The purpose of this research was to assess the quality of the inpatient, health education diabetes program as it relates to primary Spanish speaking patients. Complications from diabetes account for huge personal and financial costs. There is substantial evidence supporting the use of targeted diabetes education to reduce complications but we need to know if our education interventions are valid. In order to accomplish this by auditing the knowledge of a sample of inpatient diabetics before and after receiving the standard MMC Spanish language diabetes education interventions via Spanish language pre and post surveys (standardized by the previously validated SKILLD survey). Demographic and clinical data were analyzed and all significant data (p value <0.05) were considered for their importance. The data demonstrated that in all 10 items on the survey, overall patients were able to demonstrate significant improvement in survey scores. Additionally, comparisons of demographic data demonstrated that being less than 50 years old was associated with improved survey scores. This indicates overall benefit of the training program as well as possible insight into need for more aggressive training for patients greater than 50 years in age.

Introduction

Diabetes mellitus is among the most common chronic diseases in the USA. Complications compound huge costs and present a substantial burden our healthcare system. Many people with diabetes mellitus type II can control their disease through diet and exercise, reducing their need for medication and their risk for complications. The role of diabetes education in reducing morbidity and mortality, as well as cost burden is especially great for Maricopa Medical Center (MMC) and other social net hospitals. The need for culturally competent education is an additional challenge for helping patients. Maricopa Medical Center provides direct, one-on-one diabetes education for inpatients admitted to the hospital with diabetes. It also meets unique cultural and linguistic needs. The purpose of this research was to evaluate MMC diabetes education by assessing patient knowledge immediately before and after Spanish language health education.

Abstract

The purpose of this research was to assess the quality of the inpatient, health education diabetes program as it relates to primary Spanish speaking patients. Complications from diabetes account for huge personal and financial costs. There is substantial evidence supporting the use of targeted diabetes education to reduce complications but we need to know if our education interventions are valid. In order to accomplish this by auditing the knowledge of a sample of inpatient diabetics before and after receiving the standard MMC Spanish language diabetes education interventions via Spanish language pre and post surveys (standardized by the previously validated SKILLD survey). Demographic and clinical data were analyzed and all significant data (p value <0.05) were considered for their importance. The data demonstrated that in all 10 items on the survey, overall patients were able to demonstrate significant improvement in survey scores. Additionally, comparisons of demographic data demonstrated that being less than 50 years old was associated with improved survey scores. This indicates overall benefit of the training program as well as possible insight into need for more aggressive training for patients greater than 50 years in age.

Methods

45 total patients participated in the study, which identified primary Spanish speaking inpatients with a diagnosis of diabetes (defined as A1C>7). Patients underwent a pre and post survey in Spanish to evaluate their knowledge before and after undergoing one on one health education by the MIHS diabetes educator. The education program was developed by MIHS and utilizes a motivational, transtheoretical model. It includes simple text and images to help as well. The survey (SKILLD survey) used is seen below in figure 1. It has been previously validated in both English and Spanish in separate studies. Demographic data, total scores, and individual question results were compared using linear regression, Wilcoxon signed rank test, and McNemar’s test respectively.

Results: Experiment 1

Overall pre and post test score demonstrated a significant improvement in survey results. Figure 2 below represents this change. Predictive qualities for improved score were assessed by comparing demographic data to change in survey score. Table 1 summarizes this data. Age less than 50 was associated with improved score but no other qualities demonstrated significant increase in score.

Discussion and Conclusions

Overall, the findings of this research are very positive. The significant improvement in survey scores for every question indicate that patients are learning about core measures of diabetes education with a one on one intervention from the MIHS Diabetes Health Educator. This data does not reflect health outcomes or long term learning outcomes. As such it provides a foundation for future analysis including follow up testing of diabetes knowledge to assess retention. It would also be prudent to measure outcomes like reduction in diabetes complications as a final comparison of the program’s efficacy. Furthermore, the data did not reveal many predictive factors for success in undergoing education. It was learned, however, that patients over the age of 50 do not immediately retain as much information from the education as younger patients. This could inform decisions in the future in identifying how to educate patients. It may be prudent to consider if younger patients could be educated by nurses or other professionals and free up more time for the health education team to work with older patients. This data demonstrates a clear benefit to the program’s existence and can hopefully be exploited to utilize the MIHS education resources to its fullest.

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