IDENTIFYING BARRIERS TO DIABETIC SELF-MANAGEMENT EDUCATION FOR ADULT HISPANIC MALES

A Doctor of Nursing Practice Project Report

by

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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 and is hereby approved.

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DEDICATION

Dedicated to my wife Kara, without whose sacrifice, love, and encouragement, this journey would have not been possible.

And, to my children Christopher, Bethany, and Jacob, each of whom has a special place in my heart.

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ABSTRACT

This quality improvement project explores diabetes self-management barriers for adult Hispanic males with type II diabetes mellitus at the Texas A&M Coastal Bend Health Education Center (CBHEC). Since diabetes is one of the leading causes of death for Hispanic persons, especially men with behavioral characteristics associated with machismo, information on barriers preventing adult, Hispanic male attendance at CBHEC would help to improve their program. The director of this quality improvement project administered a Masculine Behavior Scale (MBS) questionnaire, conducted individual interviews, and identified essential elements of the participants' experience which can be used to improve the CBHEC program. Recommendations were formulated for stakeholders to improve program offerings and encourage attendance of adult Hispanic males with identified barriers and serve as a basis for future projects to improve patient outcomes for the target population.

Keywords: Type II Diabetes Mellitus, Machismo, Males, Hyper-masculine, Male behavior, Barriers

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Introduction

Diabetes is the 5th leading cause of death for Hispanic persons in the US (Centers for Disease Control and Prevention [CDC], 2017). Of the 30 million people nationwide diagnosed with diabetes, 90% to 95% have type 2 diabetes mellitus (T2DM) (CDC, 2018). The prevalence of T2DM among the Hispanic population in the United States is 13.3%, which is disproportionate when compared to non-Hispanic whites (Brunk, Taylor, & Clark, 2015). A diagnosis of T2DM is not terminal but requires careful self-management to mitigate the risk of disease-related complications. Hispanic men who display behavioral characteristics associated with machismo may succumb to an early death because of the lack of self-management behaviors or destructive activities associated with hyper-masculine behaviors (Green & Jakupack, 2016). The behavioral construct of machismo describes a Hispanic cultural belief system which sets expectations for the male in society; it is a set of attitudes, and beliefs about concepts of bravery, honor, dominance, aggression, sexism, sexual prowess, and reserved emotions (Nunez, et al., 2016).

If the development of disproportionate complications continues, the health of diabetic, adult Hispanic males is likely to decline, and medical costs will impact individuals, families, and the South Texas community (Texas Department of State Health Services, 2017). This quality improvement (QI) project is focused on improving the attendance of adult Hispanic males with T2DM, at diabetic self-care management education (DSME) offered at the Texas A&M sponsored Coastal Bend Health Education Center (CBHEC) to reduce the likelihood of diabetes-related complications. The CBHEC DSME course is dedicated to the prevention and care of

T2DM and associated complications and was the setting for the QI project (Texas A&M Healthy Texas, 2018). The goal of the educational program is to help patients achieve greater diabetes self-management knowledge and behaviors. This project demonstrates the American Association of College of Nursing: Doctor of Nurse Practice Essential VII (2006): Clinical Prevention and Population Health for Improving the Nation's Health. Essential VII addresses identification of illness and the risks of diabetes-related complications identified in the adult Hispanic male with T2DM and associated machismo health risks, to fill this healthcare gap. The goal of this QI project was to assist CBHEC in improving their population-specific offerings to adult Hispanic males demonstrating hyper-masculine behaviors.

Review of Literature. DSME is a crucial element of treatment for all people diagnosed with diabetes and those at risk for developing the condition (American Diabetes Association, 2017). DSME is an ongoing process of facilitating the knowledge and skills needed for diabetes self-care management, as well as the necessary capacity to implement and sustain the behaviors required to self-manage their condition on an ongoing basis (American Diabetes Association, 2017). The majority of people diagnosed with T2DM do not receive the benefits of DSME due to barriers and lack of access to DSME courses (American Diabetes Association, 2017).

A significant disparity exists in Hispanic groups when it comes to T2DM awareness and control (Schneiderman et al., 2014). Low use of health care facilities and low self-reporting create a gap in objective information about Hispanic diabetic health and have created a deficit in research (Schneiderman, et al., 2014). The Hispanic Community Health Study/Study of Hispanics was launched by the National Heart, Lung, and Blood Institute and six other institutes and centers and offices of the National Institutes of Health to examine the true prevalence and development of chronic diseases, including diabetes in the Hispanic population (Schneiderman et

al., 2014). Specifically, male gender is a predominant barrier to class attendance within the low-income, Spanish-speaking, Hispanic population (Testerman & Chase, 2018). Behavioral characteristics associated with machismo can lead to a general lack of interest in preventative health care behaviors (Testerman & Chase, 2018). The paradigm of machismo is a set of beliefs and expectations resulting in hyper-masculine behaviors in the Hispanic culture that constructs beliefs about what it means to be a man (Nunez, et al., 2016). It is essential to establish Evidence-Based Practice (EBP) support to identify negative self-management behaviors associated with the machismo phenomena. Recent evidence supports the need to determine the efficacy of current DSME interventions to help the patient with T2DM achieve self-care management and maintain long-term diabetes control (Klein, Jackson, Street, Whitacre, & Klein, 2013). An established behavior scale and one-on-one interviews were used to identify elements of hyper-masculine behavior that presented as barriers to the attendance of adult, Hispanic males with T2DM and hyper-masculine behaviors at CBHEC DSME.

The Masculine Behavior Scale (MBS) is a valid and reliable instrument that focuses on the distinct differences between gender-related behavioral, gender-related role, and gender-related personality tendencies (See Appendix 1) (Snell, 1989). Most conceptions of machismo focus on a restricted, negative view of hypermasculinity and are associated with restrictive emotionality and inhibited affection behaviors. (Arciniega, Anderson, Tovar-Bank, & Tracey, 2008; Snell, 1989). Machismo negatively affects self-efficacious behaviors and has been implicated in non-suicidal self-injury (Catalan, Cabriales, & Valverde, 2017; Green & Jakupack, 2016).

Localized quality improvement projects are important opportunities to identify barriers to DSME participation in low-income, Spanish-speaking, Hispanic populations. These projects can

inform future research and potentially improve the design of DSME classes and work toward ameliorating DSME disparities (Testerman, & Chase, 2018). More specifically, it is essential to have culturally tailored DSME, which is effective at improving diabetes health outcomes for ethnic and racial minorities diagnosed with diabetes, including Hispanics (Testerman & Chase, 2018). The investment in a community-based DSME program can provide an opportunity for education for T2DM self-management (Kash, Lin, Baek, & Ohsfeldt, 2017). The challenge facing providers is how to best tailor DSME, so it is useful for their target population.

Conceptual Framework. Orem's Self-Care Deficit Theory (SCDT) was developed to improve the quality of nursing care in general hospitals (See Appendix 2) (Nursing Theory, 2016). The major tenents of the SCDT are that people should be self-reliant, and responsible for their care; as well as for others in their family who need care (Nursing Theory, 2016). Orem's theory has three related parts, including the method of self-care, theory for self-care deficit, and theory of nursing systems. The method of self-care was used to inform this QI project because it provides an excellent clinical guide for planning and implementing principles of self-care in T2DM. It is an essential facet of initiating behaviors which maintain health and wellbeing with a goal of independence. This is based on the notion that the patient can manage their self-care and require intervention only when they cannot fulfill all their self-care needs.

Gap in Practice. In 2016, 62% of nonmetropolitan counties did not have a DSME program (Testerman & Chase, 2018). Hispanics are disproportionately affected by diabetes and yet are not similarly represented in DSME programs, which is a crucial component of diabetes care (Testerman, & Chase, 2018). Nonmetropolitan counties studied were less affluent, had more Hispanic persons, and had a higher prevalence and incidence rates of diabetes compared with nonmetropolitan counties with at least one DSME program (Rutledge, Masalovich, Blacher, &

Saunders, 2017). Corpus Christi, Texas has the only DSME ADA-recognized and American association of diabetic educators-accredited DSME program site for 27 surrounding counties (See Appendix 3) (Texas A&M University Coastal Bend Health Education Center, 2017).

Specific Aim. Improve attendance at the CBHEC DSME by understanding the experiences with the course by the target population and identifying barriers for those who attended the CBHEC DSME course.

Specific Aim: To improve diabetes self-management in Hispanic males with machismo by identifying the barriers to attending a DSME course by: Understanding the underlying opinions, motivations, and tendencies, of the adult Hispanic male diagnosed with T2DM with behaviors of machismo and who attended the CBHEC's DSME course in the spring of 2019.

Methods

This QI project used the previously described MBS tool and qualitative interviews to gain information to improve attendance at the DSME at CBHEC (See Appendix 4). Transcripts were analyzed using qualitative content analysis, which is a method to assess non-measurable phenomena such as machismo experience, masculine enculturation, or feelings. Qualitative analysis involves reflection on the part of the interviewer, both before and during the interview process, to provide context and limit the possibility of interview bias (Sutton & Zubin, 2015). Content analysis reduces data into themes without losing the essence of the data.

Protection of Human Subjects and Confidentiality. Initially, a Letter of Support was received from the CBHEC director, documenting CBHEC's participation in the QI project (See Appendix 5). All male participants attending classes received an information sheet which described the purpose of the data collection, what information would be gathered, and planned confidentiality protections (See Appendix 6). The course was held each day beginning in January to June from 8

a.m. to 4 p.m., Monday through Friday. Once permission was received, and before the beginning of the DSME course, if the participant agreed, they completed the MBS questionnaire, and demographics were collected. Demographic data was collected before starting each DSME course on each participating male and included age, marital status, level of education, and female involvement. Administration of the MBS scale and collection of demographic data was reviewed and determined not to meet the criteria for human subjects' research by the Texas A&M University-Corpus Christi's (TAMU-CC) Institutional Review Board (See Appendix 7). Demographic data, MBS scores, and sub-scores were recorded and stored confidentially.

Participants. The targeted population included Hispanic adult males, over the age of 18, with a diagnosis of T2DM who participated in the CBHEC DSME course. Using convenience sampling, all participants were invited to participate when they signed up for the DSME course. If the participant agreed, they completed the MBS questionnaire. Exclusion criteria include non-male participants, participants who signed up for the classes but did not attend, and men who scored positively on the MBS score – or did not demonstrate machismo.

Setting. CBHEC served as the setting for the QI project (Texas A&M Healthy Texas, 2018). It is in the Multicenter Education building at 209 North Water Street in Corpus Christi, Texas, 78401. As a proud partner of Texas A& M Healthy South Texas, their goal is to promote healthy behavior change and enhance education by providing a variety of classes including continuing education, diabetes education, asthma education, health careers, medication assistance, and wellness programs. Specifically, the CBHEC provides DSME classes in underserved areas, including Corpus Christi and the surrounding area. A variety of places donate classroom space for underserved areas, including the Hector P. Garcia Health Center, Education Service Center, Region 2, and the Amistad Community Health clinic.

Intervention. Initially, the project sought to compare DSME scores before and after attending the DSME to help CBHEC tailor DSME for adult Hispanic males with hyper-masculine behaviors (See Appendix 8). After several courses, it was apparent that the target demographic was not represented at the courses being offered. After attending ten DSME courses, only seven men met the inclusion criteria. Therefore, the project was shifted to focus on understanding more about why Hispanic participants may demonstrate low attendance rates. Eventually, three of those seven who met inclusion criteria agreed to a post-DSME interview. Interviews were an opportunity to describe the meaning of the central themes of the CBHEC DSME course experience for the participants and provide insight as to possible reasons for the low number of Hispanic males who attended the CBHEC's DSME classes.

Data Collection. CBHEC was approached in November of 2018 to assess their willingness to serve as the site for the QI project. Information about the CBHEC was used to identify if the proper demographic fulfilled the needs of the QI project. Since the CBHEC program had a well-established DSME course, it was chosen as the site for the project. In December 2018, a face to face meeting with the CBHEC director took place to answer any project related questions. In January 2019, the DSME program began its weekly courses at various facilities (See Appendix 9). As discussed, there were challenges with the courses due to class size and attendance. Females were the main participants of classes, and some courses had men signed up, but they did not attend, so those who met the inclusion criteria were interviewed. Data analysis gathered from the interviews included the review of notes, transcripts, coding of words, and phrases for categorization (Renz, Carrington, & Badger, 2018). The process of coding involved organizing data to create connections between topics and descriptive themes.

The approach for this project included the following steps: 1) administering the MBS tool to volunteers from the CBHEC's DSME course who met inclusion criteria; 2) individual interviews to enhance understanding of MBS responses and understand why low numbers of Hispanic males participated in the CBHEC's DSME classes; 3) transcription of interviews and de-identification of transcripts; 4) content analysis to identify predominant themes; 5) expert review by an objective Nurse Practitioner and TAMU-CC faculty advisor to ensure the trustworthiness of themes.

Interview Method. The qualitative research interview describes the meaning of the central themes of the CBHEC DSME course experience for the participants and provides insight as to the reason for the low number of Hispanic males who attended the CBHEC's DSME classes. The post-CBHEC DSME course interview was an informal conversational format using standardized open-ended questions. The interviews began with an explanation of the interview purpose and assurances of confidentiality. Interviews took place via phone and in a quiet environment that supported confidentiality. There was not a specific time limit set for the interview to allow the participant to elaborate as much or as little as they liked. Each recorded phone meeting lasted approximately 25 minutes, and there were no interruptions throughout the interviews. No data linking the participant to the recording was created to ensure the confidentiality of information.

Transcribing. Exploring the complexities of social phenomena in qualitative research for the DNP project is in written, transcribed text and documented field notes. The data for the qualitative interviews was first recorded in an mp4 format then reproduced in a printed form without identifying information. Since each participant spoke English, there was not a need to translate the dialogue. The transcription of the interviews was documented verbatim for accuracy.

Content Analysis. Interview content was subjected to a thorough, systematic classification process of coding and identifying patterns and themes. The main themes were related to productivity, accountability, the severity of the disease, and personal relationships. The central theme of productivity centered on work and earning a wage. All three participants equated the need to control their T2DM with their ability to work. One participant reported, "(His father) He loved to work…He never got sick." Accountability was another central theme noted in the interviews. Two of the three participants were not married and reported the need to be self-reliant and take charge of their health. The need to be accountable for their health was related to the third theme: severity of the disease. One participant stated, "Men wait until they are dying," before they decide to take care of their diabetes. An example of the fourth theme, personal relationships, is evident in the comment made by a participant who noted that he "didn't have a say so…If she (his wife) didn't bring me, I wouldn't have come."

Expert Review. Three healthcare professionals reviewed the interview transcripts for trustworthiness. Two of the three reviewers had expert knowledge in treating diabetic patients in the same regional area as the subjects, whereas the third reviewer had expertise in analyzing interview data.

Measurement Tool. The measurement tools used for this QI project are demographic information, MBS scores, and semi-structured interviews using open-ended questions. The MBS is a useful tool to identify the participant as hyper-masculine and provide DSME support. After completing the MBS questionnaire, the scores were reviewed and considered in conjunction with the interview data. The questions identified themes like personal barriers, health barriers, and overcoming barriers; masculinity reflection; personal health outlook; and family support (See Appendix 4).

Data Management. Private health information collected included the patient's race, ethnicity, age, height, weight, and was de-identified, stored in a locked file cabinet, and will be destroyed at project completion (See Appendix 10). Identifiers linking the participants to the transcripts were kept secure by the QI project director.

Data Analysis. Content analysis was the approach used to discover the essential elements of the participants' experience (Renz, Carrington, & Badger, 2018). An advantage of using content analysis is a relationship with the data that is supported by a highly reliable, systematic process that does not require intrusive interaction with study participants (Renz, Carrington, & Badger, 2018). After completing the MBS questionnaire, the scores were used to identify participants to invite for follow-up interviews. Since restrictive emotionality and inhibited affection subscale scores were the highest in all the men who attended the CBHEC's DSME course, they fell into the negatively high MBS score, which demonstrates machismo. The post-education interviews were used to inform the CBHEC DSME program about ways to improve the CBHEC DSME course to enhance the attendance of adult Hispanic males diagnosed with T2DM and behaviors associated with machismo.

The scoring for the MBS consists of 20 questions representing four subscales that address five separate items to indicate the type of hypermasculinity exemplified by the male participant. The four MBS subscales are as follows: success, dedication, exaggerated self-reliance, restrictive emotionality, and inhibited affection. Specifically, the behavioral measures of success dedication and exaggerated self-reliance are positive personality attributes, while restrictive emotionality and inhibited affection behavioral tendencies are negatively correlated with expressive personality attributes (Snell, 1989).

Content and Risk Assessment. The risk assessment conducted in the planning phase of the QI project identified the following risks to project success/completion: low number of participants available for the project, lack of interest in the project, unilaterally low MBS scores, and DSME information fatigue. During project implementation, low overall attendance in each class, and low attendance rates with males was evident. All the men interviewed fell into the negatively high MBS score, which reflected machismo. Lastly, there was not a mention of DSME information fatigue on the post-course interviews.

Budget. For the DNP QI project to achieve sustainability, it must create a revenue flow which produces, at a minimum, a balance of profits and losses. The projected cost of the QI project is $55.00. The CBHEC staff and educators for the Texas A&M CBHEC program are volunteers and did not incur a fee. The CBHEC DSME classes are offered at no charge to participants, so the cost of the project is minimal compared to complications associated with T2DM (See Appendix 11).

Evaluation Plan and Framework. The Plan-Do-Study-Act (PDSA) cycle is part of the Institute for Healthcare Improvement Model (See Appendix 12). It is a simple yet powerful tool for accelerating quality improvement (Agency for Healthcare Research and Quality [AHRQ], 2015). There are four parts of the PDSA process. The plan phase is a systematic review to identify a gap in care. Planning for this project included the QI project director, diabetes educators, CBHEC staff, and community facilities. The initial do phase included the screening of adult males with T2DM for high MBS scores and gathering demographic data. The study phase was initially intended to explore machismo in those who met the inclusion criteria. It was during the study phase that the QI project director noted poor attendance to the DSME classes, and participants were invited to interview. The act phase involved the development of recommendations in

enhancing the CBHEC DSME course for adult Hispanic males with a diagnosis of T2DM and behaviors of machismo.

Potential Impact. The goal of the QI project was to assist CBHEC in improving their population-specific offerings to adult Hispanic males demonstrating hyper-masculine behaviors. The post-education interviews will be used to inform future research on DSME programs and highlight gaps in practice to promote positive self-management behaviors in patients with hyper-masculine characteristics.

Results

Results from this QI project are aimed at changing policies and practices at CBHEC to address the needs of adult Hispanic males diagnosed with T2DM and who demonstrate machismo to attend DSME. In the population studied, there are perceived barriers to DSME attendance. Efforts by CBHEC to accommodate those who need to work may improve attendance. If CBHEC were to adjust based on the information from this project, they might be able to educate this high-risk population who might otherwise allow their T2DM to get to a crisis point. One other area of potential intervention is the identification and inclusion of a significant other in the CBHEC DSME initiatives.

Discussion

The purpose of the QI project is to understand the underlying opinions, motivations, and tendencies, of the adult male with behaviors of machismo and diagnosed with T2DM who attended the CBHEC's DSME course. As mentioned, course attendance was minimal and at times, absent. The participants were called, interviewed, and recorded. The information gathered from the interviews, and resultant content analysis created an opportunity to understand the adult Hispanic male diagnosed with diabetes and behaviors of machismo who attended the CBHEC's

DSME course through a broader discernment of how the individual views his chronic illness (Renz, Carrington, & Badger, 2018).

Machismo is a subjective social behavior. While current literature review identifies the explanation for biologic, epidemiological, and environment determinants related to diabetes, there is a lack of evidence regarding behaviors about machismo and self-care. Information on how best to revise the standard of care for South Texas populations is lacking. Because Hispanics are disproportionately affected by diabetes and are not similarly represented in DSME courses, it is essential to identify what barriers prevent attendance to these courses (Testerman & Chase, 2018).

Summary and Relation to Other Evidence. The CBHEC class began with many participants scheduled for the DSME courses. After attending several sessions, it was apparent there was a low number of male attendees if any attended at all. There were three meetings with the CBHEC director and the diabetes education director to identify the barriers for male attendance, and CBHEC leaders could not explain why the turnout was low. It was at that point that the seven participants who had completed the surveys were invited to participate in interviews. Interview accounts supported literature that identifies barriers to diabetes self-management as lack of intervention strategies to meet Hispanic people's needs because they do not include culturally relevant resources, have poor family support and have ineffective diabetes self-management skills education (Hu, Amirehsani, Wallace, & Letvak, 2013).

The interview participants reported barriers focused on productivity or work challenges, accountability, the severity of the disease, and personal relationships. Each of the three participants interviewed expressed concern about attending the course because it would interfere with their job. One participant stated that to participate in the course, "I had to take a day off, and

that made it hard to make up that time." Another participant reported, "it is really hard for a guy to take time off work to go to the class…It is hard if you are a working man to take care of themselves and come to classes like this." One more participant stated, "I work a lot…I don't have that much time to go to the doctor," as a reason for the self-care deficit. Another participant explained that attending DSME courses, "is hard if you are working," The severity of the disease inspired the participants to attend the DSME course. A participant mentioned, "I got really scared one time because I thought that I had a bad infection, but when I went to the emergency room, they said my sugar was 600 (mg/dL)." Another poignant comment when asked about changes they would make to the diabetes course to help more men want to attend was, "It is hard to know what is going on…Men wait until they are dying." A final theme, which was repeated by the participants was partner involvement. One reported a lack of female support and another stated that they were, "forced" by their partner to attend the course. Another participant commented, "I am not married, or I would bring my wife," when discussing support to be successful in the course. While two of the participants did not have female support, one participant reported, "my wife brought me…I didn't have a say so…I let it (diabetes) slide for too long, and if she didn't bring me, I wouldn't have come." The information can be used by the CBHEC to modify course offerings that would encourage attendance of those who work. By providing this information and adjusting the DSME program, there is potential to improve T2DM self-management in adult Hispanic males.

Limitations and Interpretation. It is crucial to identify objective data related to the South Texas population demographics and focus on the adult Hispanic male's cultural characteristics; assess the current treatment culture pertaining to care; and analyze the incidence of diabetes, and T2DM due to the high Hispanic population in South Texas. Patients in the United States who do attend

the DSME tend to be Caucasian and are English-speaking (Testerman & Chase, 2018). Some approaches include classes that attempt to remove the barriers of shame and lack of interest for male participants; focus on family involvement, celebrate culturally appropriate foods, group support, and self-efficacy; are accessible to resource-limited participants; and use alternative methods to recruit hard-to-reach participants (Testerman & Chase, 2018). However, ensuring that all people who have been diagnosed with T2DM have access to DSME classes is an essential step towards addressing the health disparities identified by the ADA standards of providing access to DSME for all (Testerman & Chase, 2018).

Conclusion

There are challenges in engaging the adult Hispanic male diagnosed with T2DM and who demonstrate machismo to attend DSME courses in South Texas. The DNP QI project used the MBS survey tool and interviews to evaluate participation in CBHEC DSME courses. By interviewing the participant's post-DSME education, recommendations were formulated for stakeholders regarding the development of strategies to improve DSME attendance at CBHEC. The results of this project can be used by CBHEC to improve their program offerings to encourage attendance by adult Hispanic males who work. This project can also serve to inform research projects to improve patient outcomes for adult Hispanic male diagnosed with T2DM and who demonstrate machismo.

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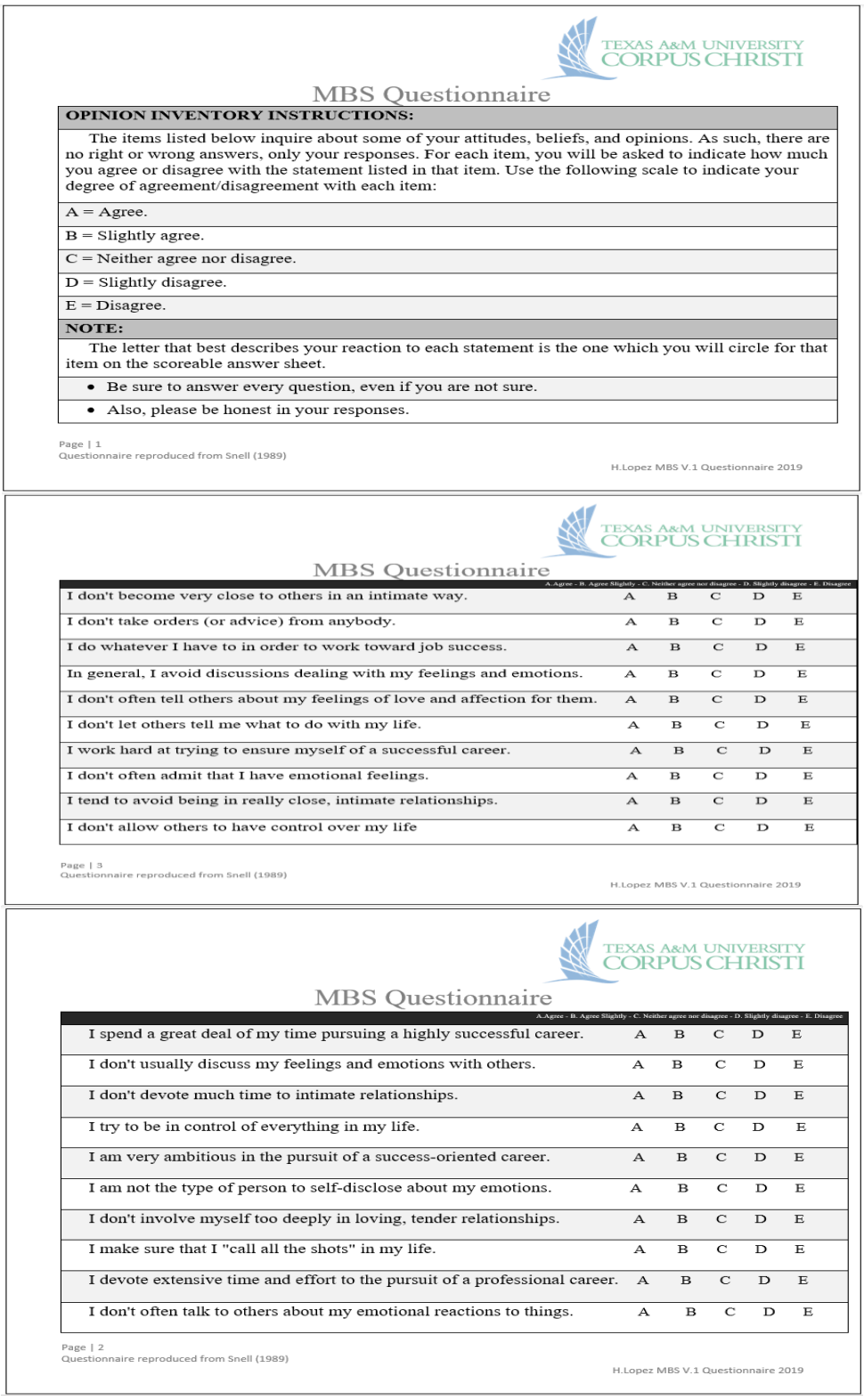
APPENDIX A: Masculine Behavior Scale



TEXAS A&M UNIVERSITY CORPUS CHRISTI

MBS Questionnaire

OPINION INVENTORY INSTRUCTIONS:
The items listed below inquire about some of your attitudes, beliefs, and opinions. As such, there are no right or wrong answers, only your responses. For each item, you will be asked to indicate how much you agree or disagree with the statement listed in that item. Use the following scale to indicate your degree of agreement/disagreement with each item:
A = Agree.
B = Slightly agree.
C = Neither agree nor disagree.
D = Slightly disagree.
E = Disagree.
NOTE:
The letter that best describes your reaction to each statement is the one which you will circle for that item on the scoreable answer sheet.
• Be sure to answer every question, even if you are not sure.
• Also, please be honest in your responses.

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Questionnaire reproduced from Snell (1989)

H.Lopez MBS V.1 Questionnaire 2019

TEXAS A&M UNIVERSITY CORPUS CHRISTI

MBS Questionnaire

A.Agree - B. Agree Slightly - C. Neither agree nor disagree - D. Slightly disagree - E. Disagree

I don't become very close to others in an intimate way.	A	B	C	D	E
I don't take orders (or advice) from anybody.	A	B	C	D	E
I do whatever I have to in order to work toward job success.	A	B	C	D	E
In general, I avoid discussions dealing with my feelings and emotions.	A	B	C	D	E
I don't often tell others about my feelings of love and affection for them.	A	B	C	D	E
I don't let others tell me what to do with my life.	A	B	C	D	E
I work hard at trying to ensure myself of a successful career.	A	B	C	D	E
I don't often admit that I have emotional feelings.	A	B	C	D	E
I tend to avoid being in really close, intimate relationships.	A	B	C	D	E
I don't allow others to have control over my life	A	B	C	D	E

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Questionnaire reproduced from Snell (1989)

H.Lopez MBS V.1 Questionnaire 2019

TEXAS A&M UNIVERSITY CORPUS CHRISTI

MBS Questionnaire

A.Agree - B. Agree Slightly - C. Neither agree nor disagree - D. Slightly disagree - E. Disagree

I spend a great deal of my time pursuing a highly successful career.	A	B	C	D	E
I don't usually discuss my feelings and emotions with others.	A	B	C	D	E
I don't devote much time to intimate relationships.	A	B	C	D	E
I try to be in control of everything in my life.	A	B	C	D	E
I am very ambitious in the pursuit of a success-oriented career.	A	B	C	D	E
I am not the type of person to self-disclose about my emotions.	A	B	C	D	E
I don't involve myself too deeply in loving, tender relationships.	A	B	C	D	E
I make sure that I "call all the shots" in my life.	A	B	C	D	E
I devote extensive time and effort to the pursuit of a professional career.	A	B	C	D	E
I don't often talk to others about my emotional reactions to things.	A	B	C	D	E

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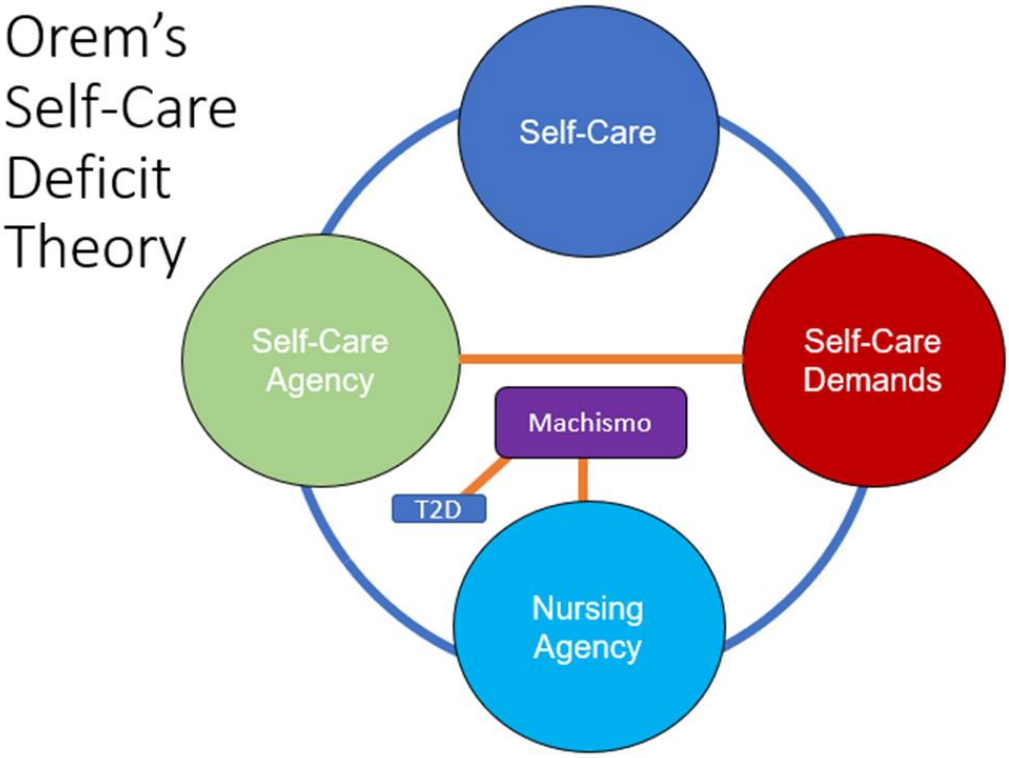
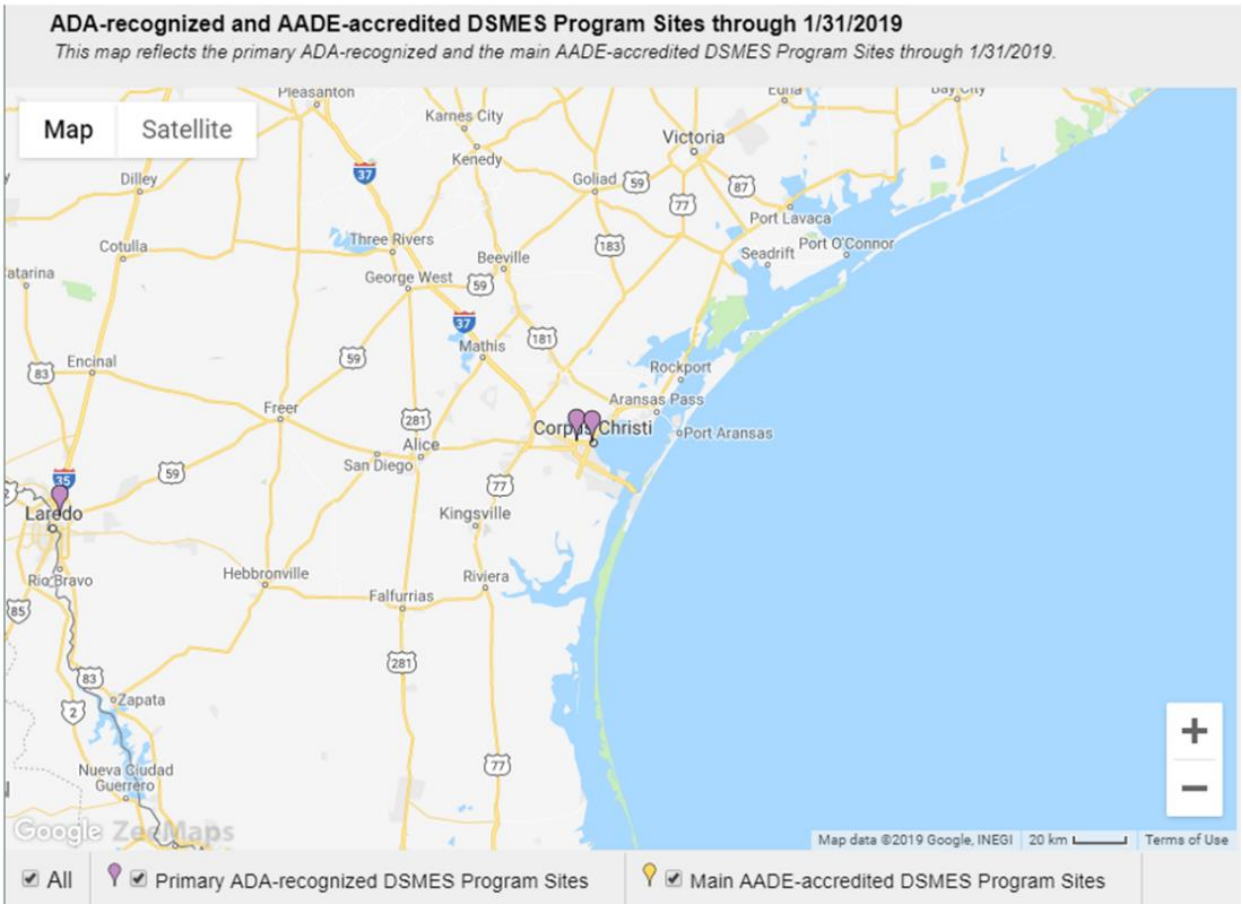
Questionnaire reproduced from Snell (1989)

H.Lopez MBS V.1 Questionnaire 2019

APPENDIX B: Orem's Self-Care Theory



APPENDIX C: ADA-Recognized and AADE-accredited DSME programs in S. Texas



APPENDIX D: Questions and Answers for CBEC Males

1) I've noticed that many people did not show up to the class, what made you come to the course?
2) What does "being a man," mean to you?
3) What major problems have you encountered with your health?
4) How have you dealt with those problems so far?
5) Do you think your health is a good indicator of your life's achievement?
6) What does the term, "raised as a traditional man," mean to you?
7) What changes would you make to the diabetes course to help more men want to attend?
8) How do you create a good life even though you have diabetes?
9) If you brought someone to support you today, who would it be, and would it help you be successful in this class?

APPENDIX E: Letter of Approval for CBHEC

COASTAL BEND HEALTH EDUCATION CENTER
HEALTH SCIENCE CENTER

TEXAS A&M UNIVERSITY

11/24/18

Dr. Yolanda Keys
Associate Dean for Academic Programs
College of Nursing and Health Sciences
Texas A&M University-Corpus Christi
6300 Ocean Drive
Corpus Christi, TX 78412

Dear Dr. Keys,

The purpose of this letter is to provide Hugo Lopez, 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 Texas A&M University-Corpus Christi. The project, self-management of type 2 diabetes through enhanced diabetes education in adult Hispanic males with machismo, entails promoting the use of family support for the adult Hispanic male diagnosed with type 2 diabetes and characteristics of machismo, during the Coastal Bend Health Education Center's Diabetes Self-Management Education course.

The purpose of this project is to maximize the female presence and support to improve the adult Hispanic male's type 2 diabetes knowledge and self-management behavior and decrease the A1c and BMI by 1 point. The Texas A&M Coastal Bend Health Education Center was selected for this project because of the committed dedication to improving the quality of healthcare in the Coastal Bend by engaging families, promoting healthy behavior changes and enhancing the education of people with chronic diseases like type 2 diabetes. Hugo Lopez is not employed at this institution and does have an interest in improving care at this facility.

I, Starr Flores, director of the Texas A&M Coastal Bend Health Education Center, do hereby fully support Hugo Lopez in the conduct of this quality improvement project, The project, self-management of type 2 diabetes through enhanced diabetes education in adult Hispanic males with machismo at Texas A&M University-Corpus Christi.

Sincerely,

Starr Flores

Starr Flores, MBA - Director

209 N. Water Street
Corpus Christi, TX 78401-2528

Tel. 361.561.8591 Fax. 361.561.8599
cbhec.tamhsc.edu

APPENDIX F: Letter of Participation

Information Sheet

Dear Participant:

Thank you for attending the Texas A&M University Coastal Bend Health Education Center's (CBHEC) Diabetes Self-Management Education (DSME) course. My name is Hugo Lopez and I am a nurse practitioner and Doctor of Nursing Practice student at Texas A&M University-Corpus Christi. I am inviting you to participate in a quality improvement project to improve the quality of diabetes education provided to male patients diagnosed with type 2 diabetes mellitus (T2DM). The project will explore cultural influences on improvements in diabetes management behaviors and outcomes.

Your participation in the project is completely voluntary. If you participate, you will be asked to:

- Complete two short questionnaires during the first class and one questionnaire in class after you have completed three months of classes;
- Complete a glycosylated hemoglobin (A1C) fingerstick test today in class and after three months of classes; and,
- Have your height and weight measured today in class and after three months of classes.

No individual identifiers will be used on any data collected. All questionnaires will be kept in a separate locked file cabinet to which only the project director has access. All data will be shredded within three years of project completion.

Thank you for considering participating in a project to improve cultural competence in diabetes management education.

Hugo Lopez MSN, APRN, FNP-C
Doctor of Nurse Practice Student
Texas A&M University-Corpus Christi

APPENDIX G: IRB Letter of Approval

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
O 361.825.2497

Human Subjects Protection Program | Institutional Review Board

DATE: January 2, 2019

TO: Yolanda Keys, Nursing and Health Sciences

CC: Hugo Lopez, Student

FROM: Office of Research Compliance

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 2, 2019, the Texas A&M University-Corpus Christi Institutional Review Board reviewed the following submission:

Type of Review:	Not Human Subjects Determination
Title:	Self-Management of Type 2 Diabetes through Enhanced Screening of Adult Hispanic Males with Machismo
Project Lead:	Yolanda Keys
IRB ID:	NHS 55-18
Funding Source:	None
Documents Reviewed:	600.02 Form%2c Not Human Subjects Research Request_Hugo Lopez_2018_Final 600.02 - Hugo Lopez_ Quality Improvement Project_2018_Final

Texas A&M University-Corpus Christi Office of Research Compliance 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.

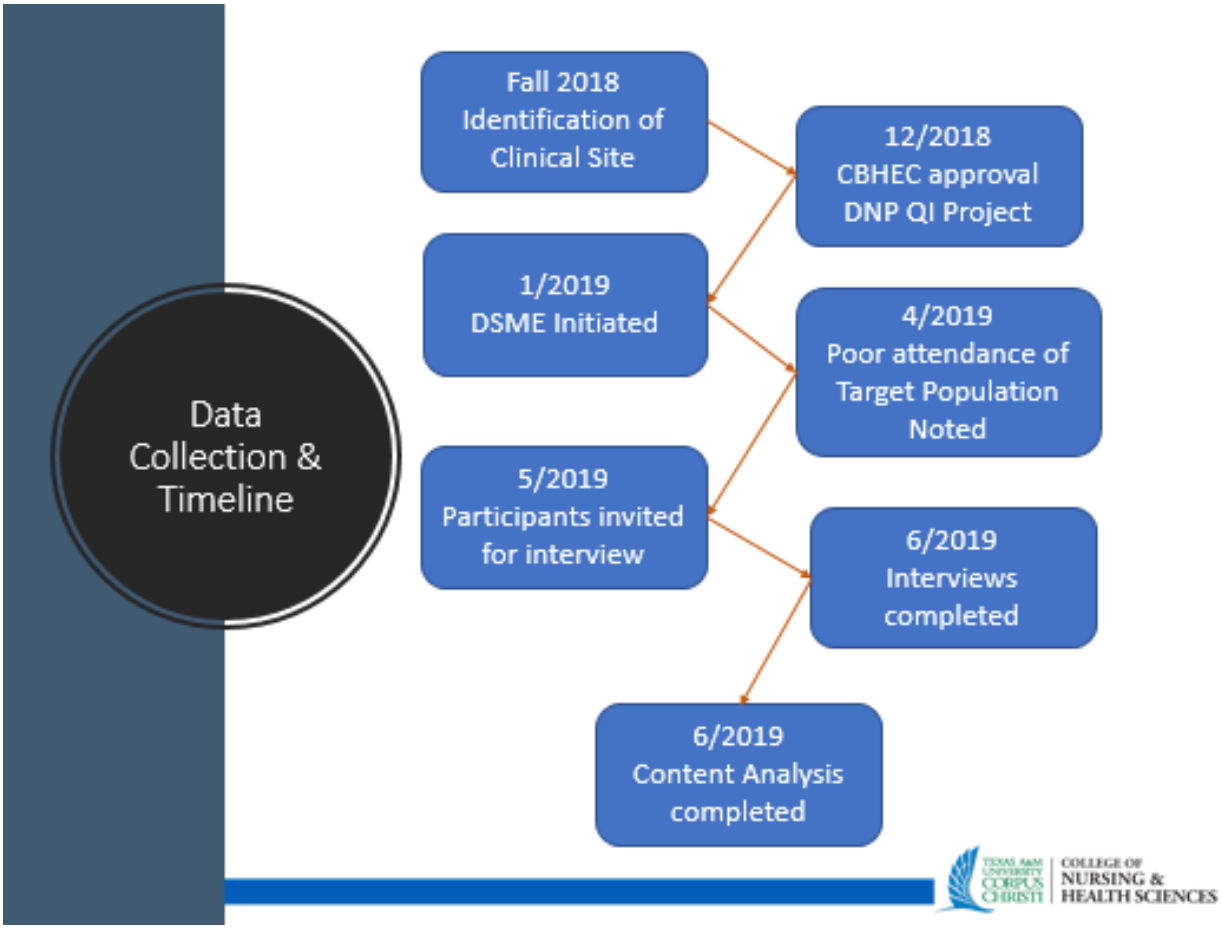
This determination applies only to the activities described in the documents reviewed. **Any planned changes require submission to the IRB to ensure that the research continues to meet criteria for a non-human subject research determination.**

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

Respectfully,

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

APPENDIX H: Project Timeline



APPENDIX I: CBHEC Diabetes Education Classes

DIABETES EDUCATION CLASS SCHEDULE FOR ONLINE SCHEDULING

2019	Hector P Garcia Family Health Center	Hector P Garcia Family Health Center	Education Service Center, Region 2	Education Service Center, Region 2	Amistad Community Health Center	Amistad Community Health Center	Coastal Bend Wellness Foundation	Post-Acute Medical Specialty Hospital	Rockport - First United Methodist Church
Type	1-Day	Series (4)	1-Day	Series (4)	1 Day	1-Day -Spanish	1-Day	1-Day	1-Day
Class Time	8:30-4:00 PM	6:00-8:00 PM	8:30-4:00 PM	6:00-8:00 PM	8:30-4:00 PM	8:30-4:00 PM	8:30-4:00 PM	8:30-4:00 PM	9-4:30 PM
Day	Tuesdays	Mondays	Wednesdays	Thursdays	Thursdays	Thursdays	Mondays	Mondays	Tuesdays
Jan	8,15,22,29	7, 14, 28 & 29	2,9,16,23,30	10,17,24,31	3,17,31	10,24,	14, 28	None	15
Feb	5,12,19,26	4,11,18,25	6,13,20,27	7,14,21,28	14,28	7,21	11,25	4, 18	
Mar	5,12,19,26	4,11,18,25	6,13,20,27	7,14,21,28	14,28	7,21	11,25	4, 18	19
Apr	2,9,16,23,30	1,8,15,22	3, 10, 17,24,	4,11,18,25	11,25	4,18	8,22	1,15,29	
May	7,14,21,28,	6,13,20,21	1,8,15,22,29	2,9,16,23	9,23	2,16,30	6,20	13	21
June	4,11,18,25	3,10,17,24	5,12,19,26	6,13,20,27	6,20	13,27	3,17	10,24	

- **Class Location and address:**

  - Hector P Garcia Family Health Center, 2606 Hospital Blvd #4W, Corpus Christi, TX 78405
  - Amistad Community Health Center, 1533 S Brownlee Blvd, Corpus Christi, TX 78404
  - Education Service Region 2- 209 N Water St, Corpus Christi, TX 78401
  - Coastal Bend Wellness Foundation, 5633 S Staples St, Corpus Christi, TX 78411
  - Post-Acute Medical Specialty Hospital, 6226 Saratoga Blvd, Corpus Christi, TX 78414
  - First United Methodist Church, 801 E Main St, Rockport, TX 78382

- Requirements for Class Participants to enroll in a class: **Name, Date of Birth, Phone Number, and E-mail address**

APPENDIX J: Demographics

	Frequency	Percentage
Gender	***N=23***	
Male	7	30.4%
Female	16	69.6%
Language	***N=7***	
English	5	71.2%
Spanish	2	28.6%
Other	0	0
Ethnicity	***N=7***	
Hispanic	5	71.4%
Caucasian	2	28.6%
Other	0	0
Age (in years)	**44**	**+6.28**

APPENDIX K: Budget and Finance

Cost Category	Budget	Actual	Difference	Description/Comment
PROJECT EXPENSES				
One-time Costs				
Stock paper for questionnaires	$40.00	$0.00	$0.00	Reproduction of the MBS
Folders for documents and writing material	$15.00	$0.00	$0.00	Reproduction of MBS.
Capital Cost				
CBHEC	$0.00 Grant	$0.00	$0.00	Course to promoted by CBHEC
Training time	$0.00	$0.00	$0.00	DNP to collect data and log material.
Ongoing Costs				
Administrative Staff				
Total Project Expenses				
	$55.00	$	$	**TOTALS** $55
PROJECT REVENUE				
Follow-up monthly x 3 months	$0.00	$0.00	$0.00	
Total Project Revenue				
	$	$	$	
PROJECT BENEFIT/LOSS				
Total Revenue	$	$	$	
Less Expenses	-$	$	$	
TOTAL PROJECT BENEFIT/LOSS	$	$	$	

APPENDIX L: PDSA Model