A culturally competent behavioral weight loss program for adult Latinos with a BMI >30kg/m^2

Nadia Ledesma

Arizona State University

Abstract

This study answers the question, "In Adult Hispanic BMI ≥ 30 (P), how does development of a weight loss program that utilizes Motivational Interviewing (I) compared to counseling and educational materials only (C) affect weight loss over the period of three months (T)." There are limited published systematic reviews and randomized control trials to evaluate the effectiveness of Motivational Interviewing (MI), in conjunction with diet and exercise to promote weight loss. Participants (n = 5) were Latino patients of a local community health care center who were overweight and medically at risk due to unhealthy lifestyles that were determined through a screening test. The 4-week clinical pathway program used motivational interviewing in one-on-one sessions every other week, and implemented the "Your Heart, Your Life" curriculum the other weeks. One expected outcome included lower anthropometric measurement numbers of participants' WL, BMI, WC, and BP. Another expected outcome was an increase in physical activity. Participants were also expected to earn a higher score on a post-test about nutrition and healthy living. A paired *t*-test and power analyses were used to assess its effectiveness. Results indicated significant decrease in weight loss (t [5] = 3.68, p = .0211, Cohen's d_z=1.647). For heart healthy habits, there were significant increases all three categories: weight management (t [5] = - 3.36, p = .0211), cholesterol and fat (t [5] = - 3.138, p =.035, salt and sodium (t [5] = - 4.899, p = .008). In addition, there was an increase in knowledge (t [5] = - 4.000, p = .016). Every participant showed small gains. Future implications should include more participants, including males, a control group, innovative activities that help to motivate a community of learners and more flexibility in allotted time for interventions.

Chapter 1 Introduction

Background and Significance

Epidemiology. According to the American Heart Association (AHA), American College of Cardiology (ACC), Task Force on Practice Guidelines and the Obesity Society (TOS) and U.S. Preventative task force (USPSTF) more than 78 million adults suffered from obesity from the year 2009 to 2010 (Jensen et al., 2014). The World Health Organization (WHO) statistics show that by 2015 2.3 billion adults will be overweight and that at least 700 million will be obese. The WHO and the National Institute of Health (NIH) have defined overweight as having a BMI between 25.0 and 29.9 kg/m2; and obesity as having a BMI greater than 30.0 kg/m. Environmental factors such as of high-caloric-density food, the cost of fruits and vegetables and genetic predisposition are two factors that have contributed to the epidemic rise in obesity (Jensen et al., 2013).

Description of the population. The Latino Community is the fastest growing minority group representing 15% of the US population. This will increase to an estimate of 25% by 2050 (Corsino et al., 2012; Sandoval, Harris, Jennings, Hinyard, & Banks, 2012). When comparing major ethnic groups in the United States, statistics show that the Latino community is the most affected by obesity. Between 1991 and 1998 obesity among Latinos has increased by 80% (Sandoval et al., 2012). Statistics show that 21% of Latinos have a higher occurrence of obesity compared to non-Hispanic Whites (Corsino et al., 2012; Nguyen, Markides, & Winkleby, 2011). Moreover, 77% of Hispanic women compared to 61% of non-Hispanic white women living in the United States have a body mass index (BMI) ≥ 25 kg/m^2 (Araiza, Velenzuela, & Gance-Cleveland, 2012 ; Lindberg et al., 2012) .

Unfortunately, obesity is not the only risk factor surrounding the Latino community. The majority of Latinos who live in lower socioeconomic communities do not participate in physical activity, have poor portion control and an increase alcohol intake and tobacco use (Sandoval et al., 2012).

Literature has found that all the variables mentioned above contribute and increase weight gain. Sandoval et al. (2012) found that 28% of Latinos compared to 23% of white did not participate in physical activities. Furthermore, 80% of Latinos were found not to eat the recommended servings of fruits and vegetables. The foods prepared in Latino families are higher in saturated fat, cholesterol and sugars.

Health Implications. Obesity has been strongly correlated in the development of chronic conditions such as diabetes, hypertension and heart disease (Drieling, Ma, & Stafford, 2011). In addition, evidence confirms a direct relationship between persons of low socioeconomic status (SES) and obesity secondary to the lack of access to healthcare, environmental factors such as: lack of access to healthy foods, increase consumption of high-calorie low-nutrient foods and limited safe places to exercise (Araiza, Velenzuela, & Gance-Cleveland, 2012 ; Drieling et al., 2011; Lindberg et al., 2012).

Fiscal Implications. It was reported that obese individuals accrued more than 147 billion dollars in medical cost in 2008 (Jensen et al., 2013). Statistics show that obese persons incur a 46% more in inpatient cost, 27% more in physician visits and outpatient cost and have an 80% increase spending on prescriptions (Drieling, Ma, & Stafford, 2011 ; Jensen et al., 2014).

Internal Evidence. As a result, there is a desperate need for obesity management in the Latino community. Wesley Health Center is located in South West, Arizona and Eighty-three percent of patients seeking medical attention at WHC are Hispanic and eighty-seven percent are at the one-hundred percent or below the poverty level (Wesley Health Center, 2013). At this time, WHC only provides programs dealing with DM, HTN and prenatal care. The current treatment method for obesity treatment at WHC begins with the identification of a BMI greater than 30kg/m^2. This is followed by brief counseling provided by a physician and then the patient is referred out to a health educator.

Therefore, this project sought after adopting a culturally sensitive weight loss program in aim to develop a clinical pathway that integrated motivational interviewing techniques, exercise, and nutritional awareness in order to reduce life limiting comorbidities associated with obesity.

Problem Statement

Obesity contributes to 147 billion per year and 10% of the total annual medical expenditures. In addition, Obesity is associated with increase risk of mortality secondary to the development of risk factors such as: diabetes, cardiovascular disease, digestive disorders and some cancers (Araiza, Velenzuela, & Gance-Cleveland, 2012 ; Drieling et al., 2011; Lindberg et al., 2012). Therefore, culturally competent lifestyle modifications programs that emphasize weight loss through physical activity and nutritional awareness are at the cornerstone to reducing risk factors among economically disadvantaged Hispanics. Given the increase risk of obesity in the Hispanic population it is imperative to institute programs that are culturally competent and cost effective to provide aid to those suffering to overcome weight loss due to the lack of income and inability to consider the challenges of the Hispanic population.

Lindberg et al. (2012) found that lifestyle modification programs do not influence weight loss in Hispanic populations when compared to non-Hispanic White, English-Speaking participants. In addition, various studies found that a majority of the weight loss programs did not take into consideration the challenges of the Latino population. This was shown by slower weight loss among Latino participants. Lindberg et al. (2012) found that the programs lacked cultural concerns, education, implementation strategies and socioeconomic factors. Corsino et al. (2012) also found that finding a weight loss program tailored towards the Latino community was challenging since there have not been many programs that have been researched. Both

Corsino et al. (2012) and Lindberg (2012) found that weight loss programs lacked acculturation and sensitivity.

Motivational Interviewing (MI) is a method that has been proven to help with addictive disorders (DiLillo & West, 2011). Current research finds that the same outcome can be obtained with achieving weight loss. MI is a technique that has been proven to be effective in maintaining weight loss. Maintaining weight loss is a difficult process that requires hard-work, patience and discipline. MI is a technique that works one on one with the individual. This one on one process involves identifying, articulating, and strengthening reasons for and rectifying them (Armstrong et al., 2011 ; DiLillo & West, 2011). Motivational interviewing is a way of identifying current and future problems by being empathic, supporting self-determination and enhancing self-efficacy to set the patient up for success (Armstrong et al., 2011 ; DiLillo & West, 2011).

Current weight loss programs utilize a variety of behavioral techniques such as; individuals ability to regulate behavior by setting goals, behavior-change plans, developing problem-solving skills, and intensive group and lifestyle counseling (Albarran et al., 2014 ; Drieling et al., 2011 ; Lindberg et al., 2012) but fail to incorporate motivational interviewing as an intervention. Only one study was found to utilize Motivational Interviewing in the Latino Community and reports to have significant results (Corsino et al., 2012). Although, research justifies that motivation is an strong indicator for weight loss adherence (Armstrong et al., 2011 ; DiLillo & West, 2011 ; Teixeira et al., 2012) MI is a fairly new strategy and not widely used in the Latino community. MI is a technique that has been proven to be helpful in conjunction with dietary modification and physical activity (Armstrong et al., 2011).

PICOT Question

This inquiry has led to the clinically relevant PICOT question, "In Adult Hispanic BMI ≥ 30 (P), how does development of a weight loss program that utilizes Motivational Interviewing (I) compared to counseling and educational materials only (C) affect weight loss over the period of three months (T).

Search Strategy

An exhaustive search was performed using PubMed, CINAHL and PsycInfo. Keywords included; *Hispanic, weight reduction, weight loss, obesity, motivational interviewing*. By setting certain limits such as limiting to research conducted within 5 years, inclusion of only scholarly articles and combining each of this terms with either Mexican Americans, Latinos, Hispanic Americans, and obesity" AND" or "OR" it yielded more manageable yield of less than 200 references in each database. Connecting these terms with Motivational Interviewing yielded less than 15 references in each database (Appendix A, B and C).

Articles were selected based on the following exclusion criteria studies published prior to 2010, doctoral dissertation studies targeting only one particular race, participants , 18 years old, and patients who were either pregnant or with a diagnosed psychiatric disorder. Studies that were researched included BMI ≥ 25, Latino community, MI or models of behavior change and community weight loss programs.

Extensive research based on the aforementioned inclusion and exclusion criteria resulted in sixty studies where only ten were chosen. After further review of the original sixty articles, fifty of them were tossed aside due to lack of supporting evidence, inadequate documentation, unsubstantial statistical data, and inconclusive results. The ten original research articles chosen met the previously established inclusion criteria and were supportive and relevant to proving the

stated PICOT question. Each study was reviewed and the data needed to support the PICOT question was organized into tables for clear analysis and review (See Appendix G).

Evidence Synthesis

Currently there are a limited amount of systematic reviews and randomized control trials that evaluate the effectiveness of MI in conjunction with diet and exercise to promote weight loss in the Adult Hispanic Population. The literature within the past five years only exposes one level one systematic review (Armstrong et al., 2011), two level II RCTs (Balcazar et al., 2010; Gustafson et al., 2009). Seven level III studies that include five cohort studies (Araiza et al., 2012; Balcazar et al., 2015; Corsino et al., 2012; Hardcastle et al., 2012; Lindberg et al., 2012), one cross sectional study (Sandoval et al., 2012) and one qualitative study (Albarran et al., 2014). Although the current literature is not relatively strong, all ten systemic reviews revealed a direct relationship between weight loss and the use of MI techniques in conjunction with physical activity and diet modification.

Purpose

The primary care clinic located in South West Phoenix, Arizona serves primarily uninsured low socioeconomic Hispanic individuals. Health care providers (Physicians, Advanced Nurse Practitioners, Registered Nurse, Medical Assistants, health educators and Behavioral Specialist) play an integral part in addressing the obesity epidemic. The Latino community is made up of various ethnicities, though two out of three Latinos are of Mexican descent (Sandoval et al., 2012).

It is important to take into consideration that the majority of Wesley Health Center (WHC) population is uninsured and of poor socioeconomic status. Araiza et al. (2012) found that obesity is correlated with low socioeconomic status and Latinos/Hispanics are typically younger,

less educated, unemployed, working in high risk occupations, live in poverty and live in larger households. It has been reported that Mexican women who live below the poverty line are at a 13% higher risk to be overweight or obese (Faucher & Mobley, 2010). There are multiple common themes that have been found to contribute to the rate of obesity in the Mexican American population. These common denominators include : culture and social influences, lack of knowledge about nutrition, portion control, risk factors (tobacco use, increase alcohol intake) insufficient consumption of fruits and vegetables, reduced physical activity, mental health, limited literacy and numeracy, Mexican traditions, differences in physical environment (safety, recreational facilities) and healthy food accessibility due to low-income (Albarran, Heilemann, & Koniak-Griffin, 2014 ; Araiza et al., 2012 ; Corsino et al., 2012 ; Drieling et al., 2011; Faucher & Mobley, 2010 ; Lindberg et al., 2012 ; Sandoval et al., 2012).

The purpose of this project is to implement a culturally competent behavioral weight loss program that will be successful in promoting lifestyle modification, inspire weight loss and reduce risk factors in the Latino community. The objective is to institute a behavioral weight loss program that integrates MI, physical activity and nutritional awareness.

Chapter 2 Applied Clinical Project: Methods & Results

Chapter two will illustrate the conceptual/theoretical model (Appendix D) and the evidence based model (Appendix E) and its application (Appendix F) that guided the entire project and intervention. In addition, the following chapter will show the methods of the scholarly project by: protection of human subjects and recruitment, setting, participants, intervention, measures, data collection and analysis plan and proposed budget. In conclusion of the chapter, it will discuss the project results and comparison to other literature including the strengths and limitations of the project.

Evidence Base Practice Model

There are various models available to the clinicians that are intended to help facilitate evidence based change in practice. For the purpose of this research, the Model for Evidence Based Practice Change is used. This model allows for guidance through the development and integration of change within a healthcare community. The end result is change within an established practice. The model is broken down into six steps. Through the six steps a problem is identified. Best practice evidence is then gathered to support the need for change. Then all evidence is critically analyzed. Next step is to design a plan to promote change. Once the appropriate changes are made, evaluate the results. Lastly, if appropriate, integrate and make permanent change within the practice (Melnyk & Fineout-Overholt, 2014). The logical model seen in (Appendix F) is an application of the evidence model approach to develop and integrate change within the community.

Conceptual Theory

The social cognitive theory has been used to guide interventions aimed to increase nutritional habits and increase physical activity. The social cognitive theory recognized that behavior change is influenced by individual factors (cognitive, affective, biological), social and physical environment (Linke, Robinson, & Pekmezi, 2013). A crucial element of the social cognitive theory is self-efficay that is defined as the driving force behind behavior change. Self-efficacy has been found to be driven by mastery experiences, social modeling, improving physical and emotional states and verbal persuasion. Strategies that are utilized to reach optimal intensity and motivate behavior change are pedometers, step logs and diaries (Linke et al., 2013).

Conceptual Framework

The conceptual model that will be implemented is the Salud Para Su Corazon – National Council of La Raza Promotora Model (SPSC-NCLR) for promoting heart-healthy behaviors among Latinos (Balcazar et al., 2006). SPSC-NCLR is a promotora outreach model that incorporates several key components: (1) theory-driven elements that guided the original SPSC project including participatory and social action research (2) the community-based organizations (CBOs); (3) culturally enriched process dimensions incorporated in the planning, development, implementation, and evaluation of the promotora approach; (4) the train-the trainer model of promotoras; (5) the dynamic relation that include health, community, and economic development; employment and training; and outreach activities such as forums and national meetings (Balcazar et al., 2006)

Community Health Workers (CHW's) are commonly vital to the success of SPSC-NCLR. CHW is the liaison that delivers lifestyle behavior programs in at risk populations. CHW's are known as Promotoras in the Hispanic and Latin community. Systematic literature reviews has found that Promotoras not only deliver information and emotional support but they significantly impact Latino communities at risk for cardiovascular disease, Diabetes and obesity by improving eating habits, physical activity and anthropometric measures (body mass index, weight, waist circumefernce), lipoprotein profiles and decreases in blood pressure (Balcazar et al., 2006 ; Koniak-Griffin et al., 2015).

The study model (Balcazar et al., 2006) tracks important factors to gauge the effectiveness of the study. The aim of the SPSC-NCLR model is to monitor changes in heart health knowledge and attitudes. The study model also tracks the delivery of the curriculum and educational sessions delivered by the promotoras to Latino Families. In order to implement these permanent behavioral changes the study delivers a series of community educational

activities. Finally the study provides the outcome evaluated by the changes in heart-healthy behaviors reported by Latino family participants.

Methods

Ethics. Permission to initiate this program was obtained from the Arizona State University Institutional Review Board (IRB). The promotora's and staff recruited participants and if agreed to participate in the program the project leader obtained consent.

Setting. Wesley Health Center (WHC) is an establishment that provides health care to the underserved populations including: migratory and seasonal agricultural workers, the homeless, and residents of public housing. In the fiscal year of 2012 to 2013 WHC provided services to a total of 20,518 patients. Of those patients, 14% were insured and 86% were uninsured. The population is composed of 69%, female; 31%, male; 83%, Hispanic; and 87% are at 100% or below the Federal Poverty Level. WHC provides services related to family medicine, pediatrics and obstetrics. The clinic is made up of physicians, nurse practitioners and medical students (Wesley Health Center, 2013).

Organizational Culture. WHC is a Federally Qualified Health Center (FQHC), 501 (c) 3 Nonprofit / Non-Governmental organization, its mission is to empower positive change by working together (WHC, 2013). WHC is an organization that has served the underprivileged community since the 1950's and continues to abide by their mission and values through offering programs, activities, and health services to all individuals that are of low socioeconomic status in aims to bridge the gap of health disparities in a population that would not have access to such services (WHC, 2013). WHC is an organization that is home to many underprivileged individuals and hopes to continue to work together with students, volunteers, institutions and

implement evidence based practice that supports the fight against obesity, hypertension, diabetes and coronary artery disease.

Participants. The participants eligible for the behavioral weight loss program are adults >18 to 65 years of age, Spanish speaking within the Wesley health center system, with a BMI >30 kg/m^2. The sample (n = 5) consisted of 100% women, 100% Latino and 100% Spanish speaking. The ages ranged from 32 to 62 years, with a mean age of 45.

Program Intervention. IRB approval was finalized in September (See Appendix G), participants were recruited the last week of September and beginning of October at Wesley Health Center. Participants were recruited for screening by study staff who solicited patients in the clinic or by referral from a primary care provider. Fliers titled Healthy Rhythm "Ritmo Saludable" were posted in the waiting room, recommending that patients speak with their healthcare provider if they are interested in participating in the study.

Spanish speaking CHW's contacted potential participants by phone and explained the program and asked if individuals were interested in participating. Participants were asked to agree to attend a weekly course of 2 hours for 3 weeks and 3 individual 1 hour sessions. If participants were interested they met with the project leader and a CHW to sign consent forms. Once consented, an individual session was held were height and weight were taken and Body Mass Index calculated as well as blood pressure, waist circumference all which were taken by project leader. The 5 A's Behavioral Change Model was administered by the CHW's and emphasized topics such as; healthy food choices, portion control, healthy eating, managing emotional eating and increasing physical activity with the goal of walking 10,000 steps a day. Participants were contacted by phone to notify them of the start date and time of the sessions.

The official start date was October 1st, 2015. The group sessions were led by the promotora and the project leader. The group session instituted the Your Heart, Your Life (Su

Corazon Su Vida) curriculum. The Su Corazon Su Vida curriculum is a culturally relevant, promotora managed educational program developed for Latino communities by the National Heart, Lung and Blood Institute (National Heart, Lung, and Blood Institute, 2008). The program aims to promote healthy lifestyle behaviors (diet and physical activity) for reduction of cardiovascular disease risk. The standard content of the curriculum is eleven two hour sessions. Ten minutes of each class incorporated instructor led stretching techniques. Individual sessions were made available if a participant missed a group session. After each group session an individual session was scheduled at the participant's request that was designed to reinforce class content, institute the 5'As behavioral model that will support and motivate behavior change. There were 3 individual teaching sessions and phone calls to remind participants of the group sessions and schedule individual sessions. There were two cooking courses where participants learned how to plan, choose, and prepare healthy diets for traditional Latino meals. To promote physical activity a pedometer was given to the participants to achieve a goal of 10,000 steps per day. Evidence based practice shows significant positive results with the use of the pedometer influencing physical activity (Bravata et al., 2007).

Outcome Measures. The data will be collected at baseline and at the last individual session. The measures to be analyzed will be dietary habits, body weight, height and waist circumference, blood pressure and knowledge of cardiovascular disease. These categories will be assessed by administration of my health habits questionnaire. The questionnaire was initially developed in Spanish as part of the National, Heart, Lung and Blood Institute's initiative for Latino Cardiovascular Disease Prevention, and underwent translation to English. Several Su Corazon, Su Vida studies report acceptable internal consistency (Balcazar et al., 2006 ; Balcazar

et al., 2010 ; Koniak-Griffin et al., 2015), Internal consistency for Koniak-Griffin et al. (2015) sample was satisfactory with a Cronbach's $\alpha = .79$.

Dietary habits will be assessed by a 25 – item questionnaire of my health habits associated with salt and sodium consumption, cholesterol and fat consumption and weight management. Item responses are on a 4-point scale (1 = never to 4 = all the time). The questionnaire includes items that address healthy food choices, portion control and emotional eating. Examples include "Do you eat more when you feel stressed", "Do you eat low fat cheese", and "Do you add salt to fruit."

Body weight will be measured using a digital weight scale. The participants will be asked to remove their shoes and jacket and/or sweater. Per the recommendations of the CDC (Center for Disease Control Prevention, 2013) the participants will be asked to stand in the center of the scale platform with their hands at their sides looking straight ahead. Height will be measured via a stadiometer with a fixed vertical backboard and an adjustable headpiece. The participants will be asked to remove any hair accessories, they are asked to stand up straight against the backboard with both feet flat on the platform, with heels together and toes apart, ensuring that the head, shoulders and heals are touching the backboard (Center for Disease Control, 2013). Waist circumference will be evaluated by using a Gulick tape measure following the National Obesity Expert Panel Report guidelines (NHLBI, 2000). Blood pressure measurements will be obtained using the guidelines of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure.

Knowledge of heart disease will be assessed by "My health habits" 14-item questionnaire, administered at the beginning and after the 3 weeks of classes. Participants will be asked to respond using a (1= yes, 2 = no and 3 = Don't Know) format. Examples of questions are

"Can high waist measures increase your risk of heart disease", "Can eating foods that are high in sodium increase your risk for high blood pressure" and "Does lard have a low amount of saturated fat."

Data Collection. Once consent is obtained at the first individual session, the project leader will administer the physical readiness questionnaire (PAR-Q). If the participant answers no to all the measures, the participants will be able to participate in the program immediately. If the participant answers yes to any of the questions or is over the age of 69 years of age, clearance will have to be provided by the healthcare provider. When and if able to participate after administration of the PAR-Q, anthropometric measures such as height and weight will be taken and Body Mass Index calculated by project leader, as well as blood pressure and waist circumference. At that time a pretest will also be administered. At the end of the program height and weight will be taken to calculate BMI, blood pressure and waist circumference and a posttest will be administered.

Analysis Plan. A paired *t*-test was used to evaluate the effectiveness of the pre and post-test differences from the *Heart Health Habits* questionnaire, and analyze the new anthropometric measures of body weight, body mass index, waist circumference, and blood pressure.

Cost and Benefit Analysis. The proposed budget of the program included pedometers, twenty pedometers were purchased for a total of $150.00. Two Cooking classes were provided for a total of $120.00 including a $ 30.00 dollar gift card given to the cooking instructor. Photocopying and instruments will be a total of $50.00. Indirect costs such as lights, telephones and office space will be provided by Wesley Health Center. The total sum of this clinical scholarship project will be $300 dollars (See Appendix H).

Results

Twelve participants were identified from recruitment efforts and expressed interest in the study. Of those, only 5 (n=5) completed the program and were included in the report. Obstacles included transportation, day care, work, and having to leave the country. All participants were female, despite recruitment strategies targeted at male participants. All participants resided in Phoenix, Arizona, and were patients of Wesley Health Center.

Results indicated significant decrease in weight loss (t [5] = 3.68, p = .0211, Cohen's d_z=1.647). For *Heart Health Habits*, there were significant increases in all three categories: weight management (t [5] = - 3.36, p = .0211), cholesterol and fat (t [5] = - 3.138, p =.035, salt and sodium (t [5] = - 4.899, p = .008). In addition, there was an increase in knowledge (t [5] = - 4.000, p = .016). Data are summarized in Table 1 and 2. A paired t-test was used to assess the effectiveness of the program with reference to changes in weight, BMI, waist circumference and blood pressure. Results of paired-samples t-tests for changes revealed decreases in all four measurements. However, only one of the four measures had a decrease that was statistically significant. Weight decreased significantly (t *[5]* = 3.68, p = .0211) from pretest (M = 107.73, SD = 34.56) to posttest (M = 106.20, SD = 33.97). The BMI decrease from pretest (M = 41.54, SD = 8.50) to posttest (M = 41.38, SD 8.22) was not statistically significant (t [5] = 1.18, p = .3030). Decrease in waist circumference was negligible. Blood pressure decreased from pretest systolic (M = 6.40, SD = 4.35) to post systolic (M = 135.20, SD = 15.20) and was statistically significant (t [5] = 3.01, p = .030). However, blood pressure diastolic pre (M = 94.40, SD = 11.26) and diastolic post (M = 8.40, SD = 7.92) showed no significant difference (t [5] = 2.37, p = .077).

Paired t-tests in the following categories demonstrated statistical significance: salt and sodium consumption, cholesterol and fat consumption, and weight management. Salt and sodium

consumption (*t [5]* = - 4.899, *p* = .008) from pretest (*M* = 2.4000, *SD* =.38168) to posttest (*M* = 3.066, *SD* = .23040) decreased significantly. Cholesterol and fat consumption decreased significantly (*t [5]* = 4.89, *p* = .008) from pretest (*M* = 2.200, *SD* = 1.043) to posttest (*M* = 2.73, *SD* = .7226), and weight management decreased significantly (*t [5]* = -3.497, *p* = .025) from pretest (*M* = 2.700, *SD* = .4643) to posttest (*M* = 3.150, *SD* = .2404).

Paired t-test for the results from *Heart Health Habit* lessons revealed statistical significance for heart disease (*t [5]* = - 4.004, *p* = .016) from pretest (*M* = 9.60, *SD* =1.341) to posttest (*M* = 12.00, *SD* = .0000). For confidence in cooking healthy meals demonstrated statistical significance (*t [5]* = - 3.500, *p* = .025) from pretest (*M* = 2.60, *SD* =.8944) to posttest (*M* = 4.000, *SD* = .0000).

Discussion

The purpose of this behavioral weight loss program was to teach aspects of a healthy lifestyle for at-risk Hispanic populations. Change was achieved through a clinical pathway that emphasized motivational interviewing during one-on-one sessions. Specifically, interaction focused on behavior, physical activity, and diet modification. Synthesis of the literature demonstrated that *Your Heart, Your Life* is an appropriate health educational tool that is culturally competent to promote weight loss, healthy eating and increased physical activity in the Latino community. This scholarly project was led through the application of the social cognitive theory, SPSC-NCLR promotora model and the evidence based practice model that aided in delivering the *Su Corazon, Su Vida*.

While, this study had its limitations, it effectively established that the *Your Heart, Your Life* curriculum is successful in increasing knowledge and that motivational interviewing was effective in modifying behavior change. The pre and post-test evaluation demonstrated

significant improvements in knowing heart healthy habits. Yet, there were no significant or breakthrough changes. Feedback from the participants stated that promotoras were essential in motivating them and promoting behavioral lifestyle modification.

Conclusion

The purpose of this behavioral weight loss program is to promote a healthy lifestyle and prevent life threatening cardiovascular diseases in at risk Hispanic populations. This program hopes to promote change through an interdisciplinary approach that focuses on behavior, physical activity and diet modification. Synthesis of the literature demonstrates that Your Heart, Your Life is an appropriate health educational tool that is culturally competent to promote weight loss, healthy eating and increased physical activity in the Latin community. This scholarly project has been led through the application of the social cognitive theory, SPSC-NCLR promotora model and the evidence based practice model that will aid in delivering the Su Corazon, Su Vida curriculum as well as lead the individual sessions in the Latino community.

Chapter 3 Organizational/Health Policy Impact & Sustainability

Chapter 3 will discuss the potential impact of the project on the clinical site, as well as demonstrate financial implications of the project. It will also discuss the impact of current policy, role as a leader, sustainability plan for project, implications for further application and describe gaps identified during project.

Impact of project at clinical site. Participants benefited from the program by learning skills like how to set realistic goals and gaining heart healthy habits through increasing physical activity, cooking heart healthy meals, and learning how to read and understand food labels. Using a promotora in establishing this clinical pathway made the program sustainable and feasible to implement and practice change. Speaking Spanish and acculturating Latino traditions

motivated all five participants to complete the program. Stakeholders recognized the value of a promotora as a resource and their impact on individuals with health disparities and comorbidities. They are interested in this clinical pathway as a way to continue gaining momentum for their patients who need motivation, education, and confidence in changing their present lifestyles.

Financial Implications. Balcazar et al. (2006) determined the cost of a promotora by developing a measure that considered estimating the total number of hours of activity for promotoras in a community. Total invested hours for a promotora included time devoted to training, family program delivery; follow up with families, and promotora activities at community events. The average cost per hour for a promotora time was $10.77. Funds were not available to support this wage, based on the hours worked; however, promotoras agreed to volunteer their time and expertise. In this evidence based project the aim was to seek two promotoras willing to volunteer their time, and they were each given a $10 gift card for their work. Direct costs of the program included purchasing twenty pedometers at a total of $150.00. Two cooking classes were provided for a total of $120.00, including a $30.00 gift card presented to the cooking instructor. Photocopying and instruments totaled approximately $50.00. Indirect costs such as lights, telephones and office space were provided by Wesley Health Center. The total sum of this clinical scholarship project was $300 dollars (see Appendix Q).

Current Policy. Significant and worthy results were found in this evidence based scholarly project. Although the feasibility of the sustainability of this project is not high and can only be done with volunteer CHWs, dedication and enthusiasm cannot be compromised. In order for CHWs (promotoras) to facilitate quality services and increase health knowledge through a range of activities, they must be compensated. Evidence based practice has proven that CHWs

improve the health of populations (Health Resources in Action of Boston for the Maricopa County Department of Public Health, 2013). At this time there is no funding to support CHWs. However, they are now widely acknowledged through the Affordable Care Act (ACA) and recognized for the contribution and impact that they will have on triple aim reform (Health Resources in Action of Boston for the Maricopa County Department of Public Health, 2013).

Role as a leader. Qualities of leadership emerge when qualities of relationships are made. Attributes like trust, ethics, integrity and growth are essential in effectively projecting a desired vision; therefore, communication is essential. Being a leader means seeing the whole, not just its parts. Porter-O'Grady and Malloch (2015) refer to structure as a tree that depends on its overall shape for survival. The branches, trunk and leaves are what sustain its balance and harmony. Finding the balance is achieved by finding just enough structure to support the integrity of the industry. When hospitals and health care centers expand, so come more patients, which results in hiring more staff. If more structure is built, then more support will be needed in order to sustain future innovative programs, such as what has been successful in this study.

As an innovative Doctor of Nursing Practice (DNP) leader, an enormous amount of responsibility is acquired and expected. A leader is a knowledgeable person who has substantial influence in an organization's culture. An innovative DNP makes ethical and sustainable decisions when building consensus for creating systemic change. Promotora-led programs work because of the acculturation of the both workers and participants.

Sustainability Plan. Implications for future study include training practices for promotoras, using innovative communication technology, electronic apps that give health care providers access to connect with within minutes, and a suitable app to conduct face-to-face contact with a promotora (ex. Skype, FaceTime, etc). The intake process would require ice

breakers and "getting to know you" activities, and building a "sense of community" with the group. Additionally, incorporating easy to use mobile tracking devices to count steps will encourage physical activities. Although a cost and benefit analysis must be completed before moving forward, it is vital to continue innovative programs designed to improve healthy habits. A mechanism to sustain awareness and activity beyond the required four weeks is also essential to individual success.

Implications for application. The implications for future practice include a method of licensure and compensation for promotora services and a larger number of participants should be recruited, including males. There must also be a control group. Further, there must be flexibility in adjusting interventions for longer periods of time, as needed. Finally, qualitative input from the participants would benefit future programs.

Gaps in the project. Results of the study correlated with success of the literature and the evidence synthesis. Significant results indicated that participants learned relevant information on healthy eating. While the study was unable to measure physical activity, participants were engaged in goal setting and increasing physical activity while incorporating pedometers into their exercise routine. Review of the literature emphasizes the use of promotoras in Latino communities. As valuable resources, they are used to help reduce health disparities in patients. Promotoras use a variety of teaching techniques that include self-discovery, empowerment, and value clarification based on storytelling, cultural symbolism, hands-on activities, role-playing and community health talks (Balcazar et al., 2006). Promotoras work alongside health professionals in lifestyle health promotion.

Conclusion

The success and limitations of the study begin with the recruitment and retention of the participants, respectively. Having the Wesley Health Center and its workers agree to assist in creating a promotora-led program on healthy habits was the first step. The healthcare providers knew the need for such a program and were excited to develop a clinical pathway of motivational interviewing for changing habits in their community. The participants projected feelings of excitement, motivation, and interest in improving their lifestyle. Chang et al. (2009) found that recruitment and retention are vital in a population of racial and ethnic minorities that are of low income and are seeking to implement behavioral lifestyle modifications. Utilizing an adaptive and comprehensive approach, the recruitment included partnerships with not only the health care providers, but with the staff of WHC. One key element was the flexibility of the promotora in meeting the participants at home, during the weekend, and allowing children to attend the appointments, or meeting them at the closest coffee shop or restaurant (Warner et al., 2013). The major disappointment was retention. Only five of twelve participants completed the project, despite signing a Commitment Form at the beginning of the program. Many stated that they were not able to attend the courses secondary to lack of transportation, childcare, insufficient funds, and family and personal issues. In future studies, recommendation would be to adhere to the strategies provided by Parra-Medina et al. (2004), such as hiring staff from the community that reflect the participant's cultural backgrounds, provide free transportation and child care, and focus on classroom activities that promote a community of participants achieving the same goals.

References

Albarran, C., Heilemann, M., & Koniak-Griffin, D. (2014). Promotoras as facilitator of change: Latina's perspectives after participating in a lifestyle behaviour intervention program. , *70*, 2303-2313. http://dx.doi.org/10.1111/jan.12383

Araiza, C., Velenzuela, M., & Gance-Cleveland, B. (2012). Salud con Sabor Latino: a culturally sensitive obesity prevention curriculum in an undeserved Latino communitty. , *50*, 51-60. http://dx.doi.org/10.1080/14635240.2012.661963

Armstrong, M. J., Mottershead, T. A., Ronksley, P. E., Sigal, R. J., Campbell, T. S., & Hemmelgam, B. R. (2011). Motivational interviewing to improve weight loss in overweight and/or obese patients a systematic review and meta-analysis of randomized controlled trials. , *12*, 709-723.

Balcazar, H., Alvarado, M., Hollen, M. L., Gonzales-Cruz, Y., Hughes, O., Vasquez, E., & Lykens, K. (2006). Salud Para Su Corazon-NCLR: A Comprehensive Promotora Outreach Program to Promote Heart-Healthy Behaviors Among Hispanics. , *7*, 68-77. http://dx.doi.org/10.1177/1524839904266799

Balcazar, H., Fernandez-Gaxiola, A. C., Perez-Lizaur, A. B., Peyton, R. A., & Ayala, C. (2015). Improving Heart Healthy Lifestyles Among Participants in a Salud Para Su Corazon Promotores Model: The Mexican Pilot Study, 2009-2012. , *12*(34). http://dx.doi.org/10.588/pcd12.140292

Balcazar, H., Heer, H. D., Rosenthal, L., Aguirre, M., Flores, L., Puentes, F., ... Schulz, L. O. (2010). A promotoras de Salud Intervention to Reduce Cardiovascular Disease Risk in a High-Risk Hispanic Border Population, 2005-2008. , *7*(2), 1-10.

Barnes, R. D., White, M. A., Martino, S., & Grilo, C. M. (2014). A randomized controlled trial comparing scalable weight loss treatments in primary care. , *22*, 2508-2516. http://dx.doi.org/10.1002/oby.20889

Bravata, D. M., Smith-Spangler, C., Sundarem, V., Gienger, A. L., Lin, N., Lewis, R., ... Sirard, J. R. (2007). Using pedometers to increase phyisical activity and improve health: a systematic review. , *298*, 2296-2304. http://dx.doi.org/10.1001/jama.298.19.2296

Corsino, L., Rocha-Goldberg, M. P., Batch, B. C., Ortiz-Melo, D. I., Bosworth, H. B., & Svetkey, L. P. (2012). The Latino health project: pilot testing a culturally adapted behavioral weight loss intervention in obese and overweight Latino Adults. , *22*, 51-57.

D'Agostino, R. B., Grundy, S., Sullivan, L. M., & Wilson, P. (2001,). Validation of the Framingham Coronary Heart Disease Prediction Scores: Results of A Multiple Ethnic Groups Investigation. , *286*, 180-187.

DiLillo, V., & West, D. S. (2011). Motivational interviewing for weight loss. , *34*, 861-869. http://dx.doi.org/10.1016/j.psc.2011.08.003

Drieling, R. L., Ma, J., & Stafford, R. S. (2011). Evaluating clinic and community-based lifestyle interventions for obesity reduction in a low income Latino neighborhood: Vivamos Activos Fair Oaks Program. , *11*(98), 1-10.

Hardcastle, S., Blake, N., & Hagger, M. S. (2012). The effectiveness of a motivational interviewing primary-care based intervention on physical activity and predictors of change in a disadvantaged community. , *35*, 318-333. http://dx.doi.org/10.1007/s10865-012-9417-1

Jensen, M. D., Ryan, D. H., Apivian, C. M., Ardy, J. D., Comuzzle, A., Donato, K. A., ... Hubbard, V. S. (2013). 2013 AHA/ACC/TOS guideline for the management of

overweight and obesity in adults. , *63*, 2985-3023. http://dx.doi.org/10.1016/j.jacc.2013.11.004

Koniak-Griffin, D., Brecht, M. L., Takayanagi, S., Villegas, J., Melendrez, M., & Balcazar, H. (2015). A communitty health worker-led lifestyle behavior intervention for Latina (Hispanic) women: Feasibility and outcomes of a randomized controlled trial. , *52*, 75-87. http://dx.doi.org/10.1016/j.ijnurstu.2014.09005

Lindberg, N. M., Stevens, V. J., Vega-Lopez, S., Kauffman, T., Calderon, M. R., & Cervantes, M. A. (2012). A weight-loss intervention program designed for Mexican-American women:Cultural adaptations and results. , *14*(6), 1-16. http://dx.doi.org/10.1007/s10903-012-9616-4

National Health and Nutrition Examination Survey (NHANES) Anthropometry Procedures Manual. (2013). Retrieved from http://www.cdc.gov/nchs/data/nhanes/nhanes_13_14/2013_Anthropometry.pdf

Nguyen, H. T., Markides, K. S., & Winkleby, M. A. (2011). Physician advise on exercise and diet in a U.S. sample of obese Mexican-American adults. , *6*, 402-409. http://dx.doi.org/10.4278/ajhp.090918-quan-305

Sandoval, J. O., Harris, J. K., Jennings, J. P., Hinyard, L., & Banks, G. (2012). Behavioral risk factors and Latino body mass index: A cross sectional study in Missouri. , *23*, 1750-1767.

TOS, AHA, ACC, Release New Obesity Treatment Guidelines. (2013). Retrieved from http://www.obesity.org/news-center/tos-aha-acc-release-new-obesity-treatment-guidelines.htm

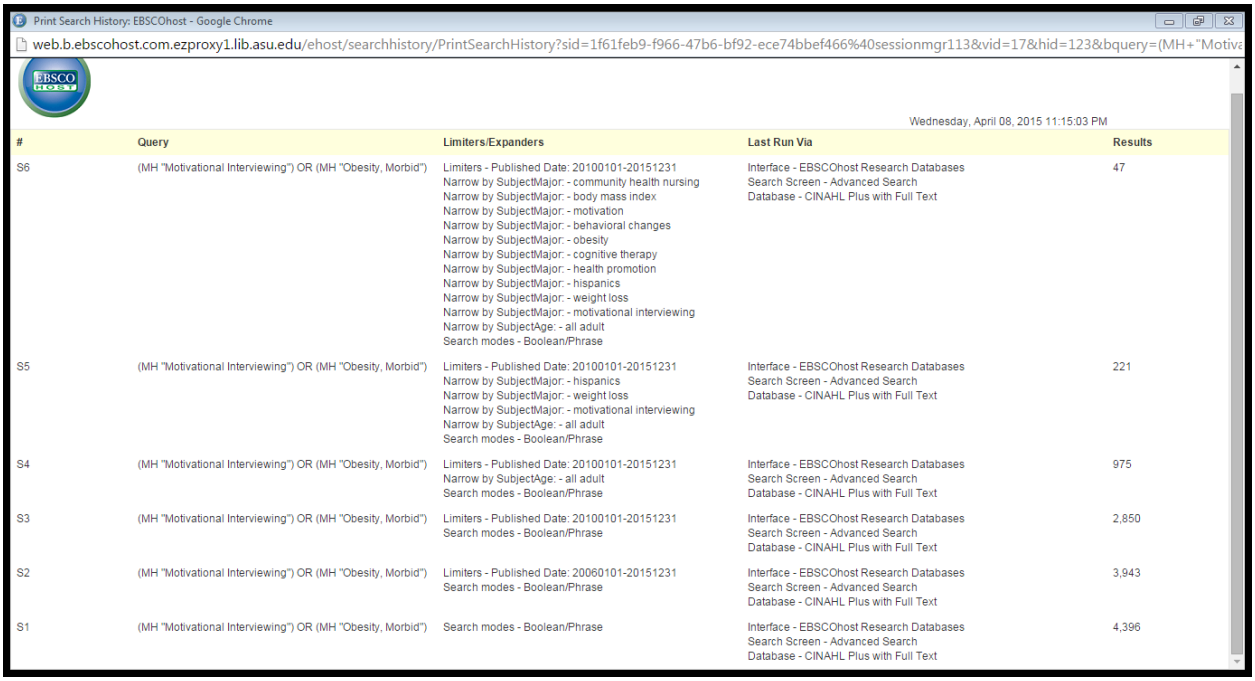
The Practical Guide: Identification, Evaluation, and Treatment of Overweight and Obesity in Adults. . (2000). Retrieved from http://www.nhlbi.nih.gov/files/docs/guidelines/prctgd_c.pdf

Wesley Health Center. (2013). www.wesleycenterphx.org

Your Heart, Your Life: A Lay Health Educator's Manual for the Hispanic Community. (2008). Retrieved from http://www.nhlbi.nih.gov/health-pro/resources/heart/hispanic-health-manual

Appendix A

EBSCO search strategy



Print Search History: EBSCOhost - Google Chrome

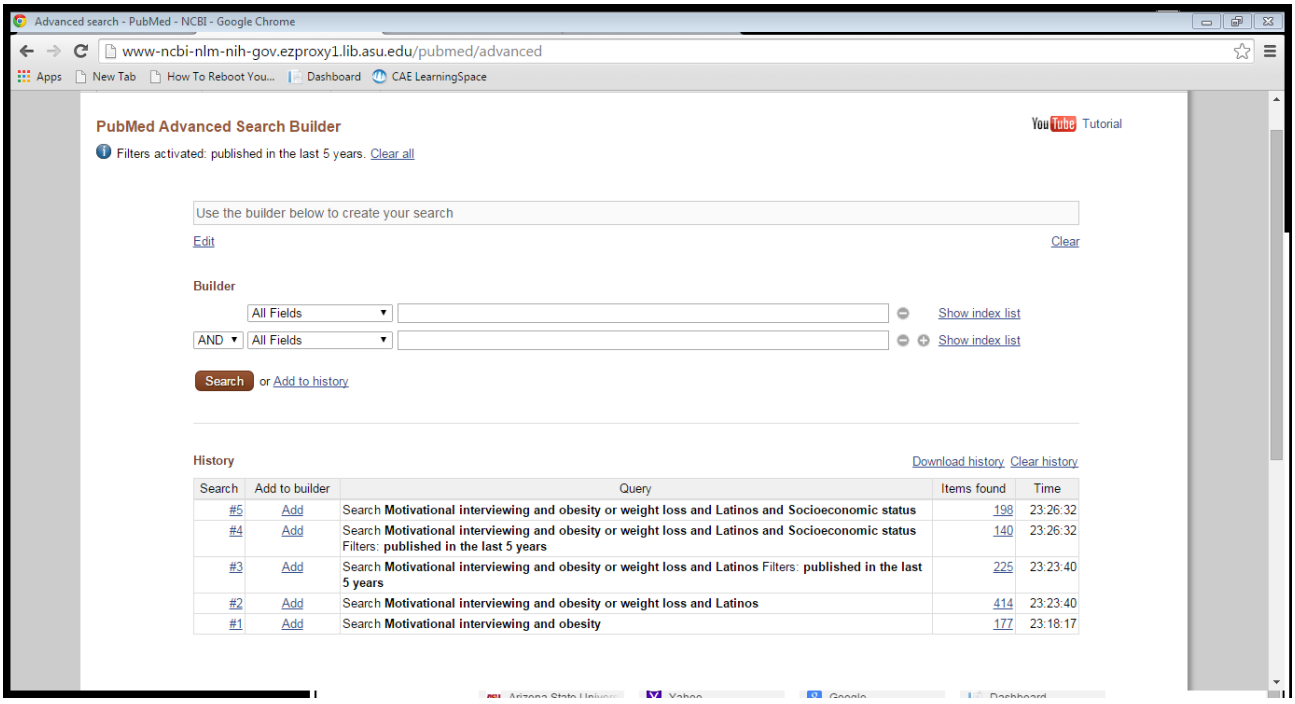
web.b.ebscohost.com.ezproxy1.lib.asu.edu/ehost/searchhistory/PrintSearchHistory?sid=1f61feb9-f966-47b6-bf92-ece74bbef466%40sessionmgr113&vid=17&hid=123&bquery=(MH+"Motiva

Wednesday, April 08, 2015 11:15:03 PM

#	Query	Limiters/Expanders	Last Run Via	Results
S6	(MH "Motivational Interviewing") OR (MH "Obesity, Morbid")	Limiters - Published Date: 20100101-20151231 Narrow by SubjectMajor: - community health nursing Narrow by SubjectMajor: - body mass index Narrow by SubjectMajor: - motivation Narrow by SubjectMajor: - behavioral changes Narrow by SubjectMajor: - obesity Narrow by SubjectMajor: - cognitive therapy Narrow by SubjectMajor: - health promotion Narrow by SubjectMajor: - hispanics Narrow by SubjectMajor: - weight loss Narrow by SubjectMajor: - motivational interviewing Narrow by SubjectAge: - all adult Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	47
S5	(MH "Motivational Interviewing") OR (MH "Obesity, Morbid")	Limiters - Published Date: 20100101-20151231 Narrow by SubjectMajor: - hispanics Narrow by SubjectMajor: - weight loss Narrow by SubjectMajor: - motivational interviewing Narrow by SubjectAge: - all adult Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	221
S4	(MH "Motivational Interviewing") OR (MH "Obesity, Morbid")	Limiters - Published Date: 20100101-20151231 Narrow by SubjectAge: - all adult Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	975
S3	(MH "Motivational Interviewing") OR (MH "Obesity, Morbid")	Limiters - Published Date: 20100101-20151231 Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	2,850
S2	(MH "Motivational Interviewing") OR (MH "Obesity, Morbid")	Limiters - Published Date: 20060101-20151231 Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	3,943
S1	(MH "Motivational Interviewing") OR (MH "Obesity, Morbid")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Plus with Full Text	4,396

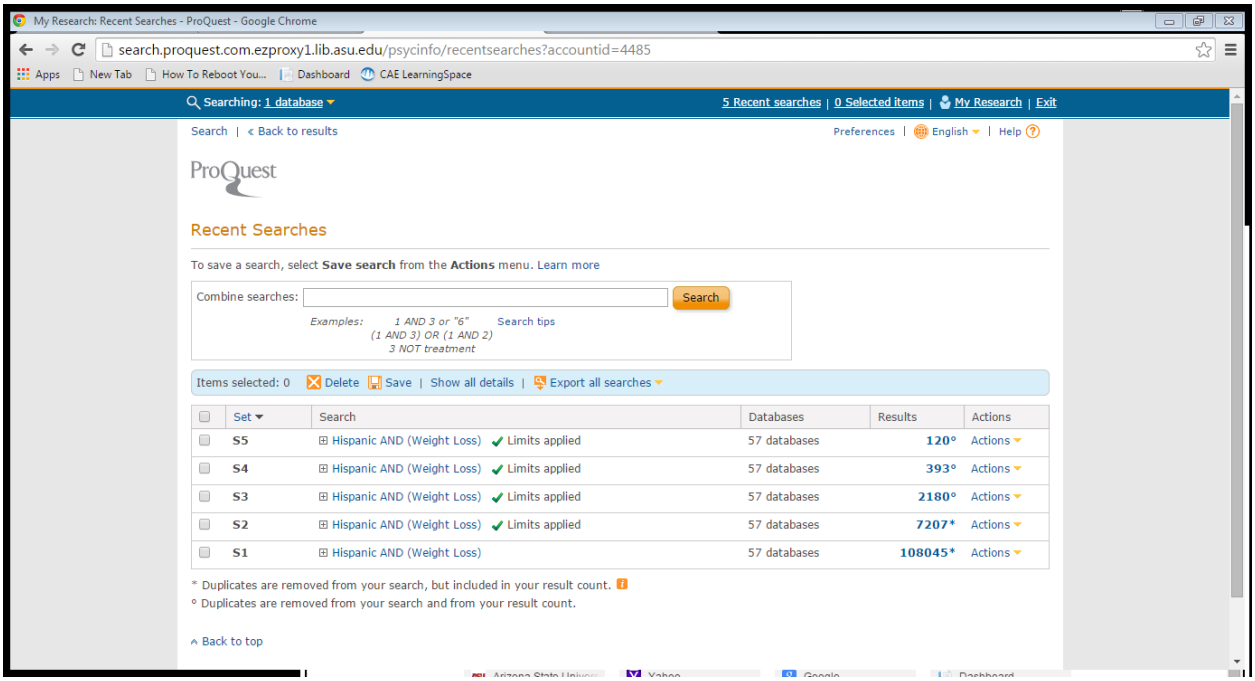
Appendix B

PubMed Search Strategy



Appendix C

ProQuest Search Strategy



Appendix D

Conceptual/theoretical model

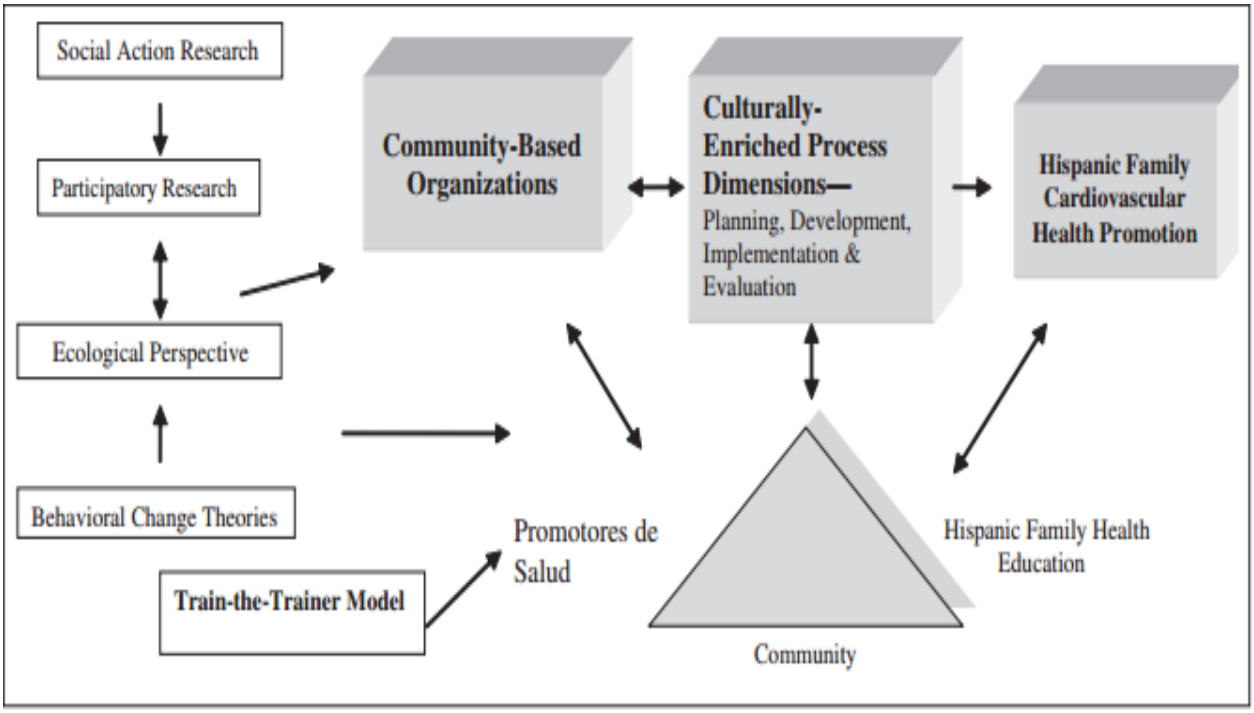
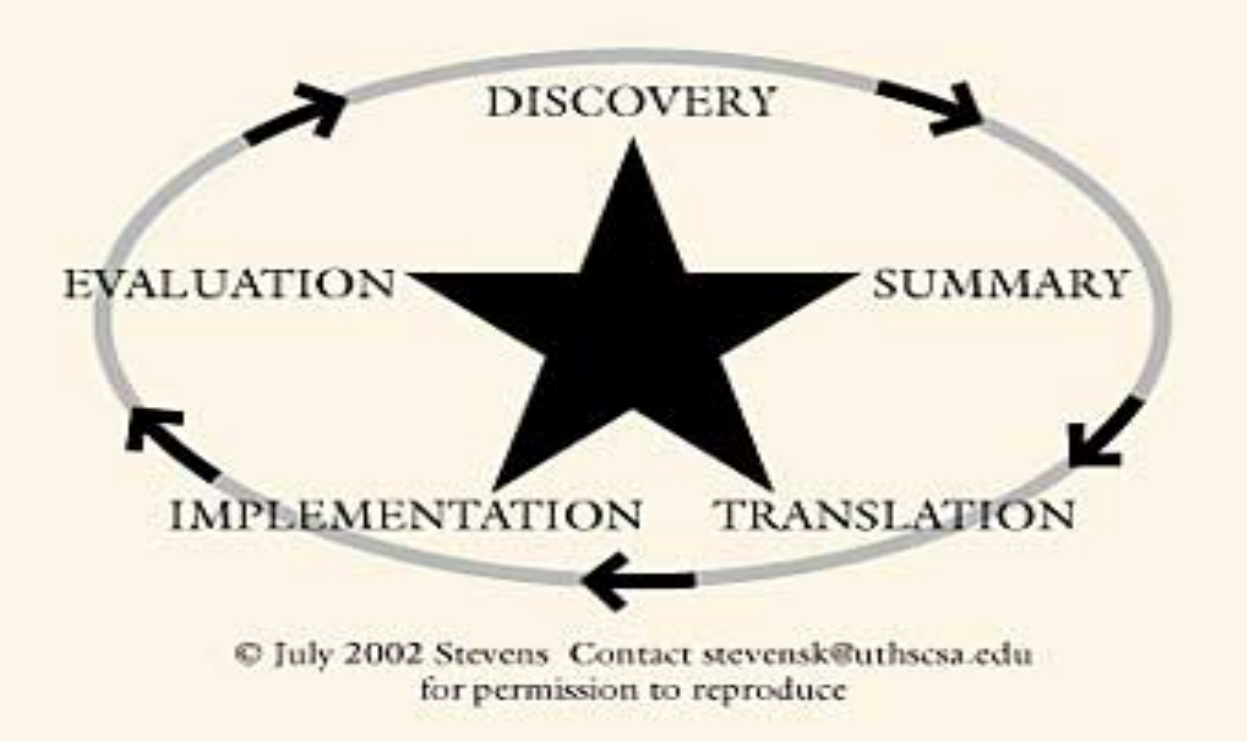


FIGURE 1 Salud Para Su Corazón—National Council of la Raza Promotora Model

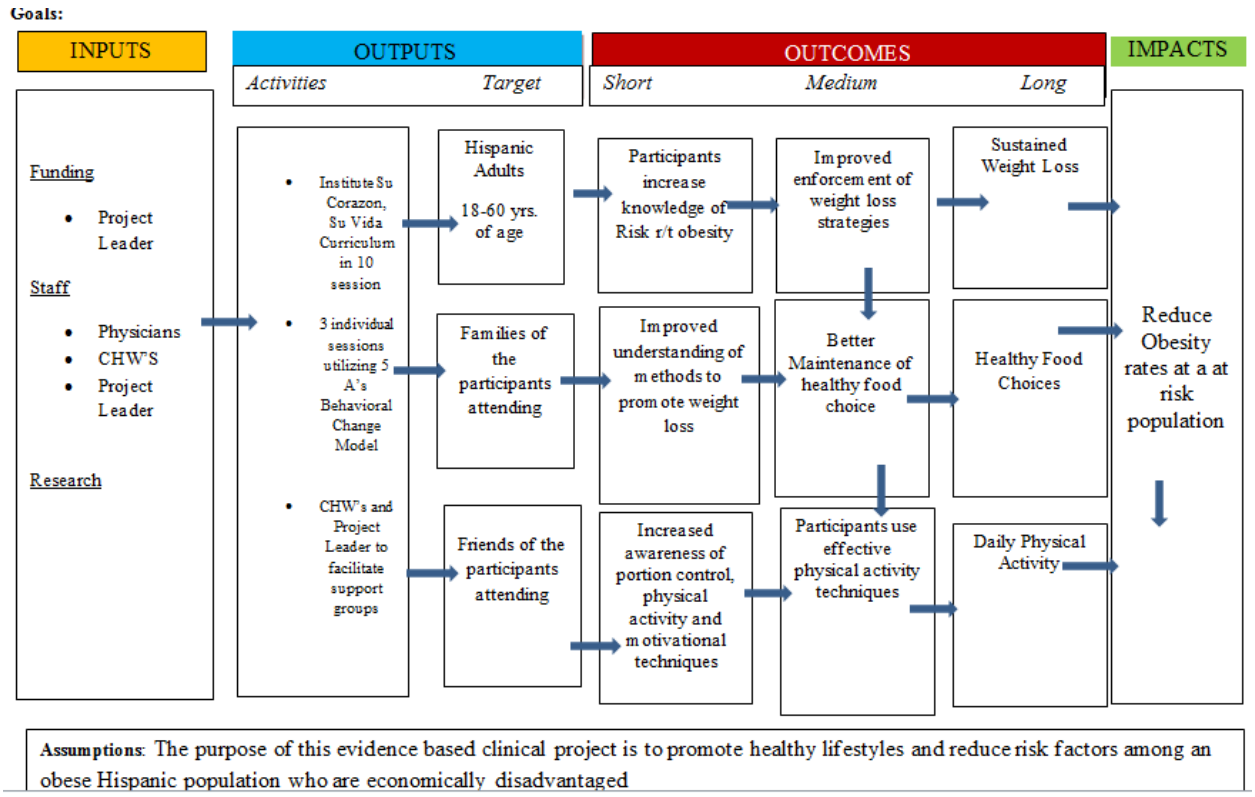
Appendix E

Evidence based model



Appendix F

Application



Appendix G

IRB Approval

APPROVAL: EXPEDITED REVIEW

Charlotte Thrall
CONHI - DNP
-
Charlotte.Thrall@asu.edu

Dear Charlotte Thrall:

On 9/2/2015 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Implementation of a culturally competent behavioral weight loss program for adult Latinos with a BMI >30 kg/m2
Investigator:	Charlotte Thrall
IRB ID:	STUDY00002984
Category of review:	(4) Noninvasive procedures, (7)(a) Behavioral research

The IRB approved the protocol from 9/2/2015 to 9/1/2016 inclusive. Three weeks before 9/1/2016 you are to submit a completed Continuing Review application and required attachments to request continuing approval or closure. If continuing review approval is not granted before the expiration date of 9/1/2016 approval of this protocol expires on that date. When consent is appropriate, you must use final, watermarked versions available under the "Documents" tab in ERA-IRB. In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Appendix H

Schedule Proposal

IRB Approval	09/08/2015
Recruitment	10/28-10/2/2015
Week 1	10/5-10/9/2015
Group Session 1	10/15
Week 2	10/12-10/16/15
Week 3	10/19/-10/23/15
Group Session 2	10/29/2015
Week 4	10/26-10/30/2015
Analysis	Spring 2016

Appendix I

Site Authorization Letter

Wesley
Community & Health Center

Wesley Health Center
Family and Youth Services
Amigos Center

June 29th, 2015

Nadia Ledesma
10421 N. 9TH St. Unit 2
Phoenix, AZ, 85020

Dear Ms. Ledesma,

I have reviewed the request regarding your study, and am pleased to support your research project entitled "Effects of: of a culturally competent behavioral weight loss program for adult Latinos with a BMI >30 kg/m^2"I understand that the project will include a culturally modified education intervention for volunteer patients within the Clinic population, who are referred by healthcare providers. I understand that you will obtain pre and post intervention HbA1cs and lipid panel through chart review, and that you will obtain pre and post height and weight to calculate BMI, waist circumference and blood pressure. I understand that this project is in partial fulfillment of requirements for the Doctor of Nursing Practice (DNP) degree at Arizona State University and that your faculty advisor is Dr. Charlotte Thrall.

Your request to use Wesley Health Center as a research and recruitment site is granted. This authorization covers the time period of June 2015 to May 2016. We look forward to working with you.

Sincerely,

Katie Brite MD

Katie Brite, M.D.
Medical Administrator
Wesley Health Center

Appendix J

Demographics

Table 1

Demographics

Participants	Age	Gender	Family Hx of DM	Family Hx of CAD
1.	44	F	NO	NO
2.	42	F	YES	NO
3.	62	F	NO	YES
4.	48	F	NO	NO
5.	32	F	YES	NO

Appendix K

Table of Statistical Results

Table 2

Paired-samples t-test Results for Weight and BMI

	Pretest		Posttest			95% CI Mean Difference			
Outcome	*M*	*SD*	*M*	*SD*	*n*	Lower limit, Upper Limit	*df*	*t*	*p*
Weight	107.73	34.56	106.20	33.97	5	.37561, 2.67639	4	3.68	.0211*
BMI	41.54	8.50	41.38	8.22	5	-.21610, .53610	4	1.18	.3030*

Appendix L

Table of Statistical Results

Table 2

Paired-samples t-test Results for Sys/Diastolic blood pressure and Health habits

	Pretest		*Postest*			95% CI Mean Difference			
Outcome	*M*	*SD*	*M*	*SD*	*n*	Lower limit, Upper Limit	*df*	*t*	*p*
PreSys-PosDias	141.60	18.02	135.20	15.20	5	1.01627,-11.78373	4	3.301	.030
PreDias-PosDias	94.40	11.26	86.00	6.48	5	-1.43975, 1823975	4	2.370	.077
PreWM - PostWM	2.700	.46435	3.150	.2404	5	-.80732, -.09268	4	-3.497	.025
PreCF - PostCF	2.200	1.043	2.733	.7226	5	-1.00524, -.06143	4	-3.138	.035
PreSS - PostSS	2.400	.3816	3.0667	.2304	5	-1.04449, -.28884	4	-4.899	.008
PreKnw - PostKnw	9.600	1.34164	12.000	.0000	5	-4.06587, -.73413	4	-4.000	.016
Preknw conf - Postknw conf	2.600	.89443	.40000	.0000	5	-2.51058, -.28942	4	-3.500	.025

Appendix M

Materials Used in the Intervention

Your Heart, Your Life: A Lay Health Educator's Manual for the Hispanic Community

Link in English

http://www.nhlbi.nih.gov/files/docs/resources/heart/lat_mnl_en.pdf

Link in Spanish

https://wcms.nhlbi.nih.gov/health-pro/resources/heart/hispanic-health-manual-spanish

Objective:

Designed to help promotores teach an 11-lesson course on heart health education specifically created for the Latino community. Lessons provide information for understanding, skill building, self-assessment, and goal-setting for healthy lifestyle changes. Includes culturally appropriate teaching scripts, learning activities, and reproducible handouts. Interactive activities use telenovelas, photonovelas, role play, problem-solving, and discussion. Latino role models and family contexts appear throughout. Available in Spanish and English. This manual is designed to be used with the companion picture card book.

Table of Contents

Session 1

Are you at risk for Heart Disease?

Session 2

Act in Time to Heart Attack Signs

Session 3

Take Heart: Say YES to Physical Activity

Session 4

Help your Heart: Control Your High Blood Pressure

Session 5

Be Heart Smart: Keep Your Cholesterol in Check

Session 6

Keep Your Heart in Mind: Aim For Healthy Weight

Session 7

Appendix M

Materials Used in the Intervention

Session 7

Protect Your Heart: Take Good Care of Your Diabetes for Life

Session 8

Make Heart Healthy Eating a Family Affair

Session 9

Eat in a Heart Healthy Way-Even When Time of Money Is Tight

Session 10

Enjoy Living in a Smoke Free

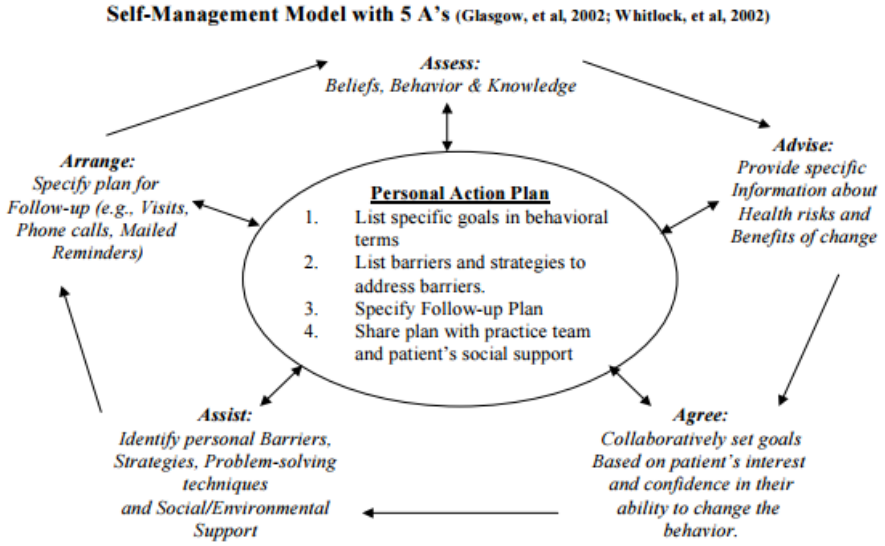
Session 11

Review and Graduation

Appendix M

Materials Used in the Intervention

5 A's Behavior Change Model
Adapted for Self-Management Support Improvement



Improvement Goal: All chronic illness patients will have a Self-Management (SM) Action Plan informed by and including all the 5 A's elements (Assess, Advise, Agree, Assist, Arrange). The 5 A's Behavior Change Model is intended for use with the Improving Chronic Illness Care Chronic Care Model (CCM).

Ideas are for teams to test in their own setting. Add to this list as you experiment with PDSA cycles and hear about strategies that have worked well for other teams.

Appendix N

Materials Used in the Intervention

Manage Emotional eating

An effective process to manage emotional eating is the four-step paradigm outlined in *The Wellness Book* by Herbert Benson, M.D. and Eileen M. Stuart, R.N., C., M.S. The paradigm is used for stress reduction but is also very effective at changing eating behaviors.

The four-steps are to **Stop, Breath, Reflect** and **Choose.**

Stop
This step breaks the cycle of automatically eating when a certain feeling arises, and it needs to occur
before the eating starts. It is the most important step because if it never occurs, then emotional eating can continue without hindrance.

Breathe
This step helps to relax the individual, slow down the pace of activity and clear his or her head.

Reflect
This step is known as "Think before you eat". The best question to ask at this time is "Why do I want to eat right now?" The answer could be physical hunger, celebration, or any of the negative emotions that were listed earlier. Another question that some find effective is "If I eat this food now, is it worth it?"

These questions bring mindfulness and meaning to eating rather than just eating on impulse and based on urges. Thinking about these questions doesn't guarantee the eating won't happen; it just gives the person a chance to make a better decision. Sometimes the person may still decide to eat,
but it's important not to reinforce the urge by eating right away.

Choose

The options are numerous and can include:

1. Eat the food anyway because it's in moderation.
2. Choose a healthier food.
3. Eat a smaller amount of the high-calorie food and do so slowly and mindfully. Mindful eating can be
   achieved if you eat slowly while sitting at a table without other activities occurring. This can be
   beneficial for the following reasons:
   - Slows eating pace
   - Increases eating enjoyment because you can appreciate tastes and textures
   - Allows the stomach to signal the brain that it's full, if you take at least 20 minutes to eat a meal
   - May improve digestion if you chew more
   - Allows you to maximize enjoyment of a small amount of high-calorie foods

Appendix N

Materials Used in the Intervention

Stretching Activities

Do these stretches gently and slowly. Do not bounce.

1. Deep breathing

Arms up, breathe in.
Arms down, breathe out.
Two times each.

2. Neck Stretching

Side to side two times.

3. Shoulder Stretches

Up and down five times on each side.

4. Side Stretches

Up and down five times in each direction.

5. Waist Stretches

Side to side three times in each direction.

6. Twists

Side to side three times in each direction.

7. Back and Leg Stretches

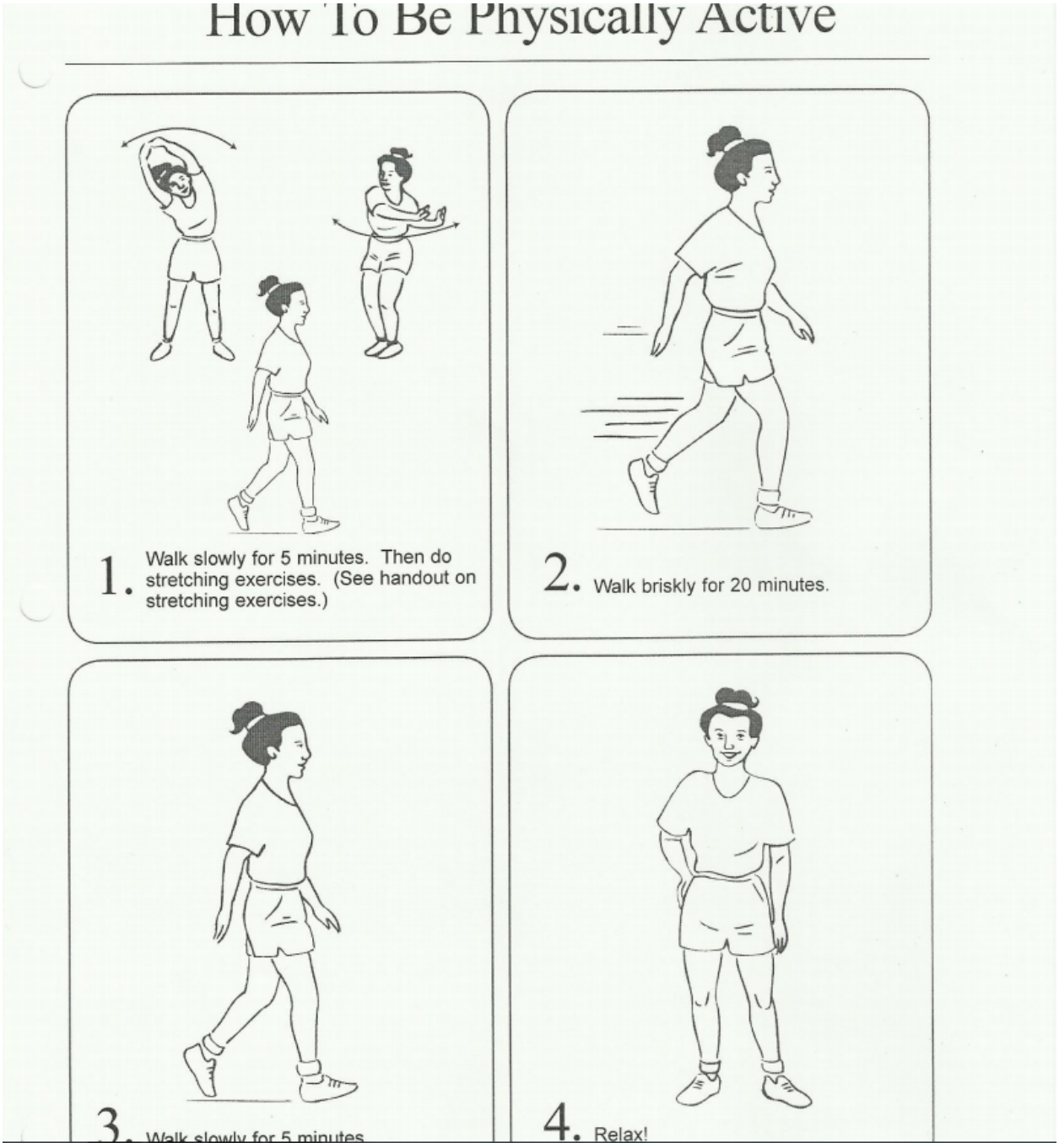
Down and up five times.

8. Back Stretch

Arms through legs six times.

Appendix N

Materials Used in the Intervention



Appendix O

Instrument

Clinical Measures and Followup Form

FOR INTERNAL USE ONLY
(For Strategy 3)

Participant identification (ID) number: _____

Name of person completing the form: _____

Promotor(a) identification (ID) number: _____

Project Location:
❒1 Clinic

Participant Information

1. Today's date (MM/DD/YYYY): _____/_____/_____
2. Age (in years): _____
3. Gender: ❒1 Male ❒2 Female
4. Do you consider yourself Latino or Hispanic? ❒1 Yes ❒2 No
5. What race do you consider yourself to be?
   - ❒1 Alaska Native
   - ❒2 American Indian
   - ❒3 Asian
   - ❒4 Black or African American
   - ❒5 Native Hawaiian or other Pacific Islander
   - ❒6 White
6. Place of birth: _____
   City State Country
7. Time living in the United States: ____ Years _____ Months
8. Preferred language: ❒1 English ❒2 Spanish ❒3 Both
9. Does your family have a history of heart disease? ❒1 Yes ❒2 No ❒3 Don't know

Appendix O

Survey

Pretest and Posttest

(continued)

Salt and Sodium

How often do you do the following things? Mark your answer with an **X**.

1. Do you buy fresh vegetables instead of canned vegetables?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
2. Do you use bouillon cubes when you cook?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
3. Do you read labels to choose foods with a low-sodium content?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
4. Do you add salt to fruit?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
5. Do you add salt to the water when you cook beans, rice, pasta, or vegetables?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
6. Do you buy meats such as ham, bologna, hotdogs, or sausage?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
7. Do you use a saltshaker at the table?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
8. Do you fill the saltshaker with a mixture of herbs and spices instead of salt?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
9. Do you choose fruits and vegetables instead of potato chips, french fries, and pork rinds?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time

Cholesterol and Fat

How often do you do the following things? Mark your answer with an **X**.

1. Do you drink fat-free milk or 1% milk?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
2. Do you eat low-fat cheese?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
3. Do you use vegetable oil spray to grease baking pans and skillets instead of using lard or butter?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time

Appendix O

Survey

My Health Habits
Pretest and Posttest

(continued)

4. Do you read the food label to help you choose foods lower in saturated fat, *trans* fat, and cholesterol?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
5. Do you remove the skin before cooking chicken?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
6. Do you drain the fat and throw it away when you cook ground meat?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
7. Do you choose fat-free or low-fat salad dressing or mayonnaise?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
8. Do you use oil to prepare your food instead of using lard?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time

Weight Management

How often do you do the following things? Mark your answer with an **X**.

1. Do you read labels to choose foods lower in calories?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
2. Do you bake or grill chicken or other foods instead of frying them?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
3. Do you serve more vegetables on your plate than you do meat?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
4. Do you serve yourself large portions of food?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
5. Do you drink water instead of regular soda?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
6. Do you have drinks with sugar, such as powdered drinks, lemonade, or other drinks?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time
7. Do you eat fruits instead of desserts or snacks that contain high amounts of sugar?	❒1Never	❒2Sometimes	❒3 Most of the time	❒4All the time

Appendix O

Survey

My Health Habits
Pretest and Posttest

(continued)

Physical Activity
Mark your answer with an **X**.

1. Do you do any type of physical activity at your job? ❒1Yes ❒2No
2. Not including what you do at your job, do you do any other physical activity? ❒1Yes ❒2No **(GO TO SMOKING)** If yes, answer the following questions.
2a. What type of physical activity do you do? (You may select more than one answer.) ❒1Walking ❒2Aerobic exercise ❒3Playing sports ❒4Other (please specify): _____
2b. How often do you do physical activity? ❒1Rarely (1 day a week) ❒2Several times a week (2 to 6 days a week) ❒3Every day
2c. How many minutes per day do you do physical activity? ❒1Less than 30 minutes ❒230 to 59 minutes ❒360 minutes or more

Smoking
Mark your answer with an **X**.

1. Do you smoke?	❒1Yes	❒2No
2. Does anyone else smoke in your family?	❒1Yes	❒2No
3. Do you allow people to smoke in your home?	❒1Yes	❒2No

Appendix O

Survey

Pretest and Posttest

(continued)

Alcohol
Mark your answer with an **X**.

Note: One drink is one beer (12 ounces) **OR** one glass of wine (5 ounces) **OR** 1½ ounces of spirits (liquor or whiskey, straight or in a mixed drink). Drinking may occur every day, some days, or just on the weekend.
1. Do you drink alcohol? ❒1 Yes ❒2 No **(GO TO KNOWLEDGE)** If yes, answer the following questions.
1a. How often do you drink? ❒1 Rarely (on special occasions) ❒2 Occasionally (once a month) ❒3 Once a week ❒4 Regularly (several times a week) ❒5 Every day
1b. When you drink, how many drinks do you have per occasion? ❒1 One to two drinks ❒2 Three to four drinks ❒3 Five or more drinks
1c. How often do you drink more than three drinks in one day? ❒1 Never ❒2 Once or twice a week ❒3 Three to six times per week ❒4 Every day

Knowledge
Mark your answer with an **X**.

1. Can a high waist measure increase your risk of heart disease?	❒1 Yes	❒2 No	❒3 Don't know
2. Can the Body Mass Index (BMI) chart tell you if you are overweight?	❒1 Yes	❒2 No	❒3 Don't know
3. Does your liver make all the cholesterol your body needs to keep you healthy?	❒1 Yes	❒2 No	❒3 Don't know
4. Can eating foods that are high in sodium increase your risk for high blood pressure?	❒1 Yes	❒2 No	❒3 Don't know
5. Does lard have a low amount of saturated fat?	❒1 Yes	❒2 No	❒3 Don't know

Appendix O

Survey

My Health Habits
Pretest and Posttest

(continued)

6. Can eating too much saturated fat and *trans* fat raise your cholesterol level?	❒1 Yes	❒2 No	❒3 Don't know
7. Is a blood pressure of 140/90 mmHg considered high?	❒1 Yes	❒2 No	❒3 Don't know
8. Can being overweight or obese put you at risk for developing high blood cholesterol?	❒1 Yes	❒2 No	❒3 Don't know
9. Is being physically active a way to reduce your risk for heart disease?	❒1 Yes	❒2 No	❒3 Don't know
10. Only people with high blood cholesterol should follow a heart healthy diet.	❒1 Yes	❒2 No	❒3 Don't know
11. Can nonsmokers die from secondhand smoke?	❒1 Yes	❒2 No	❒3 Don't know
12. Is having a fasting blood sugar of 126 mg/dL or higher considered diabetes?	❒1 Yes	❒2 No	❒3 Don't know
13. Is having a waist measurement greater than 35 inches healthy for a woman?	❒1 Yes	❒2 No	❒3 Don't know
14. How confident are you in your ability to cook heart healthy foods? ❒1 I am not confident. ❒2 I am somewhat confident. ❒3 I am confident. ❒4 I am very confident.			

Appendix P

Table of Content

Table of Contents

Appendix Q

Budget

Direct	**Cost**
Promotoras (Gift Card)	10$
Pedometers (12)	150$
Cooking Instructor (Gift Card)	30$
Groceries	120$
Photocopying/Instruments	50$
Indirect	**Cost**
Light, telephones, office space	0$
Sum	300.00$