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# NP Students' Perceptions of Weight Loss Treatment using CAM

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NP Students' Perceptions of Weight Loss Treatment using CAM

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Submitted to Pamela Stoeckel PhD, RN in partial fulfillment of

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### Abstract

Americans use complementary and alternative medicine (CAM) modalities to treat and prevent disease and to enhance quality of life. Nurse practitioners (NPs) are in a unique position to use CAM in patient care and educate patients about potential benefits and risks. NPs need more information to effectively use CAM as treatment for weight loss. To address this need an educational intervention was developed. A qualitative key informant study was conducted to determine NP students' perceptions of using CAM following an education intervention on CAM. A purposive sample of NP students from a university pharmacology class was study participants. The nurse researcher conducted a 45-minute educational intervention then administered open ended surveys to determine students' perceptions. The survey responses were compiled and coded for themes using constant comparative analysis. Three major themes with subthemes emerged from the surveys. The major themes were: *Wide Range of Exposure to CAM*, *Skepticism of CAM Effectiveness*, and *Obese Patients and CAM*. Findings revealed the willingness of NP students to use CAM in practice for weight loss but that there was skepticism about the effectiveness of CAM therapies.

Keywords: DNP Capstone Project, Complementary and alternative medicine, Complementary and alternative medicine for weight loss, Nurse Practitioner curriculum

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*Terri*

## Nurse Practitioner Students' Perceptions of Weight Loss Treatment using CAM Executive Summary

**Problem:** The use of complementary and alternative medicines (CAM) has increased in the U.S. There is a need to provide additional information on the use of CAM to health care providers. An informal needs assessment was conducted by interviewing nurse practitioner faculty at a urban university to determine if information on CAM was included in the NP curriculum. It was determined there was some information included in specific courses but there was not a specific course on CAM and information on weight loss using CAM was not included.

**Purpose-** The purpose of this quality improvement project was to introduce nurse practitioner students to the use of alternative approaches to weight loss through a class on CAM.

**Goal-** The goal of this study was to obtain the perceptions of students about the use of CAM for weight loss following a workshop on CAM to determine their understanding and willingness to use CAM.

**Objectives-** The objective was to determine NP students' perceptions of CAM for weight loss following the educational intervention in order to support integration of CAM into the nurse practitioner curriculum.

**Plan-** This study used a qualitative key informant design. A purposive sample of participants was drawn from a fall pharmacology course for first year NP students at the university. The nurse researcher conducted a 45-minute educational intervention and then administered a written open-ended survey to the students. The survey results were compiled, and coded for themes using constant comparative analysis.

**Outcomes and results-** Three major themes emerged from the surveys. The theme of *Wide Range of Exposure to CAM* included subthemes of Use of CAM in Nursing Practice and Personal and Family use of CAM. The theme of *Exposure to Obese Patients in Practice* included subthemes of Current Therapies in Treating Obese Patients and Willingness to Use CAM. The final theme was *Skepticism of CAM Effectiveness* that included the subthemes of "Placebo Effect," Combination Treatment, and Challenges to Acceptance. The nurse practitioner students were willing to consider using CAM in future practice but revealed skepticism about treatment efficacy.

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## NP Students' Perceptions of Weight Loss Treatment using CAM

More Americans are turning to Complementary and Alternative Medicines (CAM) modalities to treat and prevent disease and to enhance quality of life. The National Center for Health Statistics (NCHS) released findings describing Americans' use of CAM based on the National Health Interview Survey, completed in 2002 (Barnes, Powell-Griner, McFann, & Nahin, 2004). The survey, revealed that that in the United States, 62% of adults are using some type of CAM, prayer or multivitamin therapy (Barnes et al., 2004). Types of CAM therapies include acupuncture, herbal therapies, aromatherapy, guided imagery and massage. Americans accept the use of CAM, and consequently, health care professionals are integrating these therapies into their professional practice. A wide variety of practitioners treat patients who use CAM therapies, this includes nurse practitioners (NPs).

NPs are in a unique position to educate patients about the potential benefits and risks of using CAM. As primary care providers, they collect health history and medication information from clients. NPs recognize that patients are focusing on prevention and using the health care system and health products differently. The implications of CAM use are numerous. Some therapies have known contraindications and complications that should be considered when teaching or counseling patients. In addition, patients can benefit from information provided on the potential benefits of CAM therapies such as the use of CAM for weight loss. Obesity affects individuals across the entire spectrum of socioeconomic levels and is a common problem seen in NP practice

(ANPF, 2013). Traditional approaches to weight loss are still used but it is proposed that CAM approaches are a viable choice and should be considered for some patients.

With the addition of basic CAM components to the NCLEX-RN® blueprint, nursing education programs at all levels are including CAM in their curricula (Helms, 2006). The majority of FNP programs report integrating some CAM content into their curricula; however the focus on the content remains on investigation of therapy safety and efficacy rather than on competencies related to knowledge of and ability to perform specific CAM therapies (Burman, 2006). Competencies have been developed and recently were integrated into the general National Organization of Nurse Practitioner Faculty (NONPF) (2015) core competencies. Research revealed a need for creative ways of integrating CAM into NP curricula (Burman, 2006). This study addresses the approach of an educational intervention for NP students concerning weight loss with CAM.

### **Problem Recognition and Definition**

#### **Statement of Purpose**

The purpose of this quality improvement project is to introduce nurse practitioner students to the use of alternative approaches to weight loss through a class on CAM. NP programs are encouraged to introduce CAM in the curriculum using creative strategies to encourage student to consider CAM approaches to patient care (Burman, 2006). The goal is to develop a sustainable educational intervention that can be used in a pharmacology class to introduce students to the use of CAM for weight loss. The project is intended to expand information about CAM in the nurse practitioner curriculum.

#### **Problem Statement**

The problem addressed in this project is the need to include additional information on the use of CAM in the nursing curriculum for first year FNPs in a Western urban University. The University has a Family Nurse Practitioner Program (FNP) and a Neonatal Nurse Practitioner Program (NNP) with approximately 195 students. The FNP program has students at four levels including: 105 clinical hours for adult I, 105 clinical hours for adult II/OB/Gyn, 105 clinical hours for pediatrics and 315 clinical hours for primary care. The NNP program has students at three levels including: advanced practice procedures for the high risk infant for 105 clinical hours, management of high risk newborn for 315 clinical hours and clinical integration for the neonatal nurse practitioner for 315 clinical hours. A needs assessment was done informally by the researcher that involved interviewing faculty to determine where information on CAM was included in the NP curriculum. The researcher, a practicing NP, used CAM in a holistic practice for weight loss. It was determined from the interviews that there was not a specific course on CAM but that information was integrated into courses where faculty had specific interests. The pharmacology class in the second year did include information on CAM. With use of CAM for weight loss growing, it was proposed to develop a sustainable educational intervention that could be used to introduce NP students to alternative therapies for weight loss.

## **PICO**

This project is an evidence-based practice (EBP) project in which an educational intervention will be completed. The project will be internal to the agency and will inform the agency of issues regarding health care quality, cost, and patient satisfaction. The results of this project are not meant to generate new knowledge or be generalizable across

settings but rather seek to address a specific population, at a specific time, in a specific agency. These projects translate and apply the science of nursing to the greater health care field.

Projects utilize the acronym “PICO”, rather than stating a formal research hypothesis. The acronym stands for: Population or Disease (P), Intervention or Issue of Interest (I), Comparison group or Current Practice (C), and Outcome (O) and is usually framed as a question (Melnik and Fineout-Overholt, 2011, p. 31).

**The PICO is:**

**P:** Family nurse practitioner students in a pharmacology class

**I:** Workshop on alternative weight loss management therapy

**C:** None

**O:** Affect perceptions of understanding and willingness to use alternative therapies in future practice.

**The question this study seeks to address is:**

How does a workshop on alternative weight loss management therapy affect NP students’ perceptions of understanding and willingness to use alternative therapies in future practice?

**Project, Scope, Significance, and Rationale**

**Project Scope:**

This quality improvement project involves implementing an educational intervention about CAM to FNP students in a pharmacology class at a university.

**Significance:**

The increased use of CAM by the public makes education on alternative therapies necessary to prepare NPs for future practice.

**Rationale:** Information about CAM in the NP curriculum prepares students for clinical practice.

### **Theoretical Foundation**

This study uses two conceptual frameworks as a foundation: Knowles' Adult Learning Theory (1984) and King's Theory of Goal Attainment (2007). Knowles' Adult Learning Theory (1984) has four principles that are applied to adult learners:

- 1: adult learners need to understand why they are learning new information before they are motivated to learn it.
- 2: Experience is the key to learning activities.
- 3: Adults prefer to learn subjects that have an immediate impact on their professional or personal life.
- 4: Adult learning is problem oriented instead of content oriented.

This theory is appropriate for this study because adult learners in this study can use their past education and experience while allowing them to learn new information that is problem oriented for their profession. "In using the andragogical method they can encourage students to return to education and by allowing them to participate they are treating them like equals"(McGrath, 2009, pg. 108). Since all the participants are professionals, this theory serves well for this population; they are self-directed learners, who would appreciate being involved in the development and implementation of a protocol that is practiced in the clinic.

Imogene King's middle range Theory of Goal Attainment (2007) works well with this PICO in both in regards to nursing and patient interactions. The central concepts in this theory are self, goals, perception, communication, reaction, interaction, and transaction (King, 2007). The goal of this capstone project is to affect the perceptions of the NP students on the use of alternative medicine in practice. If the NP student utilizes the information presented in practice, they will enhance their growth and development while improving their communication and interactions with their patients. Prior to goal attainment, transactions need to occur. The cores of these transactions are interaction, perception and transaction (King, 2007). King's concepts have been used to test other middle range theories, develop nursing curriculum and implement theory based practice (Frey et. al, 2002). A long-term goal of this capstone project is the implementation of alternative medicine into nursing curriculum.

### **Literature Selection**

A comprehensive review of literature on the concepts: alternative medicine for weight loss, nurse practitioner education on weight loss, and metabolic parameters for obesity and weight loss. The data bases utilized were CINAHL, Ovid, Medline, Medscape, Google Scholar, and National Institute of Health. This yielded 6726 articles from CINAHL, OVID, EBSCO Host and 18,500 from Google scholar using the key words: alternative medicine for obesity, weight loss, electroacupuncture, obesity, waist circumference, complementary medicine for weight loss. Keywords searched for the intervention included: nurse practitioner, education, obesity, obesity management, and primary care yielded 1,700 from Google scholar and 102 from EBSCO Host. The search yielded 30 articles for consideration after narrowing using the seven-tiered levels of



evidence presented in Houser & Oman (2011). For evaluating the literature the articles were further categorized into as follows: use of alternative therapies in practice, nurse practitioner role in management of weight in clinical settings, knowledge gap on alternative therapies in NP education, and ways to introduce alternative therapies to health care providers.

### **Scope of Evidence**

Inclusion criteria for this capstone project included scholarly articles related to alternative/complementary medicine and weight loss, NP education on obesity, weight loss and alternative medicine. Exclusion criteria was poor quality of study, age of article, and all articles that was not related to the topic Since alternative/complementary medicine is not well studied in the U.S., a lot of articles were from other countries and the quality of the research was not adequate for inclusion.

Of the articles selected fourteen articles were based on qualitative studies, nine were quantitative studies, four were systematic reviews of literature, and four were discussion papers. The quantitative studies were divided into five randomized controlled trials, two non-random controlled trials, one pilot study, and one retrospective cohort study.

### **Review of Literature**

Investigation of the literature for this project revealed four major areas of research: Use of CAM, Weight Loss Management by NPs, CAM used for Weight Loss, Weight Loss Treatment and CAM Taught in NP Curriculum, and Teaching about CAM. These topics will be presented with the current research.

### **Use of CAM**

Complementary and alternative medicines (CAM) are a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine (NCCIH, 2008). CAM is a holistic approach to healthcare that attempts to treat the individual, not the symptoms. Focus is not only on symptoms of disease, but on the entire body, mind and spirit of the individual. In the United States, approximately 38 percent of adults (about 4 in 10) and approximately 12 percent of children (about 1 in 9) are using some form of CAM (NCCIH, 2008). People of all backgrounds use CAM. However, use among adults is greater among women and those with higher levels of education and higher incomes (NCCIH, 2008).

People use CAM for an array of diseases and conditions. American adults are most likely to use CAM for musculoskeletal problems such as back, neck, or joint pain (NCCIH, 2008). Different forms of CAM identified in the literature are described. Acupuncture is a form of CAM which involves insertion of tiny needles into points on the body along meridians. Western scientists are still studying precisely how acupuncture works, but it has been shown to relieve pain, nausea, high blood pressure, asthma, and many other conditions, with few side effects.

The use of natural products or non-vitamin and non-mineral supplements such as herbs and other products from plants, and enzymes are another form of CAM. The most popular natural products are fish oil/omega 3, glucosamine, Echinacea, and flaxseed (NCCIH, 2008). Biofeedback uses electronic monitoring devices called biofeedback machines that help patients learn how to recognize and control, without pain or medication, different parts of the body to relieve medical conditions. Research has shown the technique can improve health problems such as nausea and vomiting associated with

chemotherapy, irregular heartbeat (cardiac arrhythmia) and high blood pressure. Healing touch is performed by a person trained in how to channel or focus the body's own natural energy fields by laying hands on or very near someone to stimulate healing.

Scientists have not been able to prove its effectiveness through conventional studies, healing touch remains among the more controversial of alternative remedies. Meditation is a form of CAM that involves the conscious process of focusing on calming the mind to bring about a relaxation response. Meditation helps to relieve stress, which in turn can lead to an enhanced immune response and a positive emotional state.

Nutritional counselors consider food and certain supplements to be critical parts of the healing plan for their patients. Many engage in full-scale nutritional counseling beyond the standard advice to eat a low-fat diet. Diet-based therapies include Atkins diet, Macrobiotic diet, Ornish diet, Pritikin diet, South Beach diet, Vegetarian diet, Zone diet (NCCIH, 2008). Finally yoga is a form of CAM that incorporates breathing techniques, stretching and concentration into various exercise poses. A study by Sharpe, et al. (2007) noted that the most common form of CAM used was yoga followed by meditation. Studies show that practicing yoga can reduce the heart rate, lower high blood pressure and decrease anxiety. Some types of yoga can also help with pain relief.

Complementary and alternative medicines can be used alone or in conjunction with traditional western medicine. When used by mainstream doctors to complement their traditional healing methods, the combination of the two is referred to as Integrative Medicine. Integrated-medicine specialists combine many alternative treatments and therapies with Western medical treatments to help their patients, but research to

determine which approaches are most effective is ongoing and in some cases inconclusive.

While scientific evidence exists regarding some CAM therapies, for most there are key questions that are yet to be answered through well-designed scientific studies. There are questions such as whether these therapies are safe and whether they work for the purposes for which they are used (NCCIH, 2008). Certain therapies, however, have consistently produced good results, and so they are used in most integrated cancer and heart disease treatment programs.

### **Weight Loss Management by NPs**

According to the latest data available from the United States Centers for Disease Control and Prevention, the proportion of American adults in the United States classified as obese (defined by a body mass index [BMI]  $\geq 30$  kg/m<sup>2</sup>) in the year 2009 – 2010 had risen to an alarming high of 35.7% (Ogden, Carroll, Kit, & Flegal, 2012). Due to this high prevalence, obesity has become a significant national health concern because of its contribution to the leading causes of preventable death and its associated health care costs.

Approximately 35.7% of adults and 17% of children and adolescents in the United States are classified as obese (body mass index [BMI] greater than 30). This is the equivalent of more than 78 million people entering healthcare facilities with an obesity diagnosis. Obesity-related conditions such as heart disease and type 2 diabetes continue to inflict major cost burdens on the healthcare system. In 2008, an additional \$1,429 was required to provide medical services to an obese person compared to someone of normal weight (Centers for Medicare and Medicaid Services, 2008).

NPs, as primary care providers, are in a strategic position to assist patients with weight loss. It is likely that most NPs will see patients of all ages that require assistance in losing weight. Given the negative health outcomes and associated healthcare costs of obesity, it is important for nurse practitioners (NPs) and other healthcare professionals to initiate evidence-based strategies to prevent and treat obesity in adult and pediatric patients. Some of the evidence-based nutritional interventions that are used include: self-selected diets, diet diary, set daily caloric restriction, portion control, self-help books, use of dietitians, psychologists, exercise trainers, diet prescriptions, patient handouts, community and internet resources, and sample meals (ANPF, 2013). Treatment of obesity by NPs can be frustrating. Weight loss is often perceived as a personal problem by patients, and their own biases and those of healthcare providers (as well as the stigma associated with overweight and obesity) interfere with patients seeking care. Because so few patients seek care on their own, clinicians must proactively address patients' obesity and related medical conditions.

An aspect of obesity care that needs to be analyzed is barriers to care for the obese patient. A qualitative study by Hoppe & Ogden (1996) sent out questionnaires to practice nurse's in primary care to analyze their beliefs about obesity and management of an obese patient. The study concluded that since nurses were the main person responsible in giving guidance and advice to the obese patient related to weight management, the outcomes were poor and that practice nurses could benefit from skills training (Hoppe & Ogden, 1996). Although this study is older, the data is still relevant in the medical community for structured education in relation to obesity and weight loss.

The current clinical practice guidelines (guideline.gov, 2015) still mainly emphasize physical activity, dietary interventions, and individual and or group behavioral intervention in practice. The guidelines have remained the same for years with minimal to no change despite all the new research surrounding obesity. Meanwhile the obesity rate in the United States (U.S.) has increased up to 27.7% in 2014 up from 25.5% in 2008 (Levy, 2015).

### **CAM used for Weight Loss**

CAM approaches for losing weight, such as natural products are marketed for weight loss and are available in supermarkets, pharmacies, health food stores, and on the Internet. Products include acai, bitter orange, ephedra, green tea and hoodia. Although patients may be tempted by the “quick fix” claims of these products, most of these products have not been proven safe or effective. Safety concerns about natural products include the possibility of drug interactions, direct toxicities, and contamination of supplements with active pharmaceutical agents.

Studies show that the use of CAM for weight loss low in the U.S., approximately 3.3% of the population sampled (Sharpe, et. al., 2007). In a randomized controlled trial conducted in the U.S. three weight-loss maintenance interventions were compared; (qigong (QI), Tapas acupuncture technique (TAT) and a self-directed support (SDS) group (Elder et. al., 2007). The outcome of the study concluded that TAT needed further investigation (Elder, et. al., 2007). Elder et. al. (2012) later compared TAT to support group meetings in another randomized trial looking at weight loss maintenance. He found there was no difference in the two groups when it came to regaining of weight loss (Elder, et. al., 2012).

In a systematic literature review of dietary supplements sold over the counter for weight loss, five systematic reviews and meta-analyses and 25 additional trials were included in the review and was found that none of the dietary supplements were found to be beneficial for weight loss (Pittler & Ernest, 2004). This is a significant study since in the U.S.; Americans spent 33.9 billion dollars a year on dietary supplements alone (consumerreports.org, 2009). Otherer popular weight loss remedies are structured commercial programs. In a study done by Heshka et. al. (2003) a self-help group was compared with a commercial program. After a two year randomized trial it concluded that the structured program provided a modest weight loss compared to the self-help group (Heshka, et. al., 2003). Along the same lines, in a retrospective chart review in one clinical practice, changes in weight and medical symptom scores were evaluated after a four-week meal-replacement low calorie detox diet (Morrison & Iannucci, 2012). The chart review showed that the meal-replacement, low calorie detox diet was a viable option in assisting patients to lose weight and improve their medical symptoms (Morrison & Iannucci, 2012).

Studies of the use of acupuncture to assist in weight loss have mostly been conducted in Asia. In a systematic literature review conducted by Sui, et. al. (2012), they found 49 randomized controlled trials (45 in acupuncture & 3 combination of Chinese herbals and acupuncture) to treat obesity. The majority of the trails were conducted in Mainland China and the analysis showed that Chinese herbal medications and acupuncture were better tolerated and yielded better results when compared to western drugs and lifestyle modification (Sui, et. al., 2012). Beneficial effects on cardio metabolic parameters using acupuncture was shown in studies that revealed weight loss

and improvement in quality of life (Sui, et. al., 2012). The effects of acupuncture on improving obesity are also well documented in studies by Lee, et. al,( 2006), Abdi, et. al., (2012), and Xu, et. al., (2012); Other than weight loss, these studies showed improved cholesterol levels, decrease in inflammatory markers, and increase in immunologic markers. Belivani et. al. (2013) also supports acupuncture as the fastest growing form of complementary therapies. They also discuss how acupuncture in different forms (body, auricular, and electroacupuncture) has beneficial effects on weight loss when compared to sham acupuncture, diet and diet with exercise alone (Belivani, 2013).

### **Weight Loss Treatment and CAM Taught in NP Curriculum**

Uses of treatments for obesity and CAM are becoming more acceptable to the medical community which is making an impact on nursing programs that are now starting to include CAM in the curriculum. With obesity as a major public health concern, recently the CDC funded a public health training course for public health practitioners in relation to obesity prevention (Mainor, et. al., 2014). The course design was a 7 annual competency based training addressing obesity prevention measures. The course was well accepted measured by the high level of completion and continued action plans measured at 6-month post course (Mainor, et. al., 2014). Since this course was well accepted by the medical community, expanding it to all medical personal should be explored in the future.

Canada has also looked at implementing an integrated obesity care management system with the development of a preceptor based continuing medical education (CME) program via website for providers and nurses that work in family medicine groups but due to limited resources (financial and time) were unable to finish the project



(Baillargeon, et. al., 2007). The Veterans Affairs (VA) conducted a retrospective cohort study of obese patient's who either recently lost weight or experienced obesity related comorbidities who entered the VA's behavioral weight management program (MOVE!) (McVay, et. al., 2014) They found that people who had experienced adverse events related to obesity-related diseases were more likely to enter the MOVE! Program (McVay, et. al., 2014). Unfortunately when it comes to obesity, the focus for the practitioner and patient should be a preventative approach and not after an event has occurred.

The literature about educational preparation of NPs in relation to obesity was addressed in an article by Rogge & Merrill (2013). This qualitative project aimed at nurse practitioner faculty was intended to investigate the content and teaching practices about obesity in nursing programs across the U.S. The survey concluded that the faculty wanted additional education and support in teaching about obesity based on new scientific research principles (Rogge & Merrill, 2013). In another qualitative study involving barriers, attitude and knowledge of faculty in regards teaching evidence-based nursing; it concluded that more research was needed to evaluate the effectiveness of faculty's integration of EBP into course content and the student's clinical experiences (Stichler, et. al., 2011). This is in contrast to another qualitative study for graduate programs that found most of the nurse educators were well educated about EBP and that they implement it into their content and assignments (Melnyk, et. al., 2008). A bigger question to ask is how to take EBP and implement it into practice. A survey done on clinicians found that most prefer seminar (97%) and pocket cards (76%) to reference at a later time to other modalities (Jefferies & Shah, 2011). Other modalities to consider when

implementing a practice change are web-based programs, handouts, seminars, pocket cards, and web based algorithms (Jefferies & Shah, 2013). Each modality has its benefit depending on time, financial considerations, and impact of practice change. For the smaller changes to practice a web-based program may suffice but an overall change in practice would require several forms of methods to disseminate the information to the staff affected.

A larger gap of knowledge in NP education relates to alternative medicine. In a study by Burman (2002) it was noted that barriers exist in the implementation of alternative/complementary medicine education programs due to lack of research and variations in personal philosophies. Burman (2002) conducted a study to establish the current trends in complementary alternative medicine (CAM) and to identify the current content and teaching methods for CAM in FNP programs. The goal was to establish core competencies for FNP programs in relation to CAM. The study assisted them with compiling a list of core competencies for implementing CAM into NP programs.

In another study conducted by Sohn and Loveland Cook (2002) to find the current source of knowledge related to CAM practices by NP's in practice, it was concluded that the majority of their knowledge was not derived from professional sources. In the course of the study, it was found that 24% did report having formal NP education related to CAM treatments (Sohn & Loveland Cook, 2002). In a discussion paper by Nottingham, (2006) it is noted that "63% of NP programs" do not include CAM into the curriculum (pg. 243). Utilization of CAM among patients is approximately sixty-two percent and due to high usage by patients, the providers need to be educated to treat the patient

(Nottingham, 2006). Even with the high patient utilization, only a small percentage of NP programs have implemented CAM into their curriculum.

### **Teaching about CAM**

The introduction of CAM to health care professionals is part of the process of acceptance of the therapy by the medical community. In an opinion piece by Dayhew et. al (2009) on healthcare professionals attitudes and beliefs about CAM and utilization in practice varies significantly. The demand for more knowledge on CAM by healthcare professionals is increasing due to the high utilization by patients and healthcare providers' personal use of CAM. Integrating CAM into curriculum would support further research and standardization of knowledge associated with CAM (Dayhew, et. al., 2009). Gaydos (2002) discusses the standards and core curriculum that were developed for CAM by the American Holistic Nurse Association (AHNA) for graduate prepared nurses that provide guidance for NP's. AHNA also has examples of how to utilize CAM in practice that could provide the framework for research and guidance needed to implement it into NP curriculum. Currently for NP's in practice, there are continuing education programs for CAM education from the AHNA, Integrated Healthcare Symposium, and the NCCIH (ANHA & Integrated Healthcare Symposium & NCCIH, 2015).

Knowles Adult learning theory (1980) states that adult learners prefer to be self-directed, autonomous in their learning and for their learning to be convenient to their life. Educational modalities for the adult learners need to include: lecture, video-conferences, and online courses. Adult learners need multi-faceted educational interventions that utilize active rather than passive educational modalities (Jefferies & Shah, 2011). Educational tools that were found to be effective were written materials, interactive

seminars, web tutorials, web algorithm, and pocket cards (Jefferies & Shah, 2011). In the conferences offered above (AHNA and ihsymposium), the education modality used is the lecture/seminar format. These conferences are full of written material and handouts are given frequently. NCCIH offers online courses with a posttest for credit (NCCIH, 2015). All of these modalities are appropriate for an adult learner and could be utilized to disseminate CAM education and/or curriculum.

Although it has been recommended to include CAM into NP curriculum for several years, it recently was included into the NP certification exam by American Nurses Credentialing Center (ANCC) and American Academy of Nurse Practitioner (AANP) (ANCC & AAFP, 2015). CAM has been included in the non-pharmacological content on the ANCC and AANP NP certification exams (ANCC & AANP, 2015). Since now it is part of the certification exams for NP's then it is now vital to included into NP curriculum.

### **Project Plan and Evaluation**

#### **Market/Risk Analysis**

No major market risks are identified for completion of this project. There is no conflict of interest identified by the researcher. Participants in the study were given informed consent prior to participating. There are no identified issues that would endanger the university or the participants.

#### **Project Strengths, Weaknesses, Opportunities and Threats**

Strengths of this study include that CAM is an emerging topic with interest from both the public and from providers. CAM is becoming a well-established therapy in the U.S. and providers need to be knowledgeable in order to treat patients. There is research

support for the use of CAM from the reliable sources. Healthcare providers should receive up-to-date training.

Weaknesses noted in this capstone project include students' previous biases on about CAM which could interfere with acceptance of new information. Another weakness is the small number of participants in the study

A great opportunity in this capstone is the integration of topic into nursing education, especially NP curriculum. Also exposure to the information in the project will increase awareness of CAM and its potential use to future providers and consumers of these types of therapies.

Potential threats to this project include prior unsuccessful experiences with CAM, lack of participants, lack of faculty support, and skepticism from faculty and students. Students may think that participation in the study affects their grade. The researcher will reassure students that participation in this study will not influence their class grade.

### **Driving Forces/Restraining forces**

Driving forces for this study are the consumers who utilize CAM and ask their providers for advice on CAM. Another driving force is positive research findings on the effectiveness of CAM and how it benefits patients. The need for additional education and training on CAM for current practicing healthcare providers exists. There is also a need to train future healthcare providers on CAM to provide the most up to date, evidence-based medicine in their education.

A restraining force is the time students will need to participate in the workshop and fill out the surveys. There is no compensation for participation in the students who lead busy lives and have responsibilities at home. Another restraint is uncertainty about

acceptance by faculty of inclusion of CAM into the curriculum. Faculty may have definite ideas about where the information about CAM should be put and how it should be taught.

### **Need, Resources, and Sustainability**

There is need for this study because there is not consistent inclusion of CAM in the curriculum. NPs need to have information on treatments for weight loss including understanding of alternative approaches. The workshop will provide a sustainable approach to sharing information about the use of CAM for weight loss. The interviews will reveal students' perceptions of their understanding of CAM.

Resources needed for this project includes the researcher's time to develop, conduct, gather data, transcribe and code for themes. The students' time to participate in the study is also a resource. The use of the overhead projector at the University is the only equipment that is needed to conduct the study. Conducting the study at the University will not require monetary expenditure. The persons involved will be the DNP nurse researcher, the NP participants, the mentor, and the capstone chair.

Sustainability of this project can be accomplished with the following steps

1. Compile study findings to present in a ppt presentation
2. Present study findings to faculty/ Director of FNP Programs at the University with recommended changes
3. If changes are adopted consider a workshop on CAM as a sustainable part of the pharmacology class
4. Repeat the workshop on CAM in the pharmacology class with future students

### **Feasibility/Risks/Unintended Consequences**

Feasibility of this project was determined by speaking with the DNP mentor and obtaining her permission to allow the workshop to be taught during her class time. This is a low risk project, educational in nature and received exempt status from the Regis IRB. There were no unintended consequences during the project.

### **Stakeholders and Project Team**

The project team consisted of the nurse researcher, the DNP mentor and the capstone chairperson. Consultants consisted of an acupuncturist, a chiropractor, and another DNP student (whose project also involved CAM). Stakeholders included NP students and faculty at the University, University administrators, the nursing profession at large, and patient's/healthcare consumers.

### **Cost-Benefit Analysis**

There was no cost for the time the researcher spent conducting this study however the researcher is an experienced NP in practice and the cost to replicate the study would include a cost of \$ 50.00 per hour. The estimated number of hours to complete the project is three. There was no cost for the computer and projector for the study but replication would require these items at a cost of \$ 800.00. There is a cost of \$ 20.00 for supplies such as paper and printer to copy the surveys. Data analysis software used in qualitative studies is Nivivo, which costs \$200.00. Data analysis was completed without software and was completed through word files on the computer. Benefits included adding to participants' knowledge on CAM therapies and informing NP faculty of students' perceptions of the workshop.

### **Mission/Vision Statements**

The mission of this project is to provide a means to include knowledge of CAM in

the NP curriculum to enhance NPs' future practice.

The vision of this project is to develop a sustainable workshop that could be used to introduce CAM to NP students

The goal of this study was to obtain the perceptions of students following a workshop that used CAM as a therapy for weight loss to determine the impact on students.

### **Project/Outcome Objectives**

- 1: Obtain IRB approval by end of August of 2015
- 2: Conduct the workshop and collect data from NP students by November 2015
- 3: Complete data analysis including coding and developing themes by March 2016.
- 4: Finalizing data to present final project by April 2016

### **Logic Model**

The Logic Model chosen for this capstone project was a picture of how the project would be completed (see Appendix ). The Logic Model addressed the nursing outcome measures as it related to increasing awareness and willingness of that NP class to use alternative medicine in clinical practice. The Logic Model in this research identified the resources that were used, the outputs from the activities; short and long term goals have been identified, and what impact the study has on the inclusion of CAM into nursing curriculum.

### **Appropriate for Objectives and Research Design**

This capstone project used a descriptive qualitative design with key informant interviews. A qualitative design is appropriate for this study as the purpose is to get perceptions of an experience in the words of the participants. This study involves



interviews with a specific group of students from the educational community who can give information about their experience in a workshop. An advantage of using this approach is the ability to collect in-depth data in a short time period (Marshall, 1996). Key informant interviews are used to raise awareness or interest on a topic or issue; in this case the topic is CAM (ULCA, 2006). This

### **Population Sampling Parameters**

The purposive sample of participants was drawn from a fall pharmacology course for first year FNP students at the university. The number of participants was estimated to be between 20-25 students based on class enrollment. Since qualitative samples are small due to the complexity of the inquiry, a sample size of 20-25 is expected to achieve saturation. The students in the class received information about the study at the beginning of the class, and completed informed consent.

### **Appropriateness of the Setting for EBP Project**

The University is an appropriate setting to conduct a workshop with NP students as there is a large NP program with students at different levels. The facility has all the appropriate equipment and room capacity for the study. In addition, the faculty mentor was available to assist in case of equipment issue, etc.

### **EBP Design Methodology**

This project used a qualitative design that utilized key informant interviews. The key informant design is based from ethnographic research and is now used as isolated research technique (Marshall, 1996). FNP students have been chosen as informants to give information on their feelings, opinions and perspective following the educational intervention. As key informants of the education community, the students are prime

candidates to give their feedback on this educational topic. The students will be active participants in the workshop and then will be asked to complete a written survey with open-ended questions to gain their perspectives in their own words. The data from the surveys was analyzed using constant comparative analysis.

### **Protection of Human Rights**

The purpose, goals, and objectives of the study will be thoroughly reviewed at the start of the study. All participants were required to give informed consent to participate and were informed that they could withdraw from the study at any time for any reason without risk. Anonymity is assured and no identifying information will be given in the study findings. Participation in the study does not have any impact on the class grade. At the conclusion of the study the data will be stored in a locked cabinet and the over written and destroyed after a three-year period. The DNP researcher completed CITI Human Subjects training after passing all required modules on 2/1/2015 member ID # 4648855. The study received exempt status from Regis IRB on 9/1/2015.

### **Trustworthiness**

In qualitative research to prove a study is valid, the term used is trustworthiness (Rolfe, 2006). Trustworthiness is then divided into the categories of: credibility, dependability, transferability, and confirmability (Rolfe, 2006). This capstone used peer debriefing for credibility by allowing the capstone chair and mentor to debrief the study. The purpose of peer debriefing provides an analytical look to help uncover any biases, perspectives and assumptions of the researcher (Lincoln & Guba, 1985). The peer reviewers are experienced researchers who reviewed the research process and the results from the surveys for themes and content. Transferability was accomplished by think

description. Think description details the conclusions so that they may be transferred to other settings, situations, times and people (Lincoln & Guba, 1985). Dependability and Confirmability was measured by a detailed audit trail. The audit trail includes condensed notes from the data reduction and summaries of the categories (themes, definitions, and relationships) of the analyzed data (Lincoln & Guba, 1985).

### **Study Protocol**

The capstone protocol began after obtaining informed consent of participants.

Workshop Content: one hour

1: History of complementary approaches to treatment general review,

a. past criticism

- White House Commission on Complementary and Alternative Medicine Policy (Low Dog & Fins, 2002)
- Dayhew, Wilkinson, & Simpson (2009)
- Nottingham (2006)
- Burman (2002)

b. current research

- National Center for Complementary and Integrative Health (Recent name change from National Center for Complementary and Alternative Medicine)
- Research Council for Complementary Medicine in the United Kingdom (RCCM)
- Numerous nursing and medical associations sponsor research associated with CAM (American Holistic Nurses Association, 2015)

- c. reasons to support
  - Current trends in CAM usage among patients
- 2. Current obesity education, national data on obesity including statistics, and trends
  - a. Western medicine weight loss therapies (brief)
    - Diet
    - Exercise
    - Psychological/behavioral interventions in adults
    - Pharmacological treatment
    - Bariatric Surgery
  - b: Alternative approaches to weight loss-support in the literature
    - Tapas acupressure
    - Natural Products
    - Dietary Supplements
    - Acupuncture
- 3. Case study presentation
  - **S:** 35 y/o female patient comes into clinic c/o infertility, facial hair growth and abdominal obesity.  
PMHX, PSHX, FMHX, Medications, Social HX were all discussed
  - **O:** normal exam, BMI 29.9 (overweight), lab work discussed
  - **A:** Overweight, PCOS, Borderline DM, Goiter, Hyperlipidemia
  - **P:** 1: Keep Diet log- myfitnesspal app, free with good database
    - 2: Keep Exercise log- goal 220 minutes a week (45 min/5 days a week)

- 3: Weekly Acupuncture sessions for 12 weeks
- 4: follow up at 2 weeks, 4 weeks, 8 weeks and 12 weeks for log analysis, weight and measurements.

#### 4. Questions

##### **Data Collection**

The data collection for this study was in the form of open-ended key informant interview questions that were administered after the workshop. Participants were asked to write full rich descriptions of their answers and was given 20 minutes to complete the survey. The demographic information requested was: gender, age, and years in nursing, primary area of clinical experience in nursing, year in the nursing program, and area of practice in the future. The questions asked were:

1. What is your past experience with CAM in your nursing practice? Describe past uses of alternative treatments in practice.
2. What is your past personal experience with CAM treatment of yourself, family, or others? Describe your past experiences.
3. What do you believe about the effectiveness of complementary treatments?  
What factors influence your beliefs?
4. What is your past experiences working with patients with obesity? What treatments have you used?
5. What is your understanding of the use of complementary treatments for obesity? What are your perceptions of the effectiveness of the treatment?
6. Following the experience of this class what is your willingness to use complementary treatments for obesity in your future practice?

## 7. What more do you want to know about CAM

### **Data Analysis**

Data analysis was accomplished in this study by compiling the data question by questions from the surveys. The data was then read carefully and a process of constant comparative analysis process was used in which data from open coding was constantly compared throughout the research study (Strauss & Corbin, 1990). Axial coding connected the categories and selective coding helped with development of the themes. Major categories with themes appeared emerged.

### **Project Findings and Results**

The final sample of participants in the study was composed of twenty students in a family nurse practitioner class who attended a workshop on use of CAM in practice. They gave their perceptions of the workshop and their willingness to use CAM. Four categories with themes emerged from the data: *Wide Range of Exposure to CAM*, *Skepticism of CAM Effectiveness*, and *Obese Patients and CAM*. The themes are presented in the order that they appeared in the data.

### **Wide Range of Exposure to CAM**

#### ***Use of CAM in Nursing Practice***

The category of *Wide Range of Exposure to CAM* revealed that the majority of participants in the study had experienced the *Use of CAM in Nursing Practice*. Seventeen of the twenty NP students who participated in the study had some type of exposure to CAM in clinical practice. The most common CAM exposures were to supplements, herbals, and massage. A participant stated “I worked with a primary care provider who

also did "... supplements and herbals." Other participants mentioned "Fish oil ...red yeast" "Chinese herbals" and "vitamins." Six participants identified massage as a common form of CAM used in practice. One informant commented that "[In] our hospital we have a massage therapist that comes into the ICU." The participants described a wide variety of types of CAM seen in practice ranging from "music therapy, therapy dogs, [and] aromatherapy" to "acupuncture," "guided imagery" and "meditation." They also gave examples of using "crystals," "biofeedback," and "yoga." Several participants described using touch therapy. One participant said that in the hospital they "did a study on inpatients with healing touch."

There was wide extent of exposure to CAM in practice. Some of the participants described their exposure as "minimal" or "limited" and others described the therapy as "popular." The extent of success or satisfaction with CAM in practice was varied for the participants. An example of this was that one participant described using healing touch and creating a "quiet spa like room" while another remarked that the effects of CAM "don't last long."

### ***Personal and Family use of CAM***

A second theme that emerged under the category of *Wide Exposure to CAM* was *Personal and Family use of CAM*. All except one of the nurses in the study had either used CAM or knew of family or friends that used CAM. One of the most common forms used was acupuncture. Many participants used acupuncture for musculoskeletal disorders including "back, chest, and IT band" pain with positive results. An interesting utilization of acupuncture was for "idiopathic angioedema.... while the acupuncture did

not take away the edema, it did help me relax.” Another informant stated “[I use] acupuncture for all of my personal medical needs along with Chinese herbals.”

Acupuncture was also used by participant’s family and friends. One participant described a family member who used “acupuncture for DM neuropathy with great results.” Another stated “My mother was treated with acupuncture and had full resolve of symptoms.” Yet another said “My husband has done acupuncture and chiropractic for his back and it has helped.” Friends were also described as using CAM. A participant said “I have a nurse colleague with MS who uses herbals and acupuncture to complement conventional medical therapy.”

Participants described different forms of CAM being effectively used for a variety of reasons. One stated that “I use lavender for migraines and it works better than any medication for quick relief.” Another nurse stated “aroma therapy and white light therapy were used on my grandpa when he had cancer.” Other CAM therapies mentioned by the participants included “Fish oil with positive effects,” “yoga,” and “love healing touch/reike.”

There were challenges that emerged that impacted the personal and family use of CAM. One nurse state that “the use of massage and acupuncture was not covered by insurance so [it] can be expensive.” Another stated that they “used acupuncture for shoulder pain [and] it helped but only for a little bit and [the] pain didn’t fully go away.”

### **Skepticism of CAM Effectiveness**

#### ***“Placebo Effect”***

Under the category of *Skepticism of CAM Effectiveness* a common perception was that participants experienced a “*Placebo Effect*” when using CAM therapies. Some of the



nurses believed that patients improved because of holding the expectation that the therapy would be helpful. As noted by one participant “the person engaging in CAM treatments will have great success if they truly believe the treatment will be successful.” Another informant noted “Some [CAM therapies] are very effective; maybe psych more than actual benefits.” While many of the participants believed that certain CAM therapies were helpful to patients, their skepticism came through in comments concerning the possible placebo effect. One stated “Certain CAM is beneficial [and] may have [a] psychological benefit as well [as being] more motivation [and] placebo effect.” Another informant said “I believe that many people find efficacy [with CAM] due to placebo enhancing motivation.” A participant expressed concern about using CAM therapies and said “I think a lot of it is placebo effect. I also get concerned about patients using too much because they are ‘natural’.”

### ***Combination Treatment***

Another common theme under the category of *Skepticism of CAM Effectiveness* was that participants believed that CAM should be used as a part of *Combination Treatment* rather than as a singular treatment. They suggested CAM be combined with Western medicine to be most effective. One nurse stated “I basically think [that] they [CAM] are not enough alone.” Another informant stated “it could be great if used in combo with Western medicine.” A student stated “I think it is very effective and should be either [a] first line treatment in many diagnosis or used in combination with Western practice.” Some informants had exposure to clinics that used combination treatments, known as integrative medicine. One participant stated “I plan to join an integrative clinic that uses Eastern and Western modalities.”

### ***Challenges to Using CAM***

A final theme under the category of *Skepticism of CAM Effectiveness* was *Challenges to Using CAM*. The informants believed that there were roadblocks that interfered with using CAM. One of the challenges was that CAM was not covered by insurance. Several nurses noted that “[CAM was] not covered by insurance so [it] can be expensive.” Another participant stated “I like CAM but it is expensive.” Safety was also an issue particularly in regards to not having current research on CAM to refer to. A nurse stated “... it [CAM] does not have as many controlled studies to prove safety and efficacy.” Another informant asked “Why [are] most CAM not tested, proven, and approved in the USA?” Yet another student wanted “...more studies proving efficacy to be able to give patient’s solid information.” The nurses wanted to be able to give their patients more information regarding types of CAM. An informant stated that they were “Willing to try anything that is proven safe and non-harming to patients.”

Another challenge that participants identified was the need for more education about CAM. Many of the NP students stated they had “limited understanding and awareness of CAM treatments” others stated that what was needed was “... [to] educate more. I was not aware.” One participant acknowledged that “I will use as I learn more about them [CAM treatments].” Another informant said “[I] would need more information but what I know seems to work.”

### **Obese Patients and CAM**

#### ***Western Therapies***

The category of *Obese Patients and CAM* revealed that the majority of participants in the study, eighteen out of twenty, used *Western Therapies* when working

with obese patients in their hospital practice. This theme was best expressed by participants who said “In the hospital setting, I have treated disease processes related to obesity but have not treated patients directly for obesity.” They shared types of therapies used to address obesity. One of the most common forms of treatment was obesity counseling. A participant stated “Counseling has been my only treatment.” Forms of counseling included “Just spending time to listen to patients talk about obesity” and “encouraging them to move.” Another said that counseling included “[discussing] weight loss attempts and relapse.” One of the participants felt counseling was needed because “I think many patients who are obese must be able to find the cause of their disparity so that we as providers can find a solution to be able to effectively treat them.” Another stated “They have to want to lose weight or it does not happen...they often play the ‘taken advantage of role’ and refuse to control their lives.”

Nurses also identified providing education as a therapy they used to work with obese patients. One participant stated “[My] past experience with obesity was educating patients on healthy eating habits.” Other education topics that nurses spoke about were “...diet, exercise and positive attitude.” Other participants said that they educated patients about “sedentary lifestyle,” “carb counting” and “fasting.” A nurse summed up what many participants said with “[My role is] teaching and [I] hope they are compliant.”

Participants identified formalized Western treatment programs used for weight loss that included “weight watchers,” “bariatric surgery” and a “rural family practice ...weight loss program.” They also spoke of medications that were used for weight loss including “Contrave (Narcoan/Wellbutrin),” “Lipolean injections along with phenteramine” and “lots of Lasix.”

### ***Willingness to Use CAM***

A second theme from the category of *Obese Patients and CAM* was the participants' *Willingness to Use CAM* in the future as an alternative weight loss therapy. An astonishing nineteen out of twenty students were open and willing to use CAM in future practice with obese patients. The majority of the comments included "[I] will give it a try," "I am definitely willing to use these in practice" and "I [will] let them [patients] know about CAM therapies." One participant saw the benefit in combining obesity treatments by "Integrating modern technologies [such as] Fitbit, smartphones, apps, etc. with traditional approaches [such as] acupressure, acupuncture, and regardless of the approach [that would] gain the patient's perspective and buy-in [to using CAM]." Another stated "CAM for obesity should be implemented with diet and exercise." Others wanted more education, "access, and resources" related to CAM for obesity treatment. One informant said "[I] need more studies."

### **Discussion**

This study revealed the perceptions of twenty NP students about a workshop on CAM and their willingness to use CAM in practice for weight loss. A majority of the NPs approximately 85% of the participants had used a type of CAM in nursing practice. This was higher than what was noted in the literature by Chang and Chang (2015) who found that on average 53.7% of nurses include CAM in their practice. There was a wide variety of forms of CAM in this survey including supplements, herbals, massage, music therapy, therapy dogs, aromatherapy, acupuncture, guided imagery, meditation, crystals, biofeedback, yoga, and touch therapy. These types of CAM were described in the literature as complementary as opposed to alternative practices. Complementary refers to

practices and products that are used together with conventional medicine while alternative refers to those that are used in place of it (NCCAM, 2011). All the examples of CAM given by the participants were used in combination with standard care and not used alone. The major types of CAM used by participants supports Barnes, Bloom and Nahin's (2008) claim that the greatest increases in use of CAM of over the past 10 years have been in mind and body therapies including relaxation techniques and meditative exercises such as such as yoga and Tai Chi (Barnes, Bloom & Nahin, 2008).

Some of the NP students had more exposure to CAM than others depending upon the units they worked on. The fact that so many had exposure supports the findings of Topuz, Uysal, and Yimaz (2015) who state that it is important for nurses to have an awareness of CAM practices because they have the critical responsibility for assessments of patients that use CAM and for providing them with information. The literature also confirms a variety of uses of CAM with conventional medicine where nurses might be exposed to practices such as those for pain management, and services such as acupuncture, meditation, and relaxation to help manage symptoms and side effect of patient receiving cancer treatment (National Center for Complementary and Integrative Health, 2015).

Personal and family uses of CAM were very prominent in the study. All but one of the students had either used a form of CAM or been exposed through family or friends who used CAM. Briggs (2015) noted that people are relying on other sources such as family, friends, the Internet, and complementary practitioners for advice about health matters rather than just the traditional western medical approach. Approximately 38 percent of adults (about 4 in 10) and approximately 12 percent of children (about 1 in 9)

use some form of CAM (NCCIH, 2008). Most common form of CAM used by nurses and their families and friends in the study were acupuncture, followed by massage and chiropractic care. This finding aligns with the literature which notes that the general population uses CAM for musculoskeletal problems such as back, neck, or joint pain (NCCIH, 2008). The next most common forms of CAM used by the participants was herbals and vitamins such as; Fish oil, CLA, SAF oil, Echinacea, L-lysine, and zinc. The literature supports that the overall most used complementary health products are dietary supplements (Barnes, Bloom & Nahin, 2008).

The participants also mentioned challenges to using CAM that affected personal and family use. They described CAM as expensive to use and insurance did not cover it. According to the 2007 National Health Interview Survey (NHIS) (CDC, 2014), U.S. adults spent an estimated \$33.9 billion out-of-pocket on complementary health approaches in the previous 12 months. They spent about two thirds (\$22.0 billion) on self-care costs, and the remaining one-third (\$11.9 billion) on visits to complementary health practitioners. The \$33.9 billion represented approximately 1.5 percent of total health care spending but 11.2 percent of total out-of-pocket health care spending in the United States (NCCAM, 2013). Insurance coverage of complementary health approaches is described as complex and confusing. Coverage varies depending on state laws, regulations and differences among specific carriers (NCCAM, 2013).

Although CAM was used by the majority of participants personally and in practice they shared skepticism about the effectiveness of CAM. They described the “placebo effect” of CAM treatments. A participant stated that “I believe that many people find efficacy [with CAM] due to placebo enhancing motivation.” According to the

literature the placebo effect is when a patient with a health condition expects their symptoms to improve and they do improve. The patients can be given empty injections or pills that they believe contain medicine and can experience an improvement in a wide range of health conditions. The improvement this causes is referred to as the "placebo effect." Bland (2008) notes that studies of CAM therapies that are methodologically sound have not always demonstrated benefit beyond placebo.

A finding of the research was that the skepticism NP students felt extended to the feeling that CAM was mainly effective when combined with conventional approaches in a coordinated way. A common response was that "it [CAM] could be great if used in combo with Western medicine." Trail-Mahan, Mao, and Bawel-Brinkley (2013) noted there is a growing body of research that supports the use of CAM as an additional form of therapy. This is what is referred to in the literature as "integrated" health care (NCCIH, 2015). It is noted that uses of integrative approaches to health and wellness have grown within care settings across the United States and incorporate complementary approaches into mainstream health care. Patients are seeking out integrated clinics as their primary care provider. One of the participants in the study stated "I plan to join an integrative clinic that uses Eastern and Western modalities."

Roadblocks to using CAM that created skepticism for the participants included a number of challenges. One challenge was the issue of safety of CAM. One of the participants stated "... it [CAM] does not have as many controlled studies to prove safety and efficacy." These concerns were shared in the literature by Briggs (2015) who noted that although a vast amount of information about complementary and integrative approaches is available to the public, much of it is incomplete, misleading, and inaccurate

or based on scientifically unproven claims. Zwickey, Schiffke, Fleishman, Haas, Cruser, LeFebvre, Sullivan, Taylor and Gaster (2014) stated, however, that there has been progress towards more and better research on CAM therapies. The quality and quantity of recent research studies have increased over the past 25 years giving CAM practitioners an evidence-based approach to education about CAM.

Further challenges to the safety of CAM were stated by students in the study who said that they wanted "...more studies proving efficacy to be able to give patients solid information." The majority of the participants asked for more information, more resources, and more studies in relation to CAM therapies. The literature indicated that a threat to public safety was the use of CAM without the advice or guidance from healthcare providers. The literature strongly urged clinicians to ask patients about their use so that they can effectively coordinate their care (Briggs, 2015). Chang and Chang (2015) spoke of the importance of giving information about life-threatening herb-drug interactions. This was particularly important for minority populations who have low disclosure rates of using CAM (Chao, Wade, & Kronenberg, 2008).

The participants spoke of the need to have more formal education about CAM. They stated they "had limited understanding" and "wanted more information." A participant stated "I will use [CAM treatments] as I learn more about them." Dayhew, Wilkinson and Simpson (2009) noted that healthcare professionals are starting to demand more knowledge on CAM due to the high utilization by patients. The lack of formal education about CAM is well documented in the literature. Sohn, Loveland, and Cook (2002) found that 24% of NPs did not report having formal education related to CAM treatments in their nursing programs. Integrating CAM into nursing curriculum would



support further research and standardization of knowledge associated with CAM (Dayhew, et. al., 2009). Topuz, Uysal, and Yumz (2015) urge the integration of CAM into nursing curriculum through didactic presentation of evidence-based CAM practices and through experiential learning in clinical practice. Zwickey, Schiffke, Fleishman, Haas, Cruser, LeFebvre, Sullivan, Taylor and Gaster (2014) noted that an enriched, EBM-infused CAM curriculum can better prepare future CAM practitioners for communicating with their conventional medicine colleagues. Zwickey et al. (2014) noted the barriers that exist in the implementation of CAM into educational programs include finding optimum placement in the curriculum, finding time for the content, and faculty development to support the changes.

A majority of NP students in the study had contact with obese patients in their nursing practice. This finding is confirmed by the Centers for Disease Control and Prevention (2016) that noted that obesity is an epidemic and is the number one cause for poor health and premature death. Levy (2015) stated that the obesity rate in the United States (U.S.) has increased up to 27.7% in 2014 up from 25.5% in 2008. This increases the odds of nurses interacting with these patients.

When NP students were asked about treatment of obese patients they mainly identified traditional western therapies as an approach to treatment. The most common approach was counseling. A student stated that “Counseling has been my only treatment.” There was the opinion by the students that weight loss was something the patients had to “want” to do. They said they “discussed weight [with them] loss attempts and relapses.” Another participant stated “[My] past experience with obesity was educating patients on healthy eating habits.” Literature supported counseling being used as a therapy for weight

loss. Effective counseling according to Clifton (2008) begins with patient education on several topics, including the effectiveness of popular diets.

NP students expressed frustration in dealing with the obese population. One NP student stated “My role is] teaching and [I] hope they are compliant.” While another participant said “They have to want to lose weight or it does not happen...they often play the ‘taken advantage of role’ and refuse to control their lives.” These feelings are also supported in the literature by Hoppe and Ogden (1996) who reported that the treatment of obesity by NPs can be frustrating. It was noted that since weight loss is often perceived as a personal problem by patients they unwilling to share this with healthcare providers. New approaches to address obesity were encouraged.

Despite skepticism noted by the participants and the acknowledged knowledge gap in CAM therapies, nineteen out of twenty students were willing to use CAM in future practice with obese patients. The majority of the NP students commented “[I] will give it a try,” “I am definitely willing to use these in practice.” This attitude of willingness was supported by Chang and Chang (2015) who noted the positive attitude towards CAM by study participants.

The NPs in the study were also willing to consider the specific use of CAM for weight loss. Increased public awareness regarding obesity related health problems along with the social pressure concerning body image and peoples’ desires to have a slim body have resulted in them turning to CAM in recent years (Sharpe, Blanck, Williams, Ainsworth & Conway, 2007). In clinical trials acupuncture was illustrated to be more effective than conventional medication both in terms of body weight reduction and obesity treatment. Although studies investigating the role of acupuncture in weight loss

have been positive the low quality of the studies and the extreme diversity in site, depth and angle of needle insertion, have resulted in caution interpreting the findings (Esterghamari, Mazahert, Rad & Noshad, 2015). Further studies with carefully designed clinical trials with longer duration of follow-up and strict protocols for identifying side-effects and adverse events are needed.

### **Limitations and Recommendations**

A small selective sample of NPs was a limitation of this study. Additional studies that include a wider range of NP students in a variety of NP classes should be undertaken. NP students at other universities would give further information about the perceptions of CAM.

Research is needed to determine faculty perceptions of integrating knowledge about CAM into NP curriculum. Barriers to curriculum implementation can be identified and addressed. Approaches to integration of CAM into curriculum should be explored. NPs should be encouraged to participate in studies involving CAM used for weight loss to determine efficacy and long term success.

### **Implications for Practice**

This study revealed the importance of education about CAM for future practitioners. The educational workshop presented to the participants provided an effective way to present current information and encourage discussion. All of the participants in this study had been exposed to CAM either in practice, personal or family use. CAM is used by many people as a part of current medical treatment or as a form of self-medication. This implies the need for practitioners to have education on assessment and education related to CAM. There is also the need for practitioners to understand the

cost CAM and how it is paid for. There are out of pocket costs that both NPs and patients need to be aware of. Insurance may not contribute to the cost which needs to be discussed before CAM is implemented.

Providers need to ask patients about CAM usage since it can interfere or complement their current plan of care. NPs cannot assume that patients will disclose the information without being asked. Questions about usage should be explored as part of the initial patient assessment.

It was noted in the study that although NPs were open to the use of CAM there was skepticism about the effectiveness. This was mainly related to the “placebo effect” which is well documented in the literature. The quality of research on CAM is improving but skepticism remains due to low number and quality of studies. An evidence-based approach to research on CAM is ongoing and will address the “placebo effect.” NPs need to know where to find up-to-date current research findings related to CAM.

Practitioners are asking for formal education related to CAM in order to be knowledgeable and educate their patients about benefits and potential hazards of these therapies. While few continuing education programs are available, more sustainable and robust programs need to be developed and implemented. Nurse practitioner students should receive information about CAM as part of their nursing programs. There is a need to integrate information about CAM into nursing program curriculum. The National Organization for Nurse Practitioner Faculties (NONPF) in their latest update in 2014 listed CAM as an item to be included into curriculum content to support NP core competencies in nursing programs (NONPF, 2014). This is an important step in providing knowledge about CAM therapies for use by practitioners in practice.

This study also examined the perceptions of NP students concerning using acupuncture as means of weight loss. NPs were willing to use CAM as an adjunct weight loss therapy but wanted more research to back up efficacy of the therapy. Research is ongoing and looks promising. Longer and more in-depth studies are needed to establish effectiveness using acupuncture for weight loss. Further studies on acupuncture should address: long-term effects and benefits, proper needle positioning, and the consistent angle and depth of needles. NPs should be encouraged to participate in current research to add to the body of knowledge on the efficacy and uses of acupuncture in weight loss therapy.

### **Conclusion**

This study revealed the perceptions of the use of CAM by NP students following an educational workshop. The use of CAM in practice is growing and the workshop provided a means of introducing this topic to students. NP students revealed exposure to CAM in practice and personal use. There was willingness to consider the use of CAM in practice but further research was requested to address efficacy of therapies. Participants wanted further information about CAM and considered acupuncture to be a promising CAM therapy to address weight loss.

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*Appendix- A.***Systematic Review of Literature**

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|--|--|---|--|
| <b>Article/Journal</b>                           | Use of Alternative Medicine for weight loss among Mexican-American Women/  | Effects of abdominal electro acupuncture on parameters related to obesity in obese women: A pilot study   | Randomized Trial of Two Mind-Body Interventions for weight loss maintenance/ Journal of Alternative and complementary Medicine               |
| <b>Author/Year</b>                               | Lindberg, N., Stevens, V., Elder, C., Funk, K., DeBar, L. (2013)   | Lee, M., Kim, J., Shin B. (2006)  | Elder, C., Ritenbaugh, C., Mist, S., Aickin, M., Schneider, J., Zwickey, H., Elmer, P. (2007)  |
| <b>Database/Keywords</b>                         | Medscape/ alternative medicine and weight loss   | Goggle Scholar alternative medicine and weight less   | Goggle Scholar, Alternative medicine and weight loss   |
| <b>Research design</b>                           | Exploratory study  | Pilot study   | Randomized, balanced, controlled trial   |
| <b>Level of evidence</b>                         | Level VI   | Level III   | Level II   |
| <b>Study Aim/Purpose</b>                         | Examine the use of alternative medicine (CAM) for weight loss, the study was specifically looking at Mexican-American women who were already participating in a clinical weight loss trial | The aim was to illuminate the effects of electro acupuncture at abdominal meridian points on various obesity-related parameters: Body weight (BW), body fat (BF) percentage, body mass index (BMI), percent ideal body weight (PIBW), and waist (WC) and hip circumference (HC).  | Early phase feasibility study of 2 mind-body interventions from the traditional Chinese medicine (TCM).                                      |
| <b>Population/Sample size Criteria/Power</b>     | 31 Mexican-American Women  | 45 women participated, 14 did not meet the entry criteria for the study, 31 were involved in the study.   | 92 were randomized, 81 completed the study, 77 completed the 12 week follow up and 73 completed the 24 week follow up, (88% completion rate) |
| <b>Methods/Study Appraisal Synthesis Methods</b> | Telephone survey of Mexican-American women   | The standardization acupuncture points were chosen according to the theory of Chinese medicine. Eight acupuncture points on the abdomen were selected. Participants were asked to receive 3 treatments per week for 3 weeks (10 sessions). All of the following measurements were taken pretreatment and after 10 sessions of EA. | Randomized into 3 interventions groups: Self-directed support (SDS), Qigong (QI), and Tapas Acupressure technique (TAT)                      |

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|---|---|---|---|
| <b>Study Tool/Instrument Validity/Reliability</b> | None listed   | Sigmastat software used to analyze data   | Standard deviations of weight, Inferential analysis employed the conditional change model/ Also qualitative interviews                                      |
| <b>Primary outcome Measure/Results</b>            | CAM modalities used for weight loss were herbs and teas (70%), home remedies (61%) and massage (55%).   | There were significant reductions in BW (5.3%), BF (5.3%), BMI (4.7%), PIBW (6.0%), WC (4.6%), HC (6.2%) and WHR (2.1%)   | Weight change/ QI participants at 12 weeks (+1.5), 24 weeks (+2.8), TAT 12 weeks (-0.1), 24 weeks (+0.1), SDS (+0.3), 24 weeks (+1.2) standard deviations.  |
| <b>Conclusions/Implications</b>                   | The use of CAM among Mexican-American women was high in this study in contrast to other studies. The study also showed a general acceptance of CAM therapies among Mexican-American women | 10 sessions of abdominal EA significantly lowered several parameters related to obesity. Further studies including a randomized design with a larger sample size and more data on subjects are needed to show the effects of EA at abdominal meridian points on obese patients. | TAT warrants further research as intervention. QI weight loss was both worse for groups at 12 and 24 weeks. . They plan to move forward to phase II trials. |
| <b>Strengths/Limitations</b>                      | Limited by self-reported cross-sectional data, the homogeneity of sample and obtained from a convenience sample   | Pilot study   | None listed   |
| <b>Funding source</b>                             | None listed   |   | Kaiser  |
|   |   |   |   |

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|--------------------------|---|---|--|
| <b>Article/Journal</b>   | Use of Complementary and Alternative Medicine for Weight Control in the United States/Journal of Alternative and Complementary Medicine | Symptom relief and weight loss from adherence to a Meal replacement-enhanced, low calorie detoxification diet/ Integrative Medicine | Weight loss with self-help compared with a structured commercial program/JAMA  |
| <b>Author/Year</b>       | Sharpe, P., Blanck, H., Williams, J., Ainsworth, B., Conway, J. (2007)  | Morrison, J., Iannucci, A. (2012)   | Heshka, S., Anderson, J., Atkinson, R., Greenway, F., Hill, J., Phinney, S., Kolotkin, R., ZMiller-Kovach, K., Pi-Sunyer, F. (2003). |
| <b>Database/Keywords</b> | Mescape: Alternative medicine and weight loss   | Medscape:CAM, weight loss   | Goggle Scholar-alternative medicine and weight loss  |



|   |   |  |   |
|---|---|--|---|
| <b>Research design</b>                            | Qualitative   | Retrospective chart reviews  | Multicenter randomized clinical trial over 2 years  |
| <b>Level of evidence</b>                          | Level V   | Level IV   | Level II  |
| <b>Study Aim/Purpose</b>                          | The objective was to obtain data on individual physical activity and nutritional behaviors.   | To examine the effects of a meal replacement-enhanced, low calorie detox diet on symptom scores and weight loss  | to compare weight loss and health benefits achieved and maintained through self-help weight loss vs a structured commercial program   |
| <b>Population/Sample size Criteria/Power</b>      | 11,211 completed survey's, response rate 30.9% and cooperation rate 51.4%   | 31 participants  | 423 randomized into 2 groups; 211 assigned to commercial group, 212 assigned to self-help group<br>Power of 0.84  |
| <b>Methods/Study Appraisal Synthesis Methods</b>  | Telephone survey  | Retrospective chart reviews/ all participants were placed on a structured detox diet of a detox shake for breakfast, fruit for snack, shake and vegetables for lunch and for dinner 4-6 oz of protein with vegetables. | Self help group received 20 min consultations with dietician at baseline and week 12, also given publically available resources with dietary principles and guidelines for safe weight loss<br>Commercial group was given vouchers to attend weight watchers and other commercial programs available to them. |
| <b>Study Tool/Instrument Validity/Reliability</b> | SAS version 8.02, odds ratios were computed with SUDAAN.  | SPSS 17.0 to examine the changes occurring from pre-intervention to post-intervention.   | Standard deviations, Tanita bodyfat analyzer model TBF 105 or 305. Quality of life measurements using SF-36 and Impact of weight on quality of life questionnaire (IWQOL-Life).   |
| <b>Primary outcome Measure/Results</b>            | Of the 11,211 respondents, 372 had used Complementary and Alternative Medicine (CAM) in the past 12 months for weight control.        | Participants lost an average of 9 lbs from pre-post. The purpose of the chart review was to clarify the amount of weight loss and symptom reduction.   | Primary outcome measure was change in body weight measured at each visit. Change in weight in commercial group ranged from -28 to +12 kg and self help group -26 to +15 kg at 1 year and commercial group -23 to +21 kg and self help group -26 to +30 kg at year 2.  |
| <b>Conclusions/Implications</b>                   | The survey was a first to assess dietary behavior, physical activity, weight control behavior and CAM with a large national sampling. | At the follow up visit at 3-5 weeks after starting program, all participants showed significant improvement in detox symptoms  | Although there was a varying differences in weight loss most of the participants has changes in biological parameters and no  |

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|                              | Only 3% of those surveyed had used CAM for weight control in the past 12 months.  | (averaged 66.3%). The results confirmed that a low-calorie, meal replacement-enhanced detox diet does help individuals lose weight and does improve symptoms scores significantly. | differences in the treatment groups. Quality of life indicators there was no significant differences in either group. |
| <b>Strengths/Limitations</b> | Strength was respondents were asked to name their primary CAM method for weight control.<br>Limitation was low CASRO response rate of 30% | Limitations: possible selection bias due to chart reviews, Also the individuals were highly motivated to lose weight.  | Self-selection bias and the participants tendency to remain in trial or attend groups.                                |
| <b>Funding source</b>        | CDC   | none   | None listed   |
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| <b>Article/Journal</b>                           | A systemic review on use of Chinese medicine and acupuncture for treatment of obesity/ International Association for the study of Obesity                      | Dietary supplements for body-weight reduction: a systemic review/American Journal of Clinical Nutrition  | Effects of abdominal elctroacupuncture on parameter related to obesity in obese women: A pilot study/ Complementary therapies in Clinical Practice            |
| <b>Author/Year</b>                               | Sui, Y., Zhao, H., Wong, V., Brown, N., Li, L., Kwan, K., Hui, H., Ziea, E., Chan, J. (2012)   | Pittler, M., Ernst, E. (2004)  | Lee, M., Kim, J., Lim, H., Shin, B. (2006)  |
| <b>Database/Keywords</b>                         | Google scholar-alternative medicine and weight loss  | Goggle Scholar-Alternative medicine and weight loss  | Goggle scholar: electroacupuncture, obesity, waist circumference  |
| <b>Research design</b>                           | Systematic review of randomized controlled trials for Chinese herbal medicine (CHM) and acupuncture.   | Systematic review on the effectiveness of dietary supplements in reduction of body weight  | Non-randomized women who met criteria   |
| <b>Level of evidence</b>                         | Level I  | Level I  | Level III   |
| <b>Study Aim/Purpose</b>                         | Purpose was to search, review, analyze and synthesize published data on efficacy, safety, relapse of weight regain associated with use of CHM and acupuncture. | Assess the evidence from rigorous clinical trials, systematic reviews, and ,meta-analysis on the effectiveness of dietary supplements in reducing of body weight | To choose several acupuncture points in the abdomen, which are related to stomach and digestion functions to compare them to other studies related to obesity |
| <b>Population/Sample size Criteria/Power</b>     | 96 RCT trials, 49 trials in CHM and 44 trials in acupuncture and 3 trials on combine's therapy.  | 5 systematic reviews based on the results of double-blind RCT's and 25 additional double blind RCT's   | 31 obese women with a BMI >25, between 17-59 years of age without other medical conditions.   |
| <b>Methods/Study Appraisal Synthesis Methods</b> | Review was restricted to randomized controlled trials that compared  | Systematic literature review to identify all RCT's of dietary  | All measurements were conducted pre-and post 10 EA treatments   |

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|   | CHM/acupuncture or their variants with a control group  | supplemnts for body weight reduction. Data sources used were Medline, Cinahl, Embase, Amed, and Cochrane library.  |  |
| <b>Study Tool/Instrument Validity/Reliability</b> | Review Manager (version5, The Nordic Cochrane Centre), I2 statistic was used to measure heterogeneity.  | None listed  | Sigmastat software, all outcomes were compared using non-parametric Wilcoxon signed ranked tests.  |
| <b>Primary outcome Measure/Results</b>            | For CHM, patients had greater body weight reduction when compared to no treatment and greater reduction in blood lipid and glucose levels. There was no statistical difference in weighted mean difference when comparing CHM to Western drugs. Acupuncture patients showed greater body weight reduction then no treatment. In comparing acupuncture and control groups, acupuncture showed greater reduction in body weight, BMI, waist circumference and blood total cholesterol in comparison to lifestyle modification and similar effects when compared to western drugs. | Data from the published double blind RCT's yielded little results from the dietary supplements except for E. sinica-an ephedra containing supplement with a high amount of adverse events. Lifestyle changes including dietary and regular physical exercise are the basis of long-term weight loss and there is little evidence for pharmacological options other than orlistat and sibutramine | 10 sessions of EA significantly reduced several obesity parameters   |
| <b>Conclusions/Implications</b>                   | Despite small sample sizes and methodological limitations, analysis of pooled information shoes a consistent superior effect of CHM and acupuncture compared to Western drugs and improved metabolic profiles.  | Aid in dietary supplements is not convincing and is not recommended for over the counter use.  | EA is an appropriate non-pharmacological form of weight loss reduction, since it was a pilot study, a larger sample, randomized would be significant for statistical analysis. |
| <b>Strengths/Limitations</b>                      | Language translation issues with other studies. Most of the studies were conducted in China. Most of the studies done in China had suboptimal design due to lack of information on binding, method of randomization and   | None listed  | Small sample size, absence of control treatment and appropriate follow up of possible rebound  |

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|                       | reasons of discontinuation. |  |             |
| <b>Funding source</b> | None                        | MP is responsible for the conception of this study | None listed |
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| <b>Article/Journal</b>                           | Complementary and Alternative Medicine: Core Competencies for Family Nurse Practitioners  | Nurse Practitioner knowledge of complementary alternative health care: foundation for practice   | A triadic interplay between academics, practitioners, and students in the nursing theory and practice dialectic/Journal of Advanced Nursing/ BMC Health Services Research  |
| <b>Author/Year</b>                               | Burman, M (2002)  | Sohn, P., Loveland Cook, C. (2002)   | Chan, E., Chan, K., Liu, Y (2011)  |
| <b>Database/Keywords</b>                         | Ovid: Nurse Practitioner education and alternative medicine   | Ovid: NP education and alternative medicine.   | Medline/Cinhal: Teaching of nurse practitioner students  |
| <b>Research design</b>                           | Qualitative   | Cross-sectional descriptive design   | Qualitative-focus group interview  |
| <b>Level of evidence</b>                         | Level V   | Level V  | Level VI   |
| <b>Study Aim/Purpose</b>                         | To describe the current status of CAM content and teaching methods in family nurse practitioner (FNP) programs and to identify core competencies for FNP's. | To investigate the current level an source of NP knowledge about complementary alteranative (CA) health care practices. Secondary aim to determine the extent of current NP referral practices involving these modalities. | The aim was to describe the effectiveness of classroom teaching by CNSs on student's transfer of theory into practice.   |
| <b>Population/Sample size Criteria/Power</b>     | 249 surveys were mailed to all FNP directors in the U.S, 135 were used in study. 54% rate.  | 151 NP's registered with the BON in 2 different states, a random sample of 400 survey's were sent out to NP's registered in Missouri and Oregon.   | 75 students from 2 CNSs classrooms.  |
| <b>Methods/Study Appraisal Synthesis Methods</b> | 249 survey's were mailed to all FNP directors in the U.S. who were on the NONPF list, N-141 were returned, 135 were used in study                           | Sapp's questionnaire, 5 point likert scale   | Focus group interviews before their clinical placement with 10-15 students in each group. After their clinical placement, they were asked to return for another interview and 35 returned, so they arrange 3-4 focus groups with 6-10 students apiece. Then the 2 CNSs were asked to evaluate their involvement in the |

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|   |  |   | lectures and input into study design   |
| <b>Study Tool/Instrument Validity/Reliability</b> | The surveys were evaluated by 2 FNP faculty members for face validity.   | Univariate analysis to examine the frequency distributions/comparative analysis using chi-square tests for variables/ student t-tests was used for comparisons between 2 groups for ordinal and interval level variables. | Qualitative content analysis, interview data were transcribed and analyzed.  |
| <b>Primary outcome Measure/Results</b>            | 98.5% of respondents said they had some form of CAM content in their programs. 80.3% respondents integrated it into existing NP course, 18.2% offered stand alone CAM courses. 26 programs said they have some form of CAM stand-alone courses but they are not required and are open to other than just nurses. | 83% of NP's had recommended the use of CA with their patients, Most frequent referral was for massage, followed by chiropractic, acupuncture, nutritional therapy, herbal therapy, biofeedback and meditation.            | 1: In the learning experience with the CNSs, students characterized their sharing as 'real clinical experience', "current and practical".<br>2: Student's reported experience also brings out the process of their learning, not only based on explanation but also more importantly, involving students in their thinking.<br>3: Student's also reported that the CNSs lectures enhanced their practice.<br>4: Although many students said that they could apply what they learnt from the CMSs in practice, others' comments reflected a continuous theory-practice issue.<br>5: it is apparent that the theoretical input can never truly resemble the real situation, and that full comprehension of nursing principles does not ensure their application to practice. |
| <b>Conclusions/Implications</b>                   | The findings of the study will help NP faculty incorporate CAM content into their curricula with the goal of preparing NP's for safe practice.   | NP's embrace the profession of nursing's holistic philosophy of patient care and incorporate this into practice through the use of CA treatments.   | A learnt collaborative effort between clinical experts and academics in the design of an outcome-based learning programme, followed by continuous coaching on students' practice of thinking along with content integration into clinical practice are essential in  |

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|                              |             |   | addressing the theory practice issue.   |
| <b>Strengths/Limitations</b> | None Listed | Limitations of study include survey methodology, the NP actual use of CA treatments cannot be verified, secondly, characteristics of the surveyed NP are unknown. | The data of 35 students from the initial 75 for the preclinical interviews            |
| <b>Funding source</b>        | None listed | None listed   | The Outomce-based education competitive grant in the Hong Long Polytechnic University |
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| <b>Article/Journal</b>   | Management of adult overweight and obesity; Consultation characteristics and treatment approaches of private practice dieticians/ Nutrition & Dieticians   | Integrated Obesity care management system-implementation and research protocol/ BMC Health Services Research  | A Systematic Approach to Evaluating Public Health Training: The obesity prevention in Public Health Course/Journal of Public Health Management Practice   |
| <b>Author/Year</b>       | Zinn, C., Schofield, G., Hopkins, W. (2013)  | Baillargeon, J., Carpentier, A., Donovan, D., Fortin, M., Grant, A., Simoneau-Roy, J., St-CyrTribble, D., Xhignesse, M., Langlois, M. (2007)  | Mainor, A., Leeman, J., Sommers, J., Heiser, C., Gonzales, C., Farris, R., Ammerman, A. (2014)  |
| <b>Database/Keywords</b> | NIH: Alternative medicine and obesity  | NIH- Alternative medicine and obesity   | NIH: Alternative medicine and obesity   |
| <b>Research design</b>   | Qualitative  | Qualitative study   | Qualitative   |
| <b>Level of evidence</b> | Level V  | Level V   | Level V   |
| <b>Study Aim/Purpose</b> | The aim of this study is to explore 3 aspects of dietician's involvement with weight loss clients in the private practice setting: the approach to treatment, characteristics of the consultation, and client characteristics. | 1: develop and implement a preceptorship-based continuing education (CME) program complemented by a web site for physicians and nurses working in a Family medicine groups (FMGs)<br>2: establish a collaborative intra and inter-regional interdisciplinary network to enable on-going expertise update and networking<br>3: evaluate the implementation of our program for its ability to train 8 FMGs per year<br>4: determine the impact for the participants | The Center of Excellence for training and Research translation (Center TRT) identified priority public health competencies for obesity prevention and then planned 7 annual courses to address the priority competencies progressively over time. Every year a longitudinal evaluation was done to assess perceptions of the course, changes in self-reported competency and course impact on practice. |

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|   |   | regarding knowledge and expertise, attitudes and perceptions, self-efficacy for the management of obesity<br>5: deliver transferable knowledge of health professionals and decision-makers.   |   |
| <b>Population/Sample size<br/>Criteria/Power</b>      | 37 total participants (70%) of the eligible dieticians  | 48 participants   | Each year the participants ranged from 43 to 67. No power given.  |
| <b>Methods/Study Appraisal<br/>Synthesis Methods</b>  | 25 min structured phone interview with each dietician. They were all surveyed about their modes of practice with over-weight and obese clients and regarding details of their consultation characteristics. | Proposed study is a mixed research design between action research and focused evaluation. Including the following:<br>1: recruitment/needs assessment<br>2: Tools developed: preceptorship, website, virtual community<br>3: Preceptorship: didactic and practical portions<br>4: Website-diffusion of website, tools for professionals, tools for patients<br>5: Virtual community: Activation of virtual community platform, evaluation of preceptorships | The evaluations were given to the practitioners and CDC training fellows who attended the course from 2006-2012. The participants completed daily, end-of-course and pre/post-course surveys. Then a 6 month follow up survey was administered to practitioners only not CDC fellows.   |
| <b>Study Tool/Instrument<br/>Validity/Reliability</b> |   | ANOVA tests on subgroup analysis and HSD Turkey multiple comparison tests. Qualitative data was analyzed using codification of all comments and information.  | The surveys were coded, scannable evaluation instruments tailored from previous training institutes. The 6-month survey was electronic surveys. All daily surveys were based on a 5-point Lickert scale. The end-of-course evaluation participants were asked to evaluate the strengths and weakness of courses. The Competency self-assessment pre/post-course was based on a 5-point Lickert scale. The 6-month follow up survey was based on the individual action plan, each participant had to complete during the course and then rated themselves on completion of their plan. |

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| <b>Primary outcome Measure/Results</b> | Majority of dieticians were female and worked in private practice on a part-time basis. Majority of consultations were conducted face to face, average duration of consultation was 60 min for an initial appointment and 30 min follow up. Majority of dieticians had their first follow up 2 weeks after initial consultation. None of the dieticians followed their client's long term. Majority of dieticians used calorie or portion prescription with physical activity.  | No results were given   | End-of-course evaluations completed ranged from 71% to 98% each year with a 90% rated the course as good or excellent. Self-assessment-majority of participants rated themselves as confident or very confident in their ability to perform most of the competencies targeted by that year's course. 6-month follow up-majority of participants reported that they had completed at least 1 of the 3 action steps they planned during course.   |
| <b>Conclusions/Implications</b>        | First key finding was that the dieticians held 2 different viewpoints on successful sustained weight loss. The 2 dominant approaches implemented as flexible, client-centered small changes approach and the structured calorie/portion prescription approach. While dietician's approaches align with evidence-based practice, they lack in long-term follow up. Also the narrow clients profile suggests that those with high health burden from poor lifestyle are less likely to engage private dietician services. | The project is relevant to health system's decision-makers who are confronted with an important increase in the prevalence of obesity. More research needs to be done | Based on the practitioners high-priority competency needs, they designed 7 annual courses to address those needs. This approach resulted in trainings that were valuable to the practitioners and effective in increasing their sense of competency in leading public health obesity prevention. They also continued to impact their practice by a high level of completion of the participant's action plans at 6 months post training. Competency-based training is important to develop a skilled public health workforce. |
| <b>Strengths/Limitations</b>           | None listed   | Due to limited time and finances, they could not measure the clinical outcomes of patients followed by the research participants.                                     | The Center's approach to evaluation is limited in that it relies on self-report of change   |
| <b>Funding source</b>                  | None listed   | None Listed   | CDC   |
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| <b>Article/Journal</b>                           | The Effects of Body Acupuncture on Obesity: Anthropometric parameters, Lipid profile, and Inflammatory and Immunologic markers/ The Scientific World Journal  | Randomized Trial of Tapas Acupressure Technique for weight loss maintenance/BMC Complementary & Alternative Medicine  | Acupuncture in the treatment of obesity: a narrative review of the literature/ Acupuncture Medicine  |
| <b>Author/Year</b>                               | Adbi, H., Zhao, B., Darbandi, M., Ghayour-Morbarhan, M., Tavallaie, S., Rahsepar, A., Parizadeh, S., Safaeiyan, M., Nemati, M., Mohammadi, M., Abbasi-Parizad, P., Darbandi, S., Akhlaghi, S., Ferns, G. (2012) | Elder, C., Guillion, C., DeBar, L., Funk, K., Lindberg, N., Ritenbaugh, C., Meltesen, G., Gallison, C., Stevens, V. (2012)  | Belivani, M., Dimitroula, C., Katsiki, N., Apostolopoulou, M., Cummings, M., Apostolos/ Hatzitolios (2013)   |
| <b>Database/Keywords</b>                         | NIH: Alternative Medicine and Obesity   | NIH: Alternative medicine and obesity   | NIH: Alternative Medicine and Obesity  |
| <b>Research design</b>                           | Randomized control trial  | 2 arm Randomized control trial  | Narrative review of literature   |
| <b>Level of evidence</b>                         | Level II  | Level II  | Level I  |
| <b>Study Aim/Purpose</b>                         | A randomized control trial of 196 obese patients was performed to examine the effectiveness of body acupuncture on body weight loss, lipid profile, and immunogenic and inflammatory markers.                   | To test the efficacy of a novel mind and body technique for weight loss maintenance.  | To look at mechanisms of actions and the results of recent experimental and clinical studies with different forms of acupuncture (eg; body, auricular, manual, and electro acupuncture) are presented.   |
| <b>Population/Sample size Criteria/Power</b>     | 196 obese patients  | Participants were members of the Kaiser Permanente Northwest (KPNW) who were at least 30 years of age, BMI between 30-50, weighed less than 400 lbs. and lived in the Portland metro area. Medical exclusions were recent cardiovascular event (2 years), cancer treatment or inpatient psychiatric hospitalization. Also excluded were DM using insulin, people who had taken weight loss medications, had bariatric surgery or liposuction in the last year. Total was 285 randomized participants. | Meta-analysis of 29 randomized controlled trials with different types of acupuncture. A systematic review of literature of the use of Chinese medicine and acupuncture for the treatment of obesity included 44 trials on acupuncture treatment. |
| <b>Methods/Study Appraisal Synthesis Methods</b> | 220 over weight and obese patients were recruited from the nutrition clinic, Quem hospital, Mashhad, Iran. None had received any other weight control measures nor had any                                      | Obese adults participated in an initial, six -month behavioral weight-loss program (WLP). Those who lost at least 10 lbs. and attended greater than 70% of the weekly WLP group sessions were   | Searched MEDLINE for relevant publications using combinations of the following keywords: acupuncture, EA, auricular acupuncture, obesity treatment, insulin resistance, lipids, leptin,  |

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|   | <p>medical/drug history within the last 3 months. Exclusion criteria were diabetes, HTN, CAD, endocrine abnormalities, and pregnancy. 196 subjects were enrolled into study and were randomized into 2 groups of case and control of body acupuncture. Anthropometric and biochemical assessments were measured before and after treatment. All participants were asked to follow an isocaloric diet (wash-out diet) for 2 weeks before trial and a low-calorie diet for 6 weeks. All diets were planned by a nutritionist based on energy expenditure. Eight acupuncture points on the abdomen were selected. Each acupuncture session lasted 20 min and each participant received 2 sessions per week for 6 weeks. In the control group, the only difference was the acupuncture points were moved 0.3 cm laterally and the needling was shallow and no electro acupuncture was used.</p> | <p>eligible for randomization into one of 2 arms of the weight loss maintenance phase of the trial. Trial time was 18 months total, 6 months initial then 12-month maintenance phase. They conducted 18 (9 TAT and 9 SS) weight loss maintenance groups, each with approx.. 16 participants.</p>   | <p>ghrelin, neuropeptide Y (NPY), body weight, inflammatory markers, animal studies and clinical trials. Excluded studies were Chinese articles with English abstracts.</p>  |
| <b>Study Tool/Instrument Validity/Reliability</b> | <p>SPSS software was used to perform analysis</p>   | <p>SAS V9.2, PROC MI/ tools: Insomnia Severity, Perceived Stress Scale, Personal Health Questionnaire Depression Subscale (PHQ-8), Quality of Life Enjoyment and Satisfaction Questionnaire-short form</p>   | <p>None</p>  |
| <b>Primary outcome Measure/Results</b>            | <p>196 met criteria for inclusion into study, they were divided into 2 groups (98 each group). By the end of the study 35 subjects dropped out due to personal reason and 161 completed the study. Comparison at the first 6 weeks: in the case group all subjects showed statically changes in body weight, body fat percentage, BMI, WC,</p>  | <p>472 participants enrolled into the initial weight loss program, 285 (60%) achieved weight loss and attendance targets were randomized, with 142 to Tapas acupressure technique (TAT) and 143 to Social Support (SS). Mean age was 56.2 years of age, mean BMI was 33.9. 79% were female. The estimated weight regain at 12M was 1.72 KG for TAT and 2.96 KG</p> | <p>Effects of acupuncture on body weight alone- Studies show that electro acupuncture shows the greatest benefit to weight reduction<br/>Effects on obesity related peptides- All forms of acupuncture show benefit to decrease leptin levels<br/>Effects on glucose metabolism and insulin resistance-Mixed results in relation to different forms of acupuncture</p> |

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|                                 | <p>HC, total cholesterol, triglyceride, HDL, and LDL. In the control group, all showed changes in body weight, body fat percentage, BMI, WC, HC, total cholesterol, HDL, and LDL were reduced significantly.</p> <p>At the 2<sup>nd</sup> 6 weeks: in the case group, showed changes in body weight, BMI, WC, HC, triglyceride, HDL, and LDL. The control group showed changes in triglycerides, HDL, and LDL.</p>  | for SS. The adjustment means difference was not significant.   | <p>Effects on lipid metabolism- Both manual and EA show a beneficial effect on lipid metabolism</p> <p>Effects on inflammatory markers- EA will modulate Igg with weight loss but no other effects.</p> <p>Effects on psychosocial outcomes- Acupuncture improves psychosocial status of obese patients, anxiety and depression.</p> |
| <b>Conclusions/Implications</b> | <p>In the first period of the study, a significant reduction in anthropometric and lipid profile was observed in both groups. Levels of anti-Hsp antibodies were found to fall in cases but not controls. In the 2<sup>nd</sup> period, in the case studies, it provided evidence that acupuncture can sustain reduction in anthropometric and lipid profile, while in the control group only changes in lipid profile was sustained. Levels of anti-Hsp antibodies and CRP levels continued to fall in cases while no significant changes in control group except hs-CRP. AS proven before acupuncture therapy for reduction of anthropometric parameters is consistent</p> <p>In conclusion: body acupuncture in combination with diet restriction was found to be effective for weight loss and also reduction of the obesity-associated risk factors.</p> | There was no significant difference in weight change between TAT and SS at 12 months post randomization. | Both Experimental and current clinical data show acupuncture to have beneficial effects on obesity.  |
| <b>Strengths/Limitations</b>    | None Listed   | None Listed  | None Listed  |
| <b>Funding source</b>           | None listed   | The National Center for Complementary and Alternative Medicine, National Institute of Health             | None Listed  |

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| <b>Article/Journal</b>                            | Beyond Competencies: using a capability framework in developing practice standards for advanced practice nursing/ JAN Informing practice and Policy worldwide through Research and Scholarship | Clinicians prefer simple education tool for implementing practice change/Medical Teacher  | Teachers as researcher: A narrative Pedagogical approach to Transforming a Graduate Family and Health Promotion Course/Nursing Education Perspectives   |
| <b>Author/Year</b>                                | O'Connell, J., Gardner, G., Coyer, F. (2014)   | Jefferies, A., Shah, V. (2011)  | Brykczynski, K. (2012)  |
| <b>Database/Keywords</b>                          | Medscape/CINHAL: teaching, nurse practitioner students   | Medscape/CINHAL: teaching, nurse practitioner students  | Medscape/CINHAL: Nurse Practitioner students, education   |
| <b>Research design</b>                            | Discussion paper   | qualitative   | Narrative pedagogical, conventional evaluation, and informal action research process  |
| <b>Level of evidence</b>                          | Level VI   | Level IV  | Level IV  |
| <b>Study Aim/Purpose</b>                          | Weather competencies are adequate to address the advanced practice domain of experienced clinicians.   | To examine clinician usage and preference for different educational tools when a multifaceted strategy was used for implementation of new recommendations for managing newborn risk of sepsis | Describe a narrative pedagogical approach to developing, implementing, evaluating, and revising a family and health promotion course for graduate family nurse practitioners students.                    |
| <b>Population/Sample size Criteria/Power</b>      | None listed  | 92 clinicians and 41 stakeholders.<br>P< 0.05   | Nurse practitioner students, no sample size given, no power listed  |
| <b>Methods/Study Appraisal Synthesis Methods</b>  | Review of literature relating to "competence", "capability", "advanced practice", and "nurse Practitioners"  | Seminars, web-based tutorial, handouts, pocket cards and web-based management algorithm.  | In 2005, a newly developed 2 credit course for teaching family and health promotion knowledge and skills to FNP students was offered. Student evaluations on a 5 point likert scale was used              |
| <b>Study Tool/Instrument Validity/Reliability</b> | None listed  | None listed   | 5-point Likert scale  |
| <b>Primary outcome Measure/Results</b>            | The move from competencies to practice standards to define and guide nurse practitioner practice and education enables the development of theory driven standards that accommodate the         | Seminar content was helpful to 97% of participants and 88% were comfortable using the recommendations. Response rate for 3 month survey was 80%. Most frequently used tool used was pocket    | Having a more active and clinically relevant approaches to teaching and learning produced a complete reframing of the course. The formal action research ended with a coincidental change from a face-to- |

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|                                 | complex and cognitive domain.  | cards (76%) and seminars (76%)  | face course with web support to a completely online course.   |
| <b>Conclusions/Implications</b> | Leading researches into capability in health care state that traditional education and training in health disciplines concentrates on developing competence. To ensure that healthcare delivery keeps pace with increasing demand and a continuously changing context there is a need to embrace capability as a framework for advanced practice and education | When provided with different educational tools, clinicians prefer pocket cards and seminars                         | Faculty engage in conventional evaluation research along with informal action research approaches to evaluate and revise courses. |
| <b>Strengths/Limitations</b>    | None listed  | Single center study with small sample size and therefore results may not be generalized. Also data is self-reported | None listed   |
| <b>Funding source</b>           | None listed  | None listed   | None listed   |

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| <b>Article/Journal</b>   | Nurse Practitioner Educators' perceived knowledge, beliefs, and teaching strategies regarding Evidence-Based Practice: Implications for accelerating the integration of Evidence-based practice into graduate programs/ Journal of Professional Nursing | Faculty Knowledge, attitudes and perceived barriers to teaching Evidence-based Nursing/ Journal of Professional nursing                 | Effect of acupuncture treatment for weight loss on gut flora in patients with simple obesity |
| <b>Author/Year</b>       | Melnyk, B., Fineout-Overholt, E., Feinstein, N., Sadler, L., Green-Hernandez, C. (2008)   | Stichler, J., Fields, W., Kim, S., Brown, C. (2011)   | Xu, Z., Li, R., Zhu, C., Li, M. (2014)   |
| <b>Database/Keywords</b> | Medscape/CINHAL: Nurse Practitioner students, education   | Medscape/CINHAL: Nurse practitioner students, education   | NIH: Alternative medicine and obesity  |
| <b>Research design</b>   | Descriptive study   | Cross-sectional exploratory study   | Single randomized study  |
| <b>Level of evidence</b> | Level VI  | Level VI  | Level II   |
| <b>Study Aim/Purpose</b> | To see if there is a positive relationship among nurse practitioners educators knowledge of EBP and the extent to which they  | This study measured the knowledge, attitudes, and perceived barriers to teaching evidence-based practice (EBP) among nursing faculty at | To explore the effects of abdominal acupuncture on BMI and intestinal flora                  |

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|   | (a) feel comfortable teaching EBP, (b) believe EBP improves clinical care and patient outcomes and (c) use an EBP approach to their clinical practices if they are practicing   | 2 schools of nursing with baccalaureate and masters level programs in SW US  |   |
| <b>Population/Sample size<br/>Criteria/Power</b>      | 25/40 Nurse practitioner faculty attending a annual faculty meeting and 54/160 randomly selected NONPF members , response rate of 39.5%   | 40 faculty members (20 from each school)   | 45 cases  |
| <b>Methods/Study Appraisal<br/>Synthesis Methods</b>  | Descriptive survey was conducted April 2003 with pediatric nurse practitioner faculty who were attending the Association of Faculties of Pediatric Nurse Practitioner annual meeting. Information about the survey was also provided in a newsletter to the National Organization of Nurse Practitioner Faculties (NONPF) | Cross-sectional exploratory study determined faculty knowledge, attitude, and perceived barriers to teaching EBP. The study was conducted at 2 schools of nursing (1 private, 1 public). A convenience sample was recruited from a combined pool of 125 faculty members. | The women were randomized into 2 groups, 2 treatment groups and 1 control. (15 cases per group). To qualify, had to have BMI >24 with no endocrine or metabolic disease. Exclusion criteria were: pregnancy or lactation; serious heart, liver, kidney, brain conditions and other serious complications of other primary diseases. , mental illness and course of antibiotics. No dietary interventions were given to any group. Patients in treatment groups were given acupuncture treatments, needles were retained for 30 min and 10 min ad 20 min were manipulated gently. The treatments were given every other day, 20 times total. Samples for bacteriological examination was analysed by isolation and routine culture, blinded to group allocation. |
| <b>Study Tool/Instrument<br/>Validity/Reliability</b> | Descriptive statistics were calculated to answer study questions. Pearsons r correlations were computed<br>P< 0.05  | Demographic survey, the Evidence-based Practice Questionnaire, and the BARRIERS to Research Utilization Scale  | Statistical analysis was SPSS V12.0 software. Bacteria colony units (CFU) were presented as geometric averages. ANOVA analysis  |

|  |   |   |   |
|--|---|---|---|
|  |   | Descriptive statistics, Pearson's correlations, and hierarchical multiple regression procedures                       | Bonferroni method were used for comparison.   |
| <b>Primary outcome Measure/Results</b> | <p>1: respondents had a high mean level of knowledge of EBP</p> <p>2: Respondents reported that their clinical practices were largely EBP</p> <p>3: 2/3 of respondents stated that their school's mission was to teach EBP, nearly all respondents reported teaching EBP to students.</p> <p>4: Most frequent strategy used to teach EBP was supporting clinical action with a single study</p> <p>5: top 3 facilitators to teaching EBP was teamwork, mentorship, and education.</p> <p>6: most need to teach EBP was a conference or workshop</p> | Masters prepared faculty had higher mean scores in the practice of EBP, as compared with doctorally prepared faculty. | The BMI values of 2 treatment groups decreased significantly after treatment. No change in BMI in control group. No significant difference in 2 treatment groups. In both treatment groups, Lactobacillus and Bifidobacterium increased after treatment but bacteriodes decreased. In control group no significant changes. |
| <b>Conclusions/Implications</b>        | Graduate programs needs to offer foundational courses in EBP and integrate EBP into specialty courses. There is a need to educate faculty to become proficient in EBP knowledge and to its teaching and incorporation into graduate education   | Traditional research skills are not directly transferable to knowledge or teaching of EBP.                            | Acupuncture may have a ecological role in the gastrointestinal tract. Alteration of Bacteriodes after acupuncture treatment may be one of the mechanisms for the weight loss.   |
| <b>Strengths/Limitations</b>           | Response rate   | Only 2 schools of nursing in same geographic area, small sample size  | None listed   |
| <b>Funding source</b>                  | None listed   | Gamma Gamma Chapter, Sigma Theta Tau International  | None listed   |

|                        |  |   |  |
|------------------------|--|---|--|
| <b>Article/Journal</b> | Obesity-Related Health Status Changes and weight-loss treatment utilization/American | Practice nurses' beliefs about obesity and weight related interventions in primary care/Department of |  |
|------------------------|--|---|--|

|   |   |   |  |
|---|---|---|--|
|   | journal of Preventative Medicine  | general Practice, UMDS, London  |  |
| <b>Author/Year</b>                                | McVay, M., Yancy, W., Vijan, S., Scoyoc, L., Neelon, B., Voils, C., Maciejewski, M. (2014)  | Hoppe, R., Ogden, J. (1996)   |  |
| <b>Database/Keywords</b>                          | NIH: Alternative medicine and obesity   | Medline/CINHAL: nurses, obesity management, primary care  |  |
| <b>Research design</b>                            | Retrospective cohort study  | Cross-sectional qualitative   |  |
| <b>Level of evidence</b>                          | Level IV  | Level VI  |  |
| <b>Study Aim/Purpose</b>                          | To determine if recent weight change or diagnosis of an obesity-related comorbidity was associated with utilization of a behavioral weight-loss program in an integrated healthcare setting   | To examine nurses' beliefs about obesity and their current practices and the role of the weight management context and their own BMI on these factors   |  |
| <b>Population/Sample size Criteria/Power</b>      | 12,631 MOVE! Initiators and 32,641 non-initiators   | 586 practice nurses (65% response rate)   |  |
| <b>Methods/Study Appraisal Synthesis Methods</b>  | Retrospective cohort study of obese VA patients eligible for MOVE! In fiscal year 2010 who were identified from a longitudinal study of the VA cost of obesity. Data obtained from the VA Corporate Data warehouse and the VA outpatient Care file. In the subset of MOVE! Users, patients who had initiated MOVE! In years other than 2010 were excluded in order to remove any influence of previous experience with the program. | Ten FHSA's were randomly selected using the Directory of Health Services Authorities (1992) as a sampling frame. Using the FHSA records, 900 practices were randomly selected and one practice nurse was contacted from each practice. A structured questionnaire was mailed to 900 practice nurses. A follow-up reminder was sent 6-8 weeks after the first mailing.                           |  |
| <b>Study Tool/Instrument Validity/Reliability</b> | Stat V12.   | SPSS for Windows. The results were analyzed to examine the subjects' profile characteristics using descriptive statistics, the examine practice nurses beliefs and behaviors using means and to examine the role of weight management context. ANCOVAS to examine main effects of clinic and BMI with age, year of qualification, frequency of giving advice and time spent counseling patients |  |



|  |   |  |  |
|--|---|--|--|
|  |   | about weight loss as covariates.   |  |
| <b>Primary outcome Measure/Results</b> | Patients were more likely to initiate treatment if they had a weight gain or were newly diagnosed with any obesity-related comorbidity. Weight change and new comorbidity diagnosis were not associated with sustained MOVE! Use.   | As a professional group the practice nurse believed the lifestyle was the main cause of cardiovascular disease. They also believe that obesity is preventable and treatable and had apposite attitude towards health benefits of weight loss. They also believed they had the skills to effectively treat obesity. The practice nurses' had low scores of giving weight loss advice and patient adherence to weight loss. The results showed an impact of the practice nurses' BMI on their beliefs and behaviors with subjects with higher BMI's rating obesity as less preventable and reporting less likely to advise eating less in general and more likely to offer caloric controlled diets. |  |
| <b>Conclusions/Implications</b>        | Adverse obesity-related health events were associated with initiation of behavioral weight-loss treatment offered in an integrated healthcare setting   | Education programs for practice nurses should not only include skills training but emphasis both the factors involved in advice giving and self-appraisal. Such appraisal should include a role for both the practice nurse's and the patient's behavior to minimize "the operation was a success but the patient died" approach to obesity management.  |  |
| <b>Strengths/Limitations</b>           | 1: study population was composed of long-term VA users who were mainly older and had sufficient weight measurement data to construct the variable of interest.<br>2: Study derived from clinical records<br>3: Utilization of non -VA weight loss treatment was not measured. | None listed  |  |

|                       |   |   |  |
|-----------------------|---|---|--|
|                       | 4: by conducting a second regression analysis on a subset of the data, the variability of the predictor variable was restricted |   |  |
| <b>Funding source</b> | Diabetes Quality Enhancement research Initiative and the national Center for Health Promotion and Disease Prevention            | The primary care development fund, South Thames Regional Health Authority |  |

*Appendix- B*

**Logic Model**

| <b>RESOURCES</b> | <b>CONSTRAINTS</b> | <b>ACTIVITIES</b> | <b>OUTPUTS</b> | <b>SHORT &amp; LONG-TERM</b> |
|------------------|--------------------|-------------------|----------------|------------------------------|
|------------------|--------------------|-------------------|----------------|------------------------------|

|   |                           |  |  | <b>OUTCOMES</b>  |
|---|---------------------------|--|--|--|
| Time to develop a ppt presentation                              | Time allotted for project | Create and submit IRB proposal   | Number of participants to be determined  | <u>Short-term outcomes</u><br>Increase awareness and willingness of that NP class to use alternative medicine in clinical practice |
| Time to develop a post-questionnaire for students               | Sample size               | Development of ppt presentation for students with case study               | 30-45 minute workshop delivered to NP students at Regis University                 | Increase awareness to NP students of where to find alternative medicine literature   |
| Approval of Regis IRB   |                           | Develop a post-questionnaire for students                                  | 15 minute case study presentation to support workshop with question/answers at end | Repeat of workshop the following year to next group of NP students   |
| Support from faculty at Regis University                        |                           | Meet with Mentor/faculty on which class for workshop, time, semester, etc. | Post-questionnaire handed to students 10-20 minutes after workshop                 | <u>Long-term outcomes</u><br>Implementation of knowledge imputed into NP curriculum  |
| Permission from faculty to conduct workshop at Regis University |                           | Chart review data collection for case study development                    |  |  |
| Permission of students who want to participate in study         |                           |  |  |  |
| Use of projector at school facility                             |                           |  |  |  |

*Appendix- C*

**IRB Approval Letter**

**REGIS UNIVERSITY**  
OFFICE OF ACADEMIC GRANTS

IRB – REGIS UNIVERSITY

September 1, 2015

Terri Miller  
24016 East Willowbrook Avenue  
Parker, CO 80138

**RE: IRB # 15-243**

Dear Ms. Miller:

Your application to the Regis IRB for your project, "Nurse Practitioner (NP) Students' Perceptions of Weight Loss Treatment Using Complementary and Alternative Medicines (CAM)", was approved as an exempt study on August 25, 2015. This study was approved per exempt study category of research 45CFR46.101.b(#2).

The designation of "exempt" means no further IRB review of this project, as it is currently designed, is needed.

If changes are made in the research plan that significantly alter the involvement of human subjects from that which was approved in the named application, the new research plan must be resubmitted to the Regis IRB for approval.

Sincerely,



Patsy McGuire Cullen, PhD, CPNP-PC  
Chair, Institutional Review Board  
Professor & Director  
Doctor of Nursing Practice & Nurse Practitioner Programs  
Loretto Heights School of Nursing  
Regis University

cc: Dr. Pamela Stoeckel

3333 Regis Boulevard, H-4, Denver, CO 80221-1099  
REGIS.EDU | O 303-458-4206 | F 303-964-5528 | E oag@regis.edu

*Appendix-D*

**CITI Certificate**

**COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)**  
**COURSEWORK REQUIREMENTS REPORT\***

\* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

• **Name:** Terri Miller (ID: 4648855)  
 • **Email:** tmillerszymanski@regis.edu  
 • **Institution Affiliation:** Regis University (ID: 745)  
 • **Institution Unit:** Nursing  
 • **Phone:** 210-414-2192

• **Curriculum Group:** Human Research  
 • **Course Learner Group:** Social Behavioral Research Investigators and Key Personnel  
 • **Stage:** Stage 1 - Basic Course

• **Report ID:** 15175051  
 • **Completion Date:** 02/01/2015  
 • **Expiration Date:** 01/31/2018  
 • **Minimum Passing:** 80  
 • **Reported Score\*:** 93

**REQUIRED AND ELECTIVE MODULES ONLY**

Belmont Report and CITI Course Introduction  
 History and Ethical Principles - SBE  
 The Federal Regulations - SBE  
 Assessing Risk - SBE  
 Informed Consent - SBE  
 Privacy and Confidentiality - SBE  
 Regis University

**DATE COMPLETED**

02/01/15  
 02/01/15  
 02/01/15  
 02/01/15  
 02/01/15  
 02/01/15  
 02/01/15

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

**CITI Program**  
 Email: [citisupport@miami.edu](mailto:citisupport@miami.edu)  
 Phone: 305-243-7970  
 Web: <https://www.citiprogram.org>

Collaborative Institutional  
 Training Initiative  
 at the University of Miami