

Implementation of a Group Lifestyle Intervention Program for Staff and Hispanic Patients

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Background

Two-thirds of the adults in the United States (US) are overweight or obese, which can lead to diabetes and cardiovascular disease (Jarvis, 2019). More than one in ten adults currently has diabetes, almost 50% of the US population has prediabetes, and it is estimated that another 8.5 million adults have diabetes but are undiagnosed (Centers for Disease Control and Prevention, 2022). This is a concern for the US population and healthcare system, as diabetes can lead to further complications such as stroke, neuropathy, renal disease, and peripheral vascular disease (Jarvis, 2019).

The Hispanic population has now become the largest minority group in the US, comprising 18% of the US population, or 59.9 million people (Leng et al., 2022). The prevalence of diagnosed diabetes in the US is higher in the Hispanic population at 12.5%, as compared to non-Hispanic blacks at 11.7% and non-Hispanic whites at 7.5% (US Department of Health and Human Services, 2020). Hispanics are also being newly diagnosed with diabetes at higher rates, 9.7 per 1,000 persons, when compared to non-Hispanic blacks, at 8.2 per 1,000 persons, or non-Hispanic whites at 5.0 per 1,000 persons.

Diabetes places a massive financial burden of \$327 billion annually on our society, according to conservative estimates (US Department of Health and Human Services, 2020). Research indicates that when recognized, insulin resistance found in diabetes and pre-diabetes can be reversed with simple lifestyle modifications such as proper diet and exercise (van Ommen et al., 2018). The purpose of this project was to

help Hispanic patients implement these types of lifestyle changes using the Med-South Lifestyle Program. The in-person classes and written curriculum were offered in both Spanish and English to help decrease any language barrier.

When discussing with providers and key leaders at the partner organization, it was apparent that education for the Hispanic patient population was lacking and that increased health education could improve patient health outcomes. Spanish-speaking patients had not had the option to take part in lifestyle modification groups such as the Diabetes Prevention Program or Med-South Lifestyle Program due to a lack of involvement from Spanish interpreters (Centers for Disease Control and Prevention, 2023; Center for Health Promotion and Disease Prevention, n.d.). Therefore, offering the Med-South Lifestyle Program in Spanish was an identified opportunity for improvement within the organization.

Spanish-speaking patients face even more challenges in their health due to the language barrier, a lack of educational opportunities, transportation, lack of insurance, and long work hours. The partner organization has been aware of many of these challenges faced by the Hispanic population, and the organization offers seasonal outreach events throughout the year. However, health education takes time and effort, and many of these patients have admitted feeling powerless after receiving a diagnosis of a chronic illness that they do not understand, even when providers use an interpreter. Tackling the chronic disease epidemic of obesity, hypertension, and diabetes requires a targeted educational approach that the Med-South Lifestyle Program can provide.

Introduction

It was identified that Hispanic patients within the partner organization would benefit from a health education program in their native language to empower them and increase their understanding of how to fight chronic conditions. This lifestyle intervention DNP project aimed to decrease incidences of obesity and improve hypertension and diabetes in the Hispanic population. For Spanish-speaking patients to have a chance to combat diabetes, hypertension, and other chronic illnesses, they need bilingual health educators to help guide them on their wellness journey. Health educators can guide patients in creating personally developed action steps with realistic health goals. This project aimed to provide classes to Spanish-speaking patients following the Med-South Lifestyle Intervention Program curriculum. The project topic of interest was to decrease incidences of obesity and to improve hypertension and diabetes in the Hispanic population.

Literature Review

In a review of the literature, greater session attendance and engagement were associated with greater weight loss and better overall patient health outcomes (West et al., 2019; Rosas et al., 2022; Shams-White et al., 2022). There was also greater participant retention in shorter lifestyle intervention periods, such as the three-month Estrada Del Campo et al. (2019) study, as compared to longer intervention periods over 12 months in the Fernandez-Jimenez et al. study (2019), or eight years in the West et al. randomized control trial (2019).

Methods

During the pre-implementation and implementation phase of the project, by utilizing process measures of the RE-AIM framework (Glasgow et al., 1999), I met with project team members at least every two weeks to discuss project strengths and weaknesses. Project process measures included data such as patient response rate, patient participation rate, and patient suggestions, which were all utilized to help determine the effectiveness of the intervention. The University and Medical Center IRB prescreened the project and did not require an IRB review.

Interventions

My intervention design was structured over three months between September and December 2023. Four in-person sessions were scheduled at the partner organization, where I implemented the evidence-based Med-South Lifestyle Intervention in Spanish. For each of the sessions, I printed color copies of the Med-South curriculum for participants to review, ask questions, and write out their personalized health goals that they would be focusing on between sessions. As part of the curriculum, we reviewed nutrition labels, healthy fats and oils, vegetables and fruits, physical activity, unhealthy foods, and protein sources.

Methodology

My project methodology was based on the Health Empowerment Theory, which proposes that patient involvement in one's healthcare goals leads to better health outcomes (Shearer, 2009). I utilized the RE-AIM Framework for project management consistently every month to meet my project goals (Glasgow et al., 1999). The RE-AIM acronym stands for Reach, which should prompt the user on how to reach the target

population, Effectiveness, knowing if the chosen intervention is effective, Adoption, how to develop institutional support to deliver the intervention, Implementation, how to ensure the intervention is properly delivered, and Maintenance, how to incorporate the intervention so it is delivered over the long term.

Population and Recruitment

The goal was to have eight Hispanic patients with pre-diabetes, diabetes, hypertension, or obesity/overweight who lived in rural Northeast North Carolina and were patients of the partner organization attend all four sessions. The Quality Department at the partner organization helped in obtaining a list of patients on the hypertensive and diabetes registry within the organization, which was approximately 40 patients. With this list of candidates, patients were contacted via phone calls and text messages, and flyers were sent in the mail explaining the project's purpose to recruit those who were interested. In addition to this potential pool of participants, the project was also presented at the organization's staff meeting and provider meeting so that referrals could also be received directly from staff.

The secondary recruitment for sessions in English for this project occurred two months into implementation. A flyer via email was sent to all staff members at the project partner site to determine how many would be interested in having two abridged sessions with the Med-South Lifestyle Intervention in English.

Measures

The Patient Activation Measure, or PAM-13, was utilized as a measurement tool because of its reliability and validity to assess a patient's "knowledge, skills and

confidence for self-management of one's health or chronic condition" (Hibbard et al., 2005, p. 1918). The PAM-13 is "one of the most extensively used, widely translated, and tested instruments worldwide in measuring patient activation levels in self-management" (Bahrom et al., 2020, p. 22). The PAM-13 uses a 5-point Likert scale where participants respond with how much they agree or disagree with 13 statements about the amount of confidence they feel in managing their own health. A few example statements from the PAM-13 include, "I am confident I can help prevent or reduce problems associated with my health", and "I am confident that I can maintain lifestyle changes, like eating right and exercising, even during times of stress" (see Figure 1). Participants' scores are totaled, where a higher activation level indicates greater confidence and more behaviors adopted in the self-management of one's health.

Figure 1

PAM-13 Survey

Below are some statements that people sometimes make when they talk about their health. Please indicate how much you agree or disagree with each statement as it applies to you personally by circling your answer. Your answers should be what is true for you and not just what you think others want you to say.

If the statement does not apply to you, circle N/A.

| | | | | | |
|---|-------------------|----------|-------|----------------|-----|
| 1. When all is said and done, I am the person who is responsible for taking care of my health | Disagree Strongly | Disagree | Agree | Agree Strongly | N/A |
| 2. Taking an active role in my own health care is the most important thing that affects my health | Disagree Strongly | Disagree | Agree | Agree Strongly | N/A |
| 3. I am confident I can help prevent or reduce problems associated with my health | Disagree Strongly | Disagree | Agree | Agree Strongly | N/A |
| 4. I know what each of my prescribed medications do | Disagree Strongly | Disagree | Agree | Agree Strongly | N/A |
| 5. I am confident that I can tell whether I need to go to the doctor or whether I can take care of a health problem myself. | Disagree Strongly | Disagree | Agree | Agree Strongly | N/A |
| 6. I am confident that I can tell a doctor concerns I have even when he or she does not ask. | Disagree Strongly | Disagree | Agree | Agree Strongly | N/A |
| 7. I am confident that I can follow through on medical treatments I may need to do at home | Disagree Strongly | Disagree | Agree | Agree Strongly | N/A |
| 8. I understand my health problems and what causes them. | Disagree Strongly | Disagree | Agree | Agree Strongly | N/A |
| 9. I know what treatments are available for my health problems | Disagree Strongly | Disagree | Agree | Agree Strongly | N/A |
| 10. I have been able to maintain (keep up with) lifestyle changes, like eating right or exercising | Disagree Strongly | Disagree | Agree | Agree Strongly | N/A |
| 11. I know how to prevent problems with my health | Disagree Strongly | Disagree | Agree | Agree Strongly | N/A |
| 12. I am confident I can figure out solutions when new problems arise with my health. | Disagree Strongly | Disagree | Agree | Agree Strongly | N/A |
| 13. I am confident that I can maintain lifestyle changes, like eating right and exercising, even during times of stress. | Disagree Strongly | Disagree | Agree | Agree Strongly | N/A |

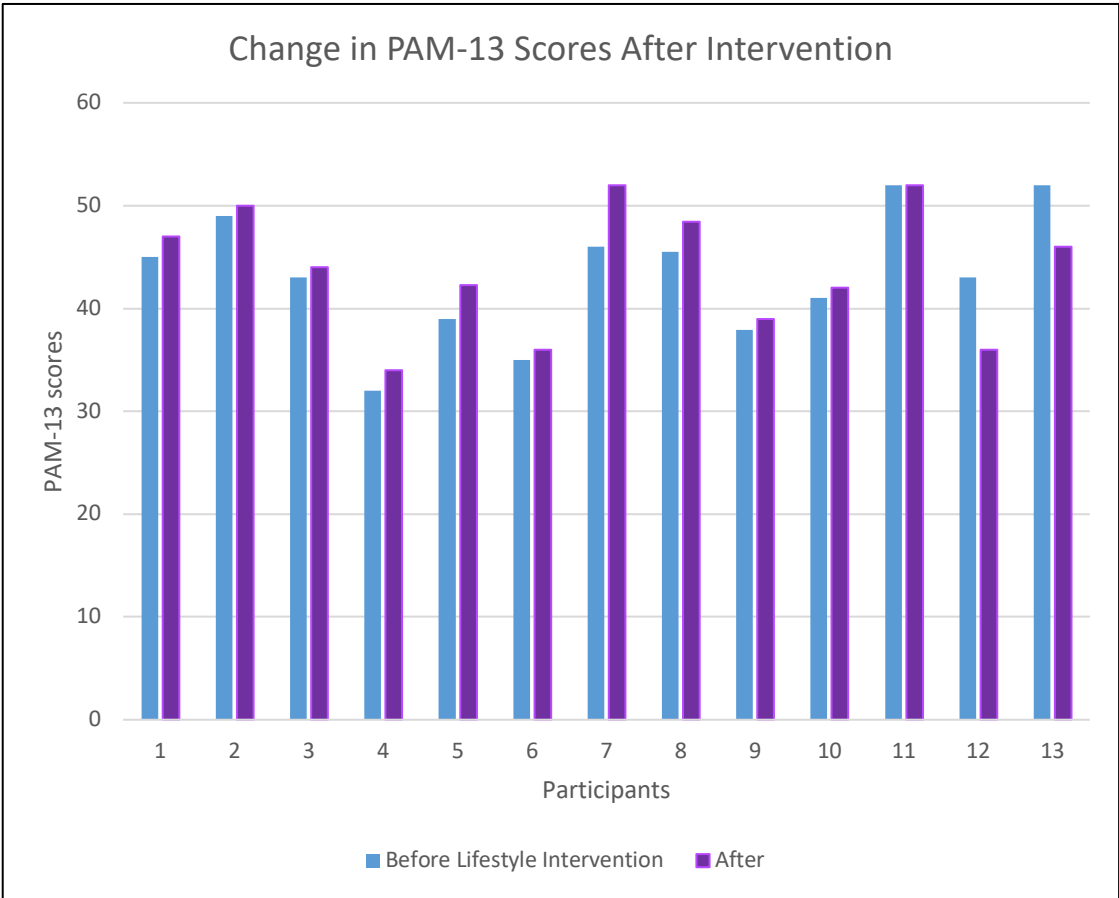
Other measures collected in this project included participants' body mass index (BMI), weight, and blood pressure before and after educational sessions, and qualitative survey data was also collected at the conclusion of the project. Survey prompts asked participants to comment on how they felt the partner organization could better support them in reaching their health goals, the most interesting fact they learned during the sessions, the takeaways they had, suggestions for future lifestyle intervention programs, and listing two lifestyle changes they had made since beginning the program.

Results

The PAM-13 survey outcomes were the most noteworthy finding in this project, where 10 out of 13 participants showed an increased PAM-13 score, meaning that 77% of participants felt more empowered to take control of their health and make lifestyle changes after the intervention (see Figure 2). Of the 13 participants, two had decreased PAM-13 scores, and one participant had the same score before and after the intervention. Having lower post-intervention PAM-13 scores indicated that participants felt less confident in their ability to take control of their own health.

Figure 2

Patient Activation Measure Scores After Intervention



As for cardiovascular health measures, 58% of participants (seven out of 12) showed improved systolic blood pressure, and 50% of patients (six out of 12) had improved diastolic blood pressure. Of the 13 participants, seven had lost weight (54%) after lifestyle interventions, one participant's weight remained the same, and five participants gained weight (38%). In addition, 55% of participants (six out of 11) had improved BMIs after intervention.

Many participants commented on how influential these lifestyle intervention sessions were for their health and how motivated they felt to start thinking differently about making small, healthy changes in their daily lives. Participants wrote the following about lessons they would take away from the educational sessions:

- "I learned a lot about reading nutrition labels"
- "How important a diet change could help me physically and mentally"
- "Small changes over time increase healthy eating habits"
- "I need to take care of myself because no one else is going to do it"
- "Simple decisions can improve my health"
- "How being overweight can cause a lot of health issues"
- "To not be afraid to try new foods for healthy eating"
- "I feel confident that I know enough to start making changes and healthier choices in my life to improve my health and overall wellness"

Some of the lifestyle changes that participants reported making since beginning the lifestyle program included drinking more water, eating more lentils, cooking with healthier oils, paying more attention to nutrition labels, being more mindful of serving

sizes, using the stairs instead of the elevator, going to the gym more often, reducing butter consumption, walking for an hour during lunch breaks, and trying to eat less sugar and more vegetables.

Discussion

The successes and failures of this project in reaching the Hispanic population will help guide future projects and initiatives that aim to improve health outcomes for this patient population. If patients commit to programs such as this, patient outcomes will improve, but educational programs have to be successful at first reaching the target patient population in order to be effective. More effort is needed to understand the underlying behavioral psychology determining how and why patients decide whether to commit to a program or initiative. Future research will help answer the question: How do we encourage patients to prioritize their health and empower them to make necessary lifestyle changes?

Limitations

Feedback from patient participants helped to determine when project logistic details needed to be adjusted, such as what time of day to offer the program and how to incorporate food into the meetings to promote better turnout. However, there were still many limitations to this project. Few Hispanic patients participated in implementation sessions consistently, and none came to every single session planned from beginning to end. As the curriculum is supposed to build on itself from session to session, this poor continuity certainly affected how useful the experience was for participants. Many of the outcome measures could not be evaluated, which led to a very small sample size.

Many barriers were experienced during the implementation of this quality improvement project. Overall, the Hispanic population did not express much interest in attending sessions related to improving health. Moreover, this patient population does not adhere to long-term commitments consistently, according to the Seasonal Agricultural Outreach Director, which became apparent in this three-month implementation period where attendance was sporadic. Work schedules and transportation may have also contributed to the poor attendance, but attendance was poor even when classes were offered during the evening hours after work. Much of the Hispanic population is transient and only stays in the area during the harvest of certain crops. By the time I realized some of these implementation challenges, it was too late in the growing season, and many of the workers had already moved on to other states. Future project implementation with this type of project would likely show better participation if implemented over the summer months and early fall harvest season after work hours alongside the Seasonal Agricultural Outreach Program.

As for barriers experienced with staff members and data collection, staff members voiced that taking their lunch break to participate in an event without pay seemed to be a burden as it took away their regular time of rest and decompression. Also, not every participant showed up to both sessions, so data collection was limited, and some survey and biometric data were missing. Also, due to the nature of shifting the project mid-implementation phase to offer the sessions in English for staff members, the intervention period became much shorter than originally planned, three weeks instead of four months, which could lead to less significant results. Furthermore, the

intervention period ended up including the Thanksgiving holiday, so due to factors outside of the confines of the project, participants reported that holiday eating influenced their goals of healthier eating, which may have adversely affected participant weights and BMI measures.

Conclusions

More research is needed to determine how to best reach the Hispanic population to promote lifestyle intervention. This quality improvement project did show, however, that lifestyle interventions such as the Med-South program led to participants feeling more confident and capable of managing their own health based on improved PAM-13 scores. A longer timeframe for implementation and follow-up would likely be needed to see significant improvements in blood pressure and weight or BMI, so this is a gap that could be improved upon if a similar project were pursued in the future. Overall, lifestyle interventions can have a huge impact on a person's health, and when a person feels more empowered, that is when lasting change can take effect.

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