used more by people who have chronic or incurable conditions.

CAM is also used by many people with conditions including autism, stress, anxiety, and pain and has also shown improvements in quality of life by decreasing symptoms of some diseases (Pan *et at.* 2012). People turn to CAM when they are looking for comfort relief, desire more control over their healing process, and want more options in addition to conventional medicine (Hedderson *et al.* 2004). CAM is appealing, as it is more natural and generally less invasive than conventional medicine. CAM's focus on the health of each individual instead of the disease puts the emphasis on the healing process rather than treatment process. Many people are using CAM for a variety of purposes, including increasing overall well-being and quality of life.

Historical View of Complementary and Alternative Medicine

For centuries, people around the world have used CAM, as it was acknowledged culturally and deemed useful (Pan *et at*. 2012). CAM was initially established in the United States in the early 1900's. Rapid growth began in the 1970's at a time when it became more accepted by both the general public and heath care providers. At this time, Americans wanted more resources and treatment options for chronic diseases. The reason many people turned to CAM was to take control over their own health (Badane & Brownson 2002). The 1970's was a time of empowerment where people were not afraid to speak out about their beliefs and rights. Through this personal need to control health outcomes and desire for more individualized care, many turned to alternative therapies. More people were also choosing CAM, not because of dissatisfaction with their health care provider, but to get more therapeutic treatments that were closer to nature, like using products from nature instead of more toxic treatments (Smith *et al.* 2011). Medical

centers and hospitals began to promote and create CAM departments and medical schools offered CAM courses and research (Badane & Brownson 2002, Pan *et at.* 2012).

The growth in interest also started the debate, that still continues, of integrating CAM into conventional medicine (Pan *et at.* 2012). Individuals are responsible for payments out of their own pocket, as insurance rarely covers these CAM treatments. Due to the increased demand of CAM, the Office of Alternative Medicine (OAM) was established in 1993 within the National Institute of Health (NIH). The U.S. Congress provided $2 million to fund the OAM to evaluate and distribute important data about the safety and usefulness of CAM. The National Center for Complementary and Alternative Medicine was established by Congress in 1998 and included major objectives to advance the research on CAM and develop and notify the general public of the evidence-based information on CAM interventions (NIH 2013).

Current Research

Research on the patient anticipated effect on individual health of CAM are lacking, however the effectiveness and safety factors are continually being examined. While more research is needed about how these nontraditional treatments interact with the body and other conventional medications, reports from patients have been positive regarding psychological outcomes and satisfaction (Crocetti *et al.* 1998, NCCAM 2012). The literature on CAM is diverse regarding the different populations included in the studies and the types of CAM included or investigated. These varied studies add to the research on CAM as a whole. However, challenges arise due to the differences in studies and the vast amount of CAM therapies that exist and are included in each study (Smith *et al.* 2011).

The literature displayed a number of different types of CAM that were frequently used among cancer patients that included acupuncture and herbal remedies. The number of CAM therapies used can be exhausting, as there are over 100 different types. Different types of CAM can be introduced and accepted as conventional medicine due to this changing field. Table 1 displays some of the more commonly used CAM therapies according to the literature in alphabetical order.

Table 1 Most common types of CAM use among cancer patients	
Types of CAM	References
Acupressure	Hedderson *et al.* 2004, Ku & Koo 2011
Acupuncture	Buettner *et al.* 2006, Crocetti *et al.* 1998, Hedderson *et al.* 2004, Ku & Koo 2011
Chiropractic/ osteopathic	Morris *et al.* 2000, NCCAM 2012
Herbal remedies	Crocetti *et al.* 1998 Ku & Koo 2011, Morris *et al.* 2000
Homeopathy	Buettner *et al.* 2006, Crocetti *et al.* 1998, NCCAM 2012, Wyatt *et al.* 2010
Massage	Ku & Koo 2011, Kremser *et al.* 2008, Morris *et al.* 2000 NCCAM 2012, Wyatt *et al.* 2010
Meditation: guided imagery, progressive relaxation, deep breathing	Kremser *et al.* 2008, NCCAM 2012, Wyatt *et al.* 2010
Movement: yoga	Ku & Koo 2011, NCCAM 2012, Perlman *et al.* 2012, Wyatt *et al.* 2010
Qigong	Ku & Koo 2011
Special diets, vitamins, high dose vitamins, energy drinks, supplements	Hedderson *et al.* 2004, Ku & Koo 2011, Morris *et al.* 2000, NCCAM 2012, Perlman *et al.* 2012, Wyatt *et al.* 2010
Spiritual practices: praying, chanting, relaxation/ imagery, spiritual healing	Hedderson *et al.* 2004, Ku & Koo 2011 Morris *et al.* 2000, NCCAM 2012, Perlman *et al.* 2012, Wyatt *et al.* 2010

The table shows that a wide variety of complementary and alternative medicine therapies are used by cancer patients. A review of the literature indicated outcomes that vary in types of CAM that cancer patient's use. Special diets, vitamins, and dietary supplements are used most often, followed by deep breathing exercises (Hedderson *et al.* 2004, NCCAM 2012, Smith *et al.* 2011).

Consistent Findings

The literature indicated a range between 16.5% and 91% of cancer patients used complementary medicine (Crocetti *et al.* 1998). The majority of cancer patients who use CAM are in the younger age group (50-59) and are better educated than non-users. While the literature indicates that people who are younger have an increased probability of

using CAM, the "younger group" fell in the 50-59 age category and were compared to those over the age of 75. This was primarily due to the majority of cancer patients participating in the studies falling into the 45-74 year old age group (Morris *et al.* 2000). Variables, including previous use of CAM, age, and a high level of education, were found to have an effect on the probability of using CAM. Research also indicated that patients who used complementary therapies before their cancer diagnosis were more likely to use them after being diagnosed with cancer compared to those who had never used these therapies (Crocetti *et al.* 1998, Pan *et at.* 2012). It should be noted that there are other variables that determine rationale and use of CAM among cancer patients that would include cancer type, stage of cancer, and knowledge of CAM. Cancer patients aged 18 to 35 are included in these studies, but there is not a significant number of patients represented in this group to understand their interest and use of CAM. More research needs to be done on this younger adult group who are diagnosed with cancer.

Predictors of CAM Use

There are three main predictors of CAM use by the general public. The literature is widely in agreement that higher proportions of CAM users are female, younger, and have a high level of education (Crocetti *et al.* 1998, Ku & Koo 2012, Pan *et at.* 2012, Smith *et al.* 2011). Health locus of control is one way to look at health beliefs of individuals and how it relates to use. Health locus of control is defined as "the governing perception an individual has concerning their health" (Tokuda *et al.* 2007, p. 643). The literature indicates that those who are conscious of their health and believe they have control of their health outcomes are more inclined to use CAM (Sasagawa *et al.* 2008, Tokuda *et al.* 2007). Specifically in cancer patients, CAM use increased when cancer

patients believed and acted on personal control of their health. Those who have more of an internal locus of control point of view believe that they are in control of their own health and are more likely to make conscious decisions to maintain good health. Those with external locus of control assign the responsibility of their health outcome to outside variables that are out of their ability to control to include accidents, chance, or the environment (Tokuda *et al.* 2007). Sasagawa *et al.* (2008) found that there was a positive correlation between high internal locus of control and CAM use.

Barriers to Collecting Information

The literature indicates that more often than not, cancer patients who are using CAM don't tell their health care provider and therefore miss out on a beneficial discussion about the risks and benefits CAM has when used alongside conventional cancer treatments (Ku & Koo 2011). This study study by Ku & Koo (2011) of 208 outpatients with cancer at a medical center in central Taiwan indicated that 165 reported using CAM in the last 12 months and of those 165 patients, 66.1% did not discuss their use with their health care provider. In general, cancer patients are not asked about their CAM use or interest, or are not willing to disclose this information to their health care provider. Another study by Morris *et al.* (2000) found that of the 617 cancer patients who returned the survey, 249 had reported using complementary therapies and 40-50% of these users did not inform their health care provider. The range of 28% to 75% of patients not reporting information about their CAM use can be reduced by increasing provider awareness and asking patients routine questions on this topic (Morris *et al.* 2000).

With the strong desire to use CAM, providers' attitudes and knowledge of CAM should be noted so they can give clear information and meet the needs of each patient. A

provider's attitude toward CAM and personal use can have an impact on patient use and satisfaction of care. The literature states that providers in hospital based settings and older providers tend to be more skeptical of CAM due to the lack of scientifically proven efficacy (Dayhew 2009). Providers understand the importance of communication regarding CAM. However, there is a consistent theme with the lack of available information and knowledge for providers to sufficiently educate patients. Some barriers faced by patients include not being asked by their providers about CAM use, not feeling comfortable talking to their provider about CAM, and not feeling confident in their providers to give good feedback about CAM. Providers have indicated that their own lack of evidence-based research on CAM puts communication with patients regarding CAM on hold (Zhang 2012). Courses and trainings in CAM specifically for providers are widely offered. However, it is not evident to what degree their knowledge on CAM is sufficient to provide evidence based advice (Dayhew 2009). Lack of familiarity of different types of CAM by the provider can interfere with the patient-provider communication which is important to identify benefits and possible risks from interactions between CAM and conventional medicine.

Rationale for Using CAM

The promotion of well-being through the use of CAM is becoming better known and use is escalating by the general public (Ku & Koo 2011). More people are using CAM as a result of increased knowledge, to help reduce cancer related symptoms, and improve overall health (Ku & Koo 2011). Cancer patients may be using CAM for their disease, but are not looking to CAM for the answer. Cancer patients' use comes with a desire to improve quality of life, boost the immune system, control symptoms related to

cancer treatments, and engage in more natural remedies. Overall, cancer patients believe that at some level CAM improves well-being, even though scientific evidence is lacking (Buettner *et al.* 2006, Kremser *et al.* 2008, Morris *et al.* 2000). Other indicators that could be impacted and identified in the literature included physical distress, psychological distress, and pressure from relatives to try CAM (Crocetti *et al.* 1998). Cancer treatment related side effects including fatigue and dizziness also prompted the use of CAM (Ku & Koo 2011).

Purpose for the Study

The purpose of this study is to determine CAM use and interest among cancer patients treated at a Midwestern Health System (MHS). The more information this MHS has on their patients' needs and interests, the more likely they are to meet the needs of each patient at the individual level. This study examined CAM use among cancer patients, and reasons for choosing different CAM therapies. This study looked into what therapies cancer patients were interested in using or learning more about. This study also examined the predictors of cancer patients who were more likely to use CAM. This research looked at demographics of patients and indicated characteristics in patients who use CAM, such as age, gender, cancer type, or locus of control. Overall this research assisted in the development of the MHS Integrative Therapy Department and aided the MHS in assessing the level of interest in CAM use among their patients.

Need for the Study

Research indicates that CAM use is increasing specifically among cancer patients and survivors (Pan *et al.* 2012). The MHS treated an estimated 2,600 cancer patients between January 2012 and December 2013 (L. Dietrich, personal communication, May

20, 2014). The Integrative Therapy Department at the MHS is in the beginning stages of development and would benefit from this study targeting cancer patients to get a better understanding of each patient's desires in their journey towards wellness. This study will also help the MHS providers become more aware of patients' desire to use CAM to help cope with cancer diagnosis and reduce symptoms of treatment. Generating an open communication between health care provider and cancer patient is important to create an awareness of individual interest and need regarding different CAM therapies that can be recommended. Open communication is also beneficial so the health care provider can suggest life style changes and discuss different types of CAM that could potentially conflict with conventional cancer treatments. Cancer patients nationwide are using CAM more frequently and this study was meant to reveal the different types of CAM patients at the MHS are interested in so that these therapies can be offered to promote health and well-being before, during, and after cancer diagnosis.

Research Questions

Research questions for this study are as follows:

1. What types of Complementary and Alternative Medicines are cancer patients at the Midwestern Health System using and interested in learning more about?
2. Is there a difference regarding Complementary and Alternative Medicine use in 18-50 year old cancer patients compared to cancer patients over the age of 50?
3. To what degree does locus of control influence use of Complementary and Alternative Medicine among cancer patients at the Midwestern Health System?

Definition of Terms

Complementary Medicine: Uses a non-mainstream approach together with conventional medicine (NCCAM 2012).

Alternative Medicine: Uses a non-mainstream approach in place of conventional medicine (NCCAM 2012).

Complementary and Alternative Medicine: "a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine" (NCCAM 2012, p.1).

Integrative Medicine: A classic model of integrative care that combines conventional medicine with alternative or complementary treatments (NCCAM 2012).

Conventional Medicine: practiced by holders of medical degrees or doctorates of osteopathy, and allied health professionals, such as physical therapists, psychologists, and registered nurses (NCCAM 2012).

Cancer: Cancer is a generic term for a large group of diseases that can affect any part of the body. Other terms used are malignant tumors and neoplasms. One defining feature of cancer is the rapid creation of abnormal cells that grow beyond their usual boundaries, and which can then invade adjoining parts of the body and spread to other organs. This process is referred to as metastasis (World Health Organization 2014).

Locus of Control: The governing perception an individual has concerning their health (Tokuda *et al.* 2007).

Traditional Medicine: The World Health Organization (WHO) defines traditional world medicine as "the total combination of knowledge and practices, whether explicable or not, used in diagnosing, preventing or eliminating physical, mental or social diseases and

which may rely exclusively on past experience and observation handed down from generation to generation, verbally or in writing (Pan *et at.* 2012).

MATERIALS AND METHODS

Participants

The participants for this cross-sectional survey consisted of cancer patients who were diagnosed and seen at the Midwestern Health System between January 01, 2012 and December 31, 2013. The study subjects were identified through the archives of the MHS Cancer Registry. A random sample was conducted from the MHS Cancer Registry based on three age categories (18-50, 51-65, 65+) totaling 422 initial participants from a list of 888 cancer patients who had been seen in the past year by their provider. To insure representation in this study specifically by those between 18-50 years of age, all patients from the Cancer Registry list under the age of 51 (n = 107) were selected. A random sample from the 51-65 age group was taken (n = 200), and also from the 65 and over age group (n = 104). Of this list of 422, five patients were duplicates and six surveys were returned with no forwarding address, making the final sample of 411 cancer patients.

Instrument

The surveys were mailed out June 13, 2014 and patients had until July 15, 2014 to complete them. The four-page survey was mailed with a cover letter explaining the survey and assured patients of their confidentiality. A definition list of all seventeen CAM types in the survey, and a postage-paid return envelope were also included. An identification number was assigned to each survey associated with the patient it was mailed to. The identification number was linked back to age, gender, type and stage of

cancer for statistical analysis. This process insured the survey had no identifying information linking to the patient.

The survey was developed specifically for the purposes of this study (See Appendix A). The survey was based on two questionnaires found in the literature. In developing the survey, questions regarding reasons for use, interest in use, and locus of control were included to get more information from the study participants' use of CAM. These questions were based on a study by Morris *et al.* (2000) and Hedderson *et al.*(2004) comparing CAM use among patients with breast cancer to other primary tumor sites. The questions were chosen for the purpose of getting more information on CAM use before and after cancer diagnosis, frequency of use, reasons for use, benefits of use, types of CAM used or interested in using, communication with health care provider on CAM use, and health beliefs related to cancer. Hedderson *et al.* (2004) used the 6-item internal health locus of control model from the Multidimensional Health Locus of Control Instrument based on the Wallston model. The 6-point scale was shortened to a 4-point scale in a Likert-type response of "strongly disagree" to "strongly agree." For brevity, this model of the locus of control instrument was used. "The Wallston Health Locus of Control model was developed to assess people's beliefs that their own behavior determines their health" (Hedderson *et al.* 2004, p. 60).

Due to the extensive number of therapies and modalities that can be included under the umbrella of CAM, a list of 17 most common types of CAM were identified through a review of the literature and also included therapies already provided at the MHS. The 17 types of CAM that were included in the survey were grouped into four main categories: "biologically based" (dietary supplements, herbal medicine, special

diets), "mind-body" (aromatherapy, biofeedback, deep breathing, guided imagery, meditation, progressive relaxation, spiritual therapy, tai chi/qigong, yoga) "manipulative-based" (chiropractic/osteopathic, massage), and "whole medical system (acupuncture, homeopathy, and traditional Chinese medicine). The resulting survey was finalized following feedback from a multidisciplinary working group of professionals in complementary and alternative medicine and oncology at the Midwestern Health System.

Procedures

A collaboration with the University of Wisconsin-La Crosse (UW-L), Gundersen Health System Community and Preventive Care Services, and Gundersen Health System Cancer and Blood Disorders Center was created to accomplish this research. Approval for this study was obtained from the Gundersen Health System and UW-L's Institutional Review Board (IRB). Following IRB approval, surveys were mailed to eligible participants. Each letter included an informed consent to verify the study participants' understanding of the purpose, benefits, and risks of the survey. The letter also explained that the survey was completely voluntary, and completing the survey implied consent (See Appendix B). Each cancer patient was mailed the survey, a CAM definition list, and a self-addressed-stamped return envelope.

Statistical Analysis

Data from the surveys was entered into an excel spreadsheet. Prior to statistical analysis, data were evaluated for missing values. If values were missing, a response of "no" was given for questions about use and interest, meaning that they don't use nor are interested. Missing values for the health belief questions were given a neutral value. Data was then evaluated for incorrect values by running descriptive statistics. If values were

entered into the spreadsheet incorrectly, the survey corresponding with that question were re-checked for verification. Statistical Analysis Software (SAS) Institute Inc., Version 9.3 was used for the purpose of statistical analysis for this research study. To evaluate the difference of CAM use by age, gender, cancer type, and stage, Chi-square tests for independence was performed. Analysis of variance (ANOVA) was completed to compare locus of control and desire for control. Alpha levels were set at 0.05 for all analysis. Frequencies were examined to study reason for CAM use, disclosure of CAM use to provider, therapies that cancer patients are interested in learning more about, and change in use of CAM after diagnosis of cancer. However, no statistical testing was done.

RESULTS

Demographics

A total of 411 surveys were mailed to cancer patients of the MHS who had been seen by their provider in the past year. There were 174 (42%) who participated in this study. Of the 174 total participants in this study, 37 (22%) were in the 18-50 age group, 84 (48%) were in the 51-65 age group, and 53 (30%) were in the 66 and over age group. Of the participants, 117 (67%) were female and 57 (33%) were male. Data was obtained on cancer type and stage of cancer to get a better understanding of the relationship each had with CAM use and interest. Patients who filled out the survey had the following types of cancer: 82 breast, 19 lung, 27 prostate/testicular ("male"), and 46 "other" cancers (4 pancreas, 6 skin, 8 colorectal, 12 female-genital, 8 head and neck, 4 soft-tissue, and 4 urinary). Of the participants, 68 had stage I cancer, 52 had stage II cancer, 37 had stage III cancer, and 17 had stage IV cancer.

Difference of CAM use by Age and Gender

Chi-square test of independence was performed to examine difference of CAM use by age and gender. Use of any type of CAM was significantly different by age and gender (See Table 2). Participants who were in the younger age group of 18-50 reported using any type of CAM, more than those in the 51-65 and 66 and over age group (81.1%, 67.9%, and 54.7%, respectively, $p = .032$). Females reported using any type of CAM more than males (73.5% and 52.6%, respectively, $p = .005$). Cancer patients use of biologically based therapies were significantly different by age but not by gender.

Younger cancer patients (those aged 18-50 and 51-65) were more likely to use these than older cancer patients, ages 66 and over (51.4%, 51.2% and 28.3%, respectively; p = 0.020). Use of mind-body based therapies was significantly different by gender, with more females using than males (49.6% and 26.3%, respectively, p = 0.004). There was a trend towards significance for mind-body based therapy use by age, with younger age groups (18-50) being slightly more likely to use than older patients (51-65, and 66+). Use of manipulative based therapies were significantly different by age and gender. Younger cancer patients ages 18-50 were more likely to use manipulative based therapies than cancer patients who were 51-65 and 66 years and older (48.7%, 34.5%, and 18.9% respectively, p = 0.011). Females were also more likely to use manipulative based therapies compared to males (37.6% and 22.8% respectively, p = 0.051). Dietary supplements, aromatherapy, deep breathing, tai chi/qigong, and yoga were significantly different by age with those 18-50 years of age more likely to use than those 51-65 and 66 years of age and over. Use of guided imagery and yoga were significantly different by gender, with more females using than males.

CAM use by Difference in Cancer Type and Stage of Cancer

Use of CAM after cancer diagnosis were significant and varied by type of cancer when looking at all types of CAM (See Table 3). Over 75% of breast cancer patients reported any use of CAM compared with 68% of lung cancer patients, 48% of male cancer patients, and 59% of other cancer types (p = 0.025). Use of aromatherapy, deep breathing, guided imagery, and yoga were significantly different by cancer type but not for stage of cancer. There was a trend towards a significant difference in use of herbal medicine and homeopathy by cancer type with breast cancer patients using more than

other cancer types. Homeopathy was significant different by stage of cancer. Those with stage III and IV cancer (10.8% and 11.8%, respectively) were more likely to use homeopathy than those with stage I or II cancer (1.5% and 1.9%, respectively, $p = 0.055$). Of all four categories of CAM, mind-body was the only one that varied significantly by cancer type with breast cancer patients (51.2%) more likely to use mind-body therapies than lung (36.8%), male-genital (18.5%), and other types of cancer (41.3%, $p = 0.027$).

Change in CAM Use after Cancer Diagnosis

Table 4 indicates the frequency of use of each category of CAM therapy before and after being diagnosed with cancer. Close to half of all cancer patients reported using biologically based therapy (48.3%, $n = 84$), mind-body therapy (46.6%, $n = 81$) or manipulative based therapy (50.6%, $n = 88$) before being diagnosed with cancer. Use of biologically based and mind-body therapies before and after cancer diagnosis, was reported by 35.6% of cancer patients ($n = 62$). Manipulative based therapies were used by 27.6% of patients also both before and after cancer diagnosis ($n = 48$). Manipulative based therapies were used by 23% of cancer patients before they were diagnosed with cancer but not used after diagnosis ($n = 40$). Use of biologically based and mind-body therapies were used by 12.6% and 10.9% respectively before cancer diagnosis but not after ($n = 22$, $n = 19$, respectively). Whole medical system therapies were never used by almost 82% of cancer patients ($n = 142$). Biologically based ($n = 75$), mind-body ($n = 82$), and manipulative based therapies ($n = 77$) were never used by 43%-47% of cancer patients. A smaller percentage of patients started to use CAM therapies after being diagnosed with cancer ranging from 3%-8.6% for all therapy categories.

Reasons for Use

A question was included in the survey to learn more about reasons for use. Overall, 52% reported using CAM to manage physical well-being and 44% reported using CAM to manage emotional well-being (See Table 5). Almost 33% of cancer patients who used CAM after being diagnosed with cancer reported doing so for pain management, 28% reported choosing CAM to control symptoms related to cancer treatments, and 25% used for fatigue.

Participants in this study were asked about their health beliefs. Four questions on locus of control and two questions on desire for control were included in the survey to explore the relationship with CAM use and health beliefs. Use of any type of CAM was not significantly related to locus of control or high desire for control.

CAM types that Cancer Patients are Interested in Learning More About

The survey asked participants to indicate different types of CAM that they were interested in learning more about. Of the seventeen CAM therapies included in the survey, massage, dietary supplements, progressive relaxation, special diets, and deep breathing were therapies that cancer patients were interested in learning more about (See Table 6). The types of therapies that cancer patients were least interested in learning more about were tai chi/qigong, Traditional Chinese Medicine, guided imagery, and biofeedback. Participants indicated how likely it was they would utilize the therapies offered through the MHS Integrative Medicine department. While the MHS Integrative Medicine department is still being developed, 32% reported not likely to utilize the department, 34% reported that they were somewhat likely to utilize the department, and 23% reported that they were very likely to utilize the department. Eleven percent reported

that they would need more information on cost and types of CAM that would be offered at the Integrative Department.

Disclosure to provider by use of CAM

The questionnaire inquired about patient's disclosure to their provider who coordinated cancer care about the individual's use of CAM (See Table 7). Almost 64% of cancer patients who used biologically based therapies told their provider about their use. Of those who used mind-body or manipulative based therapies, 55.6% reported telling their provider. Of those indicating use of whole medical system therapies, 56.3% reported telling their provider.

Research question one:

What types of Complementary and Alternative Medicines are cancer patients at the Midwestern Health System using and interested in learning more about?

To gain a better understanding on the types of CAM that cancer patients are interested in, the survey asked questions about the types of CAM cancer patients were using. Survey participants reported using biologically based therapies at the highest frequency, followed by mind-body, manipulative, and whole medical system therapies. It is assumed that cancer patients who use these types of CAM have general interest in them. Cancer patients were asked to report about types of CAM they were interested in learning more about. The most common types of CAM that cancer patients were interested in learning more about were massage, dietary supplements, and progressive relaxation. When looking at all 17 types of CAM, the frequency of interest didn't get above 40%. In general, interest in learning more about the 17 types of CAM listed in the survey was low. The survey did not include an option to indicate any other types of CAM

that were not part of the list provided. One cancer patient indicated using healing touch, reiki, and therapeutic touch for supplemental cancer treatments all of which were not included in the survey. Another cancer patient indicated that they utilize their Catholic faith as a source of peace. This would fall under the spiritual practices.

Research question two:

Is there a difference regarding Complementary and Alternative Medicine use in 18-50 year old cancer patients compared to cancer patients over the age of 50?

Data collected confirmed that cancer patients in the younger age group (18-50) used CAM at a higher rate for biologically based, mind-body based, and manipulative based therapies. Younger cancer patients (18-50) were more likely to use manipulative based therapies than cancer patients who were 51-65 and 65 and older. Manipulative based therapies included chiropractic/osteopathic, and massage. Younger cancer patients were also slightly more likely than patients over the age of 51 to use of mind-body based therapies. Dietary supplements, aromatherapy, deep breathing, tai chi/qigong, and yoga were significantly different by age with those 18-50 years of age more likely to use than those 51-65 and 66 years of age and over.

Research question three:

To what degree does locus of control influence use of Complementary and Alternative Medicine among cancer patients at the Midwestern Health System?

The survey asked cancer patients to answer questions regarding their health beliefs as it relates to cancer. Locus of control and desire for control over health was tested to determine if those with high internal locus of control and high desire to control adverse situations, like cancer diagnosis, would use CAM more than those who had high

external locus of control or didn't have a desire for control over their health. Use of any type of CAM indicated no relationship with locus of control or high desire for control related to health.

Table 2 Difference of CAM use by Age and Gender

Therapy	Total	Age			Gender	
		18-50	51-65	66+	Female	Male
Any use of CAM[a,g]	66.7%	81.1%	67.9%	54.7%	73.5%	52.6%
Biologically based[a]	44.3%	51.4%	51.2%	28.3%	47%	38.6%
• Dietary Supplements[a]	37.4%	46%	42.9%	22.7%	40.2%	31.6%
• Herbal Medicine	10.9%	10.8%	13.1%	7.6%	12%	8.8%
• Special diets	17.8%	27%	19%	9.4%	17.1%	19.3%
Mind-Body[g]	42%	54.1%	44.1%	30.2%	49.6%	26.3%
• Aromatherapy[a]	8.1%	18.9%	8.3%	0	12%	0
• Biofeedback	0	0	0	0	0	0
• Deep Breathing[a]	25.3%	40.5%	23.8%	17%	29.1%	17.5%
• Guided Imagery[g]	5.6%	10.8%	6%	1.9%	8.6%	0
• Meditation	10.9%	13.5%	10.7%	9.4%	12.8%	7%
• Progressive Relaxation	10.3%	10.8%	10.7%	9.4%	88%	93%
• Spiritual therapy	18.4%	21.6%	21.4%	11.3	20.5%	14%
• Tai chi/ Qigong[a]	1.7%	8.1%	0	0	2.6%	0
• Yoga[a,g]	8.6%	24.3%	6%	1.9%	12.8%	0
Manipulative based[a,g]	32.8%	48.7%	34.5%	18.9%	37.6%	22.8%
• Chiropractic/ Osteopathic	20.1%	27%	23.8%	9.4%	22.2%	15.8%
• Massage	19.5%	27%	20.2%	13.2%	23.1%	12.3%
Whole medical system	9.8%	5.4%	14.3%	5.7%	9.4%	10.5%
• Acupuncture	5.2%	2.7%	8.3%	1.9%	4.3%	7%
• Homeopathy	4.6%	2.7%	7.1%	1.9%	6%	1.8%
• Traditional Chinese Medicine	.6%	0	0	1.9%	0	1.8%

[a]indicates a significant difference in use by age, [g]indicates a significant difference in use by gender

Table 3 CAM use by Difference in Cancer Type and Stage of Cancer

Therapy	Total	Type of cancer				Stage			
		Breast	Lung	Male	Other	I	II	III	IV
Any use of CAM[t]	66.7%	76.8%	68.4%	48.2%	58.7%	75%	59.6%	62.2%	64.7%
Biologically based	44.3%	51.2%	42.1%	37%	37%	47%	48.1%	29.7%	52.9%
• Dietary Supplements	37.4%	43.9%	26.3%	29.6%	34.8%	39.7%	42.3%	27%	35.3%
• Herbal Medicine	10.9%	12.2%	26.3%	7.4%	4.4%	10.3%	9.6%	10.8%	17.7%
• Special diets	17.8%	14.6%	15.8%	14.8%	26.1%	13.2%	15.4%	24.3%	29.4%
Mind- Body[t]	42%	51.2%	36.8%	18.5%	41.3%	47.1%	30.8%	46%	47.1%
• Aromatherapy[t]	8.1%	14.6%	5.3%	0	2.1%	8.8%	2%	10.8%	17.7
• Biofeedback	0	0	0	0	0	0	0	0	0
• Deep Breathing[t]	25.3%	30.5%	31.6%	3.7%	26.1%	27.9%	15.4%	32.4%	29.4%
• Guided Imagery[t]	5.6%	12.2%	0	0	0	7.4%	3.9%	5.4%	5.9%
• Meditation	10.9%	14.6%	10.5%	7.4%	6.5%	13.2%	5.8%	8.1%	23.5%
• Progressive Relaxation	10.3%	12.2%	5.3%	7.4%	10.9%	14.7%	5.8%	8.1%	11.8%
• Spiritual therapy	18.4%	20.7%	10.5%	7.4%	23.9%	19.1%	11.4%	24.3%	23.5%
• Tai chi/ Qigong	1.7%	3.7%	0	0	0	1.5%	1.9%	2.7%	0
• Yoga[t]	8.6%	17.1%	5.3%	0	0	11.8%	9.6%	2.7%	5.9%
Manipulative based	32.8%	40.2%	36.8%	22.2%	23.9%	38.2%	26.9%	24.3%	47.1%
• Chiropractic/ Osteopathic	20.1%	22%	31.6%	14.8%	15.2%	22%	13.5%	21.6%	29.4%
• Massage	19.5%	26.8%	15.8%	11.1%	13%	23.5%	19.2%	8.1%	29.4%
Whole medical system	9.8%	8.5%	21.1%	11.1%	6.5%	7.4%	9.6%	10.8%	17.7%
• Acupuncture	5.2%	4.9%	5.3%	7.4%	4.4%	7.4%	5.8%	0	5.9%
• Homeopathy[s]	4.6%	4.9%	15.8%	0	2.2%	1.5%	1.9%	10.8%	11.8%
• Traditional Chinese Medicine	.6%	0	0	3.7%	0	0	1.9%	0	0

[t]indicates a significant difference in use by age, [s]indicates a significant difference in use by gender

Table 4 Change in CAM use after cancer diagnosis

Therapy	Before & during	Before not during	Never used	New user
Biologically based	35.6%	12.6%	43%	8.6%
Mind-Body	35.6%	10.9%	47%	6.3%
Manipulative based	27.6%	23%	44.2%	5.1%
Whole medical system	6.9%	8.6%	81.6	2.9%

Table 5 Reasons for Use

Reason	Yes
Physical well-being	51.7% (60)
Emotional well-being	44% (51)
Pain	32.8% (38)
Symptoms related to treatment	27.6% (32)
Fatigue	25% (29)
Improve immune system	25% (29)
Prevent reoccurrence	19.8% (23)
Nausea	6.9% (8)

Table 6 Types of CAM that cancer patients are interested in learning more about

Type of Therapy	Interest
Massage	37.4%
Dietary Supplements	30.5%
Progressive Relaxation	29.9%
Special diets	29.3%
Deep Breathing	28.7%
Acupuncture	27%
Herbal Medicine	26.4%
Meditation	25.9%
Yoga	23.6%
Spiritual therapy	23.6%
Homeopathy	23.6%
Aromatherapy	23%
Chiropractic/ Osteopathic	19.5%
Tai chi/ Qigong	18.4%
Traditional Chinese Medicine	18.4%
Guided Imagery	17.2%
Biofeedback	17.2%

Table 7 Disclosure to provider by use of CAM

Type of Therapy	Disclosed use to provider
Biologically based	63.9%
• Dietary Supplements	67.2%
• Herbal Medicine	57.9%
• Special diets	62.1%
Mind- Body	55.6%
• Aromatherapy	64.3%
• Biofeedback	0
• Deep Breathing	52.3%
• Guided Imagery	60%
• Meditation	63.2%
• Progressive Relaxation	52.9%
• Spiritual therapy	50%
• Tai chi/ Qigong	33.3%
• Yoga	66.7%
Manipulative based	55.6%
• Chiropractic/ Osteopathic	50%
• Massage	54.6%
Whole medical system	56.3%
• Acupuncture	50%
• Homeopathy	50%
• Traditional Chinese Medicine	100%

DISCUSSION

Results from this study indicated that biologically based therapies were the most commonly used among cancer patients at the MHS. This aligns with the findings by Wyatt *et al.* (2010) who also found biologically based therapies were used most often in their research regarding CAM use and cancer patients. About one-third of participants reported using manipulative therapies. Whole medical system therapies were the least commonly used among study participants. In this study, younger cancer patients (18-50) and females were more likely to use CAM than older cancer patients (over 51) and males. These predictors of CAM use are consistent with much of the literature which indicates that CAM use is higher among younger age groups and females (Smith *et al*. 2011, Pan *et at.* 2012).

Breast cancer patients were more likely to use any type of CAM compared to other types of cancer. Much of the literature on CAM use has been focused on breast cancer patients determining patterns and reasons for use of CAM (Buettner *et al.* 2006). One of the strengths from this current study is that it included different types of cancers and studied four stages of cancer. It should be noted that just under half of all study participants had breast cancer which may explain the low variance among types of cancer and decrease the statistical power to show difference in use of CAM by different types of cancer. Use of CAM was not significantly different by stage except for homeopathy where those with stage IV cancer were more likely to use than stages I, II, or III.

The literature indicates that cancer patients are more likely to use CAM after being diagnosed with cancer if they had used CAM any time before being diagnosed (Pan *et at.* 2012). To understand the effects of knowledge and use of CAM before cancer diagnosis on the predictors of new users and frequency of cancer patients using CAM after diagnosis, participants in this study were asked about their CAM use before and after diagnosis. Nearly half of the cancer patients reported using biologically based, mind-body, or manipulative based therapy before ever being diagnosed with cancer. With that, about one third of cancer patients reported using biologically based, mind-body, or manipulative based therapies before and after cancer diagnosis. A very small proportion of cancer patients reported using CAM for the first time after cancer diagnosis.

From cancer diagnosis through the stages of treatment and survivorship, a toll is taken on health and well-being. There are short and long term effects of cancer treatments creating challenges to overcome. Cancer patients reported using CAM for a variety of reasons that related to their health after being diagnosed with cancer. A common goal for cancer patients is to reach the level of health they were at before being burdened by cancer treatments. Even when patients are finished with cancer treatments, they may not feel like their normal self and therefore seek out alternative means to improve their overall health. As expected, the main reason for using CAM was to improve physical well-being followed by improving emotional well-being, decreasing pain, and getting symptom relief. This outcome is consistent with the literature which indicated that patients were using CAM to help reduce cancer related symptoms and improve overall health (Ku & Koo 2011).

Other than tai chi/qigong and Traditional Chinese Medicine, 50%-67% of cancer patients reported informing their provider of their CAM use. This is a good proportion of cancer patients who are informing their provider of their CAM use. This also is supported by the literature. The review of the literature revealed that 40% to 50% of cancer patients don't report this information to their provider (Morris *et al.* 2000). Patient-provider communication is important to talk about the benefits and potential risks of different types of CAM. Communication about CAM can reduce any stigma or judgments, increase support, and add to the patient's overall experience.

Locus of control and desire for control were included in the survey to determine if either of these constructs were associated with CAM use. As it turns out, neither of these were significantly associated with use of any type of CAM. A study conducted by Hedderson *et al.* found that there was no statistical significance with high locus of control and use of any type of CAM. Cancer patients in this study with a high desire for personal control were more likely to use biologically based therapy. While there was no association with use of CAM and locus of control in their study, it was noted that locus of control denotes an assignment of a responsibility whereas desire for control measures an individual's desire for an active role in adverse situations (2004).

This study indicated that there is some interest in learning more about different types of CAM. However there was not an overwhelming desire or interest to learn more. About one-third of the participants reported that they were not likely to utilize the Integrative Therapy department and one-third of the participants reported that they were somewhat likely to utilize this department. This could have been just for the 17 types of CAM listed in the survey or in general. It would be interesting to get more information

about the interests and knowledge of those in the Midwest to see if it matches more closely with the literature, which indicates increasing use and interest specifically among cancer patients (Perlman *et al.* 2012). Communication between cancer patients and their provider is important to facilitate. Some people indicated an interest in CAM, but expressed concerns over cost and accessibility. Looking into some of these barriers and reasons for low interest may help providers approach some of these important topics with their patients. Discussions on use of CAM during treatment planning opens up an opportunity to educate the cancer patient on CAM benefits and how it may react with conventional treatments, give resources about CAM or support groups that are offered, and improves overall care of patient. Culture, personal health beliefs, comfort with other therapies, motivation to try or continue using CAM, and other reasons may hinder or enhance an individual's interest in CAM.

Recommendations

Recommendations include developing a study that prompts a larger response rate from younger cancer patients ages 18-50. Creating a study design that included qualitative and quantitative data may help broaden and deepen the understanding of reasons for use or lack of CAM use. This study asked questions around reasons for using CAM, and didn't research reasons for which individuals were not choosing to use or were not interested in using CAM. Asking cancer patients why they have not used or why they have no interest in using, may help to target some barriers to use and create education opportunities.

Although the MHS is implementing an Integrative Health department to effectively reach patients, development of policies, practices, and outreach to educate and

support therapies offered is highly recommended (Morris *et al.* 2000). Along with education, awareness programs targeting men versus women are recommended. More research on why men are less likely to use CAM than women can help promote CAM to men. Barriers for use include out of pocket cost and lack of insurance coverage, more research is recommended to understand this barrier. More information is needed on the knowledge and attitudes towards CAM by providers. A patient's use of CAM may be affected by a provider's exposure, research, and attitude towards CAM. This study aligned with the literature which found females more likely to use CAM than males. More information is needed whether female providers are more accepting and less skeptical of CAM and therefore more willing to educate patients than male providers. Provider's attitude, education, and exposure to CAM are important to research in order to meet the growing demands of patients interested in CAM. A provider's role in discussing CAM is important and comes with knowledge, support, interest, and evidence-based research. Other considerations that could be researched regarding the providers knowledge on CAM would be of a family member or if they use CAM themselves.

Limitations

Overall, the sample size for this study was small and was conducted at one single institution. Therefore, the study population may not represent the general population of cancer patients or survivors. The population in this study may, however, represent viewpoints of this MHS to give a better understanding to providers.

This was a cross-sectional study gathering information at one point in time. This type of study may be limiting the information that is important to the research on the use of CAM based on changes in knowledge, behavior, and health. A large proportion of

those aged 18-50 declined to participate in this study. Despite oversampling the younger cancer patients, ages 18-50, and a low response rate, there was still a high frequency who reported using CAM. Even though only 22% of the total participants were in the 18-50 year age group, data analysis indicated that the younger age group was more likely to use CAM than those ages 51-65 and 66 years and over. If more cancer patients in the 18-50 age group would have participated in the survey, there may have been a higher significance indicating differences in age and CAM use.

Recall bias may be a limitation as the study population was gathered between January 01, 2012 and December 31, 2013. The survey asked cancer patients about previous use of CAM before cancer diagnosis to compare change in use of CAM after cancer diagnosis. Current cancer patients or those who were newly diagnosed with cancer may have declined to participate in this study.

Another limitation may be the types of CAM included in the study and no option to indicate another type of CAM that may not be on the list. There are many types of CAM and this study wanted to look into not just the types of CAM that people were using but for what reasons and if they were interested in learning more about CAM. This study also took into consideration types of therapies that could be offered at the MHS Integrative Health department. To get a well rounded list of CAM therapies, an extensive research of the literature was completed to compile the most frequently used and to get a better understanding of cancer patients at MHS use and interest.

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APPENDIX A

CONSENT FORM

QUESTIONNAIRE

June 13, 2014

Dear Patient,

The use and interest of Complementary and Alternative Medicines is increasing. Specifically those diagnosed with cancer are turning to these therapies to try to increase their well-being. We are surveying Gundersen Health System Cancer and Blood Center patients to determine what types of complementary or alternative therapies they are currently using or are interested in using. This will aid in the development of the Integrative Therapy Department at Gundersen Health System. All adults above the age of eighteen diagnosed with cancer in the past two years and receiving follow-up care at Gundersen's Center for Cancer and Blood Disorders were sent this survey. It is being done by Gundersen Health System and the University of Wisconsin-La Crosse jointly. Please keep in mind:

- Filling out this survey is voluntary. Your decision to complete this survey will not affect your present or future care.
- The survey should take about 10-15 minutes to do.
- If you do not want to answer a question for any reason, you do not have to. We are interested in your opinions. There are no right or wrong answers.
- Please do not put your name on the survey. The identification number is only used to aid us in keeping your answers confidential.
- By sending us the completed survey, you are giving us consent to use your answers along with everyone else's to help us research this topic. The aggregate results from this study may be reported in a scientific journal.
- When finished, please put the survey in the enclosed postage-paid return envelope, and put it in the mail. (or mail to: Gundersen Health System, 1900 South Avenue, NCA1-04, La Crosse, WI 54601),
- Please complete the survey by **July 15, 2014**.

If this survey causes you any discomfort or if you are looking for additional community resources, please call Great Rivers 2-1-1 (dial 2-1-1). For more information regarding this study, contact the principal investigator of this survey: Martina Mellang, University of Wisconsin-La Crosse, at (608) 785-8162. For more information about your rights as a research participant, contact Bernard J. Hammes, PhD, chair of the Gundersen Institutional Review Board at 1-800-362-9567.

Thank you for helping us study the needs of our community!

Sincerely,

Leah Dietrich, MD, Hematology/Medical Oncology
Gundersen Health System

Complementary and Alternative Medicine Definitions

Please use the following definitions as a guide when filling out the survey.

Acupuncture: The stimulation of points on the body using a variety of techniques. Thin, solid, metallic needles are used to penetrate the skin.

Aromatherapy: Uses essential oils from plants (flowers, herbs, or trees).

Biofeedback: Uses electronic devices to teach you how to consciously produce the relaxation response.

Chiropractic/ Osteopathic: Adjustments to the spine or other parts of the body to correct alignment problems, alleviating pain, improving function, and supporting the body's natural ability to heal its self.

Deep breathing: Consciously breathing slow and focus on taking regular and deep breaths.

Dietary Supplements: May include vitamins, minerals, herbs, or other botanicals, amino acids, and substances such as enzymes, organ tissues, glandular extracts, and metabolites.

Guided imagery: Focus on pleasant images to replace stressful feelings and relax. May be directed by you or a practitioner through descriptions designed to suggest mental images.

Herbal medicines: Herbs are crude plant material such as leaves, flowers, fruit, seed, stems, wood, bark, roots, rhizomes or other plant parts.

Homeopathy: A practice of medicine that embraces a holistic, natural approach 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.

Massage: Uses many techniques to press, rub, and otherwise manipulate the muscles and other soft tissues of the body.

Meditation: techniques, such as a specific posture, focused attention, and an open attitude toward distractions are used. Results include calmness, physical relaxation and psychological balance.

Progressive relaxation: Tighten and relax each muscle group. Can be combined with guided imagery and breathing exercises.

Special Diets: To include but not limited to, becoming vegetarian, adopting other diets, eating more fruits and vegetables, less red meat, less fat, fasting, juicing, protein powders, and weight loss.

Spiritual Therapy: An individual's sense of peace, purpose, and connection to others, and beliefs about the meaning of life to include praying, chanting, and spiritual healing.

Traditional Chinese Medicine: Originated in ancient China and has evolved over thousands of years. Practitioners use herbs, acupuncture, and other methods to treat a wide range of conditions.

Tai chi/ Qigong: Practices from traditional Chinese medicine that combine specific movements or postures, coordinated breathing, and mental focus.

Yoga: Meditative movement focusing on mind and body practices. Styles of yoga typically combine physical postures, breathing techniques, and meditation or relaxation.

ID : _____

Complementary and Alternative Medicine Use and Interest

Please complete the following survey and return by June 30, 2014 in the enclosed envelope.

1. In general would you say your health is:

◯ Excellent ◯ Very Good ◯ Good ◯ Fair ◯ Poor

2. **Before your cancer diagnosis**, did you use or have you used any of the following therapies?

Therapy		
Acupuncture	◯ Yes	◯ No
Aromatherapy	◯ Yes	◯ No
Biofeedback	◯ Yes	◯ No
Chiropractic/ Osteopathic	◯ Yes	◯ No
Deep Breathing	◯ Yes	◯ No
Dietary Supplements	◯ Yes	◯ No
Guided Imagery	◯ Yes	◯ No
Herbal Medicines	◯ Yes	◯ No
Homeopathy	◯ Yes	◯ No
Massage	◯ Yes	◯ No
Meditation	◯ Yes	◯ No
Progressive Relaxation	◯ Yes	◯ No
Special diets	◯ Yes	◯ No
Spiritual Therapy	◯ Yes	◯ No
Traditional Chinese Medicine	◯ Yes	◯ No
Tai chi/ Qigong	◯ Yes	◯ No
Yoga	◯ Yes	◯ No

3. Have you used any of the following therapies **since your cancer diagnosis**? How often?

Therapy					
Acupuncture	◯ Never	◯ Tried 1 time	◯ 1-2 times a month	◯ weekly	◯ daily
Aromatherapy	◯ Never	◯ Tried 1 time	◯ 1-2 times a month	◯ weekly	◯ daily
Biofeedback	◯ Never	◯ Tried 1 time	◯ 1-2 times a month	◯ weekly	◯ daily
Chiropractic/ Osteopathic	◯ Never	◯ Tried 1 time	◯ 1-2 times a month	◯ weekly	◯ daily
Deep Breathing	◯ Never	◯ Tried 1 time	◯ 1-2 times a month	◯ weekly	◯ daily
Dietary Supplements	◯ Never	◯ Tried 1 time	◯ 1-2 times a month	◯ weekly	◯ daily
Guided Imagery	◯ Never	◯ Tried 1 time	◯ 1-2 times a month	◯ weekly	◯ daily
Herbal Medicines	◯ Never	◯ Tried 1 time	◯ 1-2 times a month	◯ weekly	◯ daily
Homeopathy	◯ Never	◯ Tried 1 time	◯ 1-2 times a month	◯ weekly	◯ daily
Massage	◯ Never	◯ Tried 1 time	◯ 1-2 times a month	◯ weekly	◯ daily
Meditation	◯ Never	◯ Tried 1 time	◯ 1-2 times a month	◯ weekly	◯ daily
Progressive Relaxation	◯ Never	◯ Tried 1 time	◯ 1-2 times a month	◯ weekly	◯ daily
Special diets	◯ Never	◯ Tried 1 time	◯ 1-2 times a month	◯ weekly	◯ daily
Spiritual Therapy	◯ Never	◯ Tried 1 time	◯ 1-2 times a month	◯ weekly	◯ daily
Traditional Chinese Medicine	◯ Never	◯ Tried 1 time	◯ 1-2 times a month	◯ weekly	◯ daily
Tai chi/ Qigong	◯ Never	◯ Tried 1 time	◯ 1-2 times a month	◯ weekly	◯ daily
Yoga	◯ Never	◯ Tried 1 time	◯ 1-2 times a month	◯ weekly	◯ daily

4. Which of the following reasons describes why you chose to use the above therapies after your cancer diagnosis? Please check all that apply. **Note:** Scientific evidence is limited and use of these therapies has not proven to have the following outcomes.

◯ Pain ◯ Fatigue ◯ Nausea ◯ Control symptoms related to treatment

◯ Improve immune system ◯ Prevent reoccurrence ◯ Emotional well-being

◯ Physical well-being ◯ Other_____

◯ Never used any of the above therapies

5. How strongly do you agree with the following statement using the therapies from question 3: The use of these therapies for my cancer has greatly improved my health and well-being?

◯ Strongly Agree ◯ Agree ◯ Disagree ◯ Strongly Disagree ◯ Don't know/never used

6. Did you tell the doctor who coordinates your cancer care what complimentary therapies you used?

◯ Yes ◯ No ◯ Never used

7. Would you be interested in learning more about using any of these therapies?

Therapy			
Acupuncture	◯ Yes	◯ No	◯ Don't Know
Aromatherapy	◯ Yes	◯ No	◯ Don't Know
Biofeedback	◯ Yes	◯ No	◯ Don't Know
Chiropractic/ Osteopathic	◯ Yes	◯ No	◯ Don't Know
Deep Breathing	◯ Yes	◯ No	◯ Don't Know
Dietary Supplements	◯ Yes	◯ No	◯ Don't Know
Guided Imagery	◯ Yes	◯ No	◯ Don't Know
Herbal Medicines	◯ Yes	◯ No	◯ Don't Know
Homeopathy	◯ Yes	◯ No	◯ Don't Know
Massage	◯ Yes	◯ No	◯ Don't Know
Meditation	◯ Yes	◯ No	◯ Don't Know
Progressive Relaxation	◯ Yes	◯ No	◯ Don't Know
Special diets	◯ Yes	◯ No	◯ Don't Know
Spiritual Therapy	◯ Yes	◯ No	◯ Don't Know
Traditional Chinese Medicine	◯ Yes	◯ No	◯ Don't Know
Tai chi/ Qigong	◯ Yes	◯ No	◯ Don't Know
Yoga	◯ Yes	◯ No	◯ Don't Know

8. How likely would you be to use other complimentary therapies if Gundersen offered them in addition to acupuncture, biofeedback, dry needling, and massage that are already offered through Gundersen's Integrative Medicine department?

◯ Not Likely ◯ Somewhat likely ◯ Very likely

◯ Need more information → please specify:

_____

9. Do you or have you participated in a cancer support group? ◯ Yes ◯ No

10. **Particularly in relation to cancer**, please mark if you strongly agree, agree, disagree, or strongly disagree with the following statements below based on your beliefs about health. ***Circle one number for each statement.***

Health Beliefs related to cancer:	Strongly Agree	Agree	Disagree	Strongly Disagree
If I become sick, I have the power to make myself well again.	1	2	3	4
I am directly responsible for my own health.	1	2	3	4
Whatever goes wrong with my health is my own fault.	1	2	3	4
My physical well-being depends on how well I take care of myself.	1	2	3	4
When I feel ill, I know it is because I have not been taking care of myself properly.	1	2	3	4
I can pretty much stay healthy by taking care of myself.	1	2	3	4
I want as much control as possible over decisions related to my cancer treatment.	1	2	3	4
I want as much control as possible when dealing with my cancer related symptoms.	1	2	3	4

Thank you for completing this survey.

Please enclose the survey in the pre-addressed envelope or mail to Martina Mellang, Gundersen Health System, 1900 South Avenue, NCA1-04, La Crosse, WI 54601.