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## Review Article

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## Health Literacy: Coaching In Spanish for Elderly Hispanic Population with Diabetes

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## Abstract

The Hispanic population is one of the fastest growing sectors in the United States. As per the Census Bureau, there are approximately 62.6 million Hispanics in the U.S. as of 2021. Therefore, it is essential to eliminate health disparity and attain health equality for all, especially the elderly Hispanic. Health literacy plays a vital role in this population who are at a high risk for poor health and diminish quality of life.

Healthy People 2030 recognizes that personal health literacy is one major component in healthcare. The definition of Personal Health Literacy is when an individual can understand, find, and use information on health -related decisions and actions for themselves. Health disparities has unreasonably affected the Hispanics in the U.S. due to facets that include language and education.

Within the elderly Hispanic adults, equality in healthcare has not been successful and ultimately are susceptible to poor health literacy. The Hispanic adults have the lowest literacy scores of all racial/ethnic groups, according to the National Center for Education Statistics. Many elderly Hispanics have minimal to no education, more-so having a health literacy environment becomes even more important.

Coaching in the Spanish language as well as providing health education videos, brochures or hands on demonstration are integral interventions to filling this educational gap and language barrier. This population could become well informed and enabled to make appropriate decisions concerning their disease process. A continuity of followed education and care could increase the health outcome compliance.

The aim of this paper is to impact and improve the health outcomes with low health literacy scores of the Hispanic elderly population with Diabetes with appropriate interventions.

**Keywords:** Diabetes; Education; Hispanic; Literacy; Language barrier

## Introduction

Diabetes in the United States has flourished worldwide per the World Health Organization [1] to a projected 26.9 million people. This chronic disease corresponds to about 90% of diabetes in the U.S. According to the World Health Organization [1], this can be counteracted most importantly of living a healthy lifestyle of increase in physical activity, eating a healthy diet, and preserving a healthy body weight.

Hispanics are at a higher risk of developing diabetes in comparison to other ethnicities. In the United States there are more than 50 million Hispanic composing this greatest cultural group. With this population, the greatest barrier is attribute to language comprehension. The elderly Hispanic diabetic population has minimal understanding because of the language barrier that affects greatly health literacy specifically education in physical activity, compliance with medication and diet. Gele & Mbalilaki [2] mentioned that diverse cultural perceptions and wide range of standards for health and illness play key roles in how people identify chronic diseases like diabetes. Diabetes has become a huge health challenge in the U.S. Additionally, a mounting financial burden to the healthcare system. Conducting diabetic improvement studies in self- management has greatly influenced the inspiration of prevention programs. Many diabetic prevention programs are currently in place revealing positive results though a major gap continues in Hispanic diabetic's research due to a lack of communication another health literacy component. This launch in implementing Spanish lifestyle coaches will be the organization's prevention program in which education will be entirely in the Spanish language.

## Method

Eight-week sessions of culturally tailored Spanish education was delivered to elderly Hispanic adults (N=15) with diabetes in Texas. The American Diabetes Association (ADA) self-care behavioral change health literacy education included physical activity and healthy eating. Each session persisted for 3 hours. On the initial week, participant's baseline glucose via a glucometer and weight were obtained. At mid-way, another glucose level was obtained than at the final eighth week. A pre/post survey was administered via survey monkey to assess the coaches' efficacy utilizing the Evidence Based Nursing Practice Self Efficacy Scale [3]. This scale is included as Appendix A. Participants completed a survey questionnaire to measure the coaches' teaching effectiveness, understanding and satisfaction. The participant survey tool on coach is included as Appendix B.

## Social Challenges

Low health literacy is predominantly frequent among older Hispanics with diabetes affecting educational material understanding. Diabetes educators have identified a method for effective teaching to the low health literacy of elderly Hispanics with diabetes is by individualizing their needs. This is relatively due to their level of education, which major barriers consist of language and understanding. This initial teaching step provides sensitive, simple instructions, feed-back and competent diabetes education in the Spanish language.

It is essential that more culturally aware nurses step up to educate this venerable population. Therefore, implementing and evaluating the efficacy of Spanish-speaking lifestyle coaches among the elderly Hispanic population with diabetes will aid in modifying behavioral health outcomes. These interventions will launch an eight-week cultural sensitive nurse coaches to work with low literacy Hispanics and inspire teaching opportunities about the various issues the elderly encounters, such as lack of understanding directions or disease process mentions Hispanics have a knowledge deficit due to lack of education with Diabetes along with low levels of health-promoting lifestyles on topics such as physical activity and healthy meal choices.

Focusing on the needs of this population is a continuous responsibility to all healthcare delivery organizations, and culturally competent healthcare providers. The coaches' focus is on teaching self-management skills, increasing patient self-motivation, and self-efficacy. A steady transformation in this cultural environment is slowly occurring thus improving outcomes and quality of life to this underserved population.

## Cultural Theory

Implementation of the Spanish coach entails good support and planning from the main stakeholders. In applying Lewin's Change Model, this implementation of change development in lifestyle coaching, can ratify an effective practice transformation. This practice change will include evaluation and dissemination of the outcomes. The prepared nurse will direct the implementation of this Spanish style coaching of a behavioral practice change causing an increased in a better quality of life.

This empowering intervention needs to promote an enhanced quality of life for these adult Hispanics with diabetes. Health coaching was demarcated as assisting patients to expand their knowledge, confidence, abilities, and mechanisms with the Diabetes process. This knowledge will help the participant be more active and effective in their personal care as they move towards their self-monitoring aspirations. Spanish speaking coaches can be anyone within the community such as nurses, health educators, and social workers. For this reason, as a Hispanic Spanish speaking registered nurse, this implementation project was created to provide the tools, confidence and teaching skills necessary for the chronic diabetic patient to establish a better quality of living. Addressing lifestyle changes was an important aspect of educating the patient pertaining to diet and physical activity. The ultimate objective of the would be to provide competent cultural quality patient education and effective self-management behaviors.

Active diabetes management education has projected outcomes to increase and improve healthy diets, increased physical activity and enhanced monitoring of blood glucose [4]. For this reason, lifestyle coaches must display a culturally competent to educate these patients in a way that is simple and easy to comprehend. This form of teaching will enhance the diabetic diet and physical activity resulting in improved glycemic control.

## Incidence and Prevalence

According to the CDC [5], in the U.S., diabetes remains affecting the Hispanic adults is linked to varies co-morbidities such cardiovascular disease, hypertension and strokes. This precipitated demise has increased in general for the Hispanic population. The prevalence in Hispanics with diabetes is approximately 16.9 percent for both women and men in comparison to 10.2 percent of non-whites. In Texas, as an outcome of a study specified to the age-adjusted prevalence of diabetes was doubled the among Hispanics than non-Hispanic whites. More than one in three Hispanic (39.2%) adults were overweight in Texas in 2010 and had a considerably greater prevalence of obesity than Caucasian had at 27.9%. Because of the high risk among the 11.8 million or 25.9% of older adults of over the age of 65, in the U.S., have a BMI of > 40. It is recommended increasing physical activity for 20-30 minutes a day, 3-5 times a week will reduce up to 7% of body weight.

## Dietary Practices among Hispanics

Culture greatly affects the type of foods eaten in the community. The traditional diet and including fast foods make Hispanics massive recipients in becoming diabetics. As most family unit, consist of large numbers, buying groceries become expensive. Therefore, it becomes custom to buy cheaper foods that will supply their daily needs. Literature revealed that foods consumed by Hispanics are high in carbohydrates [6]. In researching this more, it was evident that this culture indulges in eating more fried greasy foods like refried beans, tamales and red meat. Most animal products like pork, chicken and beef are primarily fried. The primary foods that Hispanics eat consist of starches. The most common starchy foods are potatoes, pastas like vermicelli, shells, macaroni, and tortillas. Other treats consumed are sweet Mexican pastries like pan dulce, flan, conchas, and cookies. Most baked delicacies are prepared using lard for special occasions. *This type of cultural diet is excessive in complex carbohydrates and exacerbates the inability to adapt to the nutritional restrictions of diabetes.* Counting carbohydrates is an unfamiliar belief and Hispanics do not stick to. A common tradition in Hispanics, is not measuring food content. Correspondingly, Hispanics lack the knowledge of appropriate food serving sizes. This has been a major ordeal causing obesity and uncontrolled glycemic control among this population.

## Physical Activity Practice among Hispanics

The elderly Hispanic culture does not distinguish recreational activity as physical activity. The elderly Hispanics enjoy the gatherings at special occasions and may dance a few slow songs. Many in part is become they become uncomfortable that at an old age they are mingling with the younger crowd. Short walks are more of a physical activity. Walking for many Hispanics is a normal way of life, they have done that for most part of their lives. According to it is a common practice to visit neighbors, walk down to neighbor store, or to walk around in the mall. In about 75% of elderly people, low impact exercise such as aerobics may be the first time they perform this type of movement. Through the perception of the culture, it is evident that most Hispanics live a sedentary lifestyle exhibiting obesity. The elderly Hispanics viewed obesity as a sign of happiness, good health, and success. Obesity has been socially and culturally tolerable among Hispanics. Currently, a huge barrier among Hispanics, is that people drive to the neighbor store instead of walking or drive to get that fast food. Weight gain is attributed to the lack of physical activity among the Hispanics.

## Operative Management of Diabetes with Dietary plan and Physical Activity

### Physical Activity Plan

Colberg, et al. [7] mentions that routine physical activity improves hypertension, lowers lipids, blood glucose, and even delays or prevents diabetes. Lowered HbA1c levels were associated with combined aerobics and training exercise in a meta-analysis at 12 weeks. This study consisted of type 2 diabetes in a control group. A study researched by Umpierre, et al. [8], revealed structured aerobic exercise (-0.73%; 95% CI, 1.06% to -0.40%; I(2), 92.8%), structured training (-0.57%; 95% CI, -1.14% to 0.01%; I(2), 92.5%), and a combined analysis of (-0.51%; 95% CI, -0.79% to -0.23%; I(2), 67.5%) they all displayed declines in HbA1c levels. Planned exercise such as slow dancing, and low impact exercise cause a reduction in the HbA1C. Swartz, et.al. [9] discloses generating small alterations in daily activity levels, like dancing and taking a 5-min walking break regularly promotes weight management. Elderly people with diabetes walking 20 min at a self-paced after meals have displayed a lower glycemic control in contrast with no exercise or before meals [7]. The American Diabetes Association (ADA) guidelines recommended diabetic people to participate in at least 30 minutes a week 5 days a week for moderate exercise.

### Dietary Plan

In general, nutrition is an important attribute in health. According to the National Institute of Health, chronic conditions like heart disease, and diabetes could reduce the risk of obesity through a healthy eating plan. The American Diabetes Association [10] the biggest hurdle of a treatment plan for the diabetic patient is deciding what to prepare. Hence, the ADA has proposed that diabetic educational support be accessible to the diabetic patient at the time of diagnosis in preparation for self- management. ADA dieticians are prepared to assist the individual with nutritional education to accomplish the treatment objectives. ADA [10] mentions that glycemic control can be obtain with proper carbohydrate intake monitoring. Intake from carbohydrates must consist of vegetables, whole grains, legumes, fruits, and dairy products. Carbohydrates containing grain foods and sugar like breads, tortillas, processed foods and pasta should be kept to a minimal. Improved glycemic control has been acknowledged when exchanging foods high in carbohydrates for lower index carbohydrates such as brown rice, whole wheat, non-starchy vegetables such as salad greens, carrots, cucumbers, and broccoli. A comparison of a high un-saturated fat and low carbohydrate against a low fat and high carbohydrate diet was studied by a randomized controlled trial. The results were as follows a 58% fat (<10% saturated fat) with those of a high carbohydrate, low-fat (HC) diet (53% carbohydrate, 17% protein, and 30% fat [<10% saturated fat]) of a low carbohydrate, high-unsaturated/low-saturated fat (LC) diet (14% carbohydrate [<50 g/day], 28% protein. The combination of these two diets with structured exercise decreased the glycemic control.

The ADA [10] current evidence base practice recommends that emphasis be on portion sizes to promote weight loss in the management of diet. Introduction of my plate for the patient with diabetes is a way to measure the portion sizes required with the addition of more fruits and fruits. In the Hispanic culture, personal preference should be well thought of when working with underserved and recommending eating inclinations [11-14].

**Evidence Base Support for a Diabetic Education Intervention for Hispanics**

In the United States, it is evident that the burden of diabetes and the diabetes complications in the Hispanic population are overwhelming. Poor dietary plans and physical inactivity are obvious among the Hispanic inhabitants. High risk factors contribute to the poor diabetic outcomes for this group. The scientific support listed above reveals the barriers and encounters accompanying these unhealthy lifestyles and cultural beliefs associated with these lifestyles; Though, Hispanics consider the obesity as a sign of an enjoyable life, and contentment it is detrimental to their health.

**Study Aims**

Evidence has associated that maintaining a cultural tailored awareness program has helped many patients to maintain a better quality of life. Research has acknowledged that educating participants in a language that is understandable and easy to follow will produce more adherence and compliance in the program. Because previous studies have had successful interventions on weight loss and diet, implementing one in Spanish is the aim (Table 1).

Week	Baseline fasting glucose	Weight (lbs.)	Gender	Age
1	125,132,153,200,240 255,300,308,284,191 136,152,190,130,174	155,162,188,165,173 210,240,199,206,180 242,199,220,253,178	10- Females,  5 Males	55,57,58,61,62, 65, 66,68,70,72, 67,70,72,75,80
4	122,150,132,145,180 230,242,300,260,150 140,150,178,122,163	158,160,190,162,175 206,238,196,203,182 245,197,219,251,173		
8	118,128,128,136,166 165,248,251,230,156, 152,136,172,118,132	151,158,188,159,171 200,235,193,200,178 240,194,213,248,169		

**Table 1:** Health Literacy (HL) Research Among the Hispanic Elderly Population(n=15).

**Systemic Approach**

The plan methodology is to address these diverse patients by providing behavioral changes in this population, a Hispanic tailored education program will be implemented to aid in improving their eating habits, physical activity, lower glycemic control, weight loss and a better quality of life. The curriculum in this coaching program would consist of increasing physical activity such as walking in the church hall or slow Latin dancing, kicking a big soft beach ball while sitting, hitting a balloon with a pool noodle, as a form of age appropriate physical activity three times a week preferable during the day time.

Dietary teaching consists of choosing more vegetables that include tomatoes, carrots, corn, broccoli, peppers and greens, fruits such as apples, bananas, and grapes. Lean meats like skinless chicken, turkey, fish, and eggs, For dairy products low or nonfat milk, cheese, and yogurt. Most importantly with grains, they were instructed to eat brown rice, more wheat, and one tortilla per day preferably corn tortilla. Also snacking in between meals and at bedtime was introduced.

A tactic used was the plate method. This plate method is utilized for portion control thus controlling diabetes and weight loss. There are Diabetic plates with the divided portion areas are already available with indicated vegetable, carbohydrates and protein inscriptions. A deviced used for the elderly Hispanics, a simple paper plate was utilized, and a line drawn down the center of the plate with another line going across making halves portion sizes. This strategy is helpful in choosing the foods eaten and portion control by following the recommendations given.

**Results**

The expected outcome of interest increased patient understanding and satisfaction measured by increase in Spanish coach teaching efficacy regarding self- management, healthy eating, increased physical activity, and weight loss as Evidenced Base Nurse Practice Efficacy Scale. This scale is included as Appendix B.

**Conclusion**

This Health literacy coaching in the Spanish language for the elderly adults carried a model for current culturally tailored diabetes education for the Hispanic population. In using a communicating approach, they could understand and navigate, this elderly population was able to identify and apply health information competently and confidently. This health literacy approach will aid in how they will comprehend and make decisions related to their health. For the elderly Hispanics understanding the health literacy skills made a significant difference in what way they will utilize the experience to respond to the challenges of their diabetic condition.

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