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Entendiendo las Calorías/ Understanding Calories

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Abstract

In Monterey County nearly half of residents have been diagnosed with diabetes or pre-diabetes. Monterey County is 58.3% Hispanic and studies show that Latinos are 50% more likely to die from diabetes than Whites. Therefore the Central Coast YMCA Diabetes Prevention Program seeks to prevent the development of diabetes by aiding prediabetic patients to make a lifestyle change and become healthier through a one-year program. In the United States non-English speakers often lack access to resources in their own language. With this knowledge the YMCA's Diabetes Prevention Program has created an educational resource to support Spanish speakers in understanding materials which are only available in English. The information was provided to Spanish speaking cohorts, where participants had the opportunity to utilize the resource and provide feedback on its effectiveness. Participants completed a written assessment on the effectiveness of the educational resource and modifications were made based on participant feedback. In the future the agency should provide this resource in all Spanish speaking cohorts, until other options are available.

Keywords: diabetes, pre-diabetes, Hispanic, language barrier

Agency and communities served

The Central Coast YMCA is an independent, private, nonprofit corporation, governed by the laws of the State of California (YCMA, 2018). The Central Coast YMCA embraces 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. The vision of this nonprofit agency is to expand their impact by helping more people gain the skills and support needed to live healthy and fulfilling lives. The YMCA operates in 5 different branches throughout the Central Coast of California. The Central Corporate office is located in Salinas and this office is in charge of the Diabetes Prevention Program (DPP).

The Diabetes Prevention Program focuses on helping those who have been diagnosed with pre-diabetes ages 18 and older. These pre-diabetic participants have been diagnosed and referred to the YMCA's Diabetes Prevention Program by a physician. However, the YMCA DPP program also accepts personal referrals by filling out a brochure of the DPP program. The YCMA then helps these participants join a one year long cohort depending on their available times, dates as well as languages. The YMCA DPP offers classes in the morning from 9-10 and in the afternoon from 6-7 both in Spanish and English depending what is best option for the participant. Once the participants decide on one day of the week for one hour in which they will commit to attending a cohort, they begin. The participants are then guided by a lifestyle coach to help them learn skills to do a total of 150 minutes a week of physical activity. While in this program participants must track all they eat while writing down all the calories. In addition, they have to be weighed in all sessions, this helps the YMCA keep track on whether participants are losing or gaining weight. This is all aimed at helping the participants live a healthier lifestyle in preventing diabetes.

Problems, Issue or Need

Contributing Factors	Problem	Consequences
<ol style="list-style-type: none"> 1. Language Barrier 2. Low paying jobs 3. Job schedules 	Low retention rate in Spanish speaking DPP cohorts.	<ol style="list-style-type: none"> 1. Not recommend program 2. Get diabetes 3. Death

The problem at the YMCA DPP is that there are low retention rates in Spanish speaking DPP cohorts. The contributing factors to this is that there are not enough resources in their language for them to succeed, work seasonal jobs so it is harder for them to commit, and they are unable to afford fresh fruits and vegetables. The consequences of this problem is that the participants will get diabetes, they will not recommend the program and even die because they are not getting the support to prevent this disease. This problem was determined because the DPP has shown that it is not very successful given that only 2 participants have reached the goal of the program out of 60 Spanish speaking participants (J. Cornelius, Personal communication, February 27, 2018). Clearly these classes and resources being offered are not enough for the participants to be successful in the program.

One of the factors to this problem is language barrier. The DPP has translated their 25 sessions into to the Spanish language however, some vocabulary is not the type of vocabulary they use on the everyday basis. In fact, the Econometric Society (Blume, 2013) states that there are number of ways to express the language and reasoning behind the language. This here states that although the vocabulary may be in Spanish it does not necessarily mean they understand what is being asked from them. Another form of language barrier, is the Calorie King book which the agency provides. This book contains the number of calorie in different foods. However, this book is only in English. Therefore those who only speak Spanish are not able to understand how many calories are in the meals they are consuming. Although this is one of the

requirements of the DPP, the Spanish speakers are unable to fill it out successfully. “Research has shown that using a foreign instead of the native language can sway our morals” (Geipel Hadjichristidis, and Surian, 2015). This indicates that people who are not reading and learning in their own language will not learn effectively. In addition, Geipel, Hadjichristidis, and Surian (2015) mention that foreign language triggers emotional distance. With this information you can prove that people who do not understand the material will walk away from it. This may lead to a small amount of people in cohorts because they feel no emotional connection to the program.

Another factor for participants not completing the program successfully is that they are uneducated and therefore, have low paying jobs. These low paying jobs are not enough in order for them to be able to provide healthy meals. Most field workers usually get paid the minimum of 11 dollars an hour with a total of 40 hours a week. Adding up rent, food, and child care these participants usually use little money for food. Research conducted in Harvard school of Public Health (2013) indicates that, “over the course of a year, \$1.50/day more for eating a healthy diet would increase food costs for one person by about \$550 per year”. This indicates that these low-income Spanish speaking participants have to work one whole week in order to pay at least part of their healthy meals. Clearly, low-income families are unable to provide for healthy eating making it a challenge for them to be successful in the DPP.

Job schedules are another factor for the low retention rate amongst the Spanish population. Most of this population works in the fields or in coolers making it challenging to commit completely to a one year long program. These low incomes jobs usually range from all year or 6-9 months from March to November and do not have an exact time to get out of work. “About 20% of the total number of farm workers in California are employed consistently year round, while the rest only have seasonal work or are unsure whether they are employed year-

round or seasonally” (National Farm Work Ministry, 2009). This reiterates that most of these workers have a full time job in which does not allow them to commit consistently for a one year long program, making it difficult for the participants to attend all year round. However, the seasonal workers attend more while on their time off but once the season starts these participants disappear from the cohort. Moreover those who have work all year long follow their jobs to different areas. This job stop participants from attending the cohort because they are no longer in Monterey County making the retention rate for the DPP low.

A consequence of a low retention rate is participants may not recommend the program. Not having material in their native language will make the participants not feel at ease as mentioned before causing them to say negative comments to other Spanish speaker, making the program become unsuccessful. These bad recommendations will affect the number of participants to attempt to join the program as well as those who are already in the program. Furthermore, these low numbers may also cause the program to no longer exist, affecting the program and the community. In addition, to affecting the program the program will also take a toll on the Spanish speaking community because they will not feel like the program is worth their time because of the low number of participants and bad recommendations.

Another consequences, of participants not being able to succeed the 25 session cohort is getting diabetes. There a three types of diabetes, the diabetes that the DPP focuses on is type 2. Type 2 diabetes is “a life-long disease that affects the way your body handles glucose” and there are about 29 million people in the United States with Type 2 diabetes (WebMD, n.d). This clearly states that if there is no action taken in helping the participants in the DPP they will more likely add to the 29 million. This will not just be an increase in a number of people who have diabetes but this will also cost the United States billions of dollars. In fact, Burns (2018) indicates that it

costs the United States a total of \$245 billion dollars in the year of 2012, but the costs are expected to increase about 41% each year. These statistics prove that diabetes is a problem that is impacting all those in the United States and if there is no improvement more people will fall into this category.

Unsuccessful results in the DPP can also lead to death. According to the Center of Disease Control (CDC) (2017b), diabetes is number 7 of the top 10 leading causes of death. This here states that diabetes is an upward trend among deaths in the United States. It may not be the number one leading cause of death but it still one of the most common deaths. Moreover, there were a total of 79,535 deaths in 2016 (CDC, 2017a). Leaving diabetes at a total of 24.0 per 10,000. This statistic clearly indicates that the death rate of this disease has a large impact. Therefore, if there is no solution to not succeeding in this program the Hispanics will end up having diabetes and later dying, when all this could be prevented. According to the CDC (2017c). "Hispanic people are about 50% more likely to die from diabetes than whites". This here indicates that Spanish speakers are more vulnerable and most likely to have diabetes if no prevention help is provided.

Capstone Project Description

The name of this project is *Entendiendo las Calorias* or *Understanding Calories* in English. *Understanding the Calories* is an extra resource for the Spanish speakers in the DPP. The Spanish speakers use an English book to count the number of calories they have consumed, since it is a requirement of the program. Therefore, *Understanding the Calories* is a handout with a translation from English to Spanish of the index and some vocabulary in the book. This project also included some instructions in Spanish on how to navigate through the book in order to find the correct food they are looking for. This program is available for all the participants who are

joining the program or are already in the program who speak Spanish. This allows the participants to feel more at ease when looking for the calories they have consumed, allowing them to track and write more in their daily journals. This also helps them be more aware of how many calories they need to reduce in their lifestyle in order to make a healthy change.

Currently the DPP has shown that it is not very successful given that only 2 participants have reached the goal of the program out of 60 participants (J. Cornelius, Personal communication, February 27, 2018). With that said it proves that extra help is needed in order for these participants to reach the goal of the program and to prevent diabetes. The reason this handout was made in Spanish is the following. First, Spanish speakers are most of the population in the Monterey County. In fact, 47.1% of the population speaks Spanish as their primary language (American Fact Finder, 2016). In addition, some Spanish speakers usually have little to no education. In fact, in Monterey County 39,889 Spanish speakers have an education lower than a high school diploma (American Fact Finder, 2016). Providing this extra resource for Spanish speakers will help them succeed in the program, and continue with a healthy lifestyle. Offering these handouts to the Spanish speaking population will help achieve the YMCA mission which is to “strengthen the community through youth development, healthy living, and social responsibility” (YMCA,

Understanding the Calories will consist of a facilitator that created a how to use handout for the Calorie King book. The facilitator translated the index and vocabulary that is too difficult for the participants into their native language. After creating this handout it was important for a Spanish speaker to test it out. The facilitator provided the how to use handout to Spanish speaking cohort participants in order to get feedback. Furthermore, the facilitator had to verify that the wording and directions are clear to the user. Other than the facilitator it was

important to get feedback from the mentors who speak Spanish. Spanish speaking mentors input is a major necessity because it gave the facilitator a different range of words that may be easier to understand. Furthermore, the mentor helped with printing the handouts when needed. In addition, other Facilitators who speak Spanish were an important part to making sure that the participants are able to understand the handout. Additionally they provided handouts to their Spanish-speaking participants. There is a detailed scope of work in Appendix A.

Although there was a scope of work there was a couple of challenges and obstacles along the way. The first challenge was finding the correct way to translate the words. Although those who used the guide all speak Spanish not everyone's vocabulary is at the same level. In addition, to the education and language issue there was a challenge of making the instructions clear and precise without missing any steps. Finally, it was challenging to receive the assessment scores since the two cohorts were biweekly.

Project results

This project implementation created a various amount of outcomes. Some short term outcomes were that these participants learned how to adequately navigate through the book. Another short term outcome was for participants to understand the where information was found. However, it was planned that in the long term the DPP would see more Spanish speakers being able to navigate through the book, participants understanding what food have less calories, meeting the DPP goal of losing 5-9% body fat and to prevent diabetes. The way this educational resource was implemented was by handing out *Entendiendo las Calorias/ Understanding Calories* to two fairly new cohorts. After trying this resource for two weeks participants were assessed.

The method that was more reasonable to assess the project outcomes was by surveying the participant’s ability to navigate through the book. The facilitator determined if this project was successful by having a written assessment. The written assessment was completed in Spanish after the participants tried out the handout for 2 weeks. The questions that were asked are attached on Appendix B. This assessment was a written assessment because these Spanish participants were fairly good writers and readers in the Spanish language. However, if one was at a different level they would have received an oral assessment by the facilitator of the guide. Five guides were given to each cohort, with two cohort using the guide. This indicates that a total of 10 guides were handed out. After the participants had two weeks using the guide, participants received a written assessment, asking them 3 questions. Out of the 10 assessments only 8 were received back because of lack of attendance. The written assessment lead to the following results:

Number of participants	Were you able to understand how to use the book?	How did you find these resources useful?	What changes would you make to this resource?
Cohort 1: 5	Yes: 7	Able to find food: 2	No response: 1
Cohort 2: 3	No: 1	Compare foods: 3	No change: 3
Total: 8		Find food fast: 3	Give at an earlier time: 4

The written assessment then lead to making corrections based on the participant’s feedback, in order to make it a more successful resource. Based on the results the participants felt there was no need for change in the actual guide; therefore, no changes were needed. However, there was a lot of expected outcomes that were achieved. For example, most of the participants agreed that this guide saved them time in finding their food consumption. In addition, they mentioned that this guide helped them realize which of their food had more fat. Moreover, most participants said they were able to understand the book better now with the guide. However, in

the additional comments most participants mention they would just prefer an actual book in Spanish because they still do not feel at ease with it.

The strength of this project was that it proved to be effective in the two cohorts in which it was distributed. Another strength was having various amount of Spanish speaker view the directions from the guide before handing it out because it caused the project to be more reachable for all level of Spanish speakers. On the other hand, limitations caused the project to no come out exactly as planned. For example, it was originally planned to be an oral assessment but because of cohort time and location the facilitator was unable to make it out to the cohort and it was determined to be a written one instead. This limitation caused it to be a little more complicated in receiving the assessment results.

Personal Reflection

A recommendation for the YCMA DPP is that they should find an actual Spanish book for the participants to use. This will give a better result for the actual participants and for the retention level of the DPP. However, while this book is located this guide should continue to be handed out for all Spanish cohorts. *Entendiendo las Calorias/ Understanding Calories* should be provided by the DPP in session 1 of the Spanish cohorts; this will help the Spanish speakers understand the book earlier in the program. In addition, a recommendation is that this guide should be offered to all participants who are already in the program, as this will also help them understand the book even if already in a cohort. As soon as a Spanish book is found these guides should be removed from the program because although they are a good help the Spanish book is what they would benefit more from. These recommendations will continue to address Spanish speakers understanding the book, more weekly journals turned in, the retention level of the DPP,

and the prevention of Diabetes. These recommendations are based on the assessment results that were collected after the guide.

Aside from the recommendations learned there was a lot learned during this project. This project allowed the intern to gain more knowledge on diabetes, lifestyle changes as well as language barriers. Diabetes was something learned because the intern had little to no knowledge on the topic before the placement at the YMCA DPP. Therefore this allowed the intern to learn of a preventable disease that needs lifestyle changes. These lifestyle changes were also learned during this project because the intern did not realize how complicated it is to make a lifestyle change in just one year. In addition, the intern learned that although it might be easy to understand the actions expected it is difficult to actually create the changes especially when the information is not in their native language. Although the intern had already lived through language barrier issues this project made a clear vision on how difficult it is to learn from something you do not understand. On the other hand, the intern also learned that no matter how easy a project can seem it takes time dedication and perfection before it is worthy to hand out. Moreover, the intern realized that working with various amount of people might make it difficult to come up with an agreement; therefore, it is important for all projects to be done with a lot of time and dedication. Finally, the intern also learned that no matter how perfect a project results to be there is nothing better than taking the participants who use the project into consideration because at the end of the day those are the people who matter.

Those people who matter in this project are the Spanish speaking Pre-diabetics in the YMCA DPP. This project addresses the prevention of Diabetes through a language barriers, amongst these individuals. These individuals are already in a prevention program which offers most resources in Spanish however, there is one resource that is not. The English resources

creates a language barrier amount these individuals making it difficult for them to maintain the one year long program. Therefore this guide helps diminish the language barrier these participants are suffering through, allowing them to feel more comfortable in completing the one year long program to prevent diabetes in Monterey County. Although this project diminishes the language barrier it does not get rid of it. Therefore, more should be done such as receiving an actual Spanish calorie book. This book would help stop the language barrier and create a better environment for the participants to prevent diabetes.

Advice for future interns would be to find something they are passionate about. This internship is CDC based therefore it has restriction on what can be changed. However if language barrier is something people are interested in the Spanish population is really in need in this internship. Based on the results from this project it proves how Spanish speakers would feel better if the book would be in Spanish; therefore, finding this resource will help them be successful in the program and in preventing diabetes. With that said new interns should try to find a book for them to use if language barrier is something they are passionate about. Otherwise attempt to work around something that is already created, this will help save time and still make an impact in this internship.

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Appendix A

Activities	Deliverables	Timeline	Estimated completion dates	Supporting Staff
Translate index	Microsoft word and the Calorie King book	June –July 2018	June 15, 2018	Me
Translate certain vocabulary	Microsoft word, calorie king book, google translate	June-July 2018	June 25, 2018	Me/ Jennifer
Create how to use the book	Microsoft word	July 2018	July 10, 2018	Me
Write down instructions	Microsoft Word	August 2018	August 10, 2018	Me/ Jennifer
Have others use it	Microsoft Word, email	September 2018	September 18-25, 2018	Jennifer/ Marisela/ Sara/ Me
Perfect it	Microsoft Word	September 2018	September 25-30, 2018	Me
Print	Paper, printer, ink	September 2018	September 30, 2018	Me/ Jennifer/ Bill
Handout to other coaches	Time, personal, and paper	September-October 2018	October 9, 2018	Sara/ Jennifer/ Me
Handout to participants	Time, personal, paper, and participants	October 2018	October 9- 18, 2018	Sara/ Jennifer/ Me
Participants use it	Handouts and book	October 2018	October 9-18, 2018	Participants
Receive feedback by participants	Oral communication, participants, and questions	October 2018	October 25- November 1, 2018	Sara/ Jennifer/ Me

Appendix B

Preguntas después de Entendiendo las Calorías

Preguntas

Pregunta #1: ¿Usted pudo entender cómo usar el libro?

Pregunta #2: ¿Cómo encontró estos recursos beneficiarios para usted?

Pregunta #3: ¿Qué cambios le haría a estos recursos?

Comentarios adicionales

Comentarios adicionales: