Attitudes and knowledge of occupational therapy professionals of complementary and alternative medicine

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Complementary and Alternative Medicine

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Abstract

The purpose of this study was to identify the attitudes and levels of knowledge of occupational therapy professionals in regards to Complementary and Alternative Medicine (CAM). It has been discovered that CAM use is becoming more prevalent; however, patients are not discussing the use of these techniques with their health care professionals (AARP & NCCAM, 2007). Similar studies in parallel health care professions have discovered an overall positive attitude towards CAM’s, as well as low levels of knowledge regarding specific methods, these trends were anticipated (Baugniet, Boon, & Ostbye, 2000).

One thousand surveys were sent to a sample of occupational therapists and occupational therapy assistants in the state of Ohio. Two hundred and seventy three surveys were determined useable out of the 287 surveys returned. The return rate was calculated at 29%. Ninety percent of the respondents were female, 61% were occupational therapists, 39% occupational therapy assistants.

Overall, participants perceived that the use of CAM is increasing. A positive attitude towards CAM techniques was also discovered. Generally, participants reported a low level of knowledge for all CAM modalities. Participants offered specific concerns when considering CAM and occupational therapy such as; research available, professional responsibility, and consumer safety.

The results of this survey reinforce the need for more education for occupational therapy professionals. Occupational therapy professionals should be aware of what patients are doing to supplement treatments offered by conventional treatments. At the very least, health care professionals should be able to direct patients to qualified professionals and accurate, scientific, information.
Complementary and alternative medicine (CAM) is a growing trend in healthcare. Patients are taking control of their treatment in new and diverse ways. As occupational therapists, we need to be aware of what methods our clients are using to supplement conventional medical treatments. The American Occupational Therapy Association (AOTA) has provided the profession with a position paper on this topic, defining CAM within the scope of occupational therapy (Giese, 2005). In this document, AOTA advocates for research to be conducted to determine the efficacy of CAM within occupational therapy practice, and for the inclusion of CAM in educational opportunities (Giese, 2005). This study will outline the definitions of CAMs, who is using them and why. Many other professions have conducted internal parallel studies to investigate and identify attitudes and knowledge of CAM. After an extensive literature review, there were no studies found identifying how occupational therapy professionals, exclusively, feel about CAM and the extent of their current knowledge. This study will survey practicing occupational therapists and occupational therapy assistants to fill this gap.

What is CAM?

The National Center for Complementary and Alternative Medicine (NCCAM) define CAM as “a group of diverse medical and health care systems, practices and products that are not presently considered to part of conventional medicine” (Barnes, Powell-Griner, McFann, & Nahin, 2002). Complementary methods are used in addition to conventional medicine, whereas alternative treatments are performed instead of conventional treatment (Barnes, Powell-Griner, McFann, & Nahin, 2002). NCCAM (2007) has also provided a classification system for CAM therapies. The five categories include: whole medical systems, mind-body interventions,
biologically based therapies, manipulative and body based methods, and energy therapies. Each will be described briefly below.

Whole medical systems are based on theory and practice. Examples include: homeopathy, naturopathic medicine, traditional Chinese medicine, and Ayurveda. Techniques used to enhance the mind’s ability to affect the body are referred to as mind-body interventions such as meditation, prayer, creative therapies, and mental healing. Biologically based therapies involve the use of substances found naturally. Methods such as herbs and animal products do not have scientific research proving their efficacy. Chiropractic techniques including massage and osteopathic handling are classified as manipulative and body-based methods. Energy therapies are divided into two categories; biofield modalities and energy manipulation. Biofield modalities are directed towards the energy field surrounding a patient or client. Methods of applying pressure and/or influencing these fields include Therapeutic Touch, Qi gong, and Reiki. Electromagnetic fields are manipulated in bioelectromagnetic-based therapies such as pulsed fields, alternating-current or direct-current fields, and magnetic fields.

Additional definitions of specific treatments are also delivered via the NCCAM (2007). Widely recognized and easily defined treatments such as acupuncture, chiropractic, imagery, hypnosis, vitamins, natural herbal products, prayer, yoga, and relaxation are included as CAMs. Additional lesser known techniques such as Ayurveda, Qi gong, and others, will be further explained here. Ayurveda is an ancient Indian medical system that incorporates diet and herbal remedies and also places focus on mind, body, and spirit interaction to prevent and/or cure disease. Energy therapies that manipulate electromagnetic fields affect the force that surrounds every electric device. The currents of the Earth’s core are said to create these fields that are also responsible for thunderstorm activity in the atmosphere. Homeopathic medicine is built on the
belief that “like cures like,” a smaller dose of what causes the symptom is given to cure the current problem. This concept is similar to vaccination treatment. Another CAM alternative medical system is that of naturopathic medicine. Naturopathy emphasizes the healing power that the body establishes, maintains and restores health. Common interventions include exercise, medicinal plants, dietary supplements, lifestyle counseling, and homeopathy. A form of conventional medicine that has been included in NCCAM’s definitions of CAM alternative medical systems is osteopathic medicine. The focus of this system is the musculoskeletal system and the interaction of other body systems in relation to disease. Manipulation may be used to restore function and alleviate pain. Yet another uncommon treatment is Qi gong. Immune and body functions are thought to be improved by the manipulation of blood flow through the interventions of breathing exercises, meditation, and movement. Reiki is a spiritual and energy driven modality. A practitioner heals a patient’s spirit, which in turn improves physical function. Finally, Therapeutic Touch is a professional technique of “laying-on of hands”. The therapist affects the energy field that surrounds a patient with his or her hands, detecting and correcting imbalances. These definitions are not inclusive of all alternative methods, but only intended to provide orientation to specific CAMs.

Incidence and prevalence

Much research has been performed in the last two decades defining the typical patients and characteristics of CAM use in an ever-changing society. Prevalence and use of CAMs ranges from 35 – 67% depending on the sample (Barnes et al., 2002; Kessler, Davis, Foster, Van Rompay, Walters, & Wilkey, et al., 2001). This demonstrates the idea that multiple factors play a role in CAM use. Persons in different geographical regions, cultural backgrounds, and religious beliefs may have a large impact. In a national study performed by the Center for Disease Control
(CDC), it was found that when prayer and multivitamins were added to the definition of CAMs the number of users increased from 36% to 62% (Barnes, Powell-Griner, McFann, & Nahin, 2002). Specific populations have been studied as well. In older adults surveyed by the American Association of Retired People (AARP) and NCCAM (2007), 63% of the respondents had used at least one CAM technique. This number has increased from 35% of older adults who had participated in an earlier 2000 survey (Foster, Phillips, Hamel, & Eisenberg, 2000). These conflicting results reflect multiple individual differences and remind practitioners, of traditional and non-traditional medicine, that patients may be adding to their treatment. In fact, in 1998 it was found that monies spent for visits to alternative care practitioners of the previous year had exceeded the projected amount spent for traditional care physicians by an estimated $243 million (Eisenberg et al., 1998). This shows that patients are moving towards alternative methods instead of, or in addition to, conventional treatments.

Specific trends and socio-demographic characteristics have been identified by multiple studies. The typical CAM user tends to be female, aged younger than 65, highly educated, a higher income than the national average, and hospitalized within the past year (Barnes, Powell-Griner, McFann, & Nahin, 2002; Tindle, Davis, Phillips & Eisenberg, 2005; Eisenberg et al., 1998). Another typical characteristic of CAM users show that its use is less common with African Americans, except when including prayer (Conboy et al., 2005). In a 2000 study performed by Foster et al., the authors focused on CAM use in specific age groups. In participants 18-35 years of age, 43% had used CAM. Half of participants aged 36-55 had reported using used CAM. Thirty eight percent of baby boomers, aged 56-64 had used CAM, while 65-74 year old participants showed only 33% usage. The oldest age groups, 75-84 years old, and 85 years and older reported 28% and 17% CAM use respectively. With the aging of
certain age groups (baby boomers and younger), practitioners need to be aware of the likelihood that their patient could either be using these methods, or be open to the idea of their use.

Research has also identified the more common types of CAMs used. Specific techniques such as chiropractic, relaxation, self-prayer, herbs, and exercise/movement treatments have been reported as the most prevalent (Astin, 1998; Conboy et al.; 2005, Tindle et al., 2005). In studies of specific populations, these patterns continue. Persons with disabilities were found to use chiropractic techniques more than other modalities in a study conducted by Krauss, Godfrery, Kirk and Eisenberg, 1998. Older Americans also utilized massage and body manipulation techniques as well as herbs and relaxation techniques more than other age groups (Foster et al., 2000).

Use of CAM may also be determined by specific conditions, cultural beliefs, or trust in conventional medicine. In a well-known study by Astin (1998), “Why patients use alternative medicine”, identified many traits that are typical of CAM users. In addition to the characteristics defined previously, CAMs were more likely to be used when valued within the culture; with patients with specific experiences that changed their view of the world and health; in patients in poorer health; and with people who believed in a relationship between the mind, body, and spirit. Astin also identified specific medical conditions such as anxiety, back problems, and chronic pain that typically lead to CAM use. Having a higher education was identified as the biggest predictor of CAM use. Astin theorized this may be due to the exposure to more information about nontraditional care, the likelihood of questioning conventional practitioners, and the amount of reading that leads to self-education about a certain method of treatment. All of these traits are typical of a highly educated patient. Additional reasons for CAM use included the distrust of conventional medicine of specific practitioners or an institution, a need for control
over one’s own health, and the “belief in importance and value of one’s inner life and experiences” (Astin, 1998, p. 1551).

Many conditions have been identified typical of CAM users. National studies have revealed a collective of problems such as back pain, anxiety, depression, gastrointestinal problems, chronic pain, allergies, muscle sprains and strains, lung disorders, and arthritis (Astin, 1998, Barnes, Powell-Griner, McFann, & Nahin, 2002). Having chronic conditions, such as these listed previously, is typical of CAM users. In the national study sponsored by AARP and the NCCAM (2007), participants listed many common reasons for using alternative methods. Sixty-six percent stated using a CAM for a specific condition, 65% used for overall wellness, 45% used as a supplement to conventional treatment and 42% reported use as a means of prevention.

Patient communication of CAM use

It has been discovered that many persons who use CAMs to treat medical conditions and to promote wellness do so without the consultation with their conventional doctor (AARP & NCCAM, 2007). This practice may carry serious risks. Patients taking multiple medications may be supplementing treatment with herbs, which may result in a negative interaction. The AOTA stated, “issues of client safety and health care worker safety are salient to all areas of occupational therapy practice” (Giese, 2005, p. 269). This position further encourages communication between patient and health care practitioner. Seventy-five percent of persons over the age of 65 have reported to be taking at least one prescription medication (AARP & NCCAM, 2007). It has been previously established that approximately two thirds of that same population also reported use of CAM (Foster et. al., 2000). In the same study, it was discovered that only 31% of these users had discussed this treatment with their doctors. Similarly, Eisenberg et al. (1990) concluded that 89% of participants who went to a CAM provider did so without the
recommendation of a primary health care provider. The authors also determined that 25% of persons using CAMs relied only on the alternative treatments and not conventional medicine (Eisenberg et al., 1990).

Possibilities for reasons why this phenomena would occur were explored in the study “Complementary and Alternative Medicine: What people 50 and older are using and discussing with their physicians” authored by the AARP and NCCAM (2007). When asked why there was no conversation with primary care physicians, 12% of participants stated they believed their doctor would have dismissed the topic or have advised against it, 17% thought the doctor would have no knowledge of the treatment, 30% did not know they should ask, and 42% of the participants responded that their doctor had never asked. These findings enforce the need for practitioners to know what to ask of their patients in order to discover what patients are doing outside of our care to treat health issues. Fifty-six percent of respondents who stated they had talked with their doctors about CAM use stated they, as the patient, initiated the conversation (AARP & NCCAM, 2007). Approximately one fourth of respondents of the same study reported their physician initiated the conversation about CAM use (AARP & NCAAM, 2007). These results are very similar when surveying doctors. In a study by Wahner-Roedler et al. (2006), 26% of physicians reported beginning discussions with their patients about CAM use, whereas patients initiated 63% of dialogue. Conversations between doctors and patients about CAM use consisted of effectiveness of treatment, choice of treatment, interaction possibilities, advice, and safety (AARP & NCCAM, 2007).

Shift of Health Care Paradigm

Over the past few decades, a trend has developed of patients taking control of their care. They want more information and now, with new technology, it is literally at their fingertips.
Patients also want more treatment options away from the medical model. A shift towards holism, a balance between mind, body, and spirit, is appearing. Astin (1998) suggested that this change in paradigms is a result of realizing the importance of spirituality and its effect on health. He and his colleagues also commented that people have “the capacity for considerably more control over their bodies and health than was once imagined” (Astin, Shapiro, Lee & Shapiro, 1999, p. 46).

Patients are taking a more proactive role in their treatment. Information from the internet and other media sources are easily accessible and can be easily misinterpreted (Wetzel, Kaptchuk, Haramati & Eisenberg, 2003).

The idea of postmodernism in health care was described as a change with the patient becoming more knowledgeable and outgoing as stated by Weinblatt and Avrech-Barr (2001). They theorized that occupational therapy as a profession, easily transitions with this new paradigm. Occupational therapy provides patients with control. Situations encountered during therapy are meaningful and purposeful to each individual due to the flexibility of occupation. Learning, or adaptation, is facilitated easily because of naturalistic and personalized treatment. This coordination with patient needs is a central focus of occupational therapy. A client-centered approach is congruent with the new paradigm of holism.

Occupational therapy has a unique opportunity to provide patients with information and treatments involving the mind, body, and spirit. Therapists provide individualized and meaningful treatments for each patient. If patients are open and interested in CAMs due to past experiences or personal backgrounds, occupational therapists need to be knowledgeable about all aspects of beneficial care and possible CAM methods. The AOTA supports this concept. In the position paper “Complementary and Alternative Medicine (CAM)”, it is suggested that occupational therapy professionals determine the use of CAMs with their patients during the
evaluation and intervention processes (Giese, 2005). The association also advocates for the practitioner to document outcomes as a form of research and to determine future treatment for the client (Giese, 2005). Therapists should educate themselves on services available for patients’ such as licensed practitioners in the area, or be able to inform the patient about other possible options for treatment. Giese (2005) suggests that since some CAM use is a part of specific cultures, occupational therapy practitioners need to know how these cultural influences affect occupational therapy services. At the very least, as professionals, occupational therapists and assistants need to be able to guide the patient to correct and relevant information about CAMs. Practitioners need to be aware of concerns and contraindications for use of CAM and always encourage dialogue with the patients’ conventional medical doctor.

*Parallel Professional Studies*

Many professions have surveyed their peers in order to discover their knowledge and attitudes of CAM. Other health care practitioners have identified the need for information and possible education. Kim, Erlen, Kim, and Sok (2006) researched the differences of knowledge, experience with, and attitudes towards CAM with undergraduate nursing students and faculty. Questionnaires were distributed to students in class and in the mailboxes of faculty members. One hundred and fifty three surveys were returned. All students reported some knowledge when discussing massage or mediation, and little knowledge of reflexology. Both faculty and student groups posed positive attitudes towards CAM and its use. The authors discovered that participants stated that CAM use is more likely to be found in community services when compared to a hospital setting. Implications proposed by the authors suggest more education of CAM in curriculums, involve practicing nurses in the production of research, and develop evidence-based practices.
Physician’s familiarities with specific treatments were found to be comparable. In a study performed at an academic medical center, Wahner-Roedler et al. (2006) surveyed physicians to discover their attitudes toward CAM and their knowledge of specific treatments. An internet-based survey was emailed to practicing medical doctors at the Mayo Clinic in Rochester, MN, with 233 physicians responding. The physicians reported highest levels of knowledge with massage, biofeedback, chiropractic, and relaxation techniques; and the least amount of understanding of energy healing. Half of the respondents reported that CAMs have an impact on disease and 57% stated that its use created positive patient satisfaction. The authors identified that CAM use is increasing and will continue to be a part of treatments used by patients. They also advocated for more assessment studies of professionals about their knowledge of these modalities.

In a study performed at the University of Texas, Frye, Sierpina, Boisaubin, and Bulik (2006) researched attitudes towards CAM within the medical student population. In collaboration with the National Institutes for Health (NIH) and NCCAM, the university had planned to change its medical curriculum to include CAM. The authors conducted this initial study to identify students’ current level of knowledge and attitudes. One hundred fifty two, third year medical students were asked to be involved, with 70% responding. It was discovered that students demonstrated greatest comprehension of biologically based treatments and the least comprehension of energy methods. Students reported when practicing medicine, they were less likely to promote a treatment of which they had no knowledge. Within this group of medical students, 85% felt strongly that CAMs should be included in their curriculum. This study reinforced the idea that CAM is a permanent change in health care delivery. Knowledge of alternative interventions is necessary to provide the most holistic treatment.
Research performed by Baugniet, Boon, and Ostbye (2000) was the only study discovered that included occupational therapy students. The authors compared medical (n=61), pharmacy (n=102), nursing (n=86), physiotherapy (n=90), and occupational therapy (n=101) students enrolled in two different institutions during 1997-1998. Researchers used a questionnaire developed for students to determine their attitudes and knowledge towards CAM. Some adaptations were made to the original assessment for the purposes of their study. Ninety four percent of all participants identified the increase in CAM use and conveyed overall positive attitudes. Significant relationships were discovered between student groups. Specifically, occupational therapy students agreed that CAM includes both methods and ideas that would benefit regular medicine when compared to medical students. Occupational therapy and nursing students reported agreement that CAM treatments stimulate natural healing powers significantly higher than all other student groups.

Treatments having the highest knowledge base were chiropractic, massage, herbs, and acupuncture across all student groups. Occupational therapy students stated significantly higher knowledge of aromatherapy and hypnosis as compared to pharmacy students specifically. Occupational therapy students also reported more knowledge of therapeutic touch when compared to physical therapy, pharmacy, and medical students; however, nursing students held a statically higher level of familiarity than all groups. All respondents reported the lowest knowledge of reflexology, homeopathy and faith healing. More than two thirds of all students surveyed stated interest in education about CAM with the exception of the medical students. These results suggest the need for an interdisciplinary approach and inclusion of CAM knowledge. The authors reported that belief in the effectiveness of a specific technique is correlated to level of knowledge within each student group. This concept may easily transfer to a
professional level. Practicing therapists can aid in the growth of CAM education when they understand the effectiveness of each method.

Current Study

Occupational therapy as a profession needs to play an active role in the change in health care management. AOTA has identified the necessity for more research and education regarding this issue (Giese, 2005). Therefore, practitioners should be assessed on their knowledge and attitudes towards CAMs. The profession should document their interest and dedication to appropriate use of CAMs. This study will fulfill this need.

Multiple studies described previously have enforced the idea that this trend in health care is permanent. Occupational therapy should be a part of this interdisciplinary change in care and adapt with this trend. Research and AOTA professional standards dictate that CAM ought to be included with treatment when appropriate in conjunction with occupation-based treatments and in compliance with professional ethics (Giese, 2005). CAM use may be a part of the patients’ culture and the practitioner should understand these cultural influences (Giese, 2005). To this end, occupational therapy professionals should know how to obtain accurate CAM information. Therapists and assistants should also be aware of the appropriate personnel available in their region to refer patients.

This study will be the first in the occupational therapy profession to identify the status of occupational therapy practitioners’ knowledge of and attitudes towards CAM. The purpose of this study is to document the current level of knowledge and specific attitudes of occupational therapists and assistants. It is predicted, as indicated in previous research, that occupational therapy professionals will report little knowledge of CAM (Baugniet, Boon, & Ostbye, 2000; Frye, Sierpina, Boisaubin, & Bulik, 2006; Wahner-Roedler et al., 2006). Past research has
identified positive attitudes toward CAM among other professionals (Baugniet, Boon, & Ostbye, 2000; Kim, Erlen, Kim, & Sok, 2006; Frye, Sierpina, Boisaubin, & Bulik, 2006). This theme is also anticipated.

Methods

Participants

Participants were randomly selected certified occupational therapists and occupational therapy assistants within the state of Ohio. A list of 1,000 practitioners in Ohio was requested via email from the state licensure board. Approval for this study was obtained from the Institutional Review Board at the University of Toledo.

Instrument

The Complementary/Alternative Health Care Questionnaire (see Appendix A) was used. It was obtained with permission from the University of Toronto (Baugniet, Boon, & Ostbye, 2000). Items included in the questionnaire were found reliable and valid in a previous study performed by Verhoef and Sutherland (1995). The first section requested demographic information from the participant. Information such as age, gender, and area of practice was included. Attitudes towards CAMs were requested in the following section. Twelve questions assessed current opinions. Items also identified personal experiences with CAM as well as previous professional use in treatment. Knowledge was then evaluated by the next seven questions by requesting the participant to state a level of familiarity of specifically listed treatments. Osteopathy was included in the original survey as a control item, this fictional technique remained in the current study. Questions were likert-type scales and multiple choice, participants were also provided space for open ended comments.

Procedures
Surveys were mailed to 1,000 randomly selected occupational therapists and occupational therapy assistants. The following items were included in the mailing: the cover letter, a three part survey, and return envelope. A reminder card was mailed four weeks following the initial mailing (see Appendix B).

Results

Demographics

From the total 1,000 surveys mailed, thirty-six mailings were undeliverable, leaving 964 possible surveys. Two hundred seventy eight were completed and returned. The return rate was calculated at 29%. Five of the 278 returned were determined incomplete, resulting in 273 useable surveys.

Of the 273 respondents, 90% were female and 10% were male. In this study, 95% were Caucasian, 2% African-American, 2% Asian-American, 1% Hispanic, and 1% reported their race as other. The average length of time spent in occupational therapy was 13.55 years ($SD = 9.18$, range 0.4 – 48.5). Highest level of education varied from 33% having obtained an associate’s degree, 47% had a bachelor’s degree, and 20% had a master’s degree. No participants held a doctoral degree. Sixty one percent of the respondents were occupational therapists and 39% were occupational therapy assistants.

Perception of demand

When asked to determine the current trend for CAM use, 69% reported demand is increasing, 2% reported demand is decreasing, and 28% stated the demand is stable. Provided with six statements, participants were then asked to rank the top three reasons why patients might seek CAM. The highest scored items included: “treatment with conventional medicine has not been effective” (41%), “desire for a holistic approach to healthcare” (33%), and “desire for a
therapy free of side effects” (21%). Written responses were collected and coded into similar groups, consistent with strategies provided by Dillaway, Lysack, and Luborsky (2006). Of the 19 written-in responses, specific themes were identified: a high cost of conventional medicine (16%), a desire for natural healing methods (16%), the availability of information provided by the internet (11%), the desire to use CAM’s to supplement conventional medicine (11%), the belief that CAM’s are more effective (11%), a decrease of negative side effects (5%), the desire to cure an illness (5%), an increase of self-control (5%), personal recommendations (5%), placebo effect (5%), and cultural influences (5%).

**Description of Personal Experiences Statistics**

Fifty-nine percent of participants reported that they had consulted a complementary/alternative practitioner. From this population, 83% had consulted a massage therapist, and 55% had consulted a chiropractor. Additional professionals consulted included: herbal medicine practitioner (17%), homeopath (15%), Therapeutic Touch practitioner (16%), reflexologist (13%), aromatherapist (10%), acupuncturist (8%), CrainoSacral practitioner (7%), naturopath (6%), faith healer (4%), and Reiki practitioner (3%). No participants reported consulting an ortologist. Over 95% of this same population reported that they had benefitted from consulting a CAM practitioner. Common benefits reported included: a decrease in pain (48%), promote health and wellness (14%), a decrease in stress or an increase in relaxation (10%), a decrease of specific symptoms (8%), an increase in energy (4%), a decrease of side effects (2%), and miscellaneous (5%).

Seventy seven percent of participants reported they have had a friend or family member who had consulted a complementary/alternative practitioner. The most frequently reported methods consulted were chiropractic (71%) and massage (68%). Other services were consulted
as follows: acupuncturist (32%), herbal medicine practitioner (26%), homeopath (21%), Therapeutic Touch practitioner (14%), reflexologist (11%), naturopath (8%), faith healer (7%), aromatherapist (4%), CrainoSacral practitioner (2%), Reiki practitioner (1%), and other (6%).

When asked if the participant had ever self-administered a complementary/alternative therapy without the consultation of a practitioner, 65% reported that they had not, and 35% responded that they had. The most commonly self-administered techniques were herbal medicines (60%), and aromatherapy (35%). Modalities least commonly reported were: homeopathy (17%), CrainoSacral (9%), Reiki and faith healing (6%), naturopathy (4%), and other techniques (27%). Twenty-nine additional responses were written in, these included: massage (24%), music/relaxation (10%), supplements (10%), acupressure, prayer, therapeutic touch, healing touch, and reflexology each 7%; emotional freedom technique, magnets, polarity, tai chi, yoga, and myofascial release each 3%. When asked to provide specific benefits experienced because of self-administering a CAM technique, several patterns arose. Twenty nine percent of this same population reported self-administering CAMs to promote wellness, 28% to decrease stress and/or increase relaxation, 19% to decrease pain, 17% to relieve specific symptoms, 9% to increase energy, 5% to promote better sleep, and 6% participants provided other responses.

Description of Attitude Statistics

The first section of the survey was analyzed to determine general attitudes towards CAM’s. Ten statements were provided and analyzed using Cronbach’s alpha to determine reliability. Portney and Watkins (2000) stated that a Cronbach’s alpha level of .80 signifies a good level of internal consistency. In this study, the attitudes section was found to have a Cronbach’s alpha of .83.
Data revealed a mean score of 38.51 out of a maximum score of 50 (range 26 - 50; SD = 4.51), suggesting an overall positive attitude toward CAM. Participants were asked to rate their level agreement with the statements provided. The highest score of 5 correlated with strong agreement; a score of 1 indicated strong disagreement. Individual mean scores for items ranged from 4.18 (SD = .63) to 3.11 (SD = .89). The range for the ten attitude items was between 1 and 5. A detailed list of item descriptives is provided in Table 1. Nine of the ten statements received positive scores, with at least 50% of participants in agreement. The highest scoring items included: “Complementary medicine is a threat to public health” (89% disagreement), “Occupational therapists should have some knowledge about the most common complementary medicine therapies” (88% agreement), and “Occupational therapists should be aware of what complementary medicine therapies are available in their geographical area” (88% agreement). The lowest scoring statements were “Occupational therapists should be able to advise their patients about commonly used complementary methods” (66% agreement), “The results of complementary medicine are in most cases due to placebo effect” (55% agreement), and “Complementary therapies not tested in a scientific manner should be discouraged” (43% disagreement).

**Description of Usefulness Statistics**

Participants were asked to identify how useful each specific techniques was, based on personal opinion. Consistent with Portney and Watkins (2000), Cronbach’s alpha was calculated at .83, a good level of reliability for the usefulness items. The mean score was calculated at 22.03, out of a possible score of 48 (range 0 - 48; SD = 9.04). The highest rated useful techniques were massage (91%), chiropractic (63%), and acupuncture (59%). Techniques
identified as least useful methods included: hypnosis (27%), naturopathy (20%), and ortology (3%). See Table 2 for a detailed representation of these statistics.

Description of Knowledge Statistics

The section identifying knowledge levels of specific techniques was analyzed to determine internal consistency. It was discovered that this section held a high level of consistency with Cronbach’s alpha being .82 (Portney & Watkins, 2000).

Participants were asked to identify their level of knowledge regarding specific complementary/alternative techniques. A mean score was determined to be 20.69, out of a possible score of 48 and a range of 8 - 34 ($SD = 4.95$). See Table 3 for item descriptives. The majority of participants reported that they “know something about”, “know a considerable amount (could explain it to a patient)”, or “know a lot (could treat a patient)”, in regards to nine out of the twelve techniques. Techniques with the highest scores included: massage (99%), chiropractic (94%), and acupuncture (88%). The items with the lowest scores, “have heard the term, but know nothing about”, and “never heard of”, included ortology (94%), naturopathy (72%), and homeopathy (50%).

When asked where the participant obtained information regarding CAM, participants were allowed multiple responses. Sources of information were reported as follows: friends or family (67%), personal experience (64%), medical literature (52%), popular press (47%), and curriculum (20%). Additional responses included conversations with co-workers and other people (31%), in-services and continuing education courses (24%), hospital affiliations (10%), CAM education specific to a technique (10%), the internet (9%), school (5%), community centers (4%), and other responses (6%).

Rule of Scientific Inquiry statistics
The final section of the survey attained information regarding rules of scientific inquiry. Participants were asked to identify how important each scientific technique was in order to accept a type of therapy. The highest ranked scientific methods identified by participants, which were marked both essential or important included “success in practice” (97%) and “proven mechanism of change” (86%). The only method to receive a low score was that of “animal studies”, with 42% of participants stating that it was “unimportant”. Specific percentages of agreement are found in Table 4.

Correlations

Pearson correlation statistics were conducted to determine the relationships between certain sets of non-skewed data. A significant positive correlation was discovered connecting a higher positive attitude with high knowledge scores \((r = .285, p < .01)\). The more positive attitude a participant had, the higher the knowledge that participant reported. Positive attitude scores were also positively correlated with CAM usefulness ratings \((r = .468, p < .01)\). Participants who had a positive attitude towards CAMs also felt CAMs were more useful. Attitude scores were also positively correlated with older age \((r = .168, p < .006)\). Demonstrating that the older the participant the more positive his or her attitude toward CAMs were. Additional positive correlations were discovered relating to knowledge and usefulness \((r = .542, p < .01)\), and knowledge and age \((r = .212, p < .01)\). The higher the knowledge scores, the higher the attitude and usefulness ratings were as well. Finally, age was positively correlated with usefulness \((r = .261, p < .01)\). Indicating the older the participant, higher usefulness ratings were also reported. Spearmen statistics revealed positive correlations between months of occupational therapy practice and total attitude \((\rho = .141, p < .05)\), knowledge scores \((\rho = .113, p < .05)\), and usefulness \((\rho = .173, p < .01)\). The more experienced occupational therapist possessed a
higher knowledge level of CAMs, a more positive attitudes towards CAMs, and rated CAMs more useful.

Additional Statistics

When asked if the participant had received any education regarding CAM as an occupational therapy professional, 69% reported no. Seventy-eight percent stated they would be interested in receiving training in order to practice CAMs. This question was asked again at the end of the survey, where 95% of respondents reported being interested in CAM education. The question asking if the practitioner had ever discussed CAMs with patients was also asked twice; initially 50% had responded no, with 45% reporting no later in the survey.

Statistics concerning the differences of responses between occupational therapists and occupational therapy assistants were calculated. The mean attitude scores for occupational therapists was 38.47 ($SD = 4.39$) and occupational therapy assistants was 38.54 ($SD = 4.72$). There were no differences between the two groups in terms of attitudes of CAM ($t = .119, p > .05$). Total knowledge scores were also compared. Occupational therapists knowledge mean scores were determined to be 20.77 ($SD = 5.14$). Occupational therapy assistants mean scores of knowledge were 20.59 ($SD = 4.56$). The data revealed no differences between occupational therapists and occupational therapy assistants when comparing their knowledge levels of CAM ($t = .286, p > .05$). Finally, usefulness scores were evaluated and found to have a significant relationship. Occupational therapists identified a mean usefulness score of 20.86 ($SD = 9.19$), while occupational therapy assistant mean usefulness score was determined at 23.71 ($SD = 8.61$). This data reveals that occupational therapy assistants ranked CAMs being more useful than occupational therapists ($t = -2.534, p < .01$).

Qualitative reports
The question, key to the purposes of this study, “Do you feel that occupational therapy professionals need to be aware of CAM’s?” was asked. An overwhelming majority, 95%, responded yes. The final two items allowed for open-ended responses from the participants. The first question asked if the participant would be interested in education about specific CAM methods. Eighty-one percent of respondents reported yes. Of the multiple responses provided by the participants, patterns were identified (n = 181). The most frequent responses regarding an interest in further education included: 28% of participants who responded to this question expressed interest in any continuing education program about CAM; 11% of the same groups of participants requested education specifically regarding massage; 5% participants are interested in CAM education as it relates to occupational therapy; 6% of the participants would only be interested in education that would allow them to better educate their patients; and 6% of this group of participants would like more research or publications in occupational therapy journals. Specifically, participants requested education regarding reflexology (10%), therapeutic touch (8%), aromatherapy (8%).

The final question provided an opportunity for the participants to comment about the study and the topic being researched. Forty-four percent of participants chose to respond, sharing 121 concerns, questions, and suggestions. Some comments were generally positive, such as: “(I) believe patients should have more options and control over their health and wellness”. Conversely, other participants stated why they did not agree with the purpose of the current study. Participant #182 commented, “there is plenty on the OT agenda to work on from well established modes of treatment. OT does not need to encompass every approach available”. Many of the participants stated concern regarding the lack of CAM research (n=25). Participant #20 stated, “therapists may not have accurate knowledge. Patients do need to be
informed of all options and OT can provide information as a medical profession.” Concerns arose regarding the science of occupational therapy while promoting CAM, “it’s important for OT’s to have an expansive knowledge base so they can be an advocate for their clients. However, OT’s must also be careful when advocating for nontraditional methods since OT as a profession is under a microscope for not being able to provide data that suggest the techniques we utilize in therapy to date.”

The aspiration to treat clients holistically was represented in 17 statements. Identified in the comments, “just as we treat the patient as a whole, we need to provide all healing options as a whole. Ultimately it is the patient’s choice,” and “I feel all health care professionals should be aware of anything that will assist a patient.” Specific to occupational therapy, participant #256 stated, “since OT takes a look at the ‘whole’ person, it is possible that CAMs with a proven track record could enhance traditional scientific model.”

Other concerns evaluated the awareness of the medical practitioner to current medication conditions and treatments, and the confusion of “complementary” and “alternative” (n=12). A pattern of apprehension was identified, summarized by participant #203 “if CAMs are brought up by the patient, I think they should consult with their MD first. Also, the patient should make sure the person doing CAMs is certified.”

**Discussion**

AOTA has called for more research concerning CAM and occupational therapy (Giese, 2005). This study fulfills this need by allowing occupational therapy professionals in the state of Ohio to identify personal attitudes towards CAM, knowledge and usefulness of techniques, and describe personal experiences with CAM. The results of this study were found to be consistent with similar past research, demonstrating an overall positive attitude toward CAM, a high level
of knowledge and usefulness regarding specific techniques, and an interest in further education (Baugniet, Boon, & Ostbye, 2000; Kim, Erlen, Kim, & Sok, 2006; Frye, Sierpina, Boisaubin, & Bulik, 2006, Wahner-Roedler et al., 2006).

Eighty six percent of respondents agreed that occupational therapy professionals should have some knowledge of the most common complementary medicine techniques, although 70% of these participants stated that they had received no formal education regarding CAM. This demonstrates a need in the profession. A large number of participants stated they should have more knowledge; however, participants also reported that they have not received any education. More educational opportunities should be available for occupational therapy professionals in order to increase awareness and knowledge of CAM to better serve our patients by providing accurate information. AOTA (Giese, 2005) also advocates advanced training and entry-level education. Similarly, Wahner-Roedler et al. (2006) found that most of the physicians surveyed agreed that they should have knowledge about the most commonly used CAMs. This suggests that more education is needed for all healthcare professionals about CAM use.

This study discovered that the majority of occupational therapy professionals perceive that the demand for CAM is growing (67%), compared to 94% of students surveyed by Baugniet, Boon, and Ostbye (2000). This suggests that students, or future therapists, feel that CAMs will be more widely used, strengthening the need for accurate education and knowledge.

When asked about personal experience with CAM, 59% of the participants from the current study reported they have consulted a CAM practitioner whereas only 28% of healthcare students had reported personal experience with CAMs (Baugniet, Boon, & Ostbye, 2000). Of those participants who reported that they had consulted a CAM practitioner, 95% felt they had received positive personal benefits from the CAM practitioner. Practitioners most likely to have
been consulted by the participants included a massage therapist, a chiropractor, and an herbal medicine practitioner. These results are consistent with the study conducted by Baugniet, Boon, and Ostbye (2000). South Korean nursing students and faculty surveyed by Kim, Erlen, Kim, and Sok (2006) stated they had rare or no experience with CAM practitioners. This difference may be attributed to the fact that the participants of the current study were practicing therapists as opposed to students and faculty. Cultural differences may also have an influence on the results of this study.

The techniques chiropractic, massage, aromatherapy, and herbal medicine, were ranked highest on the knowledge scale, suggesting participants have more knowledge about a technique if they have experienced it personally. Similarly, physicians surveyed by Wahner-Roedler et al. (2006) reported that biofeedback, massage, and chiropractic treatments were techniques they were more familiar with and most likely to refer patients to.

Similar to the survey conducted by Baugniet, Boon, and Ostbye (2000), only 38% of occupational therapy professionals in the current survey reported self-administration of CAM techniques compared to 25% of occupational therapy students. Both surveys identified herbal medicine and aromatherapy as being the most commonly self-administered CAM technique. As stated previously, both techniques were identified as well known to the participants of the current survey. Benefits of self-administering these techniques were consistent with the responses provided by participants who had consulted a CAM practitioner. This suggests that these methods do not require a qualified professional to administer them.

It was discovered that respondents had an overall positive attitude towards CAM. This pattern of support is documented through many studies (Baugniet, Boon, & Ostbye, 2000; Kim, Erlen, Kim, & Sok, 2006; Frye, Sierpina, Boisaubin, & Bulik, 2006). The current survey
revealed high agreement scores with nine of the ten general statements. Consistent with the study of healthcare students, the three highest scoring statements included: “complementary medicine is a threat to public health (reverse scored),” “practitioners should have some knowledge about the most common complementary medicine therapies,” and “practitioners should be aware of what complementary medicine therapies are available in their geographical area” (Baugniet, Boon, & Ostbye, 2000). Agreement with the statements “practitioners should have some knowledge of…” and “practitioners should be aware of…” implicate that both students and therapists perceive CAM education is important.

Attitudes regarding the usefulness of specific techniques were consistent with the similar survey conducted by Baugniet, Boon, and Ostbye (2000). Participants in both studies reported massage and chiropractic techniques as the most useful CAM methods. Perhaps education and research should focus on these techniques because of their perceived usefulness. Conversely, perhaps education and research efforts should involve the lesser known methods.

When asked to identify the level of knowledge the participants had regarding specific techniques, massage therapy and chiropractic methods were ranked highest. This finding is comparable to the results described by Baugniet, Boon, and Ostbye (2000). Lowest scored techniques included homeopathy, naturopathy, and ortology; whereas Baugniet, Boon, and Ostbye (2000) found that homeopathy, faith healing, and reflexology were the lowest scored. These results may guide scholarly research and professional education efforts.

Sources for information about CAM varied. Most participants reported family and friends as well as personal experiences as being the largest sources of information. Formal educational programs received the least amount of responses. This finding demonstrates further the need for more education regarding CAM in formal healthcare curriculums, to increase the level of
accurate knowledge. Giese (2005) also encouraged additional training opportunities for occupational therapy practitioners in order to acquire skill, and knowledge of the techniques, as well as to become familiar with safety concerns when using CAMs.

Positive correlations were discovered relating to attitude, knowledge, usefulness, age, and months in occupational therapy practice. Within the domain of attitude, it was found that high positive attitudes were related to high levels of knowledge and usefulness, as well as older age and months in occupational therapy practice. This indicates that if a person develops a more positive attitude regarding CAM, the other domains will increase as well. The same process occurs when comparing knowledge levels and usefulness scores with age and months in practice. These results indicate that more education, or knowledge, will lead to more positive attitudes and an increase in perceived usefulness. Baugnet, Boon and Ostbye (2000) reported similar findings, correlating high perceived usefulness scores with high knowledge levels. In addition, older age and months in practice lead to positive attitudes, higher knowledge levels, and an increase in perceived usefulness (Baugnet, Boon, & Ostbye, 2000).

Participants were asked to identify research methods that would best prove whether the CAM technique is scientifically acceptable. The highest scoring scientific techniques were success in practice, case studies, and proven mechanism of change. Baugnet, Boon, and Otsbye (2000) reported that occupational therapy students relied on success in practice and patient reports rather than “a mechanism of change” or animal studies.

Implications

This study identified several instances where occupational therapy professionals expressed an interest for, and a lack of, knowledge of CAM. In order for the profession to participate in the changing health care paradigm, educational opportunities should be offered.
Information regarding specific methods, research involving CAM, and its relationship to occupational therapy should be included in the occupational therapy curriculum for both therapists and assistants. AOTA has also documented this need, identifying that “advanced-level training and continuing education are important” (Giese, 2005, p. 269). This learning process should, as revealed by this study, lead to a more positive attitude toward CAM and an increase of perceived usefulness of techniques. Occupational therapy practitioners will then be able to convey accurate and useful information to patients. In a survey of medical students, participants reported that lectures would be the most effective method of learning about CAM, followed by hands-on experience, reading articles, observation, textbook readings, case-based learning, and self-administering therapies (Frye, Sierpina, Boisaubin, & Bulik, 2006). Educational seminars for occupational therapy professionals could easily involve these learning methods.

Research determining the efficacy and effectiveness of CAM treatments is becoming more prevalent due to the funding and advocacy of the NCCAM. Occupational therapy professionals involved in this study identified more research as a need to better understand techniques. However, the number of studies is limited. More research is indicated to increase the knowledge base for all health care practitioners. The need for more scientific studies is also encouraged by AOTA. Research should address the lack of knowledge and skills of occupational therapy practitioners, to meet the needs of patient safety, and to encourage informed CAM participation (Giese, 2005). Due to the scarcity of consistent clinical studies, the health care field should conduct comprehensive CAM research. In a similar survey, physicians reported that randomized control trials and clinical evidence as the most important factors that could affect physician’s attitudes toward CAM (Wahner-Roedler et al., 2006). As suggested by the
participants of this study, occupational therapy journals should promote studies that demonstrate the effectiveness and efficacy of CAM with occupational therapy patients.

**Limitations**

The current survey was limited to occupational therapists and assistants registered in the state of Ohio. Geographical biases may have affected responses; persons practicing in the Midwest may have different responses than those practicing on the West coast. Also, a majority of the participants identified themselves as female and Caucasian, presenting another potential constraint of the data. These factors may reduce the generalizability of the findings of this survey.

Surveys may not have been returned because the participant did not understand CAM, or have a very low level of knowledge of techniques. Possible participants may have also decided to not complete the survey because of a personal conflict. Some occupational therapy professionals may feel that CAM is not within the scope of occupational therapy practice and may have decided not to participate. It is important to understand the attitudes and knowledge of all occupational therapy practitioners in order to accurately generalize the results of this study.

Survey research does not allow for the participant to clarify questions with the researcher, possibly resulting in the respondent misinterpreting the question item. It is possible that questions were misunderstood, leading to inaccurate responses. Another limitation, specific to survey research, is that participants are asked to recall information, which may lead to incorrect information. A final limitation of this survey may be that the responses provided by the each survey item may not have accurately represented the participants’ opinions or experiences. It is possible that respondents chose to not answer an item because of this concept. Opportunities for open-ended comments were offered thought the survey to reduce this limitation.
Future Research

Additional studies using the same survey tool should be conducted to further assess the attitudes and knowledge of health care practitioners. Specifically, occupational therapy professionals should be evaluated at a national level to determine the needs of the profession and to increase the generalizability of results. It may be important to identify the levels of knowledge from time to time within the profession in order to monitor the effects of educational opportunities. A survey of attitudes and knowledge should be conducted at a regular interval to determine the effectiveness of education. Knowledge is only useful when it is disseminated and used correctly.

Conclusion

Discovering the attitudes and knowledge levels of CAM with occupational therapy professionals is very important. The very nature of occupational therapy involves trust between the practitioner and the patient. For those patients who are complimenting or replacing conventional treatment methods with CAM, occupational therapists and assistants may have the unique opportunity to promote conversation. The practitioner must be knowledgeable regarding techniques commonly used by patients, especially regarding safety concerns and contraindications. The results of this study confirm the need for more research and education through the requests made by the participants. The occupational therapy profession and AOTA should consider this need when preparing future educational opportunities. Likewise, health care researchers should provide more studies regarding the efficacy of CAM techniques in order to disseminate accurate scientific information.


Appendix A

Part one

Informed Consent Letter

IRB Number __________

Dear Colleague:

You were selected as part of a random sample of currently practicing occupational therapy professionals to participate in a survey regarding your attitude toward complementary and alternative medicines (CAMs). I am conducting this survey to fulfill the requirements for my Doctoral degree in Occupational Therapy at the University of Toledo Health Science Campus. The results of this study will be used for research purposes only.

The enclosed questionnaire will take approximately 20 minutes of your time. It is my intention to assess occupational professionals’ attitudes and knowledge of CAM’s. Occupational therapy needs to document interest in CAM’s just as other health care professions already have. The National Center for Complementary and Alternative Medicine (NCCAM) has defined CAM as a collection of medical and health care systems, products and practices that are currently not a part of traditional medicine.

Participation in this study is confidential, voluntary and anonymous. By completing the survey you are implying your consent to participate in this study. Please do not include any identifying information on your questionnaire. Return your completed survey by _______ in the enclosed self-addressed envelope. If you have any questions or concerns please feel free to contact Kristin Anderson at (419) 360-1193 or Barbra Kopp Miller at (419) 383-4289.

Thank you for your time and participation.

Sincerely,

Barbara Kopp Miller, Ph.D.
Principal Investigator

Kristin Anderson, OTDS
Co-Investigator
Demographic Information

1. Are you? □ Female □ Male

2. What is the year of birth? __________

3. What is your race?
   □ Hispanic □ Asian-American
   □ Caucasian □ Other (please specify)
   □ African-American

4. How many years and months have you been in the occupational therapy field? __________

5. What is your highest level of education?
   □ Associate's Degree □ Master's Degree
   □ Bachelor's Degree □ Doctoral Degree

6. What is your professional certification?
   □ Occupational Therapist □ Occupational Therapy Assistant

7. With which population is your main area of practice?
   □ Outpatient □ Rehabilitation
   □ Inpatient □ Long Term Care
   □ Other (please specify) □ Pediatrics
8. Have you received any education as an Occupational Therapist about Complementary and/or Alternative Medicine (CAM)?

☐ No

☐ Yes (please describe) _____________________________________________

___________________________________________________________________

9. At some point in your career, would you be interested in receiving training to prepare you to practice any form of CAM?

☐ No ☐ Yes

10. Have you ever discussed CAM's with your patients?

☐ No

☐ Yes (please explain) _____________________________________________

___________________________________________________________________
General Attitudes

1. Please indicate the level to which you agree or disagree with the following statements by checking the appropriate box.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Complementary medicine is a useful supplement to regular medicine.</td>
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<tr>
<td>b) The results of complementary medicine are in most cases due to a placebo effect.</td>
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<td></td>
</tr>
<tr>
<td>c) Complementary medicine includes ideas and methods from which regular medicine could benefit.</td>
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<td></td>
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<tr>
<td>d) Complementary medicine is a threat to public health</td>
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<tr>
<td>e) Complementary therapies not tested in a scientific manner should be discouraged.</td>
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</tr>
<tr>
<td>f) Most complementary medicine therapies stimulate the body's natural healing powers.</td>
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</tr>
<tr>
<td>g) Occupational therapists should have some knowledge about the most common complementary medicine therapies.</td>
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</tr>
<tr>
<td>h) Occupational therapists should be aware of what complementary medicine therapies are available in their geographical area.</td>
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<tr>
<td>i) Occupational therapists should be able to advise their patients about commonly used complementary methods.</td>
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<tr>
<td>j) Occupational therapists should not discuss complementary medicine therapies with their patients as it may prompt them to use them.</td>
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</tbody>
</table>
Perception of Patient demand for Complementary/Alternative Medicine

2. In your opinion, is patient demand for complementary/alternative medicine:

☐ increasing  ☐ decreasing  ☐ stable

3. In your opinion, what are the top 3 reasons why patients might seek complementary/alternative medical care?

(Please rank your top 3 by writing 1, 2 or 3 beside the reason)

☐ skepticism about conventional medicine
☐ desire for more time and personal attention that conventional practitioners offer
☐ desire for a holistic approach to health care
☐ desire for a therapy free of side effects
☐ treatment with conventional medicine has not been effective
☐ desire for more personal control in health care decisions
☐ other (please describe) ______________________________________
☐ other (please describe) ______________________________________

Personal Experiences of Complementary/Alternative Medicine

4. Have you ever consulted a complementary/alternative practitioner for yourself?

☐ No [go to question 7]  ☐ Yes [please continue]

5. What type of complementary/alternative practitioner(s) did you consult?

(please check all that apply)

☐ Acupuncturist  ☐ Massage Therapist
☐ Aromatherapist  ☐ Naturopath
☐ Chiropractor  ☐ Ortologist
☐ Faith Healer  ☐ Reflexologist
☐ Herbal Medicine practitioner  ☐ Therapeutic Touch practitioner
☐ Homeopath  ☐ Other ____________
6. Did you benefit from consulting a complementary/alternative practitioner?

☐ No

☐ Yes  If yes, please describe briefly how you benefitted:

____________________________________________________________

7. Do you have a **friend or family member** who has **consulted** a complementary/alternative practitioner?

☐ No [go to question 10]  ☐ Yes [please continue]

8. What type of complementary/alternative practitioner(s) did that family member see? (please check all that apply)

☐ Acupuncturist  ☑ Massage Therapist

☐ Aromatherapist  ☐ Naturopath

☐ Chiropractor  ☐ Ortologist

☐ Faith Healer  ☐ Reflexologist

☐ Herbal Medicine practitioner  ☐ Therapeutic Touch 

☐ Homeopath  ☐ Practitioner

☐ Other ____________

9. Did your **friend or family member** benefit from consulting a complementary/alternative practitioner?

☐ No  ☐ Yes  ☐ Don't know

10. Have you ever **self-administered** a complementary/alternative therapy without consulting a complementary/alternative practitioner?

☐ No [go to question 13]  ☐ Yes [please continue]
11. What type(s) of complementary/alternative therapy have you self-administered? (Please check all that apply)

- [ ] Aromatherapy
- [ ] Faith Healing
- [ ] Herbal Medicine
- [ ] Homeopathy
- [ ] Naturopathy
- [ ] Other ___________
- [ ] Other ___________

12. Did you benefit from self-administering the complementary/alternative therapy?

- [ ] No
- [ ] Yes If yes, please describe how you benefited:

   ________________________________________________________________
**Knowledge**

13. What is your knowledge of the following complementary/alternative medicine techniques? (Please check one knowledge rating for each complementary/alternative technique)

<table>
<thead>
<tr>
<th>Technique</th>
<th>Know a lot (could treat a patient)</th>
<th>Know a considerable amount (could explain it to a patient)</th>
<th>Know something about</th>
<th>Have heard the term but know nothing about</th>
<th>Never heard of</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acupuncture</td>
<td>[]</td>
<td>[]</td>
<td>[]</td>
<td>[]</td>
<td>[]</td>
</tr>
<tr>
<td>Aromatherapy</td>
<td>[]</td>
<td>[]</td>
<td>[]</td>
<td>[]</td>
<td>[]</td>
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<tr>
<td>Chiropractic</td>
<td>[]</td>
<td>[]</td>
<td>[]</td>
<td>[]</td>
<td>[]</td>
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<tr>
<td>Faith Healing</td>
<td>[]</td>
<td>[]</td>
<td>[]</td>
<td>[]</td>
<td>[]</td>
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<tr>
<td>Herbal Medicine</td>
<td>[]</td>
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<td>[]</td>
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<tr>
<td>Homeopathy</td>
<td>[]</td>
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<tr>
<td>Hypnosis</td>
<td>[]</td>
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<tr>
<td>Massage therapy</td>
<td>[]</td>
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<tr>
<td>Naturopathy</td>
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<tr>
<td>Ortology</td>
<td>[]</td>
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<tr>
<td>Reflexology</td>
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<tr>
<td>Therapeutic Touch</td>
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<td>[]</td>
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<td>[]</td>
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</tbody>
</table>
14. Where did you get the information that you have about complementary/alternative medicine techniques? (Please check all of the informational sources that apply)

☐ curriculum          ☐ medical literature
☐ popular press       ☐ friends or family
☐ personal experience
☐ other (please describe) ________________________________

**Attitude Towards Specific Complementary/Alternative therapies**

15. What is your opinion about the usefulness of the following complementary/alternative medicine techniques? (Please select one usefulness rating for each therapy)

<table>
<thead>
<tr>
<th>Technique</th>
<th>Very Useful</th>
<th>Useful</th>
<th>Somewhat Useful</th>
<th>Useless</th>
<th>Don't Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acupuncture</td>
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<tr>
<td>Aromatherapy</td>
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<td>Chiropractic</td>
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<td>Faith Healing</td>
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<td>Herbal Medicine</td>
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<td>Homeopathy</td>
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<td>Hypnosis</td>
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<td>Massage Therapy</td>
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<td>Naturopathy</td>
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<td>Ortology</td>
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<td>Reflexology</td>
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<tr>
<td>Therapeutic Touch</td>
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</tbody>
</table>
16. Have you ever discussed CAM's with any of your patients?

[ ] No  [ ] Yes

17. Controversy surrounding complementary/alternative medicine often centers on whether a therapy is scientifically proven or not. What rules of scientific inquiry are important to you for acceptance of a given therapy?

(Please select one importance rating for each rule of scientific inquiry)

<table>
<thead>
<tr>
<th>Rule of Scientific Inquiry</th>
<th>Essential</th>
<th>Important</th>
<th>Somewhat Important</th>
<th>Unimportant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proven mechanism of change</td>
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<td></td>
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<tr>
<td>Proposed biological mechanism of action</td>
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<tr>
<td>Randomized controlled clinical trials involving humans</td>
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<td></td>
</tr>
<tr>
<td>Animal studies</td>
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<tr>
<td>Epidemiological studies</td>
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<tr>
<td>Published case studies</td>
<td></td>
<td></td>
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<td></td>
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<td>Colleague recommendation</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Personal experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient reports</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

18. Do you feel that occupational therapy professionals need to be aware of CAM's?

[ ] No  [ ] Yes
19. Would you be interested in education about specific methods?

☐ No

☐ Yes (please explain) ______________________________________

________________________________________________________

20. Please provide any comments/concerns that you may have as an OT professional regarding CAM's.

________________________________________________________
Appendix B

Dear Survey Participant,

Approximately two weeks ago you should have received in the mail a survey regarding occupational therapists’ attitudes and knowledge of complementary and alternative medicine. This card is just a reminder that if you would like to participate in this study the completed survey must be returned in the self-addressed, postage paid envelope provided by December 26th. Your contribution to this study will be greatly appreciated and will help us to understand the current attitudes and knowledge base occupational therapists have of complementary and alternative care. If you have already completed and returned the survey, thank you for your time. Questions regarding this survey can be directed to Kristin Anderson at kanderson@utoledo.edu or Barbara Kopp Miller at (419) 383-4289.

Thank you again for your time and participation.

Kristin Anderson, OTD Student
Barbara Kopp Miller, PhD, Research Advisor

UT IRB #105716
Table 1

**General Attitudes**

<table>
<thead>
<tr>
<th>Statements</th>
<th>Mean</th>
<th>(SD)</th>
<th>[range]</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Complementary medicine is a useful supplement to regular medicine.</td>
<td>4.13</td>
<td>(0.7)</td>
<td>[2 - 5]</td>
</tr>
<tr>
<td>b) The results of complementary medicine are in most cases due to a placebo effect.</td>
<td>3.61*</td>
<td>(0.74)</td>
<td>[2 - 5]</td>
</tr>
<tr>
<td>c) Complementary medicine includes ideas and methods from which regular medicine could benefit.</td>
<td>4.1</td>
<td>(0.65)</td>
<td>[1 - 5]</td>
</tr>
<tr>
<td>d) Complementary medicine is a threat to public health.</td>
<td>4.19*</td>
<td>(0.63)</td>
<td>[2 - 5]</td>
</tr>
<tr>
<td>e) Complementary therapies not tested in a scientific manner should be discouraged.</td>
<td>3.11*</td>
<td>(0.9)</td>
<td>[1 - 5]</td>
</tr>
<tr>
<td>f) Most complementary medicine therapies stimulate the body's natural healing powers.</td>
<td>3.76</td>
<td>(0.72)</td>
<td>[2 - 5]</td>
</tr>
<tr>
<td>g) Occupational therapists should have some knowledge about the most common complementary medicine therapies.</td>
<td>4.1</td>
<td>(0.59)</td>
<td>[2 - 5]</td>
</tr>
<tr>
<td>h) Occupational therapists should be aware of what complementary medicine therapies are available in their geographical area.</td>
<td>4.07</td>
<td>(0.59)</td>
<td>[2 - 5]</td>
</tr>
<tr>
<td>i) Occupational therapists should be able to advise their patients about commonly used complementary methods.</td>
<td>3.75</td>
<td>(0.74)</td>
<td>[2 - 5]</td>
</tr>
</tbody>
</table>
### General Attitudes

<table>
<thead>
<tr>
<th>Statements</th>
<th>Mean (SD) [range]</th>
</tr>
</thead>
<tbody>
<tr>
<td>j) Occupational therapists should not discuss complementary medicine therapies with their patients as it may prompt them to use them.</td>
<td>3.8* (0.73) [1 - 5]</td>
</tr>
</tbody>
</table>

*Note. Score Code: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

*Reverse scored items*
Table 2

_Perceived Usefulness of Specific Complementary/Alternative Techniques_

<table>
<thead>
<tr>
<th>Technique</th>
<th>Very Useful</th>
<th>Somewhat Useful</th>
<th>Useless Useful</th>
<th>Don't Know</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acupuncture*</td>
<td>19</td>
<td>40</td>
<td>20</td>
<td>0.8</td>
<td>20</td>
<td>2.37</td>
</tr>
<tr>
<td>Aromatherapy</td>
<td>9</td>
<td>29</td>
<td>42</td>
<td>3</td>
<td>18</td>
<td>2.07</td>
</tr>
<tr>
<td>Chiropractic*</td>
<td>22</td>
<td>41</td>
<td>29</td>
<td>2</td>
<td>7</td>
<td>2.68</td>
</tr>
<tr>
<td>Faith Healing</td>
<td>10</td>
<td>26</td>
<td>21</td>
<td>3</td>
<td>40</td>
<td>1.63</td>
</tr>
<tr>
<td>Herbal Medicine</td>
<td>14</td>
<td>34</td>
<td>34</td>
<td>2</td>
<td>16</td>
<td>2.28</td>
</tr>
<tr>
<td>Homeopathy</td>
<td>12</td>
<td>22</td>
<td>14</td>
<td>2</td>
<td>51</td>
<td>1.44</td>
</tr>
<tr>
<td>Hypnosis</td>
<td>4</td>
<td>22</td>
<td>34</td>
<td>5</td>
<td>34</td>
<td>1.57</td>
</tr>
<tr>
<td>Massage Therapy*</td>
<td>50</td>
<td>42</td>
<td>7</td>
<td>0.4</td>
<td>1</td>
<td>3.38</td>
</tr>
<tr>
<td>Naturopathy</td>
<td>6</td>
<td>14</td>
<td>7</td>
<td>0.8</td>
<td>72</td>
<td>0.8</td>
</tr>
<tr>
<td>Orthology</td>
<td>0.4</td>
<td>3</td>
<td>5</td>
<td>0.8</td>
<td>91</td>
<td>0.2</td>
</tr>
<tr>
<td>Reflexology</td>
<td>7</td>
<td>31</td>
<td>23</td>
<td>3</td>
<td>37</td>
<td>1.68</td>
</tr>
<tr>
<td>Therapeutic Touch*</td>
<td>15</td>
<td>36</td>
<td>19</td>
<td>3</td>
<td>27</td>
<td>2.08</td>
</tr>
</tbody>
</table>

_Note._ * Indicates >50% usefulness (“very useful” or “useful”)
Table 3

**Knowledge of Specific Complementary/Alternative Techniques**

<table>
<thead>
<tr>
<th>Technique</th>
<th>Know a lot (could treat a patient)</th>
<th>Considerable amount (could explain it to a patient)</th>
<th>Something about</th>
<th>Have heard the term but</th>
<th>Never heard of</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acupuncture*</td>
<td>0</td>
<td>11</td>
<td>78</td>
<td>12</td>
<td>0</td>
<td>2</td>
<td>0.47</td>
</tr>
<tr>
<td>Aromatherapy*</td>
<td>2</td>
<td>13</td>
<td>72</td>
<td>13</td>
<td>0</td>
<td>2</td>
<td>0.57</td>
</tr>
<tr>
<td>Chiropractic*</td>
<td>2</td>
<td>32</td>
<td>60</td>
<td>6</td>
<td>0</td>
<td>2.3</td>
<td>0.61</td>
</tr>
<tr>
<td>Faith Healing*</td>
<td>2</td>
<td>7</td>
<td>49</td>
<td>39</td>
<td>6</td>
<td>1.6</td>
<td>0.78</td>
</tr>
<tr>
<td>Herbal Medicine*</td>
<td>0.7</td>
<td>16</td>
<td>65</td>
<td>18</td>
<td>0.4</td>
<td>2</td>
<td>0.62</td>
</tr>
<tr>
<td>Homeopathy</td>
<td>0.4</td>
<td>10</td>
<td>40</td>
<td>44</td>
<td>5</td>
<td>1.56</td>
<td>0.76</td>
</tr>
<tr>
<td>Hypnosis*</td>
<td>0.7</td>
<td>8</td>
<td>67</td>
<td>24</td>
<td>0.7</td>
<td>1.83</td>
<td>0.59</td>
</tr>
<tr>
<td>Massage therapy*</td>
<td>9</td>
<td>54</td>
<td>37</td>
<td>1</td>
<td>0</td>
<td>2.7</td>
<td>0.64</td>
</tr>
<tr>
<td>Naturopathy</td>
<td>0.8</td>
<td>5</td>
<td>22</td>
<td>35</td>
<td>37</td>
<td>1</td>
<td>0.93</td>
</tr>
<tr>
<td>Ortology</td>
<td>0.0</td>
<td>0</td>
<td>6</td>
<td>26</td>
<td>68</td>
<td>0.39</td>
<td>0.61</td>
</tr>
<tr>
<td>Reflexology*</td>
<td>2</td>
<td>10</td>
<td>48</td>
<td>38</td>
<td>2</td>
<td>1.71</td>
<td>0.75</td>
</tr>
<tr>
<td>Therapeutic Touch*</td>
<td>6</td>
<td>18</td>
<td>49</td>
<td>22</td>
<td>6</td>
<td>2</td>
<td>0.92</td>
</tr>
</tbody>
</table>

*Note.* *Indicates >50% some knowledge (“know a lot,” “know a considerable amount,” or “know something about”)*
### Table 4

**Rule of Scientific Inquiry**

<table>
<thead>
<tr>
<th>Rule of Scientific Inquiry</th>
<th>Essential</th>
<th>Important</th>
<th>Somewhat</th>
<th>Unimportant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proven mechanism of change</td>
<td>33</td>
<td>53</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Proposed biological mechanism of action</td>
<td>18</td>
<td>59</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>Randomized controlled clinical trials</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>involving humans</td>
<td>29</td>
<td>49</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>Animal studies</td>
<td>4</td>
<td>13</td>
<td>41</td>
<td>42</td>
</tr>
<tr>
<td>Epidemiological studies</td>
<td>9</td>
<td>49</td>
<td>35</td>
<td>7</td>
</tr>
<tr>
<td>Published case studies</td>
<td>34</td>
<td>50</td>
<td>15</td>
<td>0.8</td>
</tr>
<tr>
<td>Success in practice</td>
<td>58</td>
<td>39</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Colleague recommendation</td>
<td>13</td>
<td>56</td>
<td>27</td>
<td>5</td>
</tr>
<tr>
<td>Personal experience</td>
<td>26</td>
<td>50</td>
<td>19</td>
<td>5</td>
</tr>
<tr>
<td>Patient reports</td>
<td>31</td>
<td>53</td>
<td>15</td>
<td>1</td>
</tr>
</tbody>
</table>

*Note. Represented in percentages of agreement.*