A VIVIR! A PLANT-BASED DIABETES PREVENTION PILOT PROGRM FOR OLDER HISPANICS IN SOUTH TEXAS

A Doctor of Nursing Practice Project Report

by

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BSN, Texas A&M International University, 1997
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Submitted in Partial Fulfillment of the Requirements for the Degree of

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This Doctor of Nursing Practice Project Report meets the standards for scope and quality of Texas A&M University-Corpus Christi College of Nursing and Health Sciences and is hereby approved.

Dr. Eva Bell, DNP, APRN, FNP-BC, PMHNP-BC
Chair

Dr. Cristi Day, DNP, FNP-C, RN, ADM-BC
Project Advisor/Committee Member

Dr. Theresa Garcia, PHD, RN
Content Expert/Committee Member

August 2018

DEDICATION

I would like to dedicate this work to my family who have provided unending support throughout the last two years. To my husband for allowing me to chase my crazy dreams of becoming a DNP and my children for letting my dream come true. To my wonderful loving mother, may she rest in peace. I know you are watching from heaven. Thank you for always supporting me throughout my nursing and military career. To my sister for stepping up time and time again to care for my family while I sat in front of a desk and computer to finish my school work. It's true people around you influence you to become the best you can be. To my military comrades, thank you for setting the bar high.

ACKNOWLEDGEMENTS

I would like to thank my committee chair, Dr. Eva Bell, and my committee members, Dr. Cristi Day, Dr. Theresa Garcia and Dr. Jessica Peck for their guidance and support throughout the course of this capstone project.

Thank you also goes to my friends and fellow DNP classmates and the department faculty and staff for making my time at Texas A&M University-Corpus Christi an enjoyable experience. Than you to my virtual BFF Laura Moreno for keeping me motivated and not allowing me to quit on many occasions.

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ABSTRACT

Purpose: A community oriented culturally sensitive plant-based nutritional pilot program for older South Texas Hispanics was designed to determine if participation in a three-month plant-based diabetes prevention program would result in healthy dietary changes.

Method: A pre-test post-test diabetes prevention initiative was designed to promote healthy nutrition and discover changes in dietary knowledge and behavior.

Results: Statistically significant increased knowledge ($t(21) = -3.43$, $p = .003$) and self-reported consumption of plant-based foods ($t(21) = -5.42$, $p = .000$) was discovered existing surveys and project director designed questionnaires in a convenience sample of 22 older Hispanics who attended two adult recreational centers in Laredo, Texas.

Conclusions and Implications for Practice: Collaborative health projects can be provided within community infrastructures that may positively impact the health of individuals by increasing knowledge and adopting lifestyle dietary changes. Further research is needed to explore gender variations and longitudinal outcomes.

Keywords: Hispanic, Mexican, plant-based food, diabetes

INTRODUCTION

Diabetes is the 7th leading cause of death in the United States (U.S.) impacting 30.3 million Americans, including 11.7% of Hispanic women (Center for Disease Control and Prevention [CDC], 2017a). Over 100 million individuals have either diabetes or prediabetes in the U.S. (CDC, 2017a). According to Statista (2015), 25.2% of those diagnosed with type 2 diabetes (T2D) are 65 years of age or older. By the year 2040 it is projected that 10% of individuals in the U.S. will develop T2D. Extending that forward by 10 years to 2050, it is possible that 20% of all U.S. adults will have diabetes (Goodell, 2015). Furthermore, the number of Hispanic individuals with T2D is projected to rapidly increase from 5 million individuals in 2015 to over 10 million by the year 2030 (Rowley, Bezold, Arikan, Byrne, & Krohe, 2017).

Dietary choices and obesity in the U.S. play major roles in chronic diseases like diabetes. Switching to a plant-based diet can improve a person's overall risk of diabetes. Community health education programs such as a diabetes prevention program have shown a successful decrease in diabetes by as much as 58% and 71% in those 60 and older (CDC, 2017b). Implementation of a diabetes prevention program that focuses on plant-based dietary interventions within two Laredo community recreation centers may help improve consumption of fruit and vegetables leading to reduced risks and complications of T2D.

Laredo has 12 recreation centers located throughout the city providing year-round activities to promote the quality of life of the individuals and community (City of Laredo, 2017). A culturally relevant healthy nutritional program delivered within familiar environments, such as adult recreational centers, was thought to be an appropriate setting because it would bring healthcare providers and knowledge to locations routinely frequented by older Hispanics frequently attend on a routine basis. Not only would this program provide education to

participants but was hoped to enhance community awareness and support by collaborating with the settings and resources of the city. Recreation center managers are interested in programs to enhance the health of their patrons and the community. Recreation centers look for local volunteers that are willing to educate residents on how to live heathier lives. A meeting was set up with the director of the city of Laredo recreation centers to discuss the plan for this course. The recreation city director was highly supportive and interested in the diabetes prevention topic and focus of this program being older Hispanics.

Nurses can contribute to healthy nutritional decisions which may lead to decreased diabetes-associated risk through community-based quality improvement projects. The goals of this project were to increase awareness and knowledge of diabetes risks, plant-based foods and their health benefits as evidenced by a 10% improvement in pre and post knowledge test scores and to increase self-reported consumption of fruits and vegetables as evidenced by a 10% increase determined by the fruit and vegetable (FV) screener, NIH Quick Food Scan (NIH, 2016). A potential secondary gain was to determine if sustained programs would be warranted and supported by community infrastructures such as adult recreation centers and those that utilize their services.

The aims of this community-based diabetes prevention initiative for older Hispanics in South Texas was to enhance plant-based knowledge and consumption within a 3-month interventional program. A useful framework to clearly define and guide the focus of such programs is the Population, Intervention, Comparison, Outcome, and Time (PICOT) (Melnyk & Fineout-Overhold, 2015). The PICOT question for this practice quality improvement project was: Does participation in a focused plant-based diabetes prevention program increase diabetes

knowledge and consumption of plant-based foods in the City of Laredo recreation centers' Hispanic older adult patrons within a three-month period?

Theoretical Framework

Adoption of a theoretical framework guides nurses through orderly thinking, creation of ideas, and determining relationships. Theory and research assist in recognition of patterns and implications (Moran, Burson, & Condrad, 2017). As described by Petprin (2016), Nola Pender's *Health Promotion Model* (HPM) has five fundamental concepts: person, environment, nursing, health, and illness. All individuals are different and life experiences shape who they are and how they behave. Social and cultural values are taken into consideration when looking at the relationship which can either enhance or harm their progress to optimum health. By cultivating positive experiences, patients can be motivated to change adverse health behaviors within their environment (Petprin, 2016).

Petprin (2016) reported nurses can collaborate with patients, families, and the community to improve their surrounding environment and create a healthy atmosphere to promote lifestyle changes. Patients that are goal-directed and driven to make the necessary changes in their lives are better able to obtain optimum health. The major concepts of the HPM relate to the individual characteristics, experiences, and prior behavior (Petprin, 2016).

According to Petprin (2016), personal factors such as psychological and social-cultural aspects of individuals can predict the nature of a person's behavior and can shape the target behavior desired. A person's weight and BMI can have an influence on a person's self-esteem that can either hinder or promote a positive health behavior. An individual's perceived benefit of behavior can enhance the desired action. If this step results in positive feelings, then this influences self-efficacy which ultimately produces desired actions and positive effects. In the

same manner, interpersonal influences from health care providers, family, or peers can enhance the desired behavior if it promotes social support and modeling. A commitment to the plan of action supports the intended behavior with planned strategies, and ultimately results in health-promoting behavior (Petprin, 2016).

Participating in health promotion behaviors is probably one of the best ways to help individuals and communities maintain their health (Khodaveisi, Omidi, Karokhi, and Soltanian, 2017). Nola Pender's HPM has been used to change unhealthy behaviors and enhance patients' lives (Rabiner, 2006). The HPM is based on the perceived benefits and barriers to health and promotes self-efficacy. Through primary intervention strategies, the HPM will be utilized to promote healthy eating strategies that incorporate the consumption of more fruits, vegetables, grains, and legumes in the Hispanic adults' daily life. The HPM will help improve health by influencing the surrounding social and physical environments that either help or hinder the behavior change. It has been debated that preventive measures will have a great impact on postponing the onset of debilitating illnesses and increasing life expectancy by a small number of years (Rabiner, 2006).

Review of the Literature

Community health education programs can be a significant contributor to the reduction of T2D (Goodall, 2015). Dietary intake is a major life-style contributor to Hispanic obesity and associated diseases such as diabetes (Yoshida, et al., 2016). Therefore, life-long dietary changes may lead to healthy weight loss and prevention of diabetes. A plant-based diet increases dietary fiber intake leading to weight loss and ultimately reducing the risk of T2D (Turner-McGrievy et al., 2015). Empowering patients to adopt a plant-based diet through group diabetes prevention education can help reduce the incidence of T2D (Department of Health & Human Services,

2015; Satija et al., 2016). Through a culturally sensitive and supportive community-based diabetes prevention program utilizing the HPM (Petprin, 2015), nurses may be able to influence health behaviors and outcomes within older Hispanic communities and reduce the prevalence of T2D by providing community-based education and support.

Dietary lifestyle is an essential factor in preventing obesity which ultimately decreases the incidence and prevalence of chronic diseases such as diabetes (Turner-McGrievy et al., 2015). Plant-based dietary changes have shown to improve insulin sensitivity in individuals who are at risk for diabetes (Kahleova et al., 2018). Increasing or switching to a plant-based diet equates to more dietary fiber intake which can improve weight loss and ultimately reduce the risk of T2D (Turner-McGrievy et al., 2015 and Kahleova, Tura, Hill, Holubkov).

Improving plant-based dietary knowledge and consumption can contribute to the reduction of obesity and diabetes in the future. Annual per capita costs of healthcare for those with diabetes is two times more than the cost of individuals without diabetes. Considering the high financial costs of healthcare for individuals with diabetes, preventing diabetes is cost-effective (Zhuo et al, 2014).

Gutierrez et al., (2014) evaluated *Fine, Fit, and Fabulous* (FFF) programs for black American, Latino, and West African church communities, which were delivered throughout the Bronx and Harlem. Participants (n = 253) were given pre-post surveys, nutrition tests, and weight logs to help determine knowledge, attitude, and healthy behaviors. Statistically significant changes in diet, lifestyle, and physical activity were obtained with 96% of participants reporting an increase in physical activity within the past 30 days. Participants reported an increase in reading food labels (70%) which helped them determine which foods to eat. An increase in daily consumption of fruits and vegetables was reported among the participants. The average weight

loss by participants was about 4.38 pounds (2%) from their initial weight with over 91% of the participants reporting more endurance and increased energy level (Gutierrez et al., 2014). Utilizing these findings as a benchmark for building a plant-based diabetes prevention program can help improve not only the overall consumption of plant-based foods but create conscious awareness of healthy lifestyle behaviors. Diet is the foundation for improving diabetes, obesity, and chronic diseases. Plant-based food studies have indicated a reversal of heart disease, improved weight loss, and improved glycemic control (Wright et al., 2016).

Increasing the consumption of plant-based diets together with the elimination of animal products can help individuals with sustained weight loss. The *BROAD Study* (Wright, et al., 2016) utilized whole plant-based foods within a community setting to help reduce obesity, ischemic heart disease, and diabetes. The goal of this study was to develop long-term behavioral changes through practical dietary skills. Participants were instructed to eat whole grains, legumes, vegetable, and fruits until they were satiated without counting calories. This study found a 4.4 reduction in basal metabolic index (BMI) at end of a six month of plant-based intervention as compared to a 0.4 reduction in BMI for usual care participants.

A diabetes prevention program has been reported to reduce the incidence of diabetes by 58% and 71% if over the age of 60 (CDC, 2017b). Improving the intake of plant-based foods to include consumption of fruits, vegetables, grains, and legumes is a healthy choice (Zamora-Ros et al., 2013). Because of the health care problems associated with diet and the benefits of a healthier diet, this project was designed to promote healthy nutritional patterns for older Hispanics who attend Laredo recreational centers.

METHOD

Project Design

The project design was a pre-test post-test practice change initiative that incorporated healthy living strategies and enhanced the services that recreation centers provide. This project was designed to promote increased diabetes knowledge which will ultimately increase plant-based food consumption for older Hispanics.

Protection of Human Subjects and Confidentiality

This community-based improvement project was designed to improve the dietary plant-based intake habits of Laredo older adult Hispanics utilizing a 3-month diabetes prevention program course. The protocol was reviewed by the Institutional Review of the Texas A&M University-Corpus Christi and determined to be a quality improvement (non-research) project (Appendix A). Steps to protect participants were utilized. Identifying and personal health information was not collected or stored, other than ethnicity, gender, and age for this pilot project. There were no significant risks to participants for attending this pilot program in their customary environment.

Data Management

All data was de-identified by assigning an alphanumerical identifier to each participant the first day of the program. All data was kept confidential by storing participant names, contact information, and confidential identifier separately from the collected data. A master list of participant names with the respective identifiers continues to be maintained on paper by the project director (PD) in a locked file cabinet in her office and will be shredded at the end of the project. All paper surveys, flash drive, and data collection tools using de-identified data will be kept in a separate locked file in the PD's office. Only de-identified data was stored onto a

dedicated and encrypted flash drive for analysis on an encrypted password-protected computer. De-identified data will be kept for a period of three years then shredded and securely disposed.

Setting

This pilot project recruited older Hispanic adults who attend two adult recreation centers in Laredo, Texas. These two centers are part of 12 recreation centers located throughout the city of Laredo. All centers provide year-round activities to its members. The mission of the adult recreation centers is to enhance the quality of life of citizens through recreational activities and programs offered at the centers. A letter of support for this project was signed by the Director of the City of Laredo Recreation Centers (Appendix B).

The program was conducted in a classroom setting, with the assistance of staff in both recreation centers. The recreation center manager assisted with scheduling and coordination of equipment and space. The administrative staff posted informational and invitational flyers with the agreed dates and times of the program. Staff also assisted in informing, inviting, and encouraging their patrons to attend the program. Project costs were minimal because the recreation centers had space, equipment, and interested bilingual staff who could be easily trained by the project director, as well as potential pools of participants that routinely attended their programs. Costs to conduct the project were minimal with less than $150 dollars for paper materials and sample foods.

Participants

The target population for this project was Hispanic older adults residing in the Laredo Community. Due to the potential health benefits of the program for all adults who patronize the recreation centers and wished to attend one or more of the sessions, all adults who attend the recreation centers were invited to participate; however, the focus of this pilot project was to

improve outcomes for older Hispanic adults. Incentives to participate in the program included meal baskets with recipe and complete ingredients to make a healthy plant-based meal common to Hispanic culture.

Recruitment

The project director trained the center staff regarding the purpose, intent, and delivery of the project. Recruitment occurred for two months with the aid of the recreation center staff by informing the patrons about the program verbally, as well as posting and distributing an informational flyer and assisting with a pre-program risk assessment. The projected initial sample size for analysis was expected to be 30 participants who met the inclusion criteria of being older Hispanics and attendees of the adult recreation centers. A diabetes risk assessment was utilized prior to the onset of the program to assist potential participants to self-identify as being at risk for diabetes if they scored five or higher on the questionnaire (American Diabetes Association, 2017). Independent of being identified as being at risk of diabetes, all adults who completed the diabetes risk assessment were encouraged to enroll in the program. Consent to participate was implied with voluntary participation. Participants were informed that they could select to participate or drop from the program at any time. Attrition was expected. It was not possible to estimate potential attrition rate because no studies were found documenting attrition rates of diabetes focused health care initiatives in recreation centers for older Hispanic adults over the course of three months.

Intervention

The project intervention was composed of four diabetes prevention educational sessions, over a 3-month period with emphasis on diabetes knowledge, its risk factors and the benefits of adopting a plant-based diet. All the participants were Hispanic with Spanish being the preferred

language. The bilingual center staff assisted participants to complete the written surveys and questionnaires as needed by verbally reading the contents to the participants and assisting with written responses. The project director, a bilingual advanced practice registered nurse who was familiar with the area, inhabitants, vegetarian diets, and diabetes, implemented and led the educational series with the assistance of the recreation center employees. The course included surveys, evaluations, and course materials which were distributed in folders to participants in their preferred language. Didactic, videos, classroom discussion, and interactive group discussions were part of each active session. Materials were provided in Spanish as all participants preferred Spanish language materials and educational sessions. The educational sessions included project director designed presentations and groups discussions regarding diabetes, current research, risks and complications, prevention, as well as elementary plant-based diet information as recommended by the Physicians Committee for Responsible Medicine (2014). To further exemplify the value, feasibility, and motivation to increase plant-based foods in the diet, the project director provided personal recipes and samples of plant-based foods. Recipes included sample traditional recipes that included plant-based meat substitutes.

Measurement Tools

The project milestones guided the overall project and schedule. The milestones included planning meetings with recreational staff, developing power point presentations, preparing participant handouts and coordinating meeting dates and times. Changes in dietary intake can be assessed using FV screeners to calculate median daily servings of FV at any point in time (Thompson et al., 2002). The *Vivir! Fruit and Vegetable All Day Screener* was adopted from the *NIH Quick Food Scan* (National Institutes of Health (NIH), 2016) to discover daily intake of fruits and vegetables of participants and was administered on the first and last day of the 3-month

program. The estimated correlation (0.51) for the *NIH Quick Food* scan is a tool to report daily intake of fruits and vegetables.

Evaluations of initial and ending knowledge assists to determine assimilation at the end of an intervention (Thompson et al., 2002). There were no sample assessments found in the literature which included both diabetes knowledge and plant-based food knowledge. The project director developed ten questions which included multiple choice and true and false questions were to evaluate the assimilation of information provided during the program and were administered at the beginning and end of the project (Appendix C).

Analysis

Quantitative evaluation of servings of fruits and vegetables, and plant-based dietary knowledge were accomplished through various measurement tools. Data was collected to evaluate the frequency of fruit and vegetable intake, with calculated means and differences between the survey before and after the sessions. The pre-test and post-test data was used to evaluate knowledge gained. A repeated measures t- test and Wilcoxon using SPSS 24 was performed to determine if there was a significant difference in self-reported dietary intake.

RESULTS

The target population for this project included older Hispanic adults who lived in the Laredo community and attend one of the two selected adult recreational centers from a pool of 12 centers. Participants were not excluded from attending the program based on ethnicity, age, primary language, or diagnosis of diabetes. Essentially, anyone who attended the community recreation centers could attend the program due to its health benefits for all. Forty-four participants from two recreational centers attended one or more of the course sessions. Out of the 44 participants, 22 completed all sessions and filled out the questionnaires and pre and post-tests.

Therefore, the final sample size for analysis was 22 participants with a mean age of 64.5 years (Table A). The youngest participant was 42 and the oldest participant was 75 years of age. All the participants were of Hispanic culture and Spanish was their preferred language. Comparisons were made with a paired t-test. A paired sample 2 tailed t-test was conducted to compare pre-fruit and vegetable quick food scan to post-fruit and vegetable quick food scan. There was a significant difference in the scores (M = 5.33, SD =7.28), t(21) = -3.43, p = .003; 95% CI[-8.56,-2.10]). Because the assumption of normality was not confidently met by this data, the Wilcoxon Signed-Ranks Test was performed indicating that the fruit and vegetable post-quick food scan was significantly improved when compared to the pre-fruit and vegetable quick food scan (Z = -2.938, p = .003). Statistical comparison to evaluate knowledge was conducted using a paired sample t-test (2 tailed). There was a statistical significance between pre-total diabetes knowledge score compared to post-total diabetes knowledge scores (M = 2.68, SD 2.31) t(21) = -5.42, p = .000; 95% CI[-3.71,-1.65] (Table B).

DISCUSSION

The recreation center director expressed an interest in future programs. Improving the community's dietary consumption of plant-based diets is fundamental to decreasing the risk of T2D (Goodall, 2015). Identification of risks that can potentially hinder the success of this program and planning appropriate interventions was helpful to reduce roadblocks and assist in obtaining the identified goals. Significant risks to this project included the potential for a small initial sample and large attrition rate. One half (n = 22) of the total participants (n = 44) who attended the program in its entirety completed all assessment tools. This success rate may be attributed to the use of regularly attended adult recreation centers and staff devotion to promoting optimal health and quality of life. The homogenous sample of participants were Hispanic females

with a median age of 65 years who attended one of two selected adult recreation centers. A more heterogeneous sample may provide additional insight. Further research and interventions are recommended to explore any potential gender variations.

A potential risk to this project could have been a language barrier. Because all participants were Hispanic with Spanish speaking preferences, language was no barrier to the implementation and evaluation of this project. The project director is bilingual and was prepared to present the program in both English or Spanish. A significant benefit of preparing the project in English and Spanish is that this program can be repeated in other settings.

Literacy levels of the older Hispanic participants was lower than expected. The participants had difficulty understanding detailed questions on the surveys and questionnaires even with the assistance of facilitators. In future efforts, the materials should be presented at a lower literacy level. The use of websites and social media for continued information seeking and support was hindered by participant lack of access and inability to utilize a computer or smart phone. This may not be a problem with younger or more diverse groups.

The younger a person gets diagnosed with diabetes, the greater the healthcare expenditure (Zhuo et al., 2014). Implementing an age appropriate diabetes prevention program is beneficial not only for older individuals, but also for younger populations. Designing programs such as this for children, adolescents, young adults, and possibly even parents may prove to be beneficial for individuals, communities, systems, and the nation as a whole. Further research is needed to determine if assimilation of information and consumption of fruits and vegetables varies across different cultures, ages, and other community infrastructures, as well as the impact over time.

Community-based initiatives can serve as a strategy focused on improving awareness, identifying those at risk and implementing prevention programs to reduce the incidence of

diabetes. Recreational center initiatives can make a significant impact on the health of Laredo citizens and promote the development of policies to encourage future prevention programs. Over 200 Young Men's Christian Association (YMCA) programs throughout the U.S. help individuals reduce their risk of diabetes by teaching individuals how to eat healthier, exercise, and lose weight (YMCA, 2017). Individual healthcare costs for a diabetic patient is estimated at $13,966 (Zhuo et al., 2014). Diabetes prevention has been found to have an overall reduction of health expenditures. Community-based diabetes prevention programs can make a positive impact in health care outcomes. Utilization of volunteers and recreation center staff for diabetes prevention programs can be cost-effective and promote development of support systems within the community.

CONCLUSION

Nola Pender's HPM was found to be beneficial to this project. Providing culturally sensitive information, materials, and support enhances positive learning experiences and healthy nutritional behavioral changes. Ultimately, the participants showed positive strides towards increasing consumption of fruits and vegetables. The participation and results of this pilot project indicate that programs like this should considered for community recreation centers in other venues.

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LIST OF APPENDICES

APPENDIX A: Institutional Review Board Letter

TEXAS A&M UNIVERSITY CORPUS CHRISTI

OFFICE OF RESEARCH COMPLIANCE
Division of Research, Commercialization and Outreach
6300 Ocean Drive, Unit 5844
Corpus Christi, Texas 78412
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Human Subjects Protection Program | Institutional Review Board

Date: January 10, 2018

TO: Patricia S. Niles, RN, MSN, FNP, DNP student
College of Nursing and Health Sciences, TAMU-CC

CC: Dr. Theresa J. Garcia, PhD, RN
Assistant Professor, Doctor of Nursing Practice Program Coordinator

Eva M. Bell, DNP, APRN, FNP-BC, PMHNP-BC
Adjunct Faculty, College of Nursing & Health Sciences

FROM: Office of Research Compliance Institutional Review Board

SUBJECT: Not Human Subjects Determination

Activities meeting the DHHS definition of research or the FDA definition of clinical investigation and involves one or more human subjects are subject to IRB review and approval.

On January 10, 2018, the Texas A&M University-Corpus Christi Institutional Review Board reviewed the following submission:

Type of Review:	Not Human Subjects Determination
Title:	A Vivir! A Plant-Based Diabetes Prevention Program for Hispanic Older Adults in Two South Texas Recreation Centers
Project Lead:	Patricia S. Niles, RN, MSN, FNP, DNP student
IRB ID:	NHS 04-18
Funding Source:	None
Documents Reviewed:	Human Ethics Oversight Review Form dated 11/29/2017 City of Laredo Letter of Support dated 11/20/2017 Diabetes Prevention Class Flyer

Texas A&M University-Corpus Christi Institutional Review Board determined that the proposed activity does not meet the DHHS definition of research or the FDA definition of a clinical investigation. Therefore, **this project does not require IRB approval**. You may proceed with this project.

This determination applies only to the activities described in the documents reviewed. **Any planned changes requires submission to the IRB to ensure that the research continues to meet criteria for a non-human subject research determination.**

Please do not hesitate to contact me with any questions at Rebecca.Ballard@tamucc.edu or 361-825-2497.

Respectfully,
Rebecca Ballard, JD, MA, CIP
Director, Research Compliance
Division of Research, Commercialization and Outreach

Appendix B: Letter of Support

CITY OF LAREDO

Parks & Leisure Services Department

November 20, 2017

Dr. Susan Dyess
Associate Dean for Graduate Nurse Programs
College of Nursing and Health Sciences
Texas A&M University – Corpus Christi
6300 Ocean Drive
Corpus Christi, TX 78412

Dear Dr. Dyess,

The purpose of this letter is to provide Patricia S. Niles, a Doctor of Nursing Practice student at Texas A&M University College of Nursing and Health Sciences, support in conducting a quality improvement project at *the City of Laredo Recreation Centers: NE Hillside and Barbara Fasken.* The project, A Vivir! A Plant-Based Diabetes Prevention Program for Hispanic Older Adults in South Texas, entails diabetes prevention education program with emphasis on plant based dietary lifestyle modification.

The purpose of this project is to enhance the knowledge of plant based diets to help reduce the incidence of type 2 diabetes within the Laredo community. The city of Laredo recreation centers was selected for this project because it enhances the impact that can be made within the local community. Patricia S. Niles *is not* employed at this institution, but has an interest in improving the lives of the patrons that come to this facility.

I, Marina Garcia, Recreation Center Supervisor at NE Hillside Recreation Center do hereby fully and enthusiastically support Patricia S. Niles in the conduct of this community quality improvement project, A Vivir! A Plant-Based Diabetes Prevention Program for Hispanic Older Adults in South Texas at City of Laredo – Parks & Leisure Services Department Recreation Centers.

Sincerely,

Marina Garcia

Marina Garcia
Recreation Center Supervisor

320 WYOMING ST. LAREDO, TEXAS 78041 TEL. (956)795-3045 FAX (956)795-3049

Appendix C: Diabetes Knowledge Test in Spanish

A Vivir! Un programa de prevención de la diabetes basado en plantas examen

1. La diabetes es la decima causa de muerte.
   a. Cierto
   b. Falso

2. En la diabetes tipo 2, las células aceptan la insulina
   a. Cierto
   b. Falso

3. Los factores de riesgo para la diabetes tipo 2 incluyen
   a. Tener sobrepeso
   b. Colesterol alto
   c. No ejercitando
   d. Todo lo anterior

4. ¿Qué podemos hacer para prevenir la diabetes tipo 2?
   a. Coma alimentos a base de plantas
   b. Haga ejercicio 30 minutos, 5 días a la semana
   c. Evita los alimentos que provienen de animales
   d. Todo lo anterior

5. Diabetes se diagnostica cuando el nivel de azúcar en la sangre alcanza 126 mg / dl o más
   a. Cierto
   b. Falso

6. La prediabetes se diagnostica cuando el nivel de azúcar en la sangre alcanza los 100-125 mg / dl
   a. Cierto
   b. Falso

7. Las complicaciones que ocurren con la diabetes incluyen
   a. Problemas de pie
   b. Enfermedad del riñon
   c. Enfermedad del corazón
   d. Todo lo anterior

8. Comer una dieta basada en plantas puede reducir su riesgo de diabetes en hasta un 78%
   a. Cierto
   b. Falso

9. Las dietas a base de plantas no incluyen evitar el queso o la leche
   a. Cierto
   b. Falso

10. Una dieta basada en plantas incluye qué tipo de alimentos
   a. Frutas
   b. Vegetales
   c. Granos enteros
   d. Legumbres
   e. Todo lo anterior

Table 1. Sample Demographics

n = 22	Mean Age	Gender	Ethnicity	Preferred Language
	64.5	100% Female	100% Hispanic	Spanish

Table 2. Means and Paired Samples T-test Results

	KNOWLEDGE SCORES	DIETARY SURVEY SCORES
Pre Intervention Mean (SD)	6.64(2.06)	9.82(6.54)
Post Intervention Mean (SD)	9.32(1.39)	14.15(6.98)
Paired Samples t-test	t(21) = -5.43, p = .000 95% CI[-3.71,-1.65]	t(21) = -3.43, p = .003 95% CI[-8.56,-2.10]
Wilcoxon Signed Ranks Test		Pre Mean Rank = 12.06 Post Mean Rank = 9.0 Z = -2.94, p = .003