

Evidence-Based Diabetes Prevention Program for Latino Pre-Diabetics in City Heights

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Abstract

This project developed a program for Latino individuals in the City Heights area focused on preventing adult onset diabetes. A review of the literature demonstrated that multiple barriers put this population at risk. These barriers include low socioeconomic status, food culture, fatalism, low health literacy, family history of diabetes, language barriers, low food availability, lack of transportation, putting family needs over their own, and fear of the healthcare system due to immigrant status. An educational program was designed to address those specific barriers and to promote healthy lifestyle changes. The program, based on the Lawrence Diabetes Prevention Program, will be implemented in five phases: Assessment of the Community, Identifying Risk Factors & Barriers, Program Curriculum, Community Support, and Implementation. The curriculum will be in the culturally appropriate language and focus on behavioral modifications, such as increased daily exercise and dietary modifications. The interventions of this program will be highly relational, creating support and accountability within the community. This will empower the participants to achieve their goals and engage in long-term lifestyle modifications to prevent the development of diabetes.

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Chapter One: Introduction

“The prevalence of diabetes in Latinos is 1.5 times that in non-Latino Whites” (Okene et al., 2012) and it is the fifth leading cause of death for Latino Americans (Center for Disease Control [CDC], 2015). Type two diabetes is a chronic disease that has serious implications for someone’s life. The Latino community in City Heights has a high prevalence and risk factors for this disease. The good news is that type two diabetes can be managed and prevented through lifestyle interventions. It is imperative for personal and public health reasons that the incidence of type two diabetes decreases in the Latino population. Additionally, the management of chronic diseases in the United States, especially diabetes, is very costly. The American Diabetes Association (ADA) found that \$322 billion a year is spent on diabetes and prediabetes (Dall et al., 2012). The ADA also found that 30 million Americans have diabetes and a staggering 87 million have prediabetes (Dall et al., 2012). Despite having the highest incidence rates, Latinos receive fewer monitoring tests, and “less” education compared to non-Latino whites (Rotberg, Greene, Ferez-Pinzon, Mejia & Umpierrez, 2016). Type two diabetes continues to be a growing threat to the Latino population that needs to be addressed.

In examining this threat to the Latino American population, certain barriers and risk factors have been identified that place this population at a higher risk for type two diabetes. Common risk factors include lack of health insurance, low health literacy, lack of diabetes education as well as a lack of access to preventative care (Okene et al., 2012). Other barriers include low household income, immigration status, lack of transportation, language barriers, food culture, fear of the healthcare system, and prioritization of family needs over personal health (Rotberg et al., 2016). These barriers can keep Latinos from successfully preventing or managing the disease process. This is problematic as unmanaged diabetes leads to complications

like neuropathy, nephropathy, amputations, retinopathy and eventually heart attack or stroke (American Diabetes Association, 2016). Insufficient understanding of diabetes symptoms often result in delayed treatment and diagnosis (Coffman, Norton & Beene, 2012). Due to a lack of education, Latinos often only seek care after experiencing severe diabetes symptoms that interfere with their daily life (Coffman, Norton & Beene, 2012). More education on signs and symptoms, and when to seek medical attention is needed to address this problem in the Latino population.

Purpose of the Program

The goal of this diabetes prevention program is to prevent the progression of prediabetes to diabetes for Latinos in the City Heights Community. The program is based on the Lawrence Latino Diabetes Prevention Project (LLDPP), which incorporated individual and group sessions along with a team of Spanish-speaking community members, or *promotoras* (Okene et al., 2012). As modeled in the LLDPP, the interventions need to be culturally and literacy sensitive (Okene et al., 2012). The project program will first assess the community for availability of healthy foods and places to exercise. The specific risk factors and barriers of the City Heights community and the individual will be identified and addressed along with the identification of a promotor. The program curriculum will include several group sessions in which diabetes and its prevention measures (diet and exercise) will be discussed. The curriculum will be culturally tailored to the Latino population. The curriculum will also meet the literacy needs of the participants. The goal is to improve overall health through education, lifestyle changes, and community support.

Background

The diabetes prevention program was designed to be implemented at the Point Loma Nazarene University School of Nursing Affiliated Health Promotion Center (HPC), located at Mid City Church of the Nazarene in City Heights, San Diego, California. According to its mission statement, the HPC has “been created to promote optimal health through disease prevention, health education, and to provide needed health care services, referrals, and advocacy,” to the City Heights community. The HPC is a service/learner medical clinic staffed by nursing faculty and students, which exclusively serves uninsured patients in City Heights. It provides adult wellness exams, blood pressure screening, immunizations, blood sugar checks, anger and stress management counseling, and lab draws. The HPC also provides referrals for dental exams, prescription glasses, mammograms and x-rays. About 60% of the City Heights population is Latino (US Census Bureau, 2015). 90% of patients seen at the HPC are Latino and only speak Spanish (Rowe, 2015). Many of these Latino patients are either prediabetic or already have diabetes. In fact, in 2015, the HPC saw 750 patients, 120 of whom were diabetic (Zamora-Flyr, 2015). A diabetes prevention program is needed at the HPC to effectively assist the Latino population to prevent and manage diabetes.

Chapter Two: Literature Review

In the United States, diabetes is a prevalent issue in the Latino population, specifically affecting those who live in urban communities and have a low-socioeconomic status. The risk of being diagnosed with diabetes is 70% more probable among the Latino population compared to non-Hispanic whites (US Department of Health and Human Services, 2014). Despite this increased prevalence, Latinos receive fewer diabetes-monitoring tests and less education than whites (Chaufan et al., 2012). Research has shown that Latinos have “poorer clinical control,

more complications, and a higher mortality rate than their non-Hispanic counterparts” (Campbell et al., 2012 p. 472). The severe impact of diabetes on the Latino population has been well documented over time. For example, diabetes is the fifth leading cause of death among Latino Americans (CDC, 2015). Additionally, the American Diabetes Association (ADA) predicted an estimated \$174 billion dollars spent on diabetes care in 2007, along with higher medical costs and decreased productivity directly related to unmanaged diabetes (ADA, 2007). In order to address the increasing prevalence of diabetes in the Latino community, a prevention program needs to be created that addresses their specific barriers and cultural needs.

Cultural Variables

The cultural variables that influence the perceptions and actions taken by Latinos to prevent the development of diabetes are complex and multifaceted. Some of these barriers are low socioeconomic status, food culture, fatalism, low health literacy, family history of diabetes, language barriers, low food availability, lack of transportation, putting family needs over their own, and fear of the healthcare system due to immigrant status (Rotberg et al., 2016; Santos, Hurtado-Ortiz, Ramirez Garcia & Lewis, 2015; Coffman, Norton & Beene, 2014). Latino migrant workers are often undocumented, have low-income jobs, and do not have health insurance (NCLR Chronic Disease Report, 2014). Lack of health insurance due to immigration status acts as a barrier to gaining access to a primary care provider or other healthcare services (Coffman, Norton & Beene, 2014). This makes it difficult to effectively prevent and manage diabetes because Latinos are unable to see a provider for treatment and other resources. Diabetes is an increasing problem for young Latinos due to a lack of physical exercise, poor eating habits, and adopting a *Westernized* lifestyle (Kposowa, 2013; Ogden, Carroll, Kit, & Flegal, 2012). To

effectively prevent the development of diabetes, cultural factors and barriers faced by the Latino population need to be taken into consideration (Merriam et al., 2009).

Lack of access to resources puts Latinos at increased risk of developing complications related to diabetes (NCLR Chronic Disease Report, 2014). The aforementioned lack of health insurance delays care for Latinos, increasing their risk for developing complications of diabetes such as heart disease, strokes, retinopathy, neuropathy, nephropathy, foot problems and skin issues (CDC, 2015). Common signs and symptoms of diabetes include increased thirst, increased hunger, dry mouth, frequent urination, fatigue, blurred vision and headaches (ADA, 2016). It is common for Latinos to misinterpret these signs and symptoms of diabetes due to lack of education, further delaying their treatment and management of the disease and allowing its progression (Coffman, Norton & Beene, 2014). As a result, misinformed Latinos may treat symptoms like headaches with over the counter meds rather than recognizing the need to be evaluated for diabetes (Coffman, Norton & Beene, 2014). Medicating with over the counter medications only masks the real problem and causes it to grow worse (Coffman, Norton & Beene, 2014). Latinos often don't seek treatment until the later signs of diabetes, such as numbness and tingling in the hands and feet, itchy skin in the groin area and poor wound healing, present and interfere with daily activities like working or caring for family (Coffman, Norton & Beene, 2014). The lack of preventative care results in difficulty coping with disease on an individual level, as well as increased spending on healthcare which decreased the productivity of the United States healthcare system (ADA, 2007).

Another factor affecting the success of Latinos preventing and managing diabetes is a lack of social support. Social support promotes longevity and optimal health (Fortmann & Gallo, 2013). Social support is also documented to decrease stress and improve diabetes self-

management (Coffman, Norton & Beene, 2014). The relevance of social support to the Latino community is demonstrated in the cultural emphasis on collectivism, family, and social relationships (Perez & Cruess, 2011). The role of social support in decreasing chronic stress is also pivotal because of the link between stress and the development of diabetes and other chronic diseases (McEwen, 2012). In the case of diabetes, stress acts on cortisol production, leading to increased glucose production from liver cells while inhibiting insulin secretion from pancreatic B-cells (Beaudry & Riddell, 2012). This process directly increases insulin resistance, the basic cause of diabetes type two (Beaudry & Riddell, 2012). Social support can decrease the physiological effects of stress (Thiots, 2011). By involving pre-diabetic Latinos in a community of support, likelihood of compliance with preventative health measures like exercise and diet modifications will increase (Thiots, 2011; Coffman, Norton & Beene, 2014). These increased health behaviors will result in a positive effect on glycemic control (Stopford et al., 2013). The benefit of social support is both an increase to compliance and a decrease in a physiological risk factors for the development of diabetes.

Prevention Programs

The ADA found that 87 million people in the United States have prediabetes and 30 million people have diabetes (Dall et al., 2012) Many of these people are part of the Latino community. Additionally, Ockene (et al., 2012) stated that pre-diabetes, indicated by impaired glucose tolerance, is, “often present 5 or more years before the development of type two diabetes.” The parameters for pre-diabetes are a hemoglobin A1c between 5.7-6.4% and an eight-hour fasting blood sugar test of 100-125mg/dl (ADA, 2016). Prediabetes can be problematic for Latinos as the long-term damage and complications of diabetes may already begin affecting the body (ADA, 2016). However, studies have shown the prediabetes can be

reversed with exercise and adopting a healthier diet (Ockene et al., 2012). Prediabetic Latinos need to know that diabetes is a disease that can be prevented. Understanding their power to combat disease will increase motivation to engage in preventative health measures (Vedhara et al., 2014).

Currently, there is a lack of effective diabetes prevention education material available to the people in the Latino community (Ockene et al., 2012). This is due in part to the fact that widely utilized programs, like the Diabetes Prevention Program (DPP) have been designed for well educated, white participants who are literate in English (Ockene et al., 2012). According to Ockene (et al., 2012) these programs are successful but not culturally sensitive. The original DPP did not account for low health literacy, decreased socioeconomic status, or language barriers, all common obstacles faced by the Latino population (Chaufan et al., 2012). It is understood that diabetes prevention education material needs to be culturally competent, administered in the correct language and promote self-management in order to successfully prevent the development of diabetes in minority populations (NCLR Chronic Disease Report, 2014).

According to Castro (et al., 2008), context or surroundings, cultural contexts, and understanding the conceptualization of race and ethnicity are essential to developing a culturally competent Diabetes Prevention Program. What is successful in preventing diabetes in one ethnic group may not be applicable to another group. For example, the Diabetes Prevention Program (DPP) combined dietary modifications along with increased physical activity in order to manage Hemoglobin A1c and body mass index (BMI) (Ockene et al., 2012). The result was an average weight loss of 5.6 kilograms per year and a decrease the incidence of diabetes by 58% in 4 years (Ockene et al., 2012). The majority of participants in the DPP program were, "... well-educated, literate in English, and of average socioeconomic status," (Ockene et al., 2012). While

successful, the DPP did not account for cultural sensitivity. Additionally, the DPP program may not be directly applicable to participants of low socioeconomic status or decreased health literacy, which have been identified as prominent barriers in the Latino population (Merriam et al., 2009).

The Lawrence Latino Diabetes Prevention Program (LLDPP) is an adaptation the DPP with cultural modifications (Ockene et al., 2012). The cultural considerations included tailoring this program to the literacy needs and cultural preferences of its Latino participants. Additionally, the program was delivered in Spanish, thus complying with the need for language concordance (Detz et al., 2014). A research study found that language concordance contributes to increased participation in an intervention designed to promote diabetes prevention in its participants (Detz et al., 2014). This modification of the language of the program is significant as it has been identified that language barriers predict low rates of participation in diabetes self-care (Detz et al., 2014). The intervention also included individual and group sessions over twelve months. The dietary goals of the intervention were to improve the participants diet by encouraging increased intake of whole grains and decreased intake of sodium and fats (Ockene et al., 2012). The exercise goals were to increase steps by 4,000 per day (Ockene et al., 2012). The results were that the intervention group had a significant weight loss compared to the control group (-2.5 lb; $p= 0.004$) along with a significant reduction in HgbA1c (-0.10%; $p=.009$) (Ockene et al., 2012). There was also a significant correlation between weight loss and HbA1c change ($r=0.41$; $p<.001$) (Ockene et al., 2012). The insulin resistance improved in the intervention group, which correlated with increased weight loss (Ockene et al., 2012). Additionally, the intervention group had significantly greater reductions in percentage of dietary calories from fat (-2.02% vs -0.24%; $p=.04$) (Ockene et al., 2012).

In a similar exploratory pilot study conducted by Millard (et al., 2010), the Diabetes Empowerment Education Program emphasized the importance of developing trust between the program leaders and the community members in order to promote participation in the program. The study emphasized that the importance of the participants' trust in the "promotoras," or community health workers (Millard et al., 2010). The success of the promotoras at reaching participants and conveying information was attributed to their shared identity with the group of people they were reaching (Millard et al., 2010). In the case of this study, the promotoras were also immigrants from Mexico (Millard et al., 2010). Aside from identifying an effective means of outreach in migrant communities, the study also included useful insights regarding the importance of assessing the needs and preferences of the Hispanic population in which this program was implemented (Millard et al., 2010). The study concluded that delaying the onset of type two diabetes in this ethnic group can be achieved through culturally and economically appropriate interventions to control BMI (Millard et al., 2010).

Research has shown that successful diabetes prevention interventions must be delivered in the correct language, focus on self-empowerment and developing long-term lifestyle changes, and be focused constructing a supportive community. Additional important considerations for developing this intervention include an understanding of health literacy, community barriers and resources, and delivering information from a well-connected and trusted person. Participants should be screened for what specific risk factors and barriers pertain to them. The program must educate Latinos on basic information on the diabetes diseases process as well as the signs and symptoms. Symptom awareness promotes better decision-making regarding symptom interpretation and self-management (Coffman, Norton & Beene, 2014). Educators should let the patients describe the symptom and what the appropriate response is in order to ensure

understanding of the teaching. If the response is not correct, the educator should expand on their explanation until they understand. The large prevalence of a low health literacy level in the community should be addressed with visual or oral adaptations of the teaching materials.

The program should also educate on what preventative actions look like on a daily basis by encourage positive attitudes towards dietary change and increased physical activity (Ockene et al., 2012). This will be achieved through goal-setting, self-monitoring and social support. It is important that the participants attend the group sessions because the LLDPP found a strong correlation between weight loss and group attendance (Ockene et al., 2012). The dietary changes should be introduced with healthy recipes using traditional cultural foods (Ockene et al., 2012). The LLDPP used a picture-based food guide that divided foods into either green, yellow, and red to help the participants easily identify the dietary quality of food (Ockene et al., 2012). The goal setting and self- monitoring sheets should be easy to use along with hands-on activities like demonstrations of healthy cooking methods and exercising together (Ockene et al., 2012). The program should also provide social support and be a safe environment for the participants to talk about their progress, struggles, and solutions to help them achieve their goals (Ockene et al., 2012). The intervention should be given by a promotor, or Spanish-speaking community member with post-high school education (Ockene et al., 2012). The overall goal of the program should be life-long behavior modifications that lead to the prevention or successful management of type two diabetes.

Chapter Three: Implementation Plan

Goal of the Program

The goal of this project is to create effective diabetes prevention education that will assist healthcare providers at the Health Promotion Center in City Heights, San Diego. The program

will help decrease the development of adult onset diabetes in the urban Latino population. The education program will be designed in a culturally relevant way to address the specific barriers and risk factors of this population. Research has shown that the most successful interventions center on empowering the individual to engage in in long term self-management behaviors (Ockene et al., 2012; Alvarez, 2014; Coffman, Norton & Beene, 2014; Detz et al., 2014). The interventions of this program will be highly relational, creating support and accountability within the community (Detz et al., 2014). The curriculum will be in the culturally appropriate language, which will increase the cultural competence of the program (Ockene et al., 2012). The educational program will incorporate behavioral modifications, such as increased daily exercise, with dietary modifications, such as decreasing carbohydrates and refined sugars and increasing vegetable intake (Ockene et al., 2012).

Phase 1: Assessment of the Community

The community will be assessed for the availability of resources before the start of the program. Establishing an understanding of what the City Heights community has at their disposal will allow the program to be tailored to their specific resources and needs. Current resources in the community include a weekly food distribution at a church in the community. An additional suggestion would be pricing healthy foods that are available in local markets in the community. This will allow educators to create a realistic resource guide for the participants. Participants may also benefit from resources offered in workshops such as healthy recipes or referrals to facilities to exercise in. The community will be assessed for any existing cooking or nutrition classes that could possibly partner with the diabetes prevention program. Increasing exercise among Latino participants would be integral to the prevention of diabetes. As with nutritional needs, educators will need to familiarize themselves with the barriers and opportunities that are

present in the surrounding community. This includes assessing the safety that participants feel in their community, the availability of parks, walking paths or gyms and other resources for participants to engage in exercise. Once the community has been assessed for the availability of resources, the program can inform participants of the identified resources as well as partner with participants to bridge any gaps in resources.

Phase 2: Identifying Risk Factors & Barriers

An important step in constructing a diabetes prevention program for the participants will be identifying those who are at risk for the development of the disease. Patients at the clinic will be invited to participate in the program based on their elevated risk for developing adult onset diabetes. The initial assessment of risks and barriers will be recorded on Appendix A. This risk will be identified through BMI, Hgb A1c, fasting blood glucose, cholesterol, and blood pressure measurements. The provider will also assess the patient's current diet, exercise, and understanding of diabetes. The participant's specific risk factors and barriers will be recorded so that they can be addressed. For the implementation of this program, patients with elevated BMI, Hgb A1c, fasting blood glucose, cholesterol, and blood pressure measurements will be eligible for participation. The initial assessment will be done in an interview between the provider and the participant in their preferred language. This will address language barriers as well as any gaps in health literacy that the participant may have. Once the initial assessment has been completed, the provider can tailor the program to their specific needs and provide the appropriate resources and support.

Phase 3: Program Curriculum

The program will be divided into four different group sessions. The first session will include an introduction to the program as well as group norms/rules (Appendix B). The

participants will be informed that the group will be a safe place where they can learn, ask questions, and be honest with anything they are struggling with. The participants will also get a brief overview of what the next group sessions will be about so they are aware of the schedule. They will be able to discuss any specific barriers or struggles they may have with the rest of the group. The program will be intentional in its teaching of how to set personal goals (Appendix F). The participants will be encouraged to make small, progressive changes that can be implemented into daily life slowly until they become a habit. They will also be encouraged to share their goals with other group members for encouragement and support. The first session will also include curriculum on what diabetes is, as well as why prevention is important and how it can be facilitated (Appendix C). The participants will be educated on diabetes risk factors, causes, signs and symptoms, and complications. The teaching tools will include a PowerPoint or a poster as well as group discussion to further understanding of type two diabetes (Appendix C). The teaching will be given in Spanish and be culturally appropriate. The participant will then have a better understand of diabetes, generating their interest in engaging in self-management behaviors.

The second session will focus on nutrition and how dietary modifications can help prevent the progression of diabetes. The curriculum will educate the participants about basic principles of creating and maintaining a well-balanced diet (Appendix D). This will include learning to read food labels, identifying low sodium, low calorie, or reduced sugar and fat options in the foods that participants regularly eat. The curriculum will educate the participants on healthier alternatives to their everyday cultural foods. Cultural foods like flour tortillas, refried beans, tamales, and various fried foods are high in sodium and fat and can be substituted for healthier options. For example, educating participants to decrease the number of flour

tortillas they eat daily, or educating them on how they can replace flour with corn tortillas will be a culturally relevant dietary modification that the participants can engage in. The ultimate goal conveyed to the participants will be to increase intake of fruits and vegetables, as well as choosing complex carbohydrates instead of simple carbohydrates. The teaching tools will include a PowerPoint or poster as well as group discussion (Appendix D). The session will also include healthy recipes that include commonly used cultural foods (Appendix D). The participants will also be able to take home a cooking tips handout in Spanish (Appendix D). The program will provide the participants with a log to record their dietary intake (Appendix D) and help the participants to set healthy eating habit goals (Appendix F). The goals for dietary modification should be gradual and attainable to ensure that the participant is compliant.

The third session will be about physical exercise and the role it plays in type two diabetes prevention. The curriculum will help the participants identify current exercise activities as well as barriers to engaging in regular exercise (Appendix E). The participants will be able to identify the amount of weekly exercise recommended for them as well as ways they will increase their exercise. The teaching tools will include a PowerPoint or a poster as well as time and space to practice exercises during the group (Appendix E). The program will provide the participants with a log (Appendix E) to keep track of their exercise and help them to set realistic goals (Appendix F). Participants may need to be educated about what activities may be considered exercise, and may also be supported by identifying ways that they may already be engaging in exercise. For example, patients may walk to work daily or walk their children to school. Providing education, as well as ideas and resources to engage the participants in regular exercise will assist in achieving the goal of increased regular exercise.

The fourth session will provide debriefing opportunities that provide support and resources to the participants. The provider will go over the progress the participants have been making and help address barriers that they may still face. The participants will be guided on how to make these lifestyle modifications long term changes. They will also know that they will have continued support and resources. The Health Promotion Center will continue to monitor the participants' dietary and exercise logs as well as draw labs every three months to monitor their BMI, Hgb A1c, fasting blood glucose, cholesterol, and blood pressure measurements. The promotora will continue to check on the participants by phone call for a year to provide support and monitor their progress.

Phase 4: Community Support

A key component of the diabetes prevention program is the construction of a supportive community. This will assist the participants in achieving their goals and engaging in long term lifestyle modifications to prevent the development of diabetes (Gallo et al., 2015). Self-empowerment is the most effective way for Latinos to successfully manage their lifestyles for healthier outcomes (Gallo et al., 2015). This will be achieved through facilitating and promoting a supportive community to journey with the participants as they engage in lifestyle modification behaviors. A supportive community will be created through inviting participants to engage in self-management classes together and to set goals as well as share their achievements with one another. This will facilitate accountability and support in accomplishing their goals. Educator participation will be another crucial part of the success of this intervention. The Health Promotion Center will designate a promotora to facilitate the education and group sessions as well as walk alongside the participants. The promotora along with strong community support will serve as a motivational force for participants attempting to engage in long-term lifestyle

modification behaviors. Self-empowerment and management is a crucial goal of this program, as lifestyle modification and behavioral change is a long-term goal that needs to be continued throughout life if diabetes prevention is to be achieved.

Phase 5: Implementation

The patients will be asked to participate in the program during an office visit based on their identified risk for adult onset diabetes. After agreeing to participate, a follow up appointment with the promotora will be scheduled. In this appointment, the promotora will identify specific barriers, assess current diet and exercise and discuss the curriculum of the program (Appendix A). The participants will then attend the group sessions where they will receive the education and set personal goals. The promotora will contact the participant by telephone to check up on them and to remind them of the group sessions. Communication between the promotora and participants will be open and regular, thus promoting trust and effective support of participants in the achievement of their goals. The participants will be monitored with regular follow-ups and assessments of learning needs, barriers, and goals. After the participants have been a part of the program for a year, the program will then be evaluated for its effectiveness through the formative and summative assessment tools.

Chapter Four: Program Evaluation

The diabetes prevention program will be evaluated for its ability to promote lifelong self-management behaviors in the Latino community of City Heights. It will be evaluated through formative and summative assessment tools. The program will be evaluated objectively through quantitative data from The Health Promotion Center. The clinic will assess the participants HbA1c, BMI, fasting blood glucose, cholesterol, and blood pressure every three, six, and nine months in order to track the results. If the results improve over time, it can be assumed that the

participants improved their self-management of diabetes. The attendance for educational classes and support groups will also be assessed. The HPC will monitor how many people continue to attend the classes over time by assessing the sign-in sheet used at each group session. The promotoras will also evaluate the effectiveness of the group sessions by assessing the participants' improved knowledge of the topic at the end of each session.

The program will be evaluated subjectively by the qualitative assessment data from the self-report of the participants. A questionnaire will be given to the participants to assess their knowledge, self-management skills, support, and satisfaction with the program (Appendix G). The questionnaire will give the participants a chance to provide feedback like what part of the program worked for them and what could have been better. There is also a section for the participant to write any other comments, feedback, and/or suggestions they may have. The questionnaire will be in Spanish and it will be given to the participant either orally or as a worksheet depending on the literacy level of the participant. The program will also use the participants' dietary and exercise log to evaluate the progress (Appendix D & E). The program will look at how much the participant exercised per week compared to their baseline and the exercise of the past week. The amount of exercise per week will also be compared to the participant's BMI for any trends. The program will look at the participant's caloric intake as well as the nutritional value of their meals. The program will be considered effective if the participants show improved HbA1c, BMI, fasting blood glucose, cholesterol, and blood pressure through self-management behaviors, like diet and exercise. This will improve the participant's overall ability to prevent and manage type two diabetes.

Chapter Five: Future Implications

Creating a culturally competent curriculum to be administered to Latinos at risk for developing type two diabetes is of the utmost importance for preventing the development of the disease in this population. Without an understandable, comprehensive method of reaching this population, learning goals will not be achieved. The anticipated impact of developing this interactive, self-empowering curriculum will be an increase in health promotion behaviors such as exercise and diet, as well as a decrease in health risks such as Hgb A1c and BMI. It is anticipated that the structure and longevity of this intervention will prompt participants to build long-term modification behaviors that are permanently adopted into their lifestyle.

Strengths

Strengths of this intervention include the fact that the program is designed for not only specific population group, but also a specific location. The HPC has built a rapport in the community and has a regular patient population. The participants will already feel some trust towards the facility and the health care providers because it is familiar to them. This will also allow the program to provide specific interventions that are tailored to this particular population. An additional strength of this intervention is that the entire curriculum has been designed and is ready to be implemented. The use of a community based promotor who would convey information in an understandable and meaningful way while connecting with participants is another strength of the program. The program is also very aware of health literacy and delivering the education in a way that can be understood by a majority of the participants. Overall, the program focuses on cultural competence and community support while delivering the curriculum in an understandable and relevant manner.

Limitations

Weaknesses of this intervention include unanticipated barriers that participants may face on a case-to-case basis. The intervention is anticipated to be well received by the population as it will be given in an empowering understandable manner, and participants are anticipated to be invested in their personal health. However, some prospective patients may not see the value in this preventative intervention and may choose not to participate although they are at risk for developing diabetes. There are some aspects of the curriculum that require the participants to know how to read. Although the group sessions will be delivered orally, and thus not require reading, understanding how to read food labels and participating in reading a recipe would require a literacy level that some participants may not possess.

The utilization of a promotora to deliver the information to the participants has strong implications for the development of rapport, trust and support in the group of participants adopting this intervention. However, despite training, the knowledge of the promotora may be limited and difficult to build in a short time. Therefore, the promotora would have to be mentored by a medical professional. Additionally, it may be difficult to find a bilingual individual in the community who would be willing to commit to volunteer as a promotora. The program may have to consider creating a paid promotora position to ensure the security of the promotora role during this intervention.

Future Research

Future ideas for research may include involving youth in diabetes prevention programs as an anticipatory intervention based on risk factors such as ethnicity, family history, etc. This would be problematic for the HPC as they only provide services to adult patients. Research of the success of this intervention at the implementation level will also need to be completed and

evaluated for its effectiveness. More thorough understanding of the specific barriers faced by this population of Latinos in the City Heights area may need to be assessed in order to more personally tailor the intervention to the proposed population. More research could be done regarding the receptiveness of the group towards the promotoras. Additional research should also be done on the comfortability of the group sessions. The current plan is to include a span of ages and persons of both genders in the program. However, research could be done to determine if participants are more willing to share in groups of the same sex, or with people who are their age. More research will need to be done on how motivated this community is to prevent diabetes and if they believe they can prevent it. Research to determine the follow up needs of the participants after the program is completed will also be necessary.

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Appendix A

Date: _____ Diabetes Prevention Program

Initial Assessment of Risks & Barriers (to be used by provider)

Patient Name _____ Date of Birth _____ Age _____

Weight: _____ BMI: _____ BP _____ Hgb A1C _____ Glucose _____

Cholesterol: _____

Patient's Current Diet (be specific):

Patient's Current Exercise (be specific):

Patient's Current Understanding of Diabetes:

Patient Specific Risks & Barriers (transportation, income, etc.):

Any Additional Notes:

Appendix B

Introduction to the Program (English Script)

Purpose: The purpose of this program is to help you better understand diabetes. Over the course of several group sessions, we will teach you about diabetes and ways to prevent it in your daily life. We will teach you about diet and exercise and help you make personal goals to eat healthier and to exercise regularly. We will also address any personal barriers you may have to preventing or managing diabetes.

The schedule will be:

Session 1 Welcome! Introductions what is DM? What are your risks & barriers, Why are we doing this intervention?

Session 2: Diet

Session 3: Exercise

Session 4: Making this long term/ finding support

Group Norms/Rules: This group will be a safe place where you can learn, ask questions, and be honest with anything you are struggling with. You will not be judged but what you say here and “what happens here stays here.” We celebrate all the little victories here and want to share your successes no matter big or small. Also, do not feel embarrassed if you have a set back because that is okay. We are all here to support each other and to help each other make real changes. The goal is a healthier you and we are here to walk alongside you every step of the way.

Introducción al Programa (Spanish Script)

Propósito: El propósito de este programa es ayudarlo a entender mejor la diabetes. Durante el transcurso de varias sesiones de grupo, le enseñaremos acerca de la diabetes y formas de prevenirla en su vida diaria. Le enseñaremos acerca de la dieta y el ejercicio y le ayudaremos a hacer metas personales para comer más sano y para hacer ejercicio con regularidad. También abordaremos cualquier barrera personal que pueda tener para prevenir o controlar la diabetes.

El horario será:

Sesión 1: Bienvenido! Que es diabetes?

Sesión 2: Dieta

Sesión 3: Ejercicio

Sesión 4: Haciendo esto un cambio a largo plazo

Reglas de grupo: Este grupo será un lugar seguro donde usted puede aprender, hacer preguntas, y ser honesto con cualquier cosa que usted está luchando con. Usted no será juzgado, pero lo que dice aquí y "lo que pasa aquí se queda aquí". Celebramos todas las pequeñas victorias aquí y queremos compartir sus éxitos no importa grandes o pequeños. Además, no se sienta avergonzado si tiene un retroceso porque eso está bien. Todos estamos aquí para apoyarnos unos a otros y ayudarnos mutuamente a realizar cambios reales. El objetivo es un saludable usted y estamos aquí para caminar a su lado a cada paso del camino.

Appendix C
Lesson Plan: What is Diabetes Type 2?

Title/Topic & Date of Presentation:

What is Diabetes Type 2?: Que es la Diabetes Tipo 2?

Course Resource/Text Alignment:

“Come prevenir la diabetes tipo 2?” https://www.youtube.com/watch?v=KipN06i_Exw

Powerpoint “Que es la diabetes tipo 2?”-

https://drive.google.com/drive/u/0/folders/0B9H_mC5RMNcSM0pRZUxoTmtVSzQ

US Department of Health and Human Services: *The National Institute of Diabetes and Digestive and Kidney Diseases Health Information Center*: <https://www.niddk.nih.gov/health-information/informacion-de-la-salud/diabetes/guia-para-personas-diabetes-tipo-1-tipo-2>

USDA: <https://www.usda.gov/topics/food-and-nutrition>

Course Learning Outcomes (CLO): *What will students know, understand and be able to do at the end of this course?*

- The course will outline the definition of type 2 diabetes, risk factors, causes, and ways to prevent it
- The course will explain why type 2 diabetes is a problem and what complications come from the disease process
- The course will explain how to recognize the signs and symptoms of type 2 diabetes
- The course will explain treatment and monitoring type 2 diabetes
- The course will explain what prediabetes is and how to determine if you have pre-diabetes or are at risk

Student Learning Outcomes (SLOs):

What will students know, understand, and be able to do after instruction? What performance or behaviors will demonstrate mastery?

- Participants will be able to answer the question “What is Type 2 Diabetes?” as well as identify risk factors, causes, and prevention methods
- Participants will recognize that type 2 diabetes is a big problem that comes along with major health risks and complications
- Participants will recognize the signs and symptoms of type 2 diabetes
- Participants will understand type 2 diabetes treatment and ways to monitor it
- Participants will be able to understand what prediabetes is and how to determine if they are at risk

Assessment: *How will students and instructors gauge student learning throughout the lesson?*

This lesson is designed to be interactive and engaging for the participants. There will be a video shown that will underline the basics of type 2 diabetes and how to prevent it in a clear and simple way. The instructor will supplement the video with additional information as well as providing time for questions

and open discussion to ensure the material is understood.

The instructor will give information that specifically applies to this population as well as tailor the discussion questions, sharing, and writing to be culturally competent.

This session on exercise is designed to be interactive so that patients have a clear understanding of type 2 diabetes, risk factors, causes, signs and symptoms, complications and most importantly how to add prevention behaviors to their daily lives.

Materials Needed: In order to administer this teaching, a computer will be necessary (possibly with a projector) in order to show the video and PowerPoint. If the acquisition of technology to give this presentation is problematic, this material from the PowerPoint could be modified to be given using a poster board prepared ahead of time. Pen, pencils and paper will also be necessary. The proposed location to hold these sessions is at the Health Promotion Center, and a room will need to be designated as the teaching room with ample space and chairs for participants.

Teaching Strategies (Activities/Assignments): *What will students and instructors do to support students in achieving the SLOs? Briefly describe the schedule of events.*

The session is planned to last from 45 minutes to one hour. The session will begin with introductions; the goal is for participants to get to know one another and also to become acquainted with those who are administering the introduction. Having the participants sit together, introduce themselves and then describe what they know about diabetes will lead to a comfortable and safe classroom environment where they can openly share their thoughts and opinions. The instructor will also participate in this introduction to build familiarity with the participants.

The discussion about type 2 diabetes will be guided by a video in Spanish that clearly and simply identifies risk factors, causes, signs and symptoms, and complications. The instructor will then follow the video with a PowerPoint to further supplement and clarify the information from the video. Activities to keep the teaching engaging and help participants develop a true understanding of its importance will include the interaction between the instructor and the audience, asking for participants to speak out and respond to questions throughout the presentation like, “why is diabetes prevention important” and “what are some ways you can prevent diabetes in your daily life?” or “what will make it hard to incorporate diabetes prevention into your daily life?”

Lastly, the participants will write down or verbalize the recommended blood glucose levels and their personal desired blood glucose levels. This will both evaluate the participants understanding of the teaching and motivate to take charge of their health and begin to make personal changes to achieve their personal goals. The goal of the session is to help the participants build a clear understanding about type 2 diabetes and why it is important to prevent it.

Evaluation: An evaluation will come from participant feedback in response to the question, “was this helpful?” Further evaluation will be given throughout the education program by determining the participants understanding of type 2 diabetes. The instructor will also evaluate the participants ability to write or verbalize the recommended blood glucose levels and their adherence to their personal desired glucose levels. The instructor of the class will also complete a written assessment of their impression of the understanding gained through the class and their perceived overall success of the intervention.

Appendix D
Lesson Plan: Nutrition

Title/Topic & Date of Presentation:

Nutritional and Dietary Awareness

Course Resource/Text Alignment:

Utilizing My Plate resources from the USDA, as well as Spanish adapted online information from the American Diabetes Association.

Nutrition Powerpoint:

https://drive.google.com/drive/u/0/folders/0B9H_mC5RMNcSM0pRZUxoTmtVSzQ

Recipes:

Fajitas de Pollo Rápidas

https://drive.google.com/drive/u/0/folders/0B9H_mC5RMNcSM0pRZUxoTmtVSzQ

Frijoles Negros

https://drive.google.com/drive/u/0/folders/0B9H_mC5RMNcSM0pRZUxoTmtVSzQ

Quinoa

https://drive.google.com/drive/u/0/folders/0B9H_mC5RMNcSM0pRZUxoTmtVSzQ

Nutrition Cooking Tips Handout

https://drive.google.com/drive/u/0/folders/0B9H_mC5RMNcSM0pRZUxoTmtVSzQ

Course Learning Outcomes (CLO):

What will students know, understand and be able to do at the end of this course?

- The course will outline and define food groups, including the recommended daily intake of foods from each food group
- The course will describe the idea of balance in choosing from different food groups.
- The course will specifically describe the linkage between food choices and diabetes risk and development, as well as the significant role that diet has in overall health promotion and disease prevention.
- The course will discuss healthy options and alternatives to commonly consumed foods in this population.
- The course will educate about making informed decisions about choosing high quality and healthy foods.
- The course will discuss tips to changing eating habits, such as trying alternate recipes and choosing healthier options such as low sugar, low calorie, or low fat options.

Student Learning Outcomes (SLOs):

What will students know, understand, and be able to do after instruction? What performance or behaviors will demonstrate mastery?

- Participants will discuss commonly eaten foods as well as barriers that they face to making informed healthy decisions when choosing foods.
- Participants will identify gaps in their own knowledge regarding food choices.
- Participants will verbalize understanding of foods to avoid and eat in moderation.
- Participants will set goals for small modifications to make to their diet to enhance its nutritional value and health benefits.

Assessment:

How will students and instructors gauge student learning throughout the lesson?

This lesson is designed to be discussion based and interactive amongst participants to build a sense of purpose and community in this population. Additionally, the discussion based format aims to allow participants to speak honestly about barriers or questions that they may have regarding dietary modifications. Learning in this session will be assessed using discussion questions throughout the presentation to allow participants to choose the best option in their food. Collaboration will also be utilized as participants are asked about locations in their community where they can acquire fresh ingredients and healthy options, etc.

Materials Needed:

Spanish flyers and material will be needed in order to directly communicate with participants in this population about the information that they need in order to understand balanced eating and nutritional self-management. The food log as well as grocery resource list will also be needed and explained to the participants so that they can engage with this material. The PowerPoint teaching presentation with technology to utilize to present the material will also be needed. However, if it is determined that the resources to give this presentation electronically are unavailable, a poster board may be used in order to convey the same material to this population. As a teaching example, a sample recipe should be prepared for the session for the participants to sample. This sample will allow the participants to try a culturally competent recipe that is more healthful for this population.

Teaching Strategies (Activities/Assignments):

What will students and instructors do to support students in achieving the SLOs? Briefly describe the schedule of events.

The session is planned to last from 45 minutes to one hour. The session will begin with introductions; the goal is for participants to build familiarity with one another as well as those administering the intervention. The participants should sit together, introduce themselves and then describe their favorite food, or something that they would like to try. The instructor will also participate in this opening discussion question to facilitate discussion as well as assess some of the food habits of the participants, and build familiarity with the participants as well.

The teaching about nutrition and self-management will be discussion based, and guided by the PowerPoint materials. This teaching will also focus on participation from those receiving the

teaching. The teaching will also follow the outline of the guidelines given by the USDA and other resources regarding dietary recommendations for adults.

Teaching about food groups, reading food labels, making choices, as well as meal preparation and choosing to cook will be discussed. Participants will be invited to give feedback and talk about their barriers to healthy eating as well as identify and speak about their beliefs about health and food habits or values that they might have.

The discussion will also establish the important link between diet and diabetes. It is important that participants understand the impact of their dietary decisions on their health and their diabetes risk. The primary objective of this teaching is to impart to participants the importance of dietary modification and balance in the prevention of disease. After this understanding is established, participants will be given tools and insight into how to implement this knowledge into their lives.

In order to assist the participants with implementing this intervention and adapting their eating habits to this information, we will provide the participants with resources to assist them in implementing this information and formulating it into habits. Materials to assist the participants with implementing this material include a dietary log, the my plate guide as well as any picture worksheets that are developed to assist the participants with making informed food choices.

Evaluation: As an evaluation, we will seek out participant feedback regarding the benefit that participants feel that they received from this teaching. The question to the participants will be, “was this helpful?” Additionally, it will be beneficial to evaluate how realistic the participants feel that this implementation would be as well as whether they feel a motivation to make dietary modifications in order to prevent the development of diabetes. The food log will also be an important way to evaluate whether the participants are able to modify their diets. The patients will be engaging in self reporting behaviors in order to track their diet and observe their habits as well as attainable modifications that they can make and sustain in their diet for the promotion of their health.

Food Logs

Mis comidas y refrigerios

Use esta tabla para recordar una semana de comidas y refrigerios

Metas Para la semana: _____













	Desayuno	Refrigerio	Almuerzo	Refrigerio	Cena	Refrigerio
Lunes						
Martes						
Miércoles						
Jueves						

Viernes						
Sábado						
Domingo						

Mis comidas y refrigerios

Use esta tabla para recordar una semana de comidas y refrigerios, dibuje su plato

Metas Para la semana: _____

	Desayuno	Refrigerio	Almuerzo	Refrigerio	Cena
Lunes					
Martes					
Miércoles					
Jueves					

Viernes					
Sábado					
Domingo					

Cooking Tips

Cocine con alimentos Saludables



LIMITE

la cantidad de bocadillos procesados y productos de repostería.
Escoja alimentos frescos más nutritivos, como los vegetales frescos, granos integrales, nueces y fruta.



¡LO MEJOR! FRESCO Y PREPARADO EN CASA

con ingredientes frescos
cocinado al vapor, a la plancha, a la parrilla,
al horno, o en el microondas.

AUMENTA SABOR SIN SAL NI GRASAS

Use hierbas y especias en vez de mantequilla, manteca,
o otras grasas.

*jugo de limón en sus vegetales y pescado, pimienta con limón y
sin sal en el pollo. Use cebolla/ajos para carnes y vegetales.*



EVITE FREÍR

en mucho aceite, manteca, o
mantequilla.
Asegúrese de usar aceite con un alto
contenido de grasa no saturada y no lo
use en exceso

Ideas: aceite vegetal, de oliva, maíz



WWW.DIABETES.ORG

ESCOJA

• PROTEÍNA MAGRA • LÁCTEOS CON
BAJO GRASA •

LIMITE

• GRASAS TRANS/SATURADAS •
COMIDA FRITA • DULCES PROCESADAS •

Recipes



FAJITAS DE POLLO RÁPIDAS

UNA VERSIÓN SALUDABLE DE UN PLATO MEXICANO FAVORITO:

- rocío vegetal para cocinar
- 1 libra de pollo, deshuesado y sin piel, rebanado en tiras de 1/2 pulgada, sin grasa visible (pechuga o lomo)
- 1 cucharada de salsa de soja baja en sodio
- 1 pimiento mediano, rebanado, de cualquier color
- 1 cebolla mediana rebanada (blanca, amarilla, o morada)
- 1/2 cucharada de pimienta negra
- 1/2 cucharada de comino
- 8 tortillas de maíz o integrales del tamaño de tacos (elija tortillas con la menor cantidad de grasas saturadas, grasas trans, y sodio)
- 1/2 taza de salsa de fresco, con la menor cantidad de sodio disponible
- 1 aguacate rebanado
- 1/2 taza de crema agria sin grasa

1 Rociar un sartén grande con rocío vegetal para cocinar. Calentar a temperatura media-alta y agregar el pollo. Cocinar durante 3 minutos hasta que se dore.

2 Reducir el fuego medio y agregar la salsa de soja, el pimiento rojo, las cebollas, la pimienta y el comino. Tapar y cocinar durante 8 a 10 minutos; remover ocasionalmente.

3 Servir en partes iguales sobre las tortillas y colocar aguacate rebanado, salsa, o crema agria (opcional) encima.

PARA MÁS VISITE RECIPES.HEART.ORG



FRIJOLES NEGROS

UN MÉTODO CONVENCIONAL Y SABROSO

- 1 libra de frijoles negros secos
- 2 cebollas medianas
- 4 tomates maduros
- 2 o 3 dientes de ajo
- 1 cucharadita de comino en polvo
- una pizca de sal
- 4 cloves garlic, chopped
- pimienta al gusto
- 1 o 2 cucharadas de aceite de oliva preferentemente extravirgen
- 4 tazas de agua
- 2 hojas de laurel

1

Remojar los frijoles en un colador y lavarlos con agua fría de la llave del fregadero, cubriéndolos con agua fría y dejarlos en ese remojo preferentemente desde la noche anterior.

2

Puede seleccionar hierbas aromáticas y especias de su gusto. Es más sano prepararlos con especias, hierbas aromáticas y ciertos vegetales.

3

Destapando la olla ya sin presión y con los frijoles blandos, añadir la sazón y hervir a ritmo constante durante 2-3 minutos. Añadir a los frijoles el aceite de oliva, la cebolla, el tomate, el comino, el pimiento, ajo y las hojas de laurel y revolver los ingredientes hasta considerarlos bien mezclados.

4

Bajar el fuego a medio para una ebullición a fuego lento. Se deben dejar reposar durante 60-90 minutos para saborizarlos bien. Cuando los frijoles hayan terminado de cocinarse, retire la olla del fuego y salpimiéntelos a su gusto y si lo desea. Revolver bien los frijoles para que la sal, la pimienta se incorporen.

PARA MÁS VISITE RECIPES.HEART.ORG



QUINUA

TIEMPO DE PREPARACIÓN: 10 MINUTOS
TIEMPO DE COCCIÓN: 15 MINUTOS

- 1 taza de quinoa sin cocinar
- 1/8 cucharadita de aceite de oliva
- 1 diente de ajo, picado
- 5 taza de agua o caldo
- 1 lima o limón, el jugo recién exprimido
- 2 ramas de cebollines, finamente cortados (1/4 taza approx.)
- 1/4 taza de cebolla morada, picada
- 3 cucharadas de cilantro, picado
- 1/3 taza de tomates Cherry, cortados por la mitad
- 1 jalapeño fresco, sin tallo ni semillas, finamente picado (opcional)
- sal u pimienta, al gusto

- 1** Calienta 1/4 cucharadita de aceite en una olla. Agrega ajo y saltea durante 1 minuto a fuego medio-alto.
- 2** Agrega la quinoa y agua y deja hervir. Cubre con la tapa, baja el fuego y cuece durante 15 minutos. Cuando la quinoa esté cocida, se verá el aro del embrión.
- 3** Mezcla la quinoa con el resto de los ingredientes. Condimenta con sal y pimienta.

PARA MÁS VISITE RECIPES.HEART.ORG

Appendix E

Lesson Plan: Exercise

<p>Title/Topic & Date of Presentation:</p> <p>Exercise to Decrease Diabetes Risk: Mantegese activo a Su Manera</p>
<p>Course Resource/Text Alignment:</p> <p>ADA PowerPoint: https://health.gov/paguidelines/pdf/PAG_Spanish_Booklet.pdf</p> <p>Link to curriculum PowerPoint: https://drive.google.com/drive/u/0/folders/0B9H_mC5RMNcSM0pRZUxoTmtVSzQ</p> <p>Referral: Zumba: http://211sandiego.org/search-resources/?keyword=city+heights&zip=92105&count=5</p>
<p>Course Learning Outcomes (CLO): <i>What will students know, understand and be able to do at the end of this course?</i></p> <ul style="list-style-type: none"> -The course will outline the definition of exercise, and will explain the role of exercise in diabetes type 2 prevention. -The course will explain how exercise can come from daily activities (walking to school, etc.) -The course will explain modifications that can be made at home if exercise equipment or resources are not available. -The course will explain how much exercise is recommended for adults on a weekly basis. -The course will assist participants with making a plan and setting goals for increased weekly exercise, including how to make a schedule and use a log to record exercise.
<p>Student Learning Outcomes (SLOs):</p> <p><i>What will students know, understand, and be able to do after instruction? What performance or behaviors will demonstrate mastery?</i></p> <ul style="list-style-type: none"> - Participants will verbalize the benefit of exercise for diabetes prevention and overall health promotion. - Participants will identify current lifestyle patterns and habits, including activities that may count as exercise, as well as barriers to engaging in regular exercise. - Participants will identify activities that they personally enjoy. - Participants will be able to define exercise and the amount of weekly exercise recommended for them. -Participants will set goals to increase their regular exercise and will be equipped to log their activity.
<p>Assessment: <i>How will students and instructors gauge student learning throughout the lesson?</i></p> <p>This lesson is designed to be interactive and discussion based. There will be pauses for discussion in small groups as well as with the larger group (pair and share) to ensure that the material is understood. The instructor will give information tailored to this population as well as ask the participants to</p>

personalize this information and make it applicable to them through discussion questions, sharing and writing. Additionally, the participants will receive an exercise log and will be given an explanation on how to fill it out. The log will then be assessed at the next meeting. This session on exercise is designed to be interactive so that patients walk away with understanding of the benefits and importance of exercise in preventing diabetes, as well as an idea of how to incorporate exercise into their lives.

Materials Needed: In order to administer this teaching, a PowerPoint presentation with the access to a projector and computer will be necessary. If the acquisition of technology to give this presentation is problematic, this material from the PowerPoint could be modified to be given using a poster board prepared ahead of time. Pen, pencils and exercise logs will also be necessary. The proposed location to hold these sessions is at the Health Promotion Center, and a room will need to be designated as the teaching room with ample space and chairs for participants. For demonstrations about modifying exercises to be done simply at home, the instructor should also bring cans to demonstrated weightlifting at home. Other examples of exercises could be done using a towel, a chair, or weights. The instructor should also be prepared with resources from the community, such as affordable gyms to join, free community classes to try, or the location of a walking path in the neighborhood. These resources will empower them to make decisions to get out and exercise.

Teaching Strategies (Activities/Assignments): *What will students and instructors do to support students in achieving the SLOs? Briefly describe the schedule of events.*

The session is planned to last from 45 minutes to one hour. The session will begin with introductions; the goal is for participants to get to know one another and also to become acquainted with those who are administering the introduction. Having the participants sit together, introduce themselves and then describe one activity they like to do might be a good icebreaker and lead nicely into a discussion about physical activity. The instructor will also participate in this introduction to build familiarity with the participants.

The discussion about physical activity will be guided by the PowerPoint materials and will be also focused on participant feedback. The instructor may ask, "how do you define exercise?" and allow for participants to answer in their own words. This would lead into the teaching about how exercise is defined and then a discussion about the importance of exercise in the prevention of diabetes. Activities to keep the teaching engaging and help participants develop a true understanding of its importance will include the interaction between the instructor and the audience, asking for participants to speak out and respond to questions throughout the presentation like, "what do you like to do for exercise?" or "what exercise difficult to do?" The teaching about the importance of exercise will also include creative ways to incorporate exercise into the daily routine, such as using cans at home for weights, trying to do push-ups during commercials, or doing calf raises at work when there is standing time.

Lastly, the exercise schedule and log will be explained to the participants. These are simply tools to help the participants plan their weekly exercise ahead of time, and then write down the exercise that they have engaged in. The goal is to increase the time spent exercising per week. The session will end with any questions that the participants may have. The goal of the session is to help the participants build an understanding about the benefits of exercise and to assist them in beginning to build a long term commitment to exercising more frequently and consistently.

Evaluation: An evaluation will come from participant feedback in response to the question, “was this helpful?” Further evaluation will be given as the participants engage with the exercise planning calendar and log and self-report their increase in exercise participation weekly. The instructor of the class will also complete a written assessment of their impression of the understanding gained through the class and their perceived overall success of the intervention.

Exercise Log

MIS ACTIVIDADES

Físicas

AÉROBICOS Y FORTALECIMIENTOS

Qué Hice	Lun	Mar	Mié	Jue	Sáb	Dom	Total de días
Número total de días en que realicé estas actividades esta semana							

METAS: _____

Appendix F

Setting Personal Goals

Setting Personal Goals: make them small, progressive changes that you can implement into your life slowly until they become habit. Share your goals with others etc.

Use the log!

Muchos latinos se sienten culpables al invertir tiempo y dinero en el cuidado personal de su salud. Ellos se sienten egoístas al anteponer su salud ante la de sus seres queridos. Esto debería ser todo lo contrario. La Asociación Americana de la Diabetes está aquí para ayuralos a ellos y a sus familias, llevándoles el mensaje que el cuidado de la salud es importante para prevenir la diabetes, no solo por ellos, sino también por sus familias. Para mejorar nuestro servicio en la comunidad latina, la Asociación rebautizó en el año 2005 el programa latino con el nombre: Por tu Familia

Se centra en los beneficios de la actividad física y muestra cómo esta puede ser divertida. - See more at: <http://www.diabetes.org/es/en-mi-comunidad/iniciativa-latina/aprenda-mas-sobre-las-iniciativa-latina.html?loc=imc-es-slabnav>

Focus on yourself: and your goals and achievements will benefit you and your family

Prioritize your mental health, take care of yourself!

Confronte las emociones naturales como estrés, tristeza, enojo o frustración y negación antes de que le causen depresión.

From: From <http://www.diabetes.org/es/vivir-con-diabetes/complicaciones/salud-mental/?loc=lwd-es-slabnav>

Estres: El estrés se produce cuando algo provoca que su cuerpo se comporte como si fuera atacado. Su origen puede ser físico, como una herida o una enfermedad, o puede ser de origen mental, como los problemas de pareja, laborales, de salud o económicos.

Making these life changes may feel like a lot of pressure, and you may wonder how you can do this, you may also be worried about your risk for developing Diabetes, etc.

from : <http://www.diabetes.org/es/vivir-con-diabetes/complicaciones/salud-mental/?loc=lwd-es-slabnav>

Be honest about your risk: some people may want to deny that they are at risk for developing Diabetes, or that they are overweight, or that their diet is not healthy enough etc. Be reasonable in your perception of your risk etc. and take measureable and attainable steps to address the problem.

La negación es esa voz interior que repite: "A mí no". La mayoría de las personas pasan por esto cuando recién reciben un diagnóstico

From: <http://www.diabetes.org/es/vivir-con-diabetes/complicaciones/salud-mental/?loc=lwd-es-slabnav>

Find people who support your goals and will encourage you

Believe in yourself and don't be discouraged! Even if you have setbacks or difficulty making any of these changes, you can still move forward and achieve your goals!

Appendix G

Program Evaluation

This evaluation is to be given at the end of the program to evaluate its effectiveness. The participant will fill it out on their own or if they can't read they may be asked and answer the questions orally.

Programa de Evaluación

Nombre _____ Fecha _____

Por favor circule una respuesta.

- | | | | |
|---|----|---|----|
| ¿Sientes que sabes más sobre la diabetes? | si | o | no |
| ¿Entiendes la forma de prevenir la diabetes en tu vida diaria? | si | o | no |
| ¿Este programa le ayudó a tomar decisiones saludables de estilo de vida? | si | o | no |
| ¿Te sientes seguro compartiendo tus pensamientos y sentimientos en las sesiones grupales? | si | o | no |
| ¿Te sientes como si tuvieras el apoyo de la promotora? | si | o | no |
| ¿Sientes el apoyo de tu comunidad? | si | o | no |

Qué partes de este programa fueron útiles para usted:

Lo que podría haber hecho este programa más útil para usted:

Algo más: