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Participants of the Diabetes Prevention Program Not Completing the Program

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Abstract

The Diabetes Prevention Program (DPP) and its follow-up, the Diabetes Prevention Program Outcomes Project, is a short-term basic survey conducted in recruited cohorts from the Salinas and Watsonville area to determine the causes of participants not completing the program. This project examines the social determinants of health in Monterey county contributing to poor health problems in minority populations. The Diabetes Prevention Program classes offered through the Central Coast YMCA are showing low levels of participants and a high number of participants withdrawing from the program. When low levels of education combined with poor health issues and lack of transportation, it can contribute to low levels of completion rates in the program. This article will summarize the findings of the project and provide evidence, knowledge and insights gained from working with the participants of the Central Coast YMCA Diabetes Prevention Program.

Keywords: Diabetes, Cohort, Prevention, YMCA

Agency & Communities Served

The Central Coast YMCA is a nonprofit organization with the sole purpose to “embrace the values of caring, honesty, respect and responsibility with a mission to strengthen community through programs that develop youth, support healthy living and foster social responsibility” (YMCA, 2019). The Diabetes Prevention Program (DPP) is the evidenced based health initiative program offered by the YMCA to reduce the incidence of type 2 diabetes. Other programs being offered to the community are the Blood Pressure Self-Monitoring Program, Youth Fit 4 Life, and the Enhance Fitness Program. The DPP program is structured with a curriculum based from the Centers for Disease Control and Prevention (CDC). The program consists of 25 one-hour sessions delivered over the course of a year. Cohort classes are offered in english and spanish, a trained lifestyle coach facilitates a group of adults throughout the program. The Diabetes Prevention Program goals are to reduce your body weight by 7 percent and increase physical activity to 150 minutes per week. The Central Coast YMCA DPP program serves the communities in the counties of Monterey, San Benito and Santa Cruz. The participants in the cohorts in Spanish mainly come from the Salinas and Watsonville community and are employed as farmworkers in the agricultural fields from the Salinas Valley. Monterey County the population is 58.8% hispanic and

29.8% white alone (U.S. Census Bureau, 2018). Most spanish cohorts are held in clinics and facilities located in the east side of Salinas due to the significant amount of the hispanic population who reside in this geographical area.

Problem Description

Not all participants of the Diabetes Prevention Program are completing the program. Poor health problems have been on the rise in Monterey County, approximately 22% of the residents considered themselves to be in poor or fair health (County Health Rankings & Roadmaps, 2018). And, with approximately 45 percent of all residents in the county already being diagnosed with prediabetes, and 12% already with diabetes (Health Policy, 2016), the numbers indicate that there's an epidemic of diabetes in the community. The fact that Hispanics are nearly 2 times more likely to be diagnosed with diabetes, more important, these populations are the ones having a lower life expectancy (YMCA, 2019).

In this project we will discuss the main reasons why participants are leaving the DPP program. Along with prediabetes, participants are faced with other issues that result in increased health risk. Conversely, the DPP cohorts main contributing factors of not completing the program are, lack of transportation, low levels of health literacy and nonstandard work schedules. Furthermore, consequences of not completing all sessions of the program can result in being diagnosed with diabetes,

obesity and higher health care costs. However, once diagnosed with diabetes participants are not eligible for the DPP program. Current research evidence suggests that age consequently contributes in developing type 2 diabetes, and diabetes is the seventh leading cause of death in the United States (YMCA, 2019). In order to uncover the underlying issues that are causing low levels of participation in the program; the Diabetes Prevention Program Outcomes Project had to be implemented.

Contributing Factors

The transit system in Monterey County is very reliable and affordable, with this in mind, some participants don't use this service to remedy the issue of transportation. In the initial phone calls when conducting the follow-up survey, one of the participants stated over the phone that she left the program because she had no one to take her to the classes. As she spoke about the issue, she responded that everyone in her household worked long hours leaving her with no other means to get to the DPP classes, (M.S. Lopez, personal communication, January 15, 2019). In Monterey County social determinants of health can contribute to the withdrawal of the participants in the DPP program. The article, *Social Determinants of Health in Minority Populations: A Call for Multidisciplinary Approaches to Eliminate Diabetes-Related Health Disparities* states, "Social determinants have been defined

as factors in the social environment (e.g., socioeconomic status, housing, transportation, availability and accessibility of health care resources, and social support) that either positively or negatively affect the health of individuals and communities”, (Jack, Jack & Hayes, 2012). It is obvious such conditions as previously explained, suggests that health disparities can contribute in negative outcomes such as not completing successfully a health intervention program.

Furthermore, low levels of health literacy has a relationship with the level of education in adults participating in the DPP program. Research suggests that adults with low attainment of education have a higher rate of obesity and diabetes and in return they experienced larger increases in prevalence of these conditions, (UCLA Center for Health Policy Research, 2010). However, people with higher education attainment can make a better decision regarding one’s health and has been linked to be a strong predictor of quality of life.

Nonstandard work schedules on workers' health has been associated with poor self-rated health based on pooled data from the 2006, 2010, and 2014 General Social Survey, (Cho, 2018).

Most of the occupations in the tri-counties are supplied by the agriculture industry, followed by government and tourism. Seasonal jobs are dominant in the Salinas area because the harvest season in the agricultural fields lasts eight months from

April to November. Shifts of minimum ten to twelve hours are very common in the harvesting companies that hire most of the seasonal workers. As a result of the long hours, work to family conflicts and pressures from work cause strain-related symptoms such as fatigue, anxiety and irritability. This issue of nonstandard work schedules in theory creates an obstacle to maintain a proper healthy lifestyle among the families.

Working conditions also can prevent participants from attending DPP classes, field work such as harvesting onions causes watery eyes on the farm workers. On April 18, 2019 when I was facilitating one of the spanish cohorts in East Salinas, one participant showed up to class with watery eyes and stated, “I need to drop the class because my eyes are still watery and I feel very uncomfortable being like this in class”, (A. Oviedo, personal communication, April 18, 2019). The gentleman had been picking onions for ten hours and he needed at least two hours after work in order to recuperate his eyes back to their normal state. The effects from work and the environment can lead to poor health outcomes and affects the participation rates for the DPP classes.

Consequences

Lifestyle interventions, such as a healthy diet and physical activity can lower the risk of developing type 2 diabetes. Current research evidence suggests that

people with diabetes are at a higher risk of stroke, blindness, and depression, equally important is the fact that diabetes is the seventh leading cause of death in the United States (YMCA, 2019). In the year 2017, 9% of the population in Monterey County was diagnosed with diabetes (UCLA Center for Health Policy Research, 2017). If people don't complete the program they are more likely to get diabetes.

The prevalence of diabetes and obesity in California has been in an upward trend among adults born outside of the United States. Time spent in the United States among adults also contribute to the rise in obesity rates (UCLA Center for Health Policy Research, 2010). At the national level there has been an increase in the prevalence of obesity from 19.3% in 2001 to 22.7% in 2007, (UCLA Center for Health Policy Research, 2010).

People with diabetes have an increased likelihood of paying higher healthcare costs for treatment, this consequence directly affects the individual and the community, because it is estimated that “medical expenses for people with diabetes are 2.3 times greater than those without” (YMCA, 2019). According to a report “Someone diagnosed with diabetes by age 40 will have a lifetime medical spending that is \$124,600 more than someone that age who does not have diabetes.” (Robledo, 2016). It is clear that the diabetes crisis is out of control due to

low levels of education, work schedules requiring extra hours, and not to mention higher health care costs.

Capstone Project

By utilizing basic surveys, conducting phone calls to interview previous participants from the spanish cohorts and gather information from personal experience on why participants withdrew from the program was the framework for this project. Continued YMCA participation at outreach events to gather information was utilized for the purpose of analyzing data to restructure the project. Research based on peer reviewed journals supported the theory of social determinants of health causing disparities in the health of the community. Above all, the contributing factors that are causing an alarming high rates of diabetes will be further discussed. Findings of why participants withdrew from the DPP program were examined by conducting a pilot study.

Problem Model

Contributing Factors	Problem	Consequences
Lack of Transportation	Participants of DPP leave program	Diagnosed with Diabetes
Low Levels of Education		Obesity
Nonstandard Work Schedules		Higher Health Care Costs

Project Implementation

The vision for this project was focused in two elements, one to gather information through surveys and second to study the social determinants of health that contribute to the problem of why participants in the DPP classes were leaving the program. After careful analysis of the findings, the purpose of the project was to improve the health of the community and also to improve the DPP program so participants can stay in the program and accomplish the main goals of the program. The pilot study of the DPP outcomes project was an instrument to provide critical information to make decisions in the future to better serve the community. The first step in the implementation plan reflected the development of a survey, consisting of questions that former participants who withdrew from the program responded to provide feedback. Surveys based on major demographic characteristics as well as important topic-specific characteristics were the methods used to collect data. Results such as participant flow, for example the total number of cohorts from dates defining the periods of participation in the program and repeated number of participants who did not complete the program in the same time period were gathered. Validity of the findings, taking into account: How, what outcomes were measured and the length of the follow-up along with the detailed

implementation plan and timeline can be seen in the Scope of Work in Appendix A.

Project Purpose

Given the gaps of incompleteness of participants in the DPP program, finding conclusive evidence as to why they leave the program was beneficial to achieve a higher level of participation in the DPP cohorts. Contributing factors such as Nonstandard work schedules are affecting various participants in the DPP program. Various jobs in the tri county areas require nonstandard work schedules due to the industry sectors such as agriculture that require a specialized labor force. Harvesting fresh produce requires workers in this type of jobs to pick the vegetables at early hours in the morning compared to normal working hours found in most non-agriculture jobs. Shipping cooler warehouses have graveyard shifts requiring workers to stay up all night causing health problems and work to family conflicts. By taking a closer look as to why these patterns in the social determinants of health are causing higher rates of diabetes, the study project was aim to address the issues in these populations.

Project Justification

As noted earlier, research has shown that people with diabetes are at a higher risk of stroke, blindness, and depression, equally important is the fact that diabetes

is the seventh leading cause of death in the United States (YMCA, 2019). By facilitating the creation of this project, the levels of diabetes can be reduced to 7 % in Monterey county from the previous 9 % in 2017. This also presents an opportunity to improve participants health, lower overall costs of the program, reduce dropout rate and improve efficiency through better coordination and information sharing between staff and Bill Proulx YMCA Director.

Assessment Plan and Expected Outcomes

Feedback through surveys conducted via phone was how the data was collected by interns. Results were manually entered into a database for reporting to the agency director. Following HIPAA confidentiality procedures to ensure that privacy and security of personal health information was protected in the process. The Central Coast YMCA and with the support of its Director Bill Proulx to supervise the project, private exchanges of health information with participants and agency staff remained confidential.. The expected outcomes were to close the gap in non-completers as well to increase the recruitment of participants in the cohorts.

Project Results

A survey of 15 participants was conducted to help understand why participants were withdrawing from the program. Three spanish cohorts were closely studied from the Salinas and Watsonville areas. These findings supply

evidence on the top three reasons why participants are not completing the program.

Implications included: 1) health issues, 2) transportation issues, 3) lack of motivation. Health issues such as being diagnosed with cancer and appointments with doctors during the times when the cohorts were being offered in some cases interfered with the attendance of many participants. Other respondents stated that they had to take care of their family members due to long term illnesses causing them to move out of the area and stay with them in a different residence.

Transportation was the second major reason why participants failed to complete the program. Transportation issues as to being too elderly to drive, and physical limitations of not being able to walk long distances to take the bus also contributed in a low level of attendance in the diabetes prevention classes. The third reason was lack of motivation. Some respondents stated if it wasn't for the lifestyle coach letting the participants socialize constantly in the class; most of the participants would probably continue attending the classes. Other respondents stated that the intern facilitating the class was too young, and didn't know much about the content when presenting the information about diabetes prevention. Yet, even those participants who believed that there were not so many of them attending the classes, they felt that less and less participants stop going because of lack of motivation.

Conclusion & Recommendations

The DPP outcomes project provided valuable insights into which types of contributing factors had the greatest impact causing a majority of the participants to not complete the program. The results of this capstone project reflect the immediate need of restructuring a more refined program focused on attendance rates and close supervision with frequent feedback from the participants. Social determinants of health such as the work environment as previously discussed can contribute in having a poor health problem that constrains the ability to being able to attend to a health program in the community. Considering the health issues that affected 26.7% of the participants in this study, this suggests that pre-diabetes is not the only health issue that participants are dealing with, these results suggest that other health problems are preventing the participants from attending the DPP classes. The second finding relating to transportation issues suggested a more clear perspective of the lack of transportation, which represented a 20% response rate over this issue in the study. This result is also very indicative of participants not having a driver's license due to age and other family obligations. Moreover, the third finding suggested the evidence that caused a relationship between loss of interest and lack of motivation. It is important to note, however, one cohort in this study was facilitated by an intern from California State University Monterey Bay.

The other two cohorts were facilitated by non-interns. How this may relate to the low numbers of attendance, is not very clear at this point. Lack of motivation can arise from not seeing results in weight loss and better health outcomes among the participants. Another 20% of respondents felt that loss of interest was their main concern. This may indicate that classes were not being taught with more experienced facilitators causing participants to not comprehend the content because of their education level.

Recommendations for the DPP program for the future would be to seek support from the agricultural companies in providing a less conflicting schedule to their employees. This means releasing employees earlier from work, so they can attend their DPP classes. Companies can help with the cost of the program, this will raise the commitment level of the participants to attend the classes. The Central Coast YMCA has the need to make sure that their lifestyle coaches undergo through evaluations more frequently. Close supervision by the Director Bill Proulx, for example, observing the lifestyle coaches when conducting the classes. Pertaining to the transportation issue, one recommendation would be to negotiate with the local taxi cab companies to offer a discounted rate to the participants of the DPP program, this will help the program retain more participants and will lower the dropout rate.

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Appendix A

Scope of Work

Activities	Deliverables	Timeline/Dates	Staff
Developed Survey	Presented as a professional sample to mentor	Spring 2019	Armando Politron
Conducted surveys via phone & mail	Input results in database/excel spreadsheet	Summer 2019	Interns
<ul style="list-style-type: none"> ● Conducted capstone meetings ● Analyzed results 	<ul style="list-style-type: none"> ● Once a week ● End of October 	Fall 2019	Bill Proulx/Armando Politron

Follow-up Survey

* Why did you decide to stop attending the DPP classes?

Lost interest

Moved out of the area

Transportation issues

Health issues

Conflict with work schedule

Other:

*Did you lose interest because there were not many participants attending the classes?

Yes

No

Maybe

*Since dropping out of the program have you taken any other action to reduce your risk of being diagnosed with diabetes?

Yes

No

Other:

*Gender?

Female

Male

Prefer not to say

Other:

*What is the highest level of education you have completed?

Less than High School

High School / GED

Some College

4-year College Degree

Masters Degree

Doctoral Degree

*Have you been diagnosed with diabetes?

Yes

No

Don't know