Is an Integrated Collaborative Care Model More Effective than Traditional Non-Integrated Care in Managing Chronic Diseases like Diabetes?

Bryn Mawr College

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Specific Aims

This research is aimed at finding out if the collaborative care model is more effective than the traditional non-integrated care in managing chronic diseases, particularly diabetes. Integrated collaborative care models focus on patient lifestyle, social support, and access to fresh fruit and vegetables (Stergiopoulos et al., 2015). The project will examine the importance of incorporating exercises and enough sleep and how these will lead to an overall better quality of life. The independent variable will be self-management, and the dependent variable is the integrated collaborative care. The population of interest is Hispanic adults diagnosed with diabetes.

Integrated collaborative care improves outcomes for both organizations and individuals (SAMSHA, 2013; WHO, 2016). For example, the Substance Abuse and Mental Health Services Administration Organization (SAMHSA) (2013) states “The integration of healthcare is crucial to improving an individual’s experience of care, improving the health of populations, and reducing per capita healthcare costs” (p. 3). Additionally, according to the World Health Organization (WHO) (2016), the application of an integrated collaborative care model such as the chronic care model and its components results in better patient outcomes and satisfaction.

The research method that will be used in this survey is quantitative, and the technique of data collection will be the use of a questionnaire. Integrated collaborative care models focus on patient lifestyle, social support, and access to fresh fruit and vegetables in addition to physical health (Stergiopoulos et al., 2015).

The traditional care model focuses more in medication management and medical care. Partner in Health (PIH; Lenferink et al., 2015) will be used in measuring the self-management behavior and knowledge. The population for this study is Hispanics adults, men and women receiving services from Community Volunteers in Medicine which is located in West Chester and the West Chester County clinic also located in West Chester, PA.

The specific aim of this project is to determine if the collaborative care model is more effective compared to the traditional care model in the management of diabetes among the Hispanic population. The results from this study will help to inform the shift of social work agencies' policies to adopt better models for chronic disease management.

Background

Hispanics are the largest minority group in the United States. According to the United States Census Bureau (2018), as of July 1, 2018, the US population was 327,167,434 with Hispanics representing 18.3% of the total population. Also, according to the Office of Minority Health (2018), there is a total of 58.8 million Hispanics in the US. This ethnic group includes people from Cuba, Mexico, Puerto Rico, South or Central America, or other Spanish culture of origin countries (Minority Health, 2018). According to the Minority Health (2018) the life expectancies for Hispanics are 81.9 years, whereby that of women is 84.1 years, while that of men is 79.6 years.

According to the Centers for Disease Control and Prevention (CDC) (2019), Hispanic/Latino Americans have a 17% prevalence of having type 2 diabetes as compared to non-Hispanic whites (8%). CDC (2019) argues that the chance of having diabetes is closely linked to the background. For instance, persons with Puerto Rican background are approximately twice as likely to have type 2 diabetes as those with a South American background (CDC, 2019).

Additionally, according to the Illinois Department of Public Health (2019), diabetes is the fifth leading cause of death among Hispanics/Latinos in the US.

Marcader and Florez (2017) conducted a study to determine the genetic basis of type 2 diabetes in Hispanics and Latin Americans. They identified such genes as SLC16A11, HNF1 Homebox A gene, and Insulin-like growth factor 2 to be responsible for the high incidence of diabetes among Hispanics in the US. While this study specifically focused on the genetic factors associated with the high prevalence of diabetes among Hispanics, the proposed study will examine other factors, including lifestyle and social determinants of health that are likely responsible for the high incidence of diabetes among the population in question. Juarez et al. (2018) also conducted a study to determine diabetes risk scores among the Hispanics in the US. The main risk factors discovered to predispose the Hispanics to diabetes fall into three categories that include demographic, behavioral, and anthropometric risk factors (Juarez et al., 2018). For example, specific risk factor includes educational level, family history of diabetes, alcoholism and ethnicity (Juarez et al., 2018).

Hispanics are the largest minority group in the United States, representing 18.3% of the total population. The studies analyzed above indicate that Hispanics have a high incidence of diabetes than any other population in the United States. Hispanics and Latinos have a 17% prevalence of having type 2 diabetes compared to 8% prevalence for non-Hispanics whites. That makes diabetes the fifth leading cause of death among the Hispanic population. This population is predisposed to diabetes by several factors, including genetics, family history of diabetes, behavior, sedentary lifestyle, and age, among other factors that have been articulated above. While there are a few studies reporting on the general incidence of diabetes among the

Hispanics, the few available studies indicate that diabetes is a severe problem among this population, and therefore it needs to be addressed.

Conceptual Framework

To ensure that I cover most of the risk factors for diabetes among the population in question, I intend to use the lifespan biopsychosocial model (Myers, 2009). This is a comprehensive framework that incorporates the complex interactions between the social, biological, and psychological aspects of health that might be relevant in this study. This conceptual framework posits that the risk factors associated with the social determinants of health –some of which incorporate key variables of health disparities –work as stressors to trigger epigenetic, biological, and psychological impacts on people, leading to health, disease, and death.

A biopsychosocial approach is in line with the more holistic approach to health demonstrated by integrated health care compared to traditional models, which focuses on medication management. The biopsychosocial approach suggests the need to be inclusive of the whole person when conceptualizing health, which is why integrated collaborative care will be used in this research study aimed to improve diabetes management. Based on my conceptual framework, I expect the integrated health care approach to better help with self-management of Hispanic patients diagnosed with diabetes.

Methods

Measurements

Various approaches will be used in measuring the study variables. Self-management, the dependent variable, will be measured using an ordinal scale that will measure to what extent each subject engages in self-management techniques. The 12-item Partner in Health Scale (PIH;

Lenferink et al., 2015) will be used in measuring the self-management behavior and knowledge in the Hispanic adults with diabetes. The 12-items are measured using an 8-point Likert scale with higher scores meaning a better understanding of self-management. The scores show the knowledge, coping, identification and management of functions, and adherence to treatment. Self-management entails engaging in activities that protect and promote health, tracking and managing of signs and symptoms of a disease, o the effects of illness on functioning, emotions, and interpersonal relationships as well as adherence to treatment.

On the other hand, the integrated collaborative care, the independent variable, will be defined as care that includes a focus on patient lifestyle, social support, and nutrition in addition to physical health (Stergiopoulos et al., 2015). Traditional care model is defined by a focus on medical intervention and medication management. Community Volunteers in Medicine is the clinic that practices the integrated collaborative care model. The traditional care setting for the study is the West Chester County Clinic.

The PIH scale incorporates aspects and score when it comes to internal consistency (reliability) and constructs validity (Battersby, Harris, Smith, Reed & Woodman, 2015). The coefficient measures how well particular variables measure a one-dimensional construct, and it is thus a measure of reliability (Battersby et al., 2015).

Sampling/Study Participants

As noted earlier, the study participants will be Hispanic adults aged 18 years old and older diagnosed with Type I or Type II diabetes. To be included in the study, the participant will have to have been a patient at either the integrated care setting or traditional setting for at least 6 months. They should receive services consistently following the recommendations of the physician. The sample size that will be used for the study will be 50 adults comprising of 25

females and 25 males for the integrated care clinic and the traditional clinic for a total of 100 participants. This sample size is feasible to begin to gain some understanding of how patients with diabetes with self-manage the diagnose and compare collaborative care to traditional care models. Only Hispanic patients residing in the US and have diabetes will be included. Those who do not fulfill the above criteria will be excluded, including those with comorbidities.

Availability sampling will be used in this case as will be more convenience for the researcher and the participants, and the method will be more cost effective. Even though the sample will be taken from Community Volunteers in Medicine clinic and West Chester County Clinic, this technique ensures that the subjects selected represent the whole population effectively.

Recruitment

Before selecting the sample, it is important to have the approval of Bryn Mawr College, Volunteers in Medicine, and West Chester County clinic's institutional review boards (IRB). After the IRB approve the study, consent forms will be given to a total of 100 possible research participants. This form will assure them of the privacy and confidentiality of their personal information to encourage them to participate in the study.

The data collections for the study will be taken for one month. The participants are patients from the Community Volunteers in Medicine and the West Chester County clinics, under the care of the nutritionist and endocrinologist from the both clinics. Participants will be invited to participate in the study when they receive their reminder calls for their scheduled appointments. The questionnaires will be given to patients at the time of their endocrinology appointment at the traditional care clinic. For the integrated collaborative care model clinic, the questionnaires will be given to the patients at the nutritionist and endocrinologist appointments.

After the participants have been identified and recruited, they will be given the Partner in Health (PIH; Lenferink et al., 2015) questionnaires. Research assistants will be used to help patients understand and complete the questionnaires as need it. Research assistant must be bilingual English and Spanish. The data collection will be for a month, tentatively in June 2020, to ensure that the researchers have adequate time to collect the data.

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