

Research Article

A Direct Observation Study of Health Education Classes for Uninsured Primary Care Patients

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ABSTRACT

Lifestyle related health issues are a significant concern in the United States. In safety-net primary care clinics such as free clinics, health education programs have the potential to reduce the prevalence of lifestyle related health issues amongst vulnerable, low socioeconomic populations. The purpose of this study is to describe health education programs for underserved populations at a free clinic using direct observations based on the Theory of Planned Behavior (TPB). The primary data source of this study was field notes based on observations of health education classes at a free clinic. Nine health education classes were observed in October and November in 2016 (total number of participants=55). Participants were most receptive when conversations were dialogue instead of lecture based within the informal classes. Within the formal class, the lecture format proved to be effective. In both types of classes, participants felt they had adequate information on certain topics but lacked the accountability or will power necessary to make health-related behavior changes. Participants explained that the health education classes were effective in reminding them about certain aspects of health that they did not think about daily. The TPB seems to be a useful model to study health behavior change within the setting of free clinic informal waiting room classes. To promote behavioral changes, perceived behavioral control would be one of the key areas to focus on in health education classes. Future projects should develop health education programs which respond to the results of this study and evaluate the programs.

Keywords: Health education; Medically uninsured; Safety-net; Direct observation; Theory of planned behavior

Key points:

What is known about this topic?

- Underserved populations who experience economic barriers or cultural and/or linguistic face barriers in accessing primary medical care services
- Health education programs have the potential to reduce the prevalence of lifestyle related health issues amongst vulnerable, low socioeconomic populations.

What the paper adds?

- Participants were most receptive when conversations were dialogue instead of lecture based within the informal health education class.
- Within the formal health education class the lecture format proved to be effective.
- Participants of health education classes felt they had adequate information on certain topics but lacked the accountability or will power necessary to make health-related behavior changes.
- Participants of health education classes explained that the health education classes were effective in reminding them about certain aspects of health that they did not think about daily.

Introduction

Lifestyle related health issues are a significant concern in the United States (US). The top five leading causes of death in the U.S. are heart disease, cancer, chronic lower respiratory diseases, and unintentional accidents [1]. In data from 2008 through 2010, the percentages of preventable deaths were 34% for diseases of the heart, 21% for cancer, 39% for chronic lower respiratory diseases, 33% for cerebrovascular diseases (stroke), and 39% for unintentional injuries [2]. These percentages show the potential in the reduction of avoidable deaths through preventative health measures. However, underserved populations experience economic barriers (low-income or Medicaid-eligible populations), or cultural and/or linguistic barriers in accessing primary medical care services [3]. Additionally, underserved populations are disproportionately afflicted with certain health outcomes (including lifestyle related health issues like diabetes and hypertension), a term known as health disparities [4].

In safety-net primary care clinics such as free clinics, health education programs have the potential to reduce the prevalence of lifestyle related health issues amongst vulnerable, low socioeconomic populations [5,6]. Health education programs are one strategy for delivering health education information [7]. Studies have shown the effectiveness of lifestyle intervention programs amongst free clinics populations [6,8]. Yet, there are

some challenges for safety-net primary care clinics to provide effective health education programs for lifestyle related health issues. Their patients tend to have low levels of health literacy, and may not be aware of available health education resources [9,10]. Free clinics often have limited financial and human resources and may not be able to provide comprehensive health education programs regularly [5].

One of the gaps in literature focused on health education programs at safety-net/free clinics is qualitative analysis of health education programs themselves. Previous studies that examined health promotion programs for underserved populations are quantitative or qualitative which do not analyze what actually happened during a health education program by direct observations, rather analyzed effectiveness or perceptions of the programs. Direct observations are useful to better understand implementation problems and to assess the process of an activity [11]. The advantages of direct observations include 1) data is based upon actual events or activities; 2) it is possible to gather information regardless of participants' willingness or ability to deliver information; and 3) data are based on what people are actually doing, not on what they said [12]. Yet, few studies have examined health promotion programs for underserved populations using direct observations.

To address these research deficits, qualitative direct observations of health education classes were conducted at a free clinic, which provides primary care services to the uninsured. Due to the need to examine motivation for lifestyle behavior change and patient perception, the Theory of Planned Behavior (TPB) was chosen as a conceptual framework for examining the health education classes, as the TBP has been noted to be one of the "most frequently cited and influential models for the prediction of human social behavior" [13]. The TPB, which was developed in 1991, has been tested widely and has proven to be a valid, reliable model for predicting behavior" [13]. Two main factors the TPB seeks to study are motivations and barriers for behavior change. In the TPB, attitudes, subjective norm and perceived control are more impactful on intention to perform the behavior and behavioral change [14]. Attitudes are individual's beliefs of positive or negative outcomes of the behavior [14]. Subjective norm refers to motivation to comply through whether "referents," people of influence, approve or disapprove the behavior [14]. Perceived control is also studied to determine whether participants feel they have the self-efficacy to make health related behavior changes [14].

The purpose of this study is to describe health education programs for underserved populations at a free clinic using direct observations based on the concept of the TPB. This study will contribute to increasing knowledge about health education programs for underserved populations. This study is important to better implement health education programs for underserved populations and identify unspecified problems in the programs.

Methods

Overview

The free clinic which this study was carried out is a nonprofit organization with the following mission statement: to improve the quality of life by providing free medical services for uninsured and low-income individuals and families to help reverse the cycle of poverty and suffering created by poor health. The clinic provides primary health care services including treatment of acute illnesses, management of chronic illnesses, and preventative services such as mammograms. In addition, the clinic has a resource office that connects patients to specialists in the community for treating ailments outside the scope of primary care.

The clinic treats uninsured individuals who do not qualify for Medicaid or Medicare or any types of health insurance, and individuals who are 150% below the Federal Poverty Guidelines. Donations, private grants, and in-kind professional services fund the clinic. In 2015, there were 16,166 patient visits with the average cost being $47.50 for each patient visit. Due to the high number of patients treated, it can be deduced that the clinic makes a large impact on the community.

The clinic offers several types of formal health education programs taught by volunteer healthy living educators who have a relevant background to teach healthy lifestyle. Healthy Living Classes are offered twice a month (one hour each) for patients who would like to learn about healthy diet, physical activity, and stress management. Diabetes and Hypertension education programs are also offered twice a month (one hour each). For diabetes and/or hypertension patients, the additional one on one classes are offered to discuss all aspects of healthy living (30 min each) . The clinic also has weekly one on one health coaching for pre-diabetics through the National Diabetes Prevention Program and the Hypertension Program through Million Hearts. In the past, the clinic offered Living Well with Chronic Conditions classes for patients with diabetics. All of these are formal programs are well funded and offered to patients at no cost. However, these formal programs are not necessarily attended well.

The clinic offers informal health education classes in order to convenience the patients who are not able to come to the clinic for a class in addition to their regular appointment. The informal classes are offered intermittently for about one hour and are taught by graduate or undergraduate students majoring in a health-related field or have a relevant background to teach healthy lifestyle. Based on the clinic's experiences, it is important to note that the under usage of classes stems from difficulties in incentivizing people to attend the classes, rather than from a lack of funding to host the classes. Better understanding of health education programs for underserved populations is needed to better utilize the available resources.

Study procedure

This study was approved by the Institutional Review Board (IRB). The primary data sources of this study were field notes based on direct observations of health education classes at the clinic. To ensure consistency of field notes, a field note template, which is presented in the Appendix, was developed from the TPB. Nine health education classes were observed in October and November in 2016 (Table 1). Fifty-five patients participated in this study. Eight of the classes were informal, conducting by recruiting participants while they were waiting for an appointment with a provider. All of the classes were taught in English and Spanish simultaneously. The length of

Table 1: List of observed health education classes.

Class	# of participants	Format	Topics
1	10 (5 females, 5 males)	Informal waiting room class Discussion	Nutrition My Plate
2	8 (4 females, 4 males)	Informal waiting room class Discussion	Benefits of physical activity
3	7 (5 females, 2 males)	Informal waiting room class Discussion	Beverage nutrition and consumption
4	5 (4 females, 1 male)	Informal waiting room class Discussion	Home dental care
5	5 (4 females, 1 male)	Informal waiting room class Discussion	Healthy sleeping habits
6	4 (4 females)	Informal waiting room class Discussion	Breast cancer awareness
7	7 (3 females, 4 males)	Formal healthy living class Discussion	Healthy eating
8	5 (3 females, 2 males)	Informal waiting room class Discussion	Healthy fiber intake
9	4 (4 females)	Informal waiting room class Discussion	Stress management

each class was 60 min. An undergraduate or graduate health educator, a Spanish interpreter, and a field note taker led the classes. In the formal class, a volunteer healthy living educator who is a registered nurse taught a class, while a health education student took field notes. Consent was obtained from each participant prior to teaching the classes and small gifts such as Tupperware (approximately US$ 1) were given as recognition for participating in the classes. This study did not collect any personally identifiable information from the participants, and confidentiality was maintained.

Data analysis

Data were analyzed using thematic analysis. One of the team members who was not present at the classes conducted initial data analysis. Other team members who took the field notes or taught the classes reviewed the initial analysis and addressed any disagreements within the initial analysis. All members discussed the disagreements until reaching agreement. Field notes were discussed between the interpreter, note taker and educator after each class to ensure all observations were recorded.

Results

Environments (e.g. noise, disruptions)

When background music was played in the waiting room, it was distracting. Conducting the class in a classroom rather than the waiting room seemed to increase the focus of participants.

Group dynamics

Group dynamics varied across groups. In some groups, everyone in the group participated relatively equally. In other groups, some participants were more engaged than others. Participants appeared as if most of the information was not new information to them. The participants who did not engage well seemed as if the information being taught was already familiar to them. One barrier in teaching health education classes is teaching a class to participants with a spectrum of prior knowledge. It's important to ask people how much information they know on the subject before lecturing. Another barrier is one does not know if participants are providing honest answers. When several participants say they are content with their current health status, it's less likely for other participants to say that they need to improve a certain area of their health.

Language-related issues

Translation could have distracted participants; most participants seemed to remain interested though. Sometimes the translations were not the exact phrase because of phrases that did not translate across cultures. If participants spoke several sentences without pausing, it would be difficult to translate more than a sentence.

Theory of planned behavior

One barrier in using the TPB was finding health education topics in which all participants had intent to change a health related behavior. For example, certain health education topics such as breast cancer awareness were difficult to teach because awareness is not necessarily a specific behavior change. The breast cancer awareness lesson had to be adjusted to obtaining annual mammograms in order to fit with the TPB template. In order to overcome this barrier, topics were chosen based upon common lifestyle related health issues involving specific behavior changes. In certain education lessons, participants had previously changed the behavior. In these situations, the participants were still welcomed to join in the class so as to provide insight as to how other participants could go about changing the behavior.

Intent

Overall, participants had intentions to change their health-related behaviors. Physical activity (e.g. "I walk every day" "I play soccer about twice a week") was common behavior with

an intention to change. But changing diet or soda consumption seems to be more difficult. One participant said "I was raised drinking soda so it's difficult to make a change to eliminating soda from my diet." Participants ranged from drinking about 2-6 bottles of water per day. Most felt that they could work on improving their beverage consumption behaviors but were doubtful that the improvement would last. One participant was trying to increase her fiber intake during breakfast through putting chia seeds in food and it's helped regulate her bowels over the past 3 years. Another participant has intent to improve his fiber intake. He started taking a new medication that contains fiber which has helped dropped his A1C and the medicine helped improve his sight.

Participants of the formal class had a very strong intention to change their behaviors within the next 30 days. Participants indicated that they came to the class for their health and to work on their ailments. For example, one participant came because his health issues have been costing him a lot of money so he wanted to improve his health. Another participant came because she wanted to introduce her daughter to healthy living. The educator explained that healthy living is especially important for people who are pregnant and their calorie intake is higher.

Attitudes toward object or action

Participants enjoyed when they were engaged in the lesson and had the opportunity to answer questions. For example, when participants were engaged they said "I know that exercise is good for your health" or "I enjoy exercise when it doesn't hurt my knee".

Participants seemed to believe that eating balanced meals was a priority to them. One participant said "Latinos eat too much meat which makes my feet swollen. Because of this I've tried to eat a more balanced diet." One participant believed that a medication the doctors put him on solved a lot of his health problems and he didn't need to improve his health because this medication solved his Diabetes. This belief provided an educational opportunity to the class because the educator tried to explain how it's important to have a well-rounded diet for when the participant stopped taking the medication.

Behavioral beliefs

Overall, participants expressed positive behavioral beliefs: for example, "I agree with my doctor that exercise is good for my health," "I believe that I am currently healthy due to walking for so many years while living in the Philippines" and "I know I shouldn't drink soda because of the sugar content. It diminishes our bone density."

Expected outcomes

Participants believed that their weight and heart health would improve if they were able to have healthier eating habits (e.g. "I believe it'll decrease my sugar and CHO level if I eat the recommended amount of fruits and vegetables"). Participants agreed that fiber helps with digestion but most participants weren't aware of the effects of fiber in regulating glucose levels. Additionally, participants believed that they would be happier if their stress levels were to go down. Female participants seemed to believe in the efficacy of receiving annual mammograms in order to prevent breast cancer.

Subjective norms

One immigrant participant said "In Peru and in Mexico it's a custom to drink soda with every meal. I'm not accustomed to drinking so much water. When I came to the US and started to learn that soda was bad. I started to drink more water." Providers, health education materials, and family have influenced life-style related norms: e.g. "My doctor believes that I should exercise," "Health education literature at the clinic shows me to drink less pop. I've had some doctors bring it up," and "My family maintains good teeth brushing habits so it's not really a problem."

Normative beliefs

One participant said her doctor told her that it was necessary for her to get a mammogram. The primary source of information and beliefs surrounding fiber intake came from Diabetes educators or passed down within families. Two participants explained that their families were a source of encouragement for managing stressors. One participant noted that "I don't think a health educator or nutritionist would help, in the end I think the change has to come from within."

Motivation to comply

Most participants explained that their primary source of information regarding soda consumption came from health education materials at the clinic. This information was countered by the amount of media and advertisements that encourage people to consume sugary drinks. Diabetes in the family, doctor recommendation, and generally wanting to eat healthier were motivations to change diet expressed by participants. Some participants expressed their implementations of healthy life style: e.g. "I used to eat the way my family was eating for years. Now I'm trying to change my diet because of my disease," "I always walk because I don't have a car. It's a disadvantage not having a car but it helps my health." Other participants indicated it would be difficult to change behaviors: e.g. "My daughters want me to change but it's tough to change."

Perceived behavioral control (perceived control)

Participants described barriers such as a lack of will power and a lack of accountability. Most participants felt that they had adequate information but still faced barriers in making a change: e.g. "I try to do what the doctor recommend to me, to buy all vegetables. But it's really expensive. What I'm doing now is combining fresh and packaged." Participants agreed that they feel they have the education they need. Most participants felt that they had stress management techniques but needed to continue working on their overall stress levels.

Perceived behavioral control (perceived power)

The majority of the participants felt that they needed more education about barriers in order to improve their eating habits. One participant noted that "Sometimes we don't make changes until we get sick. Sometimes I wish we could figure it out before we get sick. There's also the barrier of cost. Since we don't live near the sea, fish is expensive to get. Vegetables can also

be expensive." Other barriers which were expressed include: "Watching TV makes me not want to go exercise. I think I could start exercising again if I didn't watch TV as much," "Wanting to exercise is mostly about how I feel in that moment, whether or not I want to do it. Because I start feeling pain my knees or ankles and usually make me not want to exercise," "I have sufficient knowledge and I've seen my friends die from not maintaining a healthy lifestyle. I know I need to make a change in my lifestyle but it can be difficult," "I know that milk is good to drink instead of soda but when they take out all the fat of milk, it tastes just like water anyways," and "The most important factor is to keep your home a healthy environment but it's tough to control what your kids do away from your home."

Discussion

This study described health education programs for underserved populations at a free clinic using direct observations based on the concept of the TPB. There are three key findings. The first key finding was based on optimal class format. Participants were most receptive when conversation was dialogue instead of lecture based within the informal classes. Within the formal class, the lecture format proved to be effective. The second key finding was that participants felt they had adequate information on certain topics but lacked the accountability or will power necessary to make a change. Participants explained that the health education classes were effective in reminding them about certain aspects of health that they did not think about every day. The third key finding was that the TPB seems to be a useful model to study health behavior change within the setting of free clinic informal waiting room classes.

Dialogue format proved to be an effective method in conveying information within the informal classes. Dialogue is one of the critical pedagogy strategies in health education [15]. This may have been due to the fact that participants did not sign up in advance for the classes so they were more inclined to participate in a discussion rather than have to listen to a lecture. The discussions also allowed participants to bring up information that the educator was not planning on presenting. This finding does not, however, discredit the lesson plan prepared by the educator. Group learning demonstrates one way in which informal health education classes serve as a space to facilitate conversations about health behavior change. Within the formal class, participants seemed engaged in a lecture format. While both formats have their respective pros and cons, a lecture format can be effective in some settings such as formal health education class for free clinic patients. Although participants of a health education class believe they have received the information about healthy lifestyle, they feel difficulties to actually change their behavior. Changing individual's health behaviors is very challenging and complex [16]. To promote behavioral changes, future projects would need further improvement and modification. Health information needs to be with the context of patient life to lead behavioral changes [17]. The information provided at a health education class tends to be an ideal concept of what people should do to be healthy [18]. Even if patients understand the ideal concept, they may also experience unintentional resistance and denial toward the concept [17]. Such kinds of resistance and denial should be openly addressed at a health education class for behavioral changes.

Accountability was another reason that participants cited as not being able to implement a behavior change. The health education classes could be an effective tool for increasing patients' accountability. If patients attend more than one class, it allowed them to check in with the educators to address follow-up questions. Because the informal classes were held at varying times and not scheduled in advance, educators recommended attending a formal health education class at the clinic for participants who actively sought follow-up information.

Furthermore, the TPB seems to be a useful model to better understand health behavior change within the setting of free clinic informal waiting room classes. Previous studies have utilized the TPB to study health behavior change, therefore, using the TPB would be one of the ways to develop effective health education curriculums for free clinic patients. For further education programs utilizing the TPB, the focus of the class should be perceived behavioral control, rather than intention, beliefs, and attitudes [19,20]. Prior to focusing on behavior change, however, health educators should gauge the level of knowledge of participants to see whether they are interested in making a behavior change regarding the specific health topic.

Despite the numerous beneficial findings, limitations also existed within this study. One observation worth expanding on is that the TPB has been debated since its origin. Despite TPB critiques, such as the inability to expand on factors like social support, studies have shown that these factors can actually be integrated into the theory [13]. These observations were made at one free clinic so the findings may not be generalizable to all free clinics. However, this study did not aim at generalizability; rather it described health education classes in a natural setting using direct observations. This study did not examine behavioral change. Based on the results of this study, it would be beneficial to conduct future quantitative studies with a larger sample size, especially with blinded randomized controlled data, in order to further examine outcomes of health education programs for under served populations. The patient population of free clinic in which this study took place is primarily Hispanic patients, further limiting the generalizability to clinics with more diverse populations.

Another limitation was the number of participants involved in classes. Although every class had at least five participants, sometimes the educator, translator, and note-taker would have to wait until enough people showed up in order for there to be sufficient attendance for a lesson. This study could be improved in the future by advertising the times that the classes were offered. In this way, the classes could still be informal by staying discussion based and remaining in the waiting room; however, attendance may improve if clinic patients were aware of the lesson ahead of time. Language related issues also existed within this study. Although there was an interpreter involved in every class, sometimes patients would speak several sentences without pause so only a portion of the comment could be translated. There were also participants who did not speak English or Spanish that were not able to be involved in the study, as only Spanish interpreters were available.

Conclusion

This study is valuable in filling in the gap in qualitative research of free clinic health education classes and provides important practical implications. The choice of a class format (dialogue and/or lecturing) should depend on the setting of the class: formal or informal. While teaching the knowledge of healthy lifestyle is still important, behavioral changes need to be emphasized. To promote behavioral changes, perceived behavioral control would be one of the key areas to be focused on. Future projects should develop health education programs, which respond to the results of this study and evaluate the programs.

Declarations of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethical Approval

The University of Utah Institutional Review Board (IRB) approved this study.

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