Yo Puedo Hacerlo! Diabetes Self-Management Education for Older Hispanic Women

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Abstract

Diabetes is a chronic disease with considerable demographic disparities. The prevalence of type II diabetes (DMII) is considerably higher for Hispanics at 12.8% compared to 9.3% for the general population. Additionally, Hispanic women are significantly more likely than non-Hispanic white women to experience co-morbidities including end-stage renal disease, cardiovascular disease, and death due to diabetes related complications. The purpose of this Doctor of Nursing Practice (DNP) scholarly project is to evaluate the outcomes of a culturally-tailored diabetes education program in a group of Hispanic female patients 50 years and older that have been diagnosed with DMII. Guided by the Health Belief Model, this project consisted of four sessions intended to improve diabetes knowledge and self-management skills among participants. Two forms of data were collected. Results indicated significant increases (statistically and clinically) in self-assessment survey score gradient from baseline to final in surveys. Kruskal-Wallis ($p < 0.000$) is well above 95% Confidence. Summary of questionnaire responses shows a dramatic shift in responses indicating improvement in diabetes self-management skills. A culturally-sensitive diabetes program has the potential of facilitating adaptation of cultural beliefs with traditional diabetes management, thereby promoting better outcomes and quality of life among a population of the underserved, low-literate, and financially limited population. The diabetes self-management project has demonstrated effectiveness in increased knowledge and behavior that will have a long-term effect on a healthy lifestyle and better disease outcomes among older Hispanic female.

Keywords: Hispanic, women, type II diabetes, health belief model, self-management

Introduction

Approximately 346 million people have been estimated to have DMII worldwide (WHO, 2016). The prevalence of diabetes among Hispanics in the United States is 12.8% compared to 9.3% for the general U.S. population. Not only do Hispanic females rank among the highest in population-attributable risks of developing diabetes, they are also significantly more likely than non-Hispanic white women to experience co-morbidities such as renal disease, cardiovascular diseases, stroke, and to die prematurely from diabetes related conditions and complications (Ma et al., 2013; Saudek & Brick, 2009; Rothberg et al., 2016; Women's Health, 2010; Minority Health, 2016). Additionally, studies have suggested that about one in five diabetic Hispanic women over 50 years of age in the United States may experience significant impairment in daily function due to the disease (Seliqman et al., 2015; Ma et al., 2013; Singh & Arya, 2014).

Hispanics account for the fastest growing ethnic population in the United States. In 2000, the U.S. Census Bureau reported that of the 281.4 million residents counted in the United States, 35.3 million (12.5 percent) were Hispanic. According to the Pew Research Center, that figure will have increased to about 18% of the United States population by the year 2020 (Pew, 2017). It is therefore essential that diabetes prevention and management among this rapidly growing population be addressed. Diabetic intervention through self-management programs have proven effective among all ethnic groups including Hispanics. However, English proficiency, cultural difference, limited access to care, and low health literacy, create additional barriers for chronic disease management for many newcomer groups inclusive of Hispanics. Studying the efficacy of culturally appropriate diabetes programs designed to reach older Hispanic population is critical for promoting understanding of how to approach intervention efforts (Gonzalez, Lisanna, Berry, & Davison, 2013).

Unhealthy lifestyle factors such as physical inactivity, obesity, and stress, increase the risk of developing DMII. Hispanic women with diabetes have a greater potential risk of complications because of poor self-management and glycemic control (Minority Health, 2016; Women's Health, 2010). If left uncontrolled, the disease will not only continue to threaten the well-being of this community, but will further increase the cost burden for providing care (Rosal et al., 2009). The health care system in the United States faces a considerable financial burden to support diabetes care related costs. Expenses related to diabetes treatment have increased over 40% within the past five years and consume approximately 1 of every 5 dollars in health care costs (Zhou et al., 2013). The cost of caring for Hispanics with diabetes and its complications is calculated to be $50 billion each year (Minority Health, 2016; Rothberg et al., 2016).

Literature Review

A literature search was conducted in CINAHL and Google scholar search engines. Literature used was limited to authoritative resources gathered by the government or published in peer reviewed journals for nursing and allied health. The purpose of the review was to identify recent evidence-based publications on diabetes and related problems affecting Hispanic women over 50 years of age. Key words used to perform the search included "Hispanic, Women, Diabetes, United States, Cultural Competency, Complications, Co-Morbidity, Mortality, Health Education, Self-Management, Diabetes Management. Of the papers and other authoritative sources identified and reviewed, 46 were used.

Evidence-based studies have found that culturally based diabetes self-management education programs are more efficient than generic diabetes self-management education program when aimed at dealing with Hispanic women at risk of diabetes (Chilton, Hu, and Wallace, 2006; Baig, 2010). Studies identify additional barriers to diabetes self-management in Hispanic populations

such as low literacy, poor access to health care, low income, language disparities, low

acculturation, and different cultural belief systems (Walton, et al., 2012; Hu et al., 2013; Evert et

al., 2014).

Juckett et al. (2013) found that Hispanics often interpret symptoms and illness, because

of exposure to supernatural causes such as susto (fright), an evil eye, loss of the soul, or sorcery

activity. Hispanics frequently seek health care from *brujos* or *brujas* (wizards or witches) or

utilize natural therapies and herbal medicines that do not conform to North-American social

norms. In this community, a lack trust in Western medical practices is common. These

culturally held beliefs and practices can potentially influence the risk of diabetes (Juckett et al.,

2013).

According to Amirehsani and Wallace (2013), health beliefs should be understood as part

of Hispanic culture. Thus, open communication is a tool that can bridge the gap between modern

Western medicine and traditional folk medicine. Castillo et al. (2010) conducted a pilot study

that examined the adoption of culturally based diabetes self-management programs by Hispanic

women. Findings suggested that culturally tailored programs can improve diabetes knowledge

and behaviors to efficiently manage glycemic control among this demographic group (Castillo et

al., 2010). Health education programs require teaching patient management skills to succeed.

Ho, Berggren and Dahlborg-Lyckhage (2010) viewed self-management as a process in which

opportunities, resources, and skills assist in changing a chronic health condition. This may be

particularly true in communities that where awareness of the risks associated with diabetes

related morbidity is not well understood.

Culturally sensitive diabetes self-management education initiatives that are empowerment

based, have also been found to be more likely to promote positive glycemic control and self-care

behaviors. A meta-analysis of ethnographic studies identified patient empowerment as a powerful contributor in assisting patients to develop successful diabetes self-management (Pena-Purcell, Boggess, and Jimenez, 2011). In addition, community health workers have been found to be vital to help in implementing community empowerment strategies. Studies have confirmed that community health workers play a significant role in supporting self-empowerment for community members seeking to control chronic diseases such as diabetes (Castillo, et al., 2010).

A quasi-experimental, pre- and post- design study evaluated AIC and diabetes knowledge among Hispanic attending a culturally-sensitive diabetes management program. The average study participant was female, 60 years of age, earned an income of less than $20,000 per annum, and did not have health insurance. A culturally sensitive diabetes education program was offered for five weeks. Seventy-one participants in the intervention group were compared to 64 participants in the control (non-participant) group. The study used a 10-item instrument to measure changes in diabetes knowledge and behaviors pre- and post- intervention. Findings showed significant improvements among members of the intervention group who received culturally sensitive diabetes education. The researchers concluded that the program was successful in increasing self-efficacy, and regulating self-management behaviors. However, it was noted that the study had several limitations including high attrition rate among the control group (Pena-Purcell & Boggess, 2013, Hu et al., 2013).

A patient-education program titled "en balance" was a culturally-sensitive diabetes program for Hispanic adults designed to increase physical activity and improve diabetes management. The 3-month educational intervention involved 39 participants who were recruited at baseline (Wheeler et al. 2012). The Arizona Activity Frequency Questionnaire was administered at baseline and at three-month follow-up. Significant increases in moderate and

high-intensity physical activity expenditure were measured at follow-up. Additionally,

reductions in hemoglobin A1c (-0.9%), total cholesterol (-13.44mg/dl), LDL cholesterol (-

10.28mg/dl), and waist circumference (-1.52cm) were also noted (Wheeler et al, 2012).

Limitations reported included undisclosed age of the subjects and inability to sustain intensive

activity after the intervention. However, it was concluded that the culturally-tailored diabetes

education program was an effective intervention (Wheeler et al. 2012).

Diabetes self-management programs are of a high value for enhancing outcomes

(Naccashian, 2014; Yu, et al., 2014; Zeh, Sandhu, Cannaby, & Sturt, 2012). A culturally

sensitive self-management program was found to have a significant impact in enhancing

glycemic control and diabetic knowledge among ethnic minority populations. Diabetes self-

management education is considered as the key to managing diabetes among Hispanic women 50

years and above who are at risk of developing the disease. There is clearly a gap in culturally

sensitive diabetic self-management education customized to the needs of Hispanic women over

50 years of age. However, several studies have been conducted regarding diabetes self-

management among other demographic populations (Rosal et al., 2009). Diabetes intervention

through self-management education program has been found to be effective among Hispanics

and other ethnic groups (Gonzalez, Lisanna, Berry, & Davison 2013).

In the Hispanic population, efficient diabetes self-management starts with the ability to

understand and recognize the illness (Long et al., 2012). Rosal et al. (2009) opined that type 2

diabetes is particularly widespread among middle-aged and older Hispanic women. As women

grow older, the rate of physical activity decreases while obesity and the number of type 2

diabetes significantly increase (Handley, Schillinger, & Shiboski, 2011). Tolbert et al., (2011)

conducted a double blind randomized study which examined the impact of a culturally based

lifestyle intervention on 280 Hispanic women with type 2 diabetes. It has been further concluded that successful interventions must address dietary regulation as an important part of diabetes management since Hispanic women are key in meal preparation in the traditional household (Carbone et al., 2007).

Physical activity also plays a vital role in reducing diabetes-related disabilities in older Hispanic individuals (Naccashian, 2014; Yu, et al., 2014; Zeh, Sandhu, Cannaby, & Sturt, 2012). For groups that encounter other barriers to diabetes management such as low literacy, cultural differences, low English proficiency, and restricted access to care, additional considerations and sensitivities must be considered (Gonzalez, Lisanna, Berry, & Davison, 2013). In general, analysis of evidence-based studies find that culturally appropriate intervention is successful with decreasing disparities and complications related to diabetes.

Framework

The quality improvement project was guided by the health belief model (HBM). This theoretical framework is a health behavior change model developed in the 1950's by social psychologists. According to the HBM, a person is much more likely to participate in "health action" if they perceive being at risk, the illness is perceived as severe, or the health action is perceived as important. In addition, it is essential that the barriers hindering taking the "health action," and the cues to take the "action" be understood. The HBM it therefore appropriate to explain health-related behaviors in diabetes self-management and to guide subsequent interventions (Jalilian, Motlag, Solhi, & Gharibnaraz, 2014; Skinner, Tiro, & Champion, 2015).

A patients' willingness to take care of their health determines the individual's perception of health and illness (Skinner et al., 2015). The HBM is utilized to examine how patients

perceive their health behaviors by viewing the risks, benefits, barriers, severity, and cues to act. The HBM is focused on the understanding that a person will take a positive health action if they believe that a negative health condition can be eliminated. The model is based on the expectation that by taking a recommended action, the individual will eliminate a negative aspect of illness (Skinner et al., 2015). Healthcare providers can utilize this model to understand relevant attitudes and cultural beliefs that can impact an individual's adherence to a treatment regimen and self-management practices, thereby improving outcomes (See Figure 1).

Project Purpose

The overall purpose of the project is to evaluate access to culturally appropriate diabetes knowledge and self-care education services provided by a clinic. The project provided a health education and self-management program to a group of female Hispanic female patients 50 years of age and older. Self-management diabetes education and management topics focused on improving behaviors inclusive of physical activity, nutrition, weight management, and glycemic control. The project also evaluated the degree to which participants agree on the effectiveness of the program for increasing diabetes knowledge and self-management behaviors.

PICO Question

In female Hispanic patients, 50 years and older with DMII, what is the effect of diabetes self-management education on self-management over a period of four consecutive weeks?

Methods

Project Design

The design was a non-experimental and retrospective study. The variables of interest were collected at three different points over time, therefore may be considered longitudinal. Attendance in the educational workshop was considered as the potential factor for predicting the potential future outcomes.

The Kruskal Wallis or a one-way ANOVA test was used to determine the difference between test results to compare at a distribution cut-off point. While changes in outcome indicators among participants may be noted, they cannot attribute all the changes to the intervention alone using the design, because there is no comparison group. Scores on the DMSQ are the outcomes of interest. The DSMQ was administered and measured at three different points of time. Attendance in the educational program was considered as the independent variable, while the DSMQ scores measured over three points in time was treated as the dependent variable (s). As many as 50 patients met the inclusion criteria of the study and were invited to attend the educational program.

Population and Setting

The population of interest is older female diabetic and are currently patients of a Southeast Texas Urgent care clinic. Currently, approximately 120 patients served at this clinic have been diagnosed with DMII of which 75% are females, 50 years and older. Most patients are Hispanics, do not have insurance, and cash paying. While all patients meeting the inclusion criteria were invited to participate, due to the voluntary nature of the study, lack of transportation, displacement due to hurricane disaster, and drop-out during the four week

sessions, a low response rate was anticipated. The total sample was 30, approximately 15 individuals completed the educational program.

The inclusion criteria required that participants (1) be Spanish-speaking Hispanic females, (2) age 50 years and above, (3) diagnosed with type 2 diabetes longer than one year, and (4) a patient of the urgent care clinic. Potential participants were selected based on clinical record review (EMR) Patients who met participation criteria were invited to take part in the study via telephone, written letter, email, or during an office visit. Those who consented to participate were reminded of the first meeting date by phone or the patient's preferred form of communication

Measures

During the first day of the program, participants were given a log book and encouraged to document their diet, the number of minutes spent engaged in physical activity or walking, and weight. The one group variable was measured repeatedly, both before and after exposure to the health education workshop. Weight, self-reported glucose, and blood pressure were recorded weekly, and the DSMQ was administered at three points of time (baseline, mid-point, and end-point). Evidence-based results can provide new knowledge, improve health care, and new ideas to nurses practicing in this region and treating this demographic patient population.

The DSMQ (See Appendix 1) was used to conduct a repeated measure of knowledge and intention to change behaviors related to diabetes management. The scale was developed at the Research Institute of the Diabetes Academy Mergentheim. It is the first German instrument targeting diabetes self-care, and was designed to assess behaviors associated with metabolic control within common treatment regimens for diabetes in adult patients. The scale was created by a multi-disciplinary team consisting of pediatric endocrinologists, pediatric diabetes nurses,

certified diabetes educators, registered dietitians, behavioral scientists and nutrition scientists.

The 16 item DSMQ scale initially contained 37 items and was modified as a shorter 16 item measurement tool. The scale is based on a four-point Likert scale and was designed to assess psychosocial predictors of diabetes control. Respondents are asked to rate the extent to which each statement applies to the personal self-management about the previous eight weeks. The rating scale was designed as a four-point Likert scale (to avoid a neutral response option and force a specific response) with the response options 'applies to me very much' (three points), 'applies to me to a considerable degree' (two points), 'applies to me to some degree' (one point), and 'does not apply to me' (zero points). The responses are converted such that higher scores are indicative of more effective self-care (Schmitt et al., 2013).

The 16-item scale has four subscales including 1. Glucose Management (items 1, 4, 6, 10, 12), 2. Dietary Control (items 2, 5, 9, 13), 3. 'Physical Activity' (items 8, 11, 15), and 4. 'Health-Care Use' (items 3, 7, 14). One item (16) requests an overall rating of self-care and is included in the 'Sum Scale' only. Scoring of the questionnaire involved reversing negatively worded items such that higher values are indicative of more effective self-care.

The DSMQ examines self-care activities using four subscales: physical activity, glucose management, health-care use, and dietary control. It is a valid and reliable tool that promotes self-care behavior related to glycemic control. The DSMQ's item and scale characteristics as well as validity have been estimated to be high by several studies and was as high as $\alpha=.93$ for the entire scale. The DSMQ can help clinicians in identifying patients at risk of poor diabetic outcomes and factors that may affect the relationship between self-management behaviors and glycemic control (Schmitt et al., 2016). The scale assesses self-care activities associated with

glycemic control. Four subscales, 'Glucose Management' (GM), 'Dietary Control' (DC), 'Physical Activity' (PA), and 'Health-Care Use' (HU), as well as a 'Sum Scale' (SS) as a global measure of self-care are derived to establish an analogous scale (Schmitt et al., 2013).

It was designed to assess adherence to diabetic treatment and diabetes management tasks. Survey content includes items related to insulin management, physical activity, diet, hyperglycemia, hypoglycemia and blood glucose monitoring. The scale measures related to diabetes management include:

Physical Activity. Self-Management that includes physical activity recommendations improved outcomes of people with type 2 diabetes (Conn, et al.; 2007). Self-report of 30 minutes' physical activity constitutes daily physical activity of participants with documentation in their log book. It is the expectation of the coach that intervention of this nature will contribute to lowering post-intervention glycemic level.

Diet and Nutrition. Nutrition information concerning carbohydrate intake from vegetable, fruits, whole grains, legumes, and milk products represented necessary dietary contents over other sources of carbohydrates, added fats, sugars, and sodium to improve overall nutrients' choice. Individuals received a dietary educational training on the reading of food labels, and to substitute low glycemic for a higher glycemic-load food that tends to improve glycemic control (Evert et al. 2013).

Weight. All participants' weight were measured using the same weighing scale at the beginning of the program and each subsequent week. The weight was documented in the group and individual log book.

Procedure

"Yo Puedo Hacerlo" (I Can Do It), is a diabetes self-management program intended to empower Hispanic females 50 years and older. The program represented a DNP Quality Improvement project that was initially intended for an 8-week period, but due to an unforeseen natural disaster of hurricane 'Harvey', it was decreased a 4-week period. It was weekly project consisting of a 90-minute session.

The weekly program was conducted in a conference room of the clinic and focused on areas of diabetes management such as Diet, Physical activity, medication, and weight management; participants watched the interactive video of Emory University Spanish diabetes self-management program. Following each program, visual aids of each area of focus were distributed and discussion of how it could be implemented to participants' environment was reviewed. Each participant described how they implemented the previous week activity at the beginning of subsequent week. Prior to each week activity, participants recorded their weight, blood pressure, and self-reported blood glucose. Each participant also had a personal booklet to record their personal data and weekly activities.

The program started on November 11, 2017 and ended on December 2, 2017. Participants were given Diabetes Self-Management Questionnaire (DSMQ) before the beginning of the program, at the end of the third week, and after the final wee to evaluate program effectiveness and knowledge level of participants. Following the program, all vital signs were recorded to compare level of improvement over the 4-week period. Participants' evaluation was also completed before and after the program to evaluate program effectiveness.

Statistical analyses

DMSQ psychometrics was assessed at baseline, after 2 sessions and again after 4

sessions. Differences in mean DMSQ scores between baseline, first and second follow-ups was

compared using *Repeated Measures ANOVA* to examine mean differences in matched

respondents at three different points in time. Statistical Package for the Social Sciences (SPSS)

version 21.0 will be used for the analysis. The repeated measures test is an extension of

the dependent t-test and is used to measure any overall differences between related median over

discreet periods of time. The p-value associated with the two-sided test was held at 0.05 and

asserts that findings are not due to chance.

A Kriskal Wallis or a one-way ANOVA with repeated measures was used to compare

three or more group means where the participants are the same in each group and occurs when

participants are measured multiple times to see changes to an intervention. A repeated measures

of the Kriskal Wallis was used to understand whether there is difference in DSMQ scores at three

median points of time, including pre-intervention (baseline), mid-way (after third session), and

post-intervention (after the fourth session).

The following three assumptions was met to conduct the repeated measure analysis on

SPSS:

Assumption #1: The dependent variable was measured on a continuous level. The

dependent variable will be measured using a DSMQ score, which ranges between 0 and 64

points.

Assumption #2: The independent consist of at least two related groups or matched pairs

to indicate that the same subjects are present in all groups. The same subjects in each group was

measured on three occasions on the same dependent variable.

Assumption #3: There should not be any significant outliers or single data points within the data that do not follow the usual pattern and the distribution of the dependent variable should be approximately normally distributed.

After completion of the follow-up DSMQ, participants were asked to evaluate the workshop.   A short evaluation form was distributed to measure what aspects perceived as most or least useful for supporting diabetes self-management. It was helpful to measure the extent to which respondents agree on the effectiveness of an intervention such as an educational intervention.

Results

There were significant increases (statistically and clinically) in self-assessment survey scores gradient, from baseline to final; Kruskal-Wallis (p < 0.000), is well above 95% Confidence. Summary of questionnaire responses support a dramatic shift in responses, indicating marked improvement (higher net score is improvement, higher is good versus lower net score is bad). Difference between baseline and final, second and final survey is significantly higher and clinically meaningful, which is supported by corresponding shift upward. This signifies improvement in net logical interpretation of the sixteen individual survey assessment questions regarding self-evaluation of current state of health regarding diabetes and self-management of diabetes. The effects and influence of both the diabetes knowledge and psychomotor skill reinforcements (training aids, learning activities) are measurable and obvious in the survey scores, when compared over the three time periods.

The Cronbach Alpha results are weak, and the reasons for this include the ambiguous nature of the survey instrument itself (mixed polarization of questions and responses), which

indicates that this survey instrument has room for improvement, with re-phrasing of questions

and re-wording of questions to better reflect frequency of behaviors in more specific and easier

to understand terms. Re-polarization of questions so that re-coding of double-positive-negative

questions with ambiguous responses (Yes, Maybe, No) (i.e. avoiding "Yes, we do have NO

Bananas today...") could make this survey much easier to administer, score, and interpret. Re-

wording questions and responses to remove or mitigate cognitive barriers is one well known way

to improve inter-rater reliability assessments with Cronbach's Alpha test.

The test is also sensitive to N responses, and if more responses (N=500 rather than N =

20 were available for this sample, similar responses would have yielded a much higher Cronbach

Alpha score. This is not a hypothesis test, but an index test that follows a heuristic (... rule of

thumb...) for interpretation. It is not a test of validity, but a test of reliability. In other words,

across all three surveys given, the reliabilities are similar, and that is a strength, even if the index

value of the test is low (...weak ...) on the overall inter-rater reliability interpretation. This means

that there is room for improvement in the test instrument. The resulting score measurement may

be under-reported as a result. In other words, the contrast in improvement that was measured

might have been even stronger if the patterns of the responses remained the same in a larger

number sample of respondents using an improved design survey.

Discussion

The main goal of participants in attendance was 50 total, but only an average of 20

participants completed 80% of the program. Also, the program was intended for 8 weeks, but

only 4 weeks were feasible. The quality improvement project was intended to have each

participant obtain an improved score in their DMSQ over a 4-week period of educational

exposure in association with better glycemic control demonstrated by decreased self-reported blood glucose. The analysis of scores demonstrated goals accomplished.

The population of older Hispanic females were chosen for this project to expose them to diabetes self-management education that has a potential of improving their self-management skills and also to impact their families as a whole in achieving better outcomes in glycemic control. There are available studies that address diabetes management/self-care in the Hispanics, but none that is tailored to Hispanic women, age 50 years and older. It is evident that group diabetes education can promote self-efficacy and self-management of DMII. A culturally-sensitive diabetes program has the potential of facilitating adaptation of cultural beliefs with traditional diabetes management, thereby promoting better outcomes and quality of life among a population of the underserved, low-literate, and financially limited population.

The diabetes self-management project has demonstrated effectiveness in increased knowledge and behavior that will have a long-term effect on a healthy lifestyle and better disease outcomes. This project has also provided a foundation for future replication of educational programs for an underserved population in need of self-management skills.

Limitations

The "Yo Puedo Hacerlo" program was free to all participants. The venue was free of charge with the approval of the clinic director. It was a self-funded project, because there was no available grants. The cost of generating flyers, copying of consent forms participants' booklet and writing materials, weighing scale, and fresh fruits was 350 US dollars. Participants were also given a complimentary 20 dollar gift card to Walmart to purchase healthy food products with a total cost of 400 dollars for 75% participation; a total of 20 participants were eligible. The audio

visual educational program of the Emory University Spanish diabetes self-management program

was uploaded from YouTube free of charge. Diabetes literature and recipes in English and

Spanish were obtained free of charge from the American Diabetes Association of Texas.

The main limitation of the project was language barrier, a Spanish medical interpreter

was always available, but lack of direct communication was a limiting factor in evaluating

proper comprehension of the program. Also, many participants were displaced by the natural

hurricane disaster, which limited prompt arrival to the sessions and low turnout rate, and small

sample size. Some participants were absent from the program during the third and fourth

sessions due to upcoming Thanksgiving holiday resulting in traveling outside of the area or

holiday preparation.

Project Implications

Nursing implications for the DNP scholarly project include provision of diabetes care

that is focused on the needs of the Hispanic population, especially older women, with an

understanding of cultural diversity. Practice implications reflect on (a) the importance of

culturally-specific diabetes self-management training for an at-risk population, in terms of better

outcomes and limited disease complications; and (b) the need for a policy in place for

community programs that will address diabetes self-management to a fast-growing population.

Such policies tend to limit health-care costs associated with diabetes-related complications.

Future research can be promoted through the results of the proposed pilot study, which

represents a foundation for larger population studies. A replication of this project could promote

diabetes self-management that increases patient awareness and knowledge.

Conclusion

The DNP scholarly project represented evidence-based program that future efforts can use to serve the target population of older Hispanic women. This population is underrepresented by research thus far, and under-served by the medical community. The need for this type of evidence-based program, and the study methods proposed, have been outlined in previous sections of this proposal. As the population of Hispanics in the United States continues to grow, there is a need for culturally-specific training to address chronic health issues, such as diabetes. More importantly, a significant segment of the American populace continues to suffer unnecessarily, due to cultural factors and a lack of medical resources that might address those factors

The DNP project outlined herein is intended to motivate a group of diabetic patients toward a life-long change in their health behavior related to the management of Type 2 diabetes. It is also hoped that behavioral change will have a positive long-term impact on the health behavior patterns of the participant and their family members. The goal is decreased cost for the public, and increased health and longevity for the target population.
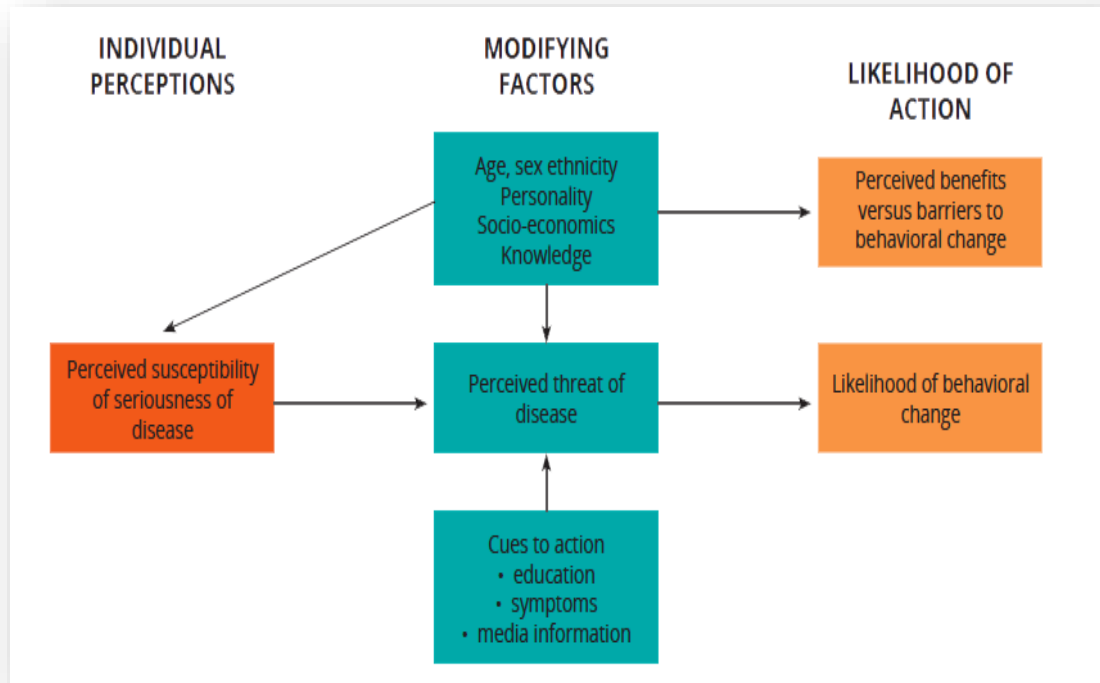
Appendix

Appendix A

Figure1
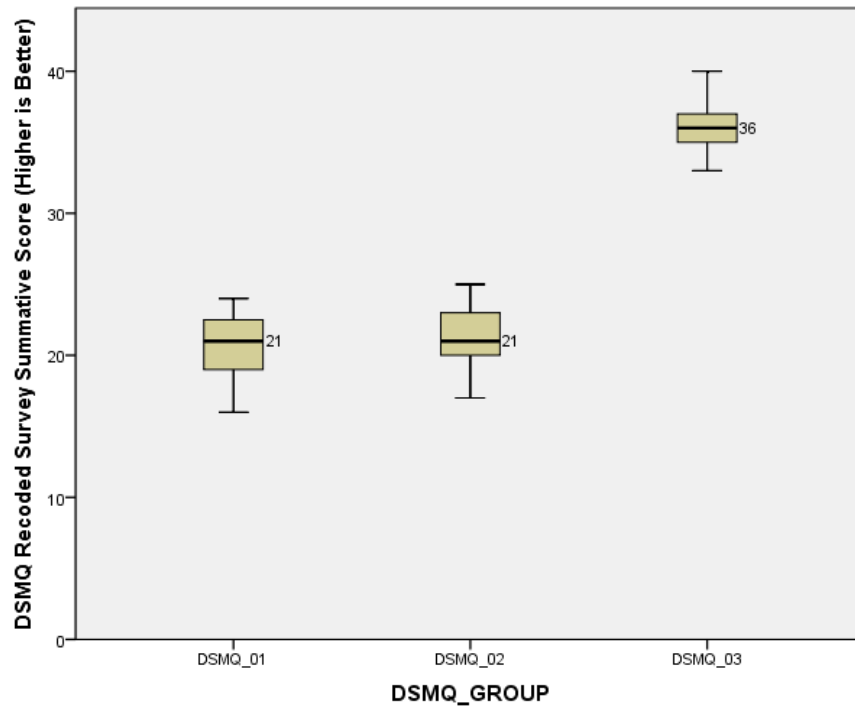
Appendix B

Figure 2

Health Belief Model

Source: John Hopkins, 2016: https://sbccimplementationkits.org/urban-youth/health-belief-model/

Appendix C

Table 1

Statistics

DSMQ Recoded Survey Summative Score (Higher is Better)

| | | DSMQ_GROUP | | |
		DSMQ_01	DSMQ_02	DSMQ_03
N	Valid	20	21	14
	Missing	0	0	5
Mean		20.50	21.43	36.14
Median		21.00	21.00	36.00
Mode		21[a]	20[a]	35
Std. Deviation		2.283	2.226	1.875
Variance		5.211	4.957	3.516
Range		8	8	7
Minimum		16	17	33
Maximum		24	25	40
Percentiles	25	19.00	20.00	35.00
	50	21.00	21.00	36.00
	75	22.75	23.50	37.25

a. Multiple modes exist. The smallest value is shown

Appendix D

Table 2

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of DSMQ Recoded Survey Summative Score (Higher is Better) is the same across categories of DSMQ_GROUP.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Appendix E

Program Documents

Carta de participación del programa
Título del programa: autogestión de la diabetes
Investigador (es) principal (es)

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Información del sitio

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281-392-1310

Descripción del estudio: Elizabeth Babalola es una enfermera practicante y una estudiante de doctorado en la Universidad de Texas en Arlington dedicada a un proyecto para satisfacer un requisito para un doctor en enfermería. El propósito de este proyecto es promover el conocimiento necesario para la autogestión de la diabetes a las mujeres hispanas de 50 años y mayores. Este programa gratuito preparará al grupo de mujeres para mantener un nivel de glucosa en sangre saludable a través de un aumento de los conocimientos adquiridos durante toda la vida. La intención de este programa es proporcionar a las mujeres diabéticas hispanas la capacitación necesaria a través de la autogestión del monitoreo de la glucosa, la actividad física, la nutrición y la importancia de mantener la comunicación con los proveedores de atención médica.
Si usted está de acuerdo en participar, se le pedirá que complete el cuestionario adjunto. Este cuestionario ayudará al escritor a identificar las áreas de enfoque durante el entrenamiento. Se le pedirá que complete el mismo cuestionario al final del programa. Los datos de este cuestionario se utilizarán para identificar el nivel de conocimientos adquiridos en el programa y establecer pautas para repetir el programa en la comunidad. tipos de formación que necesitan los mentores para satisfacer las necesidades de los maestros principiantes. El cuestionario tardará

aproximadamente quince minutos en completarse. El programa se llevará a cabo todos los sábados dentro de los 45 minutos y una duración total de seis semanas durante los meses de febrero y marzo de 2017. También se le pedirá que mantenga un registro semanal donde escribirá algunas de sus actividades diarias, tales como actividades físicas y glucosa en la sangre. Se le proporcionará una escala cada semana para medir su peso

Riesgos/beneficios para el participante: No existen riesgos previsibles para participar en este estudio. Los beneficios directos incluirán un mayor conocimiento de la administración de su estado crónico de salud, que puede promover la vida saludable con diabetes. Si usted tiene alguna preocupación acerca de los riesgos/beneficios de participar en este estudio, puede ponerse en contacto con los investigadores y/o la Junta de supervisión de investigación humana de la Universidad (la Junta de revisión institucional o el IRB) en los números enumerados arriba.

Costo y pagos al participante: No hay ningún costo para participar en este estudio. La participación es totalmente voluntaria y no se proporcionará ningún pago.
Confidencialidad: La información obtenida en este estudio es estrictamente confidencial a menos que la ley exija la divulgación. Todos los datos se asegurarán en un archivador cerrado. Su nombre no será utilizado en la notificación de información en publicaciones o presentaciones de conferencias.
Derecho del participante a retirarse del estudio: Usted tiene el derecho de rehusarse a participar en este estudio y el derecho a retirarse del estudio en cualquier momento sin penalidad.
He leído esta carta y entiendo perfectamente el contenido de este documento y consiento voluntariamente participar. Todas mis preguntas sobre esta investigación han sido contestadas. Si tengo alguna pregunta en el futuro sobre este estudio, serán contestadas por el investigador que aparece arriba o su personal.

Entiendo que la terminación de este cuestionario implica mi consentimiento para participar en este estudio.

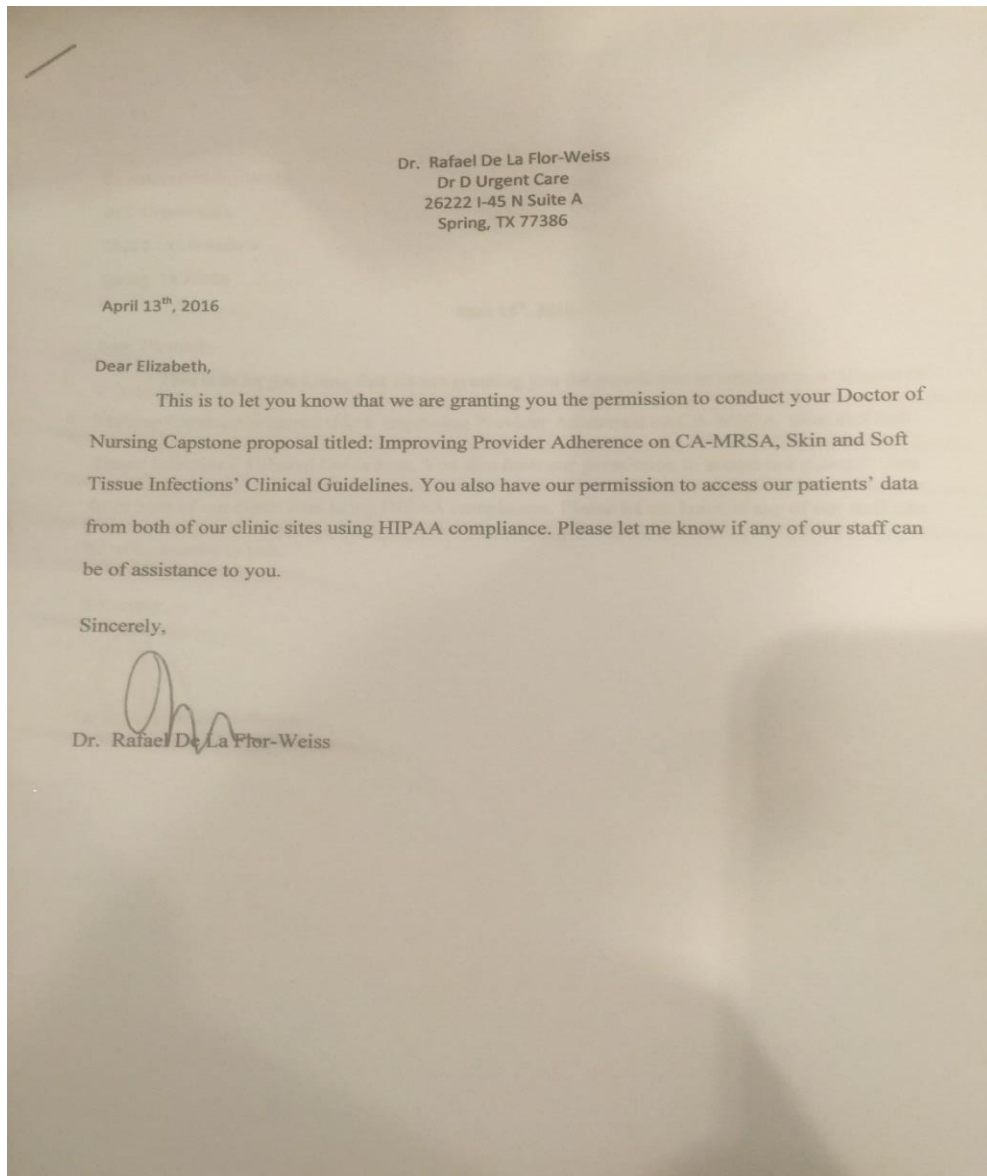_____

Firma del participante nombre del participante

Fecha: _____

Las siguientes afirmaciones describen las actividades de autocuidado relacionadas con la diabetes. Pensando en su autocuidado durante las últimas 8 semanas, por favor especifique el grado que cada instrucción se aplica a usted.	Se aplica a mí mucho	Se aplica a mí hasta un grado capaz de considerar	Se aplica a mí hasta cierto punto	No se aplica a mí
1. Verificar mis niveles de azúcar en la sangre con cuidado y atención. ☐ *Medición de azúcar en la sangre no es necesaria como parte de mi tratamiento.*	☐3	☐2	☐1	☐0
2. La comida decido comer facilita lograr óptimos los niveles de azúcar.	☐3	☐2	☐1	☐0
3. Guardo todas citas recomendados para mi tratamiento de la diabetes.	☐3	☐2	☐1	☐0
4. Tomo mi medicación para la diabetes (insulina de g. e., tabletas) según lo prescrito. ☐ *Medicación para la diabetes insulina no es requerida como parte de mi tratamiento.*	☐3	☐2	☐1	☐0
5. De vez en cuando comer un montón de dulces u otros alimentos ricos en hidratos de carbono.	☐3	☐2	☐1	☐0
6. Grabe mis niveles de azúcar en la sangre regularmente (o analizar el cuadro de valores con mi medidor de glucosa en sangre). ☐ *Medición de azúcar en la sangre no es necesaria como parte de mi tratamiento.*	☐3	☐2	☐1	☐0
7. Tiendo a evitar las citas de los médicos relacionados con la diabetes.	☐3	☐2	☐1	☐0

8.	Hacer actividad física para lograr niveles óptimos de glucemia.	□3	□2	□1	□0
9.	Estrictamente las recomendaciones dietéticas de mi especialista médico o diabetes.	□3	□2	□1	□0
10.	No reviso mis niveles de azúcar en la sangre con frecuencia suficiente como para lograr buen control glucémico. □ *Medición de azúcar en la sangre no es necesaria como parte de mi tratamiento.*	□3	□2	□1	□0
11.	Evitar la actividad física, aunque podría mejorar mi diabetes.	□3	□2	□1	□0
12.	Tiendo a olvidar o pasar mi medicación para la diabetes (insulina de g. e., tabletas). □ *Medicación para la diabetes insulina no es requerida como parte de mi tratamiento.*	□3	□2	□1	□0
13.	A veces tengo real 'comilonas de alimentos' (no activados por hipoglucemia).	□3	□2	□1	□0
14.	Con respecto a mi cuidado de la diabetes, debo ver mi practitioner(s) médico más a menudo.	□3	□2	□1	□0
15.	Tiendo a saltar actividad física planeada.	□3	□2	□1	□0
16.	Mi autocuidado de diabetes es pobre.	□3	□2	□1	□0

Appendix F

Site Approval

Dr. Rafael De La Flor-Weiss
Dr D Urgent Care
26222 I-45 N Suite A
Spring, TX 77386

April 13th, 2016

Dear Elizabeth,

This is to let you know that we are granting you the permission to conduct your Doctor of

Nursing Capstone proposal titled: Improving Provider Adherence on CA-MRSA, Skin and Soft

Tissue Infections' Clinical Guidelines. You also have our permission to access our patients' data

from both of our clinic sites using HIPAA compliance. Please let me know if any of our staff can

be of assistance to you.

Sincerely,

Dr. Rafael De La Flor-Weiss

Appendix G

Graduate Nursing Review Committee Approval

DNP Project Approval Template for the Graduate Nursing Department Review Committee

Student completes this section

Student name: Elizabeth Babaloa

Project Title: "Yo Puedo Hacerlo"

For the Committee Use only. The student does not mark in this area.

The results will be disseminated, but they are not generalizable knowledge. The results will include use of the most current research to translate the knowledge into practice, thus it is not new generalizable knowledge.

_x__Agree ___Disagree

This project is a quality improvement/evidence-based project/health policy and will translate the knowledge into the clinical setting. It is not generalizable because it is not generated from a research study that is being conducted.

This project is not considered Human Subjects Research and does not require IRB HSR review.

_x___Yes ____No

        This quality improvement project did not satisfy the *definition of research* under 45 CFR 46.102(d). Therefore, it was not subject to the Health and Human Services regulations for the protection of human subjects in research (45 CFR part 46, 2009) or require Institutional Review Board approval.

_x___ I recommend approval

Mary Schira

__   _____   May 12, 2017

_____

Committee Signature

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