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A Structured Weight Loss Program to Combat Obesity in Women

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
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Walden University
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Abstract

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Project Submitted in Partial Fulfillment

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Abstract

Rates of obesity and the associated comorbidities continue to increase for women in the United States. Despite information available, efforts at weight loss are often unsuccessful because women lack integral knowledge of how to approach the various components essential for weight loss. This doctoral project was created to address the practice question of whether obesity can be reduced through a step-wise weight loss program that identifies essential elements to reduce weight in menopausal age women. Guided by the information-motivation-behavioral skills model, this project led 17 volunteer participants from a Northwest, Florida primary care clinic through 6 weeks of protocols supplemented with Facebook interactions. A pretest/posttest comparison showed increased knowledge regarding weight loss and increased self-efficacy as measured by the PANSE scale. All participants had some decrease in weight and an average of a drop in systolic blood pressure of 4 mmHg. This supports the use of a nurse-lead structured education and support model for improved weight loss in women. This project can lead to positive social change with the ability to assist women with obesity and hypertensive disorders, thus reducing morbidity and mortality as well as improving quality of life.

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Dedication

This project is dedicated to my daughters, Dominique and Christian. Thank you for being patient and sacrificing family time while I complete my Capstone project. Dominique, I will cross the ocean for you and Christian, God gave me you.

Acknowledgments

I would like to thank Dr. Catherine Garner for being patient and assisting me through the entire project.

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Section 1: Nature of the Project

Introduction

The incidence of obesity among women in the United States is considered an epidemic, with an estimate of over 300 million having a confirmed diagnosis of clinical obesity (Templeton, 2014). Of the total U.S. population, 40% of women are classified as obese, defined as a body mass index (BMI) at or exceeding 30% (Flegal, Moran, & Carroll, 2016). Obesity is a preventable and treatable condition that is best approached using a comprehensive structured approach; however, gaps exist in practical approaches that address obesity in women

The cost of treating and managing obesity and obesity-related conditions in the United States is estimated to be over $190 billion annually. On average, the individual cost of health care for an obese female is over $4,000 annually as opposed to only $2,000 for her male counterpart. The combined cost of obesity for both women and men contributes to over 20% of the total medical costs in the United States (Dor, Ferguson, Langwith, & Tan, 2010). Obesity in women increases the risk of diabetes, cardiovascular disease, reproductive disorders and cancers, hypertension, and depression. Although obesity in men raises identical risks, the incidence of obesity in women results in decreased physical functioning and vitality (Baker, Leclerc, & Tulloch, 2016). The incidence of obesity is significant for women because many find it difficult to lose weight as opposed to their male counterparts but do not understand why or how to overcome barriers to weight loss (Zelman, 2016). Despite estimates of $60 billion dollars spent on the weight loss industry on meals, pills, and programs, obesity rates continue to rise. If

effective weight management measures are not implemented, it is estimated by the year 2030 over 50% of the total U.S. population will be obese (Finklestein et al., 2012).

Obesity presents negative health risks for women of any age, but as women age weight loss becomes problematic due to biological processes that slow metabolism and psychological factors that affect appetite. Some conditions affecting weight in women are related to normal hormonal changes in the body that present with aging. Besides the naturally occurring alterations in the body such as hormonal interruptions that occur in women, more women today are preoccupied with career and family, which makes it more difficult to incorporate exercise and healthy eating practices into their daily routine (Shah, 2014).

Few primary care practices offer structured weight management programs for obese women. This is an area where an advanced practice nurse can provide education and guidance in addressing individual behaviors, which is why for this project I provided education to a group of obese women aged 45-60. With the structured intervention program, I used a program evaluation approach that measures the formative outcomes of patient adherence and percent of activities accomplished and the summative outcomes of increased self-efficacy and weight loss. This model can lead to positive social change by being incorporated as a part of routine care in clinical settings.

Problem Statement

The current population for Northwest Florida averages approximately 500,000, with over 130,000 individuals classified as obese (Partnership for a Healthy Community, 2016). Obese females aged 45-60 represent approximately 10,000-15,000 individuals

whose obesity puts them at elevated risk for comorbidities and poor quality of life. There are no structured, holistic weight loss programs available in the primary care clinics in the community targeted to older women. Although proper diet and physical activity are important components of weight loss, there are various biological and physiological underpinnings that are not routinely addressed (Collins & Bentz, 2009).

The structured educational weight loss program for this project targeted women ranging in age from 45-60, a group that is at high risk for obesity-related comorbidities such as type 2 diabetes, hypertension, and coronary disease. The structured approach with appropriate information and motivation positively affected behavior change in weight management. Most weight loss interventions focus on dietary restrictions, such as carbohydrates and fats, and increased physical activity, but they ignore biological and psychological factors that contribute to weight loss as it relates to each individual (Obesity Society, 2013). Millstein (2014) evaluated 28 systematic review articles for effective weight loss interventions. The articles included sophisticated methodologies and analysis, but all held common denominators of dietary restriction and physical activity without factoring other scientific relevancies that significantly impact weight loss. Doctoral-level nurses are equipped with ability and advanced practice skills to influence change by employing measures to combat obesity through relevant education, motivation, and knowledge dissemination.

Purpose Statement

The purpose of this project was to promote effective weight loss among females who find it difficult to achieve healthy weight goals by closing gaps in current evidence-

based practices. The structured weight loss program guided women with a BMI at or above 30% between the ages of 45-60 through a 6-week interventional program with a focus on behavioral modification that targeted specific weight loss barriers. This project's aim was to develop an evidence-based clinical practice approach to treat obesity in a Northwest Florida primary care clinic as a quality improvement initiative. The objective of the program aimed to overcome barriers relevant to the identified population that contribute to obesity and hinders weight loss. The project measured whether obesity can be directly influenced through implementation of behavioral modification through a 6-week structured program that addressed various components of weight loss based on scientific underpinnings, theoretical and conceptual concepts.

Nature of the Project

For the structural interventional program, I used a program evaluation approach that measured the formative outcomes of patient adherence, percent of activities accomplished, and the summative outcomes of increased self-efficacy and weight loss. According to Yu et al. (2014), providing educational information can increase adherence to dietary and lifestyle changes that can produce modest weight loss. The participants adhered to the program with the majority effectively losing at least one pound of weight per week. I applied the information-motivation-behavioral skills model (IMB) as the foundation for behavioral change to promote weight loss, promote adherence, and translate new evidence into practice to combat obesity while increasing self-efficacy. The IMB model has been identified as an effective empowerment tool for accelerating behavior change (Osborn et al., 2010). Research has identified the IMB model is an

effective approach at combating obesity because education alone is not a long-term solution (Schubert et al., 2012). Reinforcing change in refractory behaviors with relevant information complements motivational support and other approaches to change behavior; this combination of approaches has been used to promote weight loss in obese children (Small, Melnyk, & Strasser, 2007).

Intervention and Assessment

During the planning phase of the project, I provided the clinical director of the Northwest Florida primary clinic a letter explaining the DNP project proposal and requesting acceptance of the quality improvement project and provision of support for meeting space at the clinic. The intervention consisted of 6weeks of guided interventions with two in person meetings and weekly live Facebook counseling sessions that lasted 30 minutes for each session. During the initial meeting, the participants signed informed consents and completed a pretest survey to evaluate current weight loss knowledge, previous approaches to weight loss, success rates of previous attempts at weight loss, physical activity level and weight loss goal for the 6-week program. The participants were given an 11-question physical activity and nutrition efficacy scale (PANSE) to predict weight loss. During the first meeting I calculated the participant's weight, BMI—a calculation of height to weight that identifies percentage of weight that is fat—, and basal metabolic rate (BMR), which is the amount of energy a person uses when resting. The initial meeting consisted of a 1-hour educational seminar where the participants were provided with take home tools of menu suggestions, dietary exchanges, a walking guide, a journal to record metrics of the program, and my Facebook live information.

During weeks two through six participants kept weekly weight and activity reports. Each Friday evening at 6:00 p.m., I conducted a 30-minute live Facebook coaching session. Seventeen of the 21 participants attended all scheduled Facebook sessions. The counseling session was designed to promote motivation and adherence to the program and encourage self-efficacy. The counseling session also allowed for open-ended questions the participants had during the implementation phase of the program.

The final meeting concluded on Friday of week six of the program. During the final meeting, the participants had their weight, BMI, and BMR recalculated. They completed a posttest survey to evaluate learned knowledge of weight loss essentials compared to knowledge at the initial meeting and if their weight loss goal was met. The participants completed the identical PANSE scale to compare preintervention and postintervention results as a gauge to measure self-regulatory motivation and compliance for continuation of weight loss practices. The participants were given the opportunity to ask open-ended questions, offer suggestions, share affirmations, and reflect on individual experiences during the study. All participants received a T-shirt for participating in the study that was funded by me.

Significance

According to the West Virginia Department of Health and Human Services (n.d.), statistics calculated by the National Institutes of Health from several cohort studies that were conducted over several years from entities such as the American Cancer Society, Alameda Community Health Study, and the Nurse's Health Study concluded the annual obesity attributed death rate for adults over 18 in the United States was over 300,000.

According to a report from Harvard School of Public Health (2017), research supports the premise that obesity impacts various systems of the body. The risk of diabetes more than triples when an individual's BMI is 30% or greater. When a person's BMI reaches 30%, the accumulation of excess fat is stored in the body tissue increases inflammation. Inflammation increases the risk of obesity because it decreases the body's ability to use insulin to burn calories. Obesity is the most prevalent contributing factor for type 2 diabetes and can be prevented through cost-effective lifestyle interventions (Alouki, Delisle, Tamayo, & Johri, 2016).

The risk of developing hypertension is accentuated by increased BMI. Landsberg et al. (2012) provided epidemiological data that identified a direct correlation between hypertension and BMI > 30 in individuals. Hypertension contributes to the risk of stroke, heart disease, kidney disease, and other conditions that damage both the micro and macrovascular systems. In 2010, obesity-related hypertension statistics for the state of Florida were estimated to be 4 million. In 2015, 33.5% of Florida's total population was identified as having obesity-related hypertension. If obesity is not corrected by the year 2030, the trend is estimated to increase above 5 million (Robert Wood Johnson Foundation, 2017).

Obesity increases the risk of cardiovascular disease by increasing circulating fats within the body known as cholesterol. According to the National Heart, Lung and Blood Institute (2012), obesity increases the risk of coronary artery disease by increasing the amount of low density lipoproteins and triglycerides in the body. Low density lipoproteins attach to coronary arteries and deprive the heart of needed oxygen. While

research has not shown if triglycerides levels alone increases coronary artery disease risk, it does increase resistance to insulin which increases the risk of metabolic syndrome and indirectly affects weight by not allowing the body to use insulin for metabolism.

Obesity has negative impacts on health and income. Obesity is directly associated with numerous health issues such as, dyslipidemia, mental illness, diabetes, sleep disturbances, reproductive disorders, musculoskeletal disorders, and certain cancers. From a financial perspective, the direct cost of preventing or treating these health issues currently exceeds $140 million per year. The indirect budgetary impact of obesity results in loss of manpower hours increased insurance premiums, and the overall rising cost of health care in the United States. The average annual indirect cost for obesity in American approaches $3 billion (Centers for Disease Control, 2016).

Summary

Obesity is an epidemic that continues to present a health concern for women. Obesity contributes to a plethora of health conditions that negatively impact the quality of life and increases individual and national financial costs. There are multiple factors that hinder weight loss in older women. This study offered a structured weight program for obese women at a primary care clinic. Concluding the successful outcome, this model has become an important part of routine care in the clinic.

Section 2: Background and Context

Introduction

Data shows the incidence of obesity in America has more than doubled in the last decade, giving rise to conditions such as hypertension, type 2 diabetes, certain cancers, reproductive disorders, heart disease, stroke, musculoskeletal complications and depression (American Heart Association, 2016). An accumulation of fat that exceeds 29.9% BMI over prolonged time causes adverse effects on health and presents and increased monetary impact (Monash University, 2010). These health concerns are pertinent to women, as obesity in women is an increasing epidemic. The purpose of this project was to address weight loss in menopausal-age women, identifying that increased self-efficacy can positively predict weight loss. This study guided women through a 6-week structured educational program with information that was designed to promote weight loss through translation of relevant information, increased motivation, and lifestyle behavior modification. This study was designed to shape the way women view weight loss and promote healthy living through manageable measures that overcome obesity.

It is important to understand the causal factors involved in excess weight. For many people obesity is a direct imbalance between calories in and calories out or energy expenditure, but for women this scenario is not conclusive. Despite the nonmodifiable risk factors of age, genetic and physical composition, and hormonal imbalance there exits modifiable risk factors that contribute to obesity. Research suggests stress, lack of adequate sleep, very low calorie diets, low fiber intake, inadequate water consumption,

lack of physical activity, and hormone imbalance play an integral part in obesity in women (Willborn et al., 2005)**.**

Sources of Evidence

To effectively formulate a strategy to combat obesity, it was important to review current evidence-based practice approaches to successfully implement a weight control program. Current information related to obesity and the associated risks were gathered from organizations such as the Centers for Disease Control and Prevention's Partnership for a Healthy Community, the World Health Organization, and the Obesity Society. A literature review was performed using CINAHL, MEDLINE, PubMed, Research Gate and various other scholarly resources from medical and nursing journals between the years of 2001 to 2016 using these key terms: *obesity and women, female obesity, menopause and obesity, IMB model for weight loss, self-efficacy, obesity, biological factors affecting obesity,* and *causes of obesity*.

The key words used in the search for educational articles were based on components of the overall concepts of obesity and weight loss. Factors relating to weight loss in women were considered in the search that includes menopause and biological factors, which are the primary factors affecting weight loss in menopause-age women. The IMB model was used because approaching the goal of combating obesity in women is designed translate relevant information to promote healthy behaviors through motivation. Self-efficacy was included in the search because increased self-efficacy promotes long-term weight loss goals through reflection of previous accomplishments.

Stress

Stress is a psychological factor that affects obesity. Prospective cohort studies have correlated psychological stressors, especially job related, with an increased BMI (Block et al., 2009). When stress triggers are activated, the body reacts by storing fat for times of distress that should only last for a brief period. Oxidative stress is an over production of free radicals or reactive oxygen in the body. Oxidative stress is a primary precursor for obesity and unbeknownst to many people excessive exercise produces oxidative stress (Aroor & DeMarco, 2014).

Sleep

Sleep is a critical component necessary for weight loss. Sleep deprivation can be a combination of biological and psychological determinants. Inadequate quality and quantity of sleep disrupt the hormones responsible for appetite and satiety, ghrelin and leptin. Sleep restriction is associated with reductions in leptin, the appetite suppressing hormone and elevations in ghrelin, the appetite stimulating hormone. Increased ghrelin encourages cravings for foods with high carbohydrate contents (Spiegal et al., 2005). Adequate sleep also plays a key role in regulating endocrine function and metabolism, especially in women. According to Beccuti and Pannain, (2011), over 50 studies were conducted in the United States that revealed a direct link between lack of sleep and obesity in children and adults. The difficulty with obtaining adequate sleep patterns is problematic for shift workers because it alters the body's natural circadian rhythm. Adequate sleep was measured as obtained when the individual awakens and feel refreshed and rested.

Very Low Calorie Diets

A major strategy of decreasing weight is through consuming fewer calories through very low calorie diets (VLCD). VLCD consists of 800Kcal or less daily consumption. The problem with decreasing food consumption with VLCDs for sustained periods of time is that it results in absence of key vitamins, nutrient, and proteins. In addition, research has found participants suffer from rebound weight gain during the maintenance phase (Johansson, et al., 2014). On average, VLCDs are effective for rapid results but are not encouraged for continuous use. Prolonged use of VLCD typically beyond 3-4 months will result in decreased metabolism which makes it yet harder to lose weight. Rosenblaum (2001) states that prolonged low-calorie diets eventually reduce the body's daily energy expenditure.

Fiber and Water

Fiber fills space in the stomach and slows digestion. According to Kovacs and Shiel (2016), 1700 participants were given an increase in fiber diets and measured against participants not given high fiber foods over a period of two years. The high-fiber group showed the greatest weight loss. The process of slowing food progression contributes to feeling full longer and decreasing hunger. The American Heart Association (2016), recommend at least 25g of soluble fiber daily for adults, as this has been proven to have protective health benefits that prevent heart disease, diabetes, and even some cancers.

On average, the adult body is over 60% water. Water helps the body metabolize and transport the foods through the digestive system. The standard of 64 ounces of water per day may not be equivalent for every individual. A rule of thumb to follow is to

consume half an individual's body weight in ounces of water per day. The consumption of adequate amounts of water assists in eliminating toxins through urination and assistance with bowel evacuation. Several clinical studies have been conducted argue that water fills the stomach, which gives the impression of satiety, thus reducing caloric consumption and increases energy levels (American Chemical Society, 2010).

Physical Inactivity

Physical inactivity has been shown to decrease energy expenditure, which contributes to obesity. According to Hacken, (2009), physical inactivity contributes to a positive energy balance. A positive energy balance develops when the body is taking in and storing more energy or calories than it is expending. Additionally, lack of enough physical activity shows a positive association with increased systemic inflammation. According to Paley and Johnson (2016), regular physical activity has been proven to reduce or completely alleviate pain by reducing the pain perception in the brain while simultaneously improving mood and overall quality of life**.**

Hormonal Imbalance

Hormone imbalance is a biological constituent of obesity in women. Women transition through several stages of menopause, usually beginning around 45 years of age. Obesity among women is particularly problematic starting at this time due to the influence of estrogen imbalances. Hormonal imbalances manifest during this time as decrease in energy, increased abdominal fat, and alterations in body composition and processes that affect metabolism. As a result of the imbalance the risk of obesity increases in women at this time (Jull, et al., 2014). Because estrogen is naturally

deposited in women's breasts, hips and thigh this alone increases the potential for obesity unlike the dominant hormone testosterone in men that influences lean muscle mass. Circulating estrogen deposits in the body as adipose tissue which produces aromatase, which unfortunately increases with age and is why weight loss in women becomes difficult (Carlson, Thiel, Yang, & Leslie, 2012).

Concepts, Models and Theories

The use of previously established concepts, model or theories is important for establishing nursing practice protocols. Nursing concepts, models and theories provide a roadmap that is used to guide current practice or establish new practice guidelines. Concepts, models and theories provide evidence of best practice approach the healthcare delivery system (Roussel, n.d.). This research project incorporated Fisher and Fisher's Information-motivation-behavioral model (IMB) (1992), as a foundation to explore a conceptual framework for this weight loss study. Physical Activity and Nutrition Efficacy Scale was utilized to evaluate potential for long-term behavior modification.

Information-Motivation-Behavioral Change Model

Obesity is an actual disease and predisposes an individual to a myriad of other health condition, making obesity a complex condition. According to WHO (2016), the IMB model is an effective model when used as a guide to direct the healthcare process for complex conditions. The IMB model was developed as a conceptual framework based on previous theoretical models to research patient adherence to certain protocol The IMB model has been used effectively in Virginia in an afterschool obesity prevention initiative for 5-11-year old. One hundred seventy students participated and were followed for one

year after initiation of the program. Evidence supports that the use of the IMB resulted in over 50% of participants sustaining an increase in healthy eating, physical activity, water consumption and intake of fruits and vegetables (Bartholmae, 2016)

The IMB model is divided into three distinct elements that, when combined, are designed to encourage behavioral change. The first and most important element of the IMB model is information translation. The participants were given relevant information concerning behaviors that impact weight. The identified behaviors may not necessarily be negative, but for the selected population they have a negative impact on weight loss. The second element of the IMB model involves personal and social motivation. The study provided individuals with new and relevant information that increased personal motivation and evaluated how social groups influenced behavioral change through various methods. Motivation is grounded in the perception of approval or disapproval of an action and therefore drives a person practice alternate behavior (Walsh, Senn, Sheldon, Vanable, & Carey, 2011). Neither the dynamics of personal or social motivation was aimed at replacing the other, but the combination of both is what was expected to provide greater momentum for success. The group dynamics and the Facebook sessions were designed to serve as support systems during the program. The third element of the IMB behavioral consisted of the tools and resources that assisted the participants in promoting change. Behavioral skills were incorporated into the weight-loss program to assist in behavior modification. It was not assumed because a person received the information they knew how, when, and possibly why to apply it. Behavioral skills taught the individuals how to (a) be accountable for her actions, (b) ask the necessary questions,

(c) be committed, (d) make informed decisions, (e) deal with emotions, (f) obtain further required information, (g) be assertive, (h) be flexible, and (i) be forgiving of oneself.

Self-Efficacy

The result of the program promoted long-term behavioral changes through increasing the individual's belief and confidence in self. A self-efficacy scale was integrated as a psychosocial predictor of a person's ability to overcome obstacles to maintain compliance with the study. The Physical Activity and Nutrition Self-Efficacy (PANSE) scale was encompassed into the study to measure self-regulation of nutrition and physical activity. The PANSE scale included 11 self-reported items that predicted locus of control to activity and nutrition. A weight-loss study of 112 women was conducted over 13 weeks to predict weight loss using the PANSE scale, the results concluded it was an effective measure to increase self-efficacy and promote weight loss (Latimer, et al., 2012). Self-efficacy was influenced by many factors such as a person's environment, personal factors that affect cognition and mood and learned behaviors (Bandura, 2012). Self-efficacy relied on motivation and the member's gaining the belief she was able to achieve weight-loss once motivated to start. Once the member objectively realized her ability to lose weight on a weekly basis, her self-efficacy began to increase because they could visualize a realistic and obtainable goal. The patients increased their motivation and confidence which continued to enable them to make changes. According to Cochrane, G. (2008), self-efficacy effectively increases self-worth in patients embarking on personal endeavors to promote health and well-being. Weight-loss was not a simple task to accomplish. Patients were encouraged by recalling words of the immortal

Booker T. Washington, “Success is not measured by the position one has reached in life, rather by the obstacles overcome while trying to succeed” (Washington, 2016).

Relevance to Nursing Practice

Doctorally prepared nurses possess an understanding of the scientific underpinnings to develop new or improved guidelines for practice. The introduction of a behavior modification program helped to enhance the patient’s self-care management of weight by focusing on the underlying causes contributing to weight gain. This project provided integration of nursing science, theory, models and concepts to describe strategies to alleviate obesity (American Association of Colleges of Nursing, 2006). Nurses play a key role in patient’s healthcare. Nurses have the direct ability to identify clinical needs that impact nutrition and exercise through empowerment by providing education and information. According to Wills, Fehin, and Callen (2016), obesity is a complex condition with a myriad of causes. A primary modifiable cause is food consumption and nurses are able to educate patients to modify this particular contributing factor along with other covert factors that contribute to obesity

Role of DNP the Student

The goal of translational research is to bridge the gap between basic research and clinical research to outline long term results that transforms healthcare (Rubio, et al., 2011). Combating obesity requires collaboration between research and clinical practice to establish evidence-based practice guidelines. According to American Association of Colleges of Nursing (2006), the role of the DNP student is to provide a critical assessment of the problem related to obesity while designing, implementing and

evaluation new evidence to transform clinical practice. The role of the DNP student during the translation project was aimed to identify at risk individuals, identify practice-level barriers, implement practical everyday measures and evaluate the outcome of the measures to determine effectiveness of the study (Vincent, Johnson, Velasquez, & Rigney, n.d).

Section III: Collection and Analysis of Evidence

Introduction

Following a healthy diet is one of the first steps in overcoming obesity, but as women age dietary restrictions alone may not be enough. The purpose of this research project was to assist women in identifying factors that contribute to obesity or prevent weight loss. It has been evidenced that as women age it is more difficult for them to lose weight compared to men due to reasons such as hormonal imbalance, age, and body composition. As a person ages, there are various mechanisms in the human anatomy that begins to slow down or change making that gives rise to obesity (National Heart Lung and Blood Institute, 2012). Women have a higher incidence of diabetes, hypertension, coronary artery disease, and musculoskeletal problems due to obesity when compared to their male counterparts. In addition, obesity affects reproduction in women but does not present any negative effects for men (Metcalf, 2015). The concept of combating obesity was not just focused on dieting but lifestyle modifications to adjust to natural changes within the body. The project goal was to teach participants how to overcome the key determinants affecting weight loss which resulted in an effortless routine to combat obesity. The practice focused question was: Will participants in a structured weight loss program show an increase in self-efficacy and lose a minimum of 1 pound per week?

Research has shown individuals following a structured weight loss program lose significantly more weight than with dieting alone (Vakil et al., 2015). Whether the program is online or in a traditional setting, the overall goal is providing guidance that focuses on lifestyle modification, feedback, and support based in part on concepts of IMB

model. The IMB model has been shown to be an effective model for promoting change in diet and high risk domains of behavior. The IMB has been effectively used in randomized controlled trials to combat childhood obesity by targeting the variables of information, motivation and change that resulted in strengthened behavior modification in both children and parents (Lloyd, Wyatt, & Creanor, 2012).

Population Recruitment

The project took place in a Northwest Florida primary care clinic. Recruitment for the study was elicited by placing flyers for the study at the receptionist desk and patient examination rooms inviting obese women between the ages of 45-60 to participate. The flyers identified my contact information for further inquiry. Once the interested participants contacted me, I relayed inclusion and exclusion criteria for the and verified it through the patient's medical records. A total 27 participants contacted me for participation, with 21subjects meeting the criteria after their health records were reviewed and verified for inclusion and exclusion criteria.

Inclusion criteria for the study included females with a BMI at or over 30%, between the ages of 45-60, able to understand English to competently sign an informed consent, able to participate in a live webinar, having access to a scale for weekly weight, and ability to attend two mandatory live sessions. Exclusions for the study included any participant on medication for weight loss, conditions that prevent participating in light to moderate physical activity, inability to read and understand English, and pregnancy.

Data Collection Plan

Once the qualified population group was identified, the researcher contacted each participant to provide information of time, date and place of the initial mandatory in-person meeting. Day one of week one the study group assembled at the Northwest Florida Primary Care Clinic. The participants were explained the project in detail and provided the informed consent. Once all informed consents were obtained, each participant was assigned their individual participant identifier then taken into an exam room to calculate their BMI, height, weight and BMR. The group reassembled in the clinic's lobby after individual calculations for further instructions.

Resources were provided to the participants to assist with their weight-loss journey. The members were given a pre-assessment survey to identify individual weight-loss knowledge, methods previously used for weight-loss, failure and success rates. The study group was provided the PANSE scale to estimate the confidence to maintain physical activity and a healthy diet prior to initiating the study. The participants were educated on the components of the structured weight-loss program identified to assist in weight-loss; water intake based on weight, caloric intake based on BMR, adequate sleep, fiber intake, stress reduction and exercise. The subjects were provided diet menus based on 1500kcal/day and instructed how to adjust caloric intake to produce approximately one-pound weekly weight-loss by reducing daily caloric intake by 500kcal based on each individual BMR. The participants were given a six-week walking guide to assist with increased weight-loss. The meeting concluded by given the participants a weekly journal to document weekly compliance and weight-loss.

Data Analysis Plan

Results of the pre-assessment survey and PANSE scale were compared from the first meeting and last meeting to identify increased knowledge and confidence. The participants were provided with time and dates of each weekly Facebook live sessions. The Face-Book sessions provided guidance to overcome barriers encountered during the program. The participants were advised only the host would be seen during the live session, but questions and comments could be typed, and the host and other participants could view. The participants weighed weekly on Friday's upon awakening to measure weekly weight loss for validity of the study. The study concluded on day six of the sixth week to reveal results of the structured weight-loss program. Thirty minute weekly Face-Books sessions were conducted each Friday from the Northwest Florida conference room at 6:00p.m. CST by a secure network. Two 1-hour meeting sessions were conducted in the conference room of the clinic during week one and week six of the study.

Summary

Structured weight loss programs with the inclusion of information transformation have been researched and proven effective at combating obesity as opposed to less intensive programs of diet alone with no to little education. In a retrospective study of 126 male and female participants ranging from 17-65, 71 participants engaged in a structured program while the remainder of the participants conducted less structured programs such as weight-watchers, slim-fast and other similar programs. The results concluded that after one year the participants in the structured weight loss program lost

an average of 18kg as compared to the less structured program where the average weight loss was only 6kg (Rohrer, & Takahasi, 2008).

The results of the initial pre-test assessments, biometrics data and PANSE scale were compared to the results of the six-week post-assessment. The participant's weekly weights as evidenced in their journals were evaluated to identify effective weight-loss of at least one pound per week was achieved. Data from each participant's journal was used to identify compliance with the six components identified for weight-loss. All remaining participants received a T-shirt with the logo, "I beat the weight-loss Challenge" to show their appreciation for the structured weight-loss program.

Section 4: Findings and Recommendations

Introduction

The structured weight loss program guided females through a progressive 6-week program to identify and overcome barriers to weight loss. The participants were solicited from a Northwest Florida primary care clinic through self-referral from the research flyers posted at the receptionist desk and in examination rooms. I provided pretest and posttest surveys which evaluated the outcome of the project. I identified if the participants followed a structured weight loss approach they could effectively decrease weight by at least 1 pound per week with an increase in their self-efficacy to encourage continued behavior modifications.

Findings and Implications

All participants attended the first and second Facebook live session and adhered to the guidelines of the study. During the first week of the study 19 of the 21 participants effectively decreased 1 pound of weight loss. Four participants stopped participating in the weekly sessions without notice during the third week. The remaining 17 volunteers ranging in age from 46-53 participated in the weight loss study for the duration. Only 11 strictly adhered to the weight loss study with no deviation. Six of the 17 participants who remained in the program deviated from the protocol by eating foods not listed in the menu suggestions, not following the walk guide, and not adhering to caloric intake based on their BMI. Only the 11 participants who adhered to all aspects of the program are represented in Table 2 for analysis of the weight loss study.

Table 1 displays participants' understanding of various components that affect weight loss. Pretest and posttest comparisons were used to identify participant's increased knowledge poststudy. Type of caloric intake and amount component of the questionnaire remained consistent pre- and post-study. Participants believing the key to weight loss is overcoming obstacles revealed the greatest number of participants in which knowledge translation was effective: zero participants in agreement prestudy and 17 participants poststudy. The remaining components had varying degrees of knowledge translation pre- and post-study. The goal was achieved in increasing knowledge of essential components which have a vital role in weight loss as evidenced by pretest and posttest evaluations.

Table 1.

Weight Loss Knowledge

	Pretest	Posttest
Hormones have no effect on weight	11	2
Fiber increases fullness	5	17
Type or amount of calories' importance	17	17
Belief in overcoming obstacles is key to weight loss	0	17
Exercise and decreased calories are all that's needed to lose weight.	3	17
I need exactly 8oz of water daily	13	12
I need to exercise 0.5-1 hour daily	3	15
I need to stay below 1000kcal daily to lose weight	9	0
You cannot lose weight after age 40	17	2
Weight-loss is dependent on various components	7	15

Figure 1 identifies the participant's level of self-efficacy and percentage of confidence to maintain behavior modifications pre-study and post-study. The self-efficacy percentage values were based on the PANSE scale. According to Byrne, Barry, and Petry (2012), several studies have been conducted using the PANSE scale as a predictor of weight loss which concluded higher baseline self-efficacy correlates with greater weight loss success. For purposes of this study, confidence levels at or above 70% was declared a high baseline level to a correlation of greater weight loss.

Prestudy 13 participants had a confidence percentage less 70% and 4 participants demonstrated a high baseline at or above 70%. Poststudy 8 participants' baseline confidence was less than 70%, and 9 participants had a high baseline confidence at or above 70%. The percentage of participants' confidence increased significantly after completion of the study compared to the pre-study rate. This is consistent with the literature. In a self-efficacy weight-loss study, an analysis was implemented in 92 adults to determine the correlation between increased self-efficacy and weight-loss over 6 and 12 month intervals. Evaluations at the 6 and 12 month intervals revealed not only an increase in self-efficacy, but a decrease in negative emotions which evidenced a reduction of 5% weight-loss in the involved participants (Hays et al, 2014).

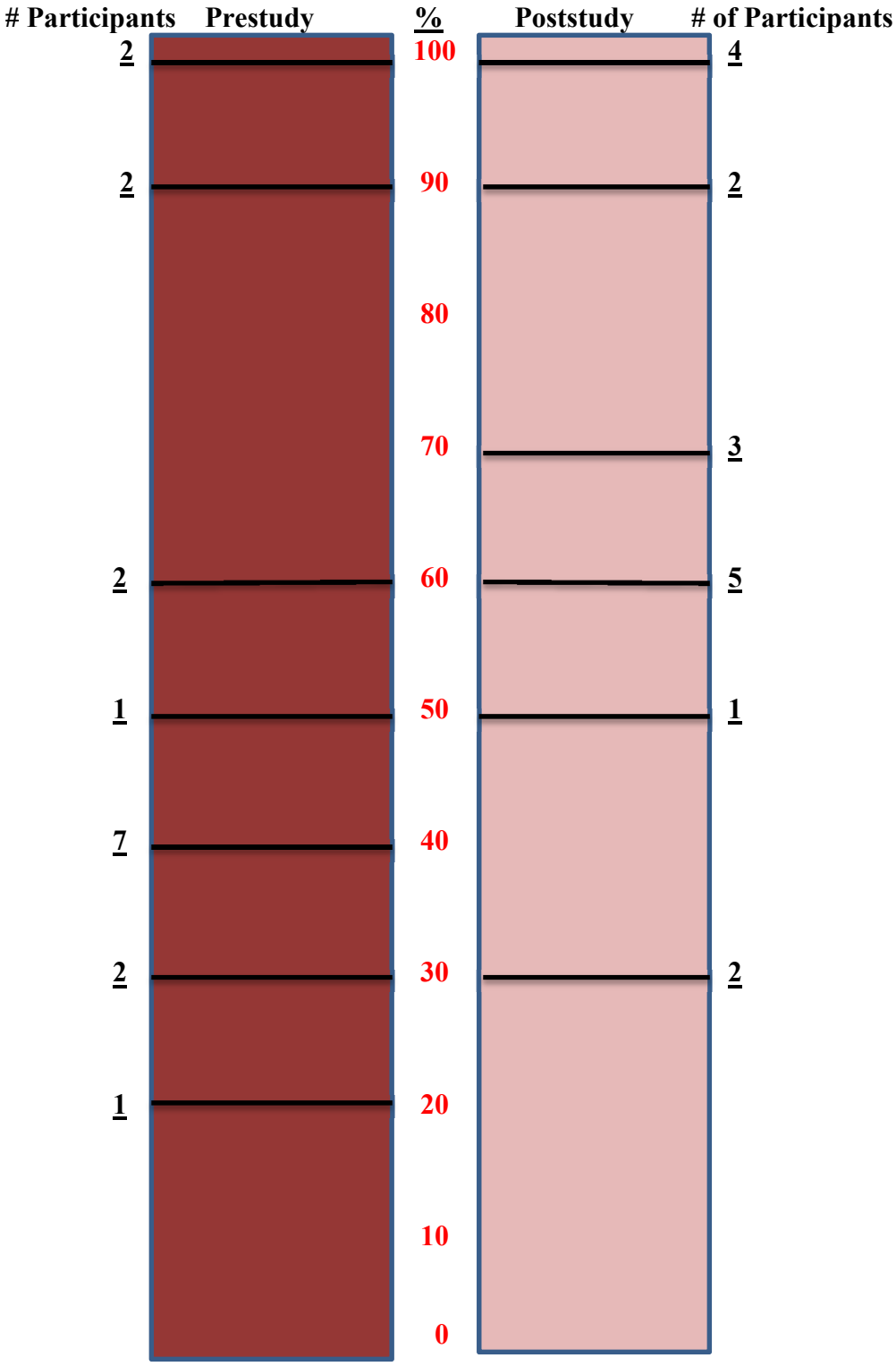

Figure 1. Participant's PANSE confidence scale % prestudy to maintain behavioral modification

Table 2 lists the outcomes of 11 of the 17 participants who adhered to the structured plan and demonstrated weekly weight-loss. The outcome measures of weight loss and BMI were evaluated from baseline values during the initial meeting. Total weight-loss for the group was 105 pounds with an average of 1.5 pounds per week. Weight-loss for the participants ranged from 6 pounds to 19 pounds. The members decreased their BMI an average of 1.4%. Although not inclusive in the structured weight-loss programs, participant's systolic blood pressure decreased an average of 4 mmHg**.** According to U.S. Department of Health and Human Services (2003), losing weight is not only beneficial for weight-loss has been shown to have the greatest impact on lowering blood pressure. A meta-analysis study of over 400,000 individuals evaluated the outcomes of lowering systolic blood pressure less than 10mmHg or diastolic less than 5mmHg reduced the rates of both coronary heart disease and the incidence of strokes significantly (Grossman, E.,2011).

Table 2

Structured Weight-Loss Program Results

ID	Prestudy weight	Poststudy weight	Prestudy B/P	Poststudy B/P	Prestudy BMI	Poststudy BMI
4001	210	198	138/86	132/78	31.0	29.2
4002	176	168	128/75	124/72	31.2	29.8
4003	171	165	142/82	136/70	30.3	29.2
4004	186	167	131/66	128/66	30.0	28.7
4005	177	169	140/89	138/78	30.4	29.0
4006	193	185	145/87	138/74	30.2	29.0
4007	183	173	140/89	137/70	30.5	28.8
4008	186	180	128/74	125/73	30.0	29.1
4009	203	194	130/72	129/70	30.9	29.5
4010	180	170	135/83	132/77	30.0	28.3
4011	191	182	123/80	120/74	31.8	30.0

Recommendations

The project was successful with the small group of participants involved. The study would benefit from having a larger population and a longer time-frame to effectively measure the impact on obesity in a primary care setting. The participants were asked after study for suggestions that would make the program more user-friendly. Most of the participants recommended a variety of menu options to include restaurant suggestions. In addition, the participants recommended healthy beverage options other than water. If the study is replicated, it should include the alternative of light to moderate exercise programs as an option in addition to walking. The study should schedule the Facebook sessions on Friday evenings as opposed to Saturday, which is usually family time.

Strength and Limitations

There are identified strengths and limitations of the structured weight-loss project. An advantage of the program was the researcher could interact with the participants on a one-on-one approach. The benefit of the small group allowed for an individualized approach. The Facebook sessions allowed the participants to ask questions, make comments or reinforce motivation. The pre- and post-study assessments allowed the researcher to positively identify translation of knowledge.

The study's impact limitations were evidenced by the isolated population of including only menopausal-aged women, within a specific geographical region. The study revealed data limitations which could have been ameliorated by incorporating the Lean Six Sigma approach. This method would have alleviated needles processes during

the study which had no result on the overall outcome, such as the live-Face-Book sessions.

Section 5: Dissemination Plan

It is important to analyze self-awareness to disseminate the clinical findings into practice. I used a questionnaire developed by the Network for Regional Healthcare Improvement Organization to guide the development of appropriate disseminations to improve population health of Northwest Florida menopausal-aged women (Weng et al., 2013). The 6-week structured weight loss program effectively demonstrated a practical approach primary care providers can use to guide their obese menopausal-age female population in weight loss. A poster presentation will be used to disseminate the structured weight loss program to primary care providers located at the Northwest Florida Primary Care Clinic as well as menopausal-aged weight-loss participants.

The poster dissemination will include three panels that will summarize the weight loss program. Panel one will include the background of obesity among menopausal-aged women within the Northwest Florida community and the weight loss program's purpose is to lower the incidence of obesity among the identified population group in the community. Panel two will describe the methods used to decrease weight loss. Panel three will identify the results of the study implicating the structured weight loss program as an effective weight loss tool.

Analysis of Self

When the structured weight loss project was in the proposal stage the view of implementing change was based mostly in-part on previously established clinical research results for weight loss. As the project progressed the shift transitioned from a definitive clinical research to self-reflective and patient-focused paradigm based on

previously established evidence-based research. As a doctoral-level nurse, self-analysis has led to leadership traits involving a metacognitive approach to implementing change. The weight loss project allowed for growth in areas of teamwork, leadership, and strategic knowledge, which remain important in implementing the evidence-based weight loss study within a larger population. Throughout the DNP process, evidence-based research has been my foundation for new practice approaches, but now I will take a self-analytical approach to develop new strategies to patient care.

Summary

Evidence-based practice is a concept commonly used in clinical practice. Evidence-based practice is used regularly to provide optimal care to health care consumers based on trials that identify the most beneficial and practical approach for the consumer. Promotion of evidence-based practice is strongly encouraged to provide standardized care based on clinical knowledge, skills, and documented effectiveness. This study demonstrated the success of a customized weight loss program for motivated postmenopausal women with obesity. The intervention was nurse-led, low cost, and provided in a familiar primary care setting. The study demonstrated a decrease in blood pressure with weight loss, though not considered a component of the structured weight loss program, but can be an added incentive which can decrease the need for hypertension medication management.

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Appendix A: Letter of Cooperation from a Research Partner

Gulf Health Clinics
[redacted]

Date: 20 January 2017

Dear Tara English,
Based on my review of your research proposal, I give permission for you to conduct the study entitled A Structured Weight Loss Program to Combat Obesity Women within the Gulf Health Community Clinics. As part of this study, I authorize you to post study flyers in the lobby, receptionist desk and patient exam rooms, additionally you are authorized to conduct research at the clinic location. Individuals' participation will be voluntary and at their own discretion.

We understand that our organization's responsibilities include: Providing a private meeting space, computer and internet access for webinars, and storage of participants study information. We reserve the right to withdraw from the study at any time if our circumstances change.

I understand that the student will not be naming our organization in the doctoral project report that is published in ProQuest.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University IRB.

Sincerely,
Norma Jones, MSN
Norma Jones, ARNP
Gulf Health Clinics
Clinical Director
[redacted]

Walden University policy on electronic signatures: An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically. Electronic signatures are regulated by the Uniform Electronic Transactions Act. Electronic signatures are only valid when the signer is either (a) the sender of the email, or (b) copied on the email containing the signed document. Legally an "electronic signature" can be the person's typed name, their email address, or any other identifying marker. Walden University staff verifies any electronic signatures that do not originate from a password-protected source (i.e., an email address officially on file with Walden).

Appendix B: Pretest/Posttest Survey

Participant ID_____

Date_____

Weight____ BMI____BMR_____Weight-loss Goal_____Weight-loss achieved_____

1. T/F_ Hormones have no effect on weight loss.2. T/F Sleep does not affect weight loss.

3. T/F_ Fiber helps keep me full, lower cholesterol and flush toxins from my body.

4. What is more important Type of calories or Amount of calories consumed daily?_____.

5. T/F_ I need to believe I can overcome obstacles to lose weight.

6. T/F_ Physical activity and calorie reduction are the only things I need to consider to lose weight.

7. T/F_ I need exactly 8 oz. of water every day.

8. T/F_ I need to exercise 30 minutes to 1 hour every day to lose weight.

9. T/F_ As long as I eat below 1000Kcal a day I will lose weight.

10. T/F_ You can't lose weight after you reach 40 years old

1. What is your usual method of weight loss?

2. Have usual weight loss methods been effective?

3. What type and amount of physical activity do you participate in?

Appendix C: PANSE SCALE

SCORE EACH ITEM BASED ON THE SCALE

0	10	20	30	40	50	60	70	80	90	100
Not at All Confident									Completely Confident	

1 How confident are you that you can reduce your portion sizes at meals and at snacks each day? ___

2. How confident are you that you can increase the number of fruits and vegetables you eat daily___

3. How confident are you that you can reduce the amount of butter and other fats or oils that you eat each day? ___

4. How confident are you that you can eat only a very small amount of fried foods like fried chicken, French fries, potato chips, and other fried foods each week? ___

5. How confident are you that you can reduce or omit drinking sugary drinks like Kool-Aid, colas, sugared teas and coffee, or other sugared soft drinks? ___

6. How confident are you that you can reduce or omit fats (butter, fatty meats or oils) in cooking vegetables, beans, or frijoles? ___

7. How confident are you that you can substitute lower calorie foods—like fruits, vegetables, or yogurt—for high calorie snacks—like cakes, pies, or ice cream? ___

8. How confident are you that you can reduce the amount of time you sit and watch TV? ___

9. How confident are you that you can increase time spent in physical activity while at home, given your current family responsibilities? ___

10. How confident are you that you can increase time spent in physical activity by walking or other activities outside the home? ___

11. How confident are you that you can select lower calories foods at a fast food restaurant? ___

Appendix D: Walking Guide

Low= Able to talk or sing, Moderate= Can talk, but unable to sing
Vigorous = Breathing hard and difficult to talk.

Week 1: Start with 10-minute walk at low pace for 5 days this week.
Week 2: Walk for 5 minutes at low pace and 5 minutes at a moderate pace for five days this week.
Week 3: Walk for 5 minutes at low pace and 10 minutes at moderate pace for 5 days this week.
Week 4: Walk for 10 minutes at moderate pace and 10 minutes at vigorous pace for 5 days this week
Week 5: Walk for 5 minutes at moderate pace, 10 minutes at vigorous pace, and five minutes at low pace for 5 days this week
Week 6: Walk for 2 minutes at low pace, 15 minutes at vigorous pace and 3 minutes at moderate pace for this week.

Appendix E: Weekly Journal

WEEK # _____	MON	TUE	WED	THUR	FRI	SAT	SUN
Total Caloric Intake							
Ounces of Water Intake							
Hours Sleep							
Maintained Walking Guide							
Grams of Fiber							
Stress Level							

Figure E1. Journal for weight loss program.

Appendix F: Menus

Choose a breakfast, lunch and dinner combination each day all menus are based on a 1200Kcal diet and can be titrated to individual BMR (dairy is optional but no more than 8oz per day)

Breakfast (Choose a grain, fruit and protein combination daily)

GRAIN	PROTEIN	FRUIT/VEG
2 slices of toast	1/4cup egg beater or 2 eggs	1 1/4 cup any berries
1/2cup oatmeal	4 tsp natural peanut butter	1 small banana
2 Whole grain waffles	1 Tbsp. Almond butter	1 medium peach or apple
3/4cup whole grain cereal	2 turkey sausage (link or patties)	1 1/4 cup any melon
2 whole wheat Tostitos		1/4 cup any non-starchy Vegetable

Lunch (Choose a grain, fruit and protein combination daily)

GRAIN	PROTEIN	FRUIT/VEGETABLE
6 whole wheat crackers	2 oz. turkey or chicken	1/2 cup any berries
1 slice whole wheat bread	1/4cup tuna	1/2 cup spinach, asparagus
1 whole wheat Tostito	1 oz. salmon	or artichokes
	1 Tbsp. peanut/almond butter	1/4cup tomatoes

Any amount of free foods below: (Lettuce, cucumbers, radishes, peppers, onions).

Dinner (Choose a starchy vegetable, or Grain, fruit and protein combination daily)

GRAIN/STARCHY VEG	PROTEIN	FRUIT/ VEGETABLE
1 cup whole grain pasta	3 oz. turkey or chicken	1 medium peach/apple
1 medium baked potato	3 oz. steak	1cup cooked greens of choice
½ cup cooked carrots	3oz lean pork or beef	1/2 cup of any berries or melon
1 medium baked sweet potato	4oz fish	1 cup cooked green beans
		1/2 cup cooked squash or
		Any amount of free foods below:
		(Lettuce, cucumbers, radishes, peppers, onions)

SNACKS (Choose 2 daily)

1 cup (air popped corn, jello, broth), 1 rice cake with 1 tsp honey or nut butter, ½ cup berries or melons of choice, ¼ cup raw carrots, beets or turnip roots, 1 small apple, any 100Kal or less commercially packaged snack pack of your choice or 3 Hershey kisses. You may choose 2 Tbsp. of fat free dressing of your choice.

- You may choose 1 Tbsp. of butter or margarine daily
- Sugar-free drinks are not encouraged, but you can choose 1 daily
- You may choose 2 Tbsp. fat-free dressing daily

Legend
Teaspoon –, Tsp, tsp, t
Tablespoon-tbsp., Tbsp., T
Ounce-oz.
Cup- c

Appendix G: Weight Loss Flyer

FREE 6- WEEK WEIGHT-LOSS ESSENTIALS RESEARCH PROGRAM PARTICIPANTS LEARN TO LOSE AT

Learn Essentials for Successful Weight Loss- NO MEDICATIONS

Instructions Provided by a Florida Board Certified Nurse

If interested in participating, please notify Tara English Family Nurse Practitioner, MSN for details and qualifications: [redacted] or [redacted]