Obesity in Hispanic Female Adults

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Abstract

There has been a rise in the instances of obesity among societies over the past decades. Obesity

is highly attributed to the individual lifestyle hence indicating that changing the lifestyle could

contribute to the secondary prevention of obesity. About 64 percent of non-Hispanic women are

obese or overweight as compared to 77 percent of Hispanic women. This research aims to

establish how effective education programs involving diet and exercise are important when it

comes to the secondary prevention of obesity among Hispanic women. This project also aims to

use secondary data to establish whether education programs are useful in the secondary

prevention of obesity. The study results indicate that the application of education programs

among obese Hispanic women improves aspects such as their BMI, weight or blood pressure.

Therefore, this is an indication that education programs regarding diet and exercise are effective

in secondary prevention of obesity among Hispanic women.

 Keywords: Obesity, Hispanic women, secondary prevention, education program, diet, exercise,

BMI, blood pressure

Research Question

How effective is the application of education programs regarding diet and exercise among obese female adults of Hispanic descent regarding to improvement in blood glucose, laboratory results, weight, blood pressure, and BMI as compared to the obese female of the same origin?

Research Problem

Globally, societies are impacted by diverse diseases and one of these ailments that affect different communities is obesity. Hispanic women cannot be left out when obesity is mentioned. Over the past decades, obesity has been on the rise and it has to be perceived as a major health problem. Certain complications such breathing problems, diabetes, hypertension, and stroke are attributable to obesity. Studies indicate that about 64 percent of non-Hispanic women are obese or overweight as compared to 77 percent of Hispanic women (OMH, 2017). From the year 2015, there is a 30 percent possibility of Hispanic women being overweight as compared to women that are non-Hispanic whites. From this information, it is evident that obesity is a condition that is common among Hispanic women as compared to their counterparts hence calling for the adoption of education regarding nutrition and exercises to either eliminate or decrease obesity and related complications among Hispanic women.

Specific Aims

-To enlighten obese Hispanic women on the need for education programs regarding nutrition and exercise for the secondary prevention of obesity.

-To show family members the need for education programs regarding diet and exercise when dealing with obesity among Hispanic women.

-To educate obese women of Hispanic descent regarding the expected health challenges of obesity.

Null Hypothesis

Subjecting obese female Hispanic adults to education programs involving diet and exercise will contribute to the improvement of their blood pressure, laboratory results, weight, blood glucose, and BMI.

Alternative Hypothesis

Failing to engage obese female Hispanic adults in education programs involving exercise and diet does not contribute to any improvement of blood pressure, weight, blood glucose, BMI, and laboratory results.

Background of Study

Obesity is a medical condition regarded by excessive accumulation of fats in the body. Three factors work in association to cause diabetes, and they are excessive intake of high-energy foods, inactivity and lack of exercise, and genetic predisposition (Patterson, 2018). Other factors include mental health, medications such as beta-blockers, insufficient sleep, and aging due to reduced metabolism. The body mass index (BMI) will determine whether an individual is obese or not. To obtain the BMI of an individual, the height in square meters is used to divide the body weight in kilograms. A BMI result equal to or exceeding $30kg/m^2$ will denote obesity (Segula, 2014). This medical condition occurs gradually, with patients becoming overweight, $25kg/m^2$ and above first, before developing obesity. Three key phases define this condition. The first one ranges from $30\text{-}34.9kg/m^2$ while staging two ranges from $35\text{-}39.9kg/m^2$. The third stage is morbid obesity. It characterizes those people with a BMI of 40 and above. There are cases of people having a BMI value of up to $53kg/m^2$, their condition referred to as super obesity.

Obesity does affect not only adults but also children and adolescents. Children who become obese are likely to extend the issue to adulthood and develop associated complications early in life. Some of these complications and diseases include hypertension, type two diabetes, stroke, osteoarthritis, and myocardial infarction. The increases body mass puts more pressure on the left side of the heart, inducing issues like cardiac hypertrophy as well as damaging valves. Obese individuals have higher chances of developing certain cancers such as liver, colon, and breast cancer as compared to their non-obese counterparts. It also induces failure of some organs such as the heart, kidneys, as well as the liver (Segula, 2014).

As stated before, BMI is the most common measure of obesity (Nutall, 2015). It is the indicator that measures the stage and severity of the condition. However, there is a need for supplemental measures to ascertain the results of the BMI. This is because the weight measured may be attributed to high bone density, hence increasing the BMI value. Therefore, the second measure is the body fat percentage. This can be established by conducting a water/air displacement device or doing a skin fold test a process that applies bioelectrical impedance. In men, if the results indicate a value of 30% and above, they are considered obese. For women, the value is 40% and above (Segula, 2014). Laboratory tests are also essential in the confirmation of the results. One of the effects of obesity is increased lipid count in the blood, which is detectable during blood tests. These laboratory tests also aid in the elimination of other conditions that may be causing the excessive accumulation of fats, helping in the design of treatment programs.

The significance of the Study

Obesity is a leading preventable reason for death in the world. Studies indicate that 13% of the adults in the world are obese, and a bigger portion of these being women (15%). Obesity was viewed as a symbol of wealth in the 15th and 16th century but slowly lost popularity as

studies linked it to hypertension and heart disease (Segula, 2014). The condition is considered a major public health issue of the twenty-first century, requiring immediate and intensive intervention. In 2013, obesity was categorized as an ailment by the American Medical Association. This classification makes it a significant issue to be addressed as any other disease would. Active treatment and prevention should be in place, thus making this research project a significance one.

Obesity reduces the life-expectancy of its patients, owing to the complications and associated diseases that come with the condition. Stage one and two obesity reduce the life expectancy by between two and six years, while morbid obesity can reduce it by up to ten years (Djalalinia, Qorbani, Peykari, & Kelishadi, 2015). In the United States, obesity is causes 111,909 to 365,000 deaths per year. These deaths, are caused by comorbidities resulting from obesity. Conditions like hypertension are mainly caused by secondary causes such as obesity, with only a small percentage presenting as essential hypertension that is genetically triggered. Obesity is likely to cause heart failure due to hypertension or accumulation of fat deposits around the heart hence lowering its capability of pumping blood to the body (Segula, 2014). This hypertension caused by overload due to obesity, initiated heart damage, inducing hypertrophy, arterial stenosis, and pulmonary edema, which affects breathing, initiating hypoxia and other conditions. Obesity may also cause death due to development of issues such as arteriosclerosis. This condition induces hypertension too due to vasoconstriction as a result of rigidity caused by fat deposits on arterial walls. These deposits sometimes form emboli and thrombi, which may travel to the heart and cause cardiac arrest. Therefore, initiating and studying the effectiveness of educational programs among certain groups of people holds significance in the prevention of the conditions discussed herein and mortality as well.

Medical organizations and institutions, as well as governments all over the world, use a large chunk of their nations' GDP on healthcare. Of the conditions that need attention, most of them are preventable. These governments and institutions face a double burden dealing with infectious diseases as well as non-communicable diseases (Djalalinia, Qorbani, Peykari, & Kelishadi, 2015). In some of these nations, there is a wide disparity in those citizens facing undernutrition, and hence underweight, as well as those who are overweight and obese. The funds directed towards conditions such as obesity could be channeled to finding a cure for infectious diseases and in enhancing prevention measures for those that are preventable. Therefore, there is need to study the effectiveness of programs such as the one this research project intends to do.

As stated before, obesity is preventable. Control of daily personal choices and social habits changes is the answer for prevention and controlling of obesity. Though there is little someone can do pertaining genetic dispositions, since only a small percentage is directly linked to genetics, the other causative factors can be controlled. Increasing the level of physical activity per day increases metabolism and reduces the accumulation of fats deposits within the body. Increased sedentary leisure is bound to favor storage of fat and eventually obesity. Reduction of this leisure to and adopting more active leisure activities is also an effective way of preventing obesity. Diet is the number one contributing factor to obesity. Obese people have a habit of consuming fatty foods as well as those high in energy (Segula, 2014). Not only do they consume these unhealthy foods, but they also consume them at high levels, increasing depositing of the excess as fat all over the body. Therefore controlling diet to include healthier options and reducing the portion one takes is a sure step to controlling the condition.

Most people develop obesity gradually and progressively because they are not even aware they are developing it in the first place. The role that civic education by governments and institutions plays in the prevention of obesity is vital and necessary as a preventative tool (Chriqui, 2013). The reception and utilization of this information differ among people, hence the focused treatment on a specific group. Treatment and control cannot take a one-fits-all approach since the needs of every group are different and so is the effectiveness of the approach and program. This project, therefore, focuses on the effectiveness of an education program focused on diet and exercise, among Hispanic female adults, focusing on the measures of hypertension, weight, BMI, and laboratory tests.

Literature Review

This chapter explores and examines the available literature on the research topic. Since this research is centered on secondary data, this portion of the project is very important and focuses on the variables defined by the research question. The sources examined and explored are peer-reviewed and are one to five years old. The articles are sourced from Google Scholar, PubMed (NCBI), and Cinahl. The focus of this research is making results from other studies reliable and credible.

Obesity is a nutritional disorder. Though its causes are multifactorial and include genetic predisposition, diet (overnutrition) is the most important contributing factor. For the past decade, the prevalence of obesity among adults in the United States has been varying between 34% and 35%. Ogden, Carrol, & Kit (2014), indicate that about 68% of American adults were either obese or overweight, and about 6.4% being morbidly obese. Of these morbidly obese adults, 8.3% were women, and 4.4% were men. Further results from this research pointed out that among non-Hispanic black adults the prevalence of obesity was 12.1% as compared to 5.8% among adults of

Hispanic origin (Ogden, Carrol, & Kit, 2014). Therefore, the risk of obesity for an adult Hispanic female is relatively high. To conclude, this research indicated it was paramount to establish intervention programs and surveillance even though there was no significant increase in the prevalence of obesity.

There is a link between body fat percentage and BMI (Wong et al., 2016). This study also indicated that these measures were consistent among Hispanic adult females (Wong et al., 2016). In the analyses, Hispanic/Latino adults with BMI in the normal weight range commonly had BF measurements that reflected excess adiposity. This is an indication that using BMI measures alone makes it difficult to ascertain individuals with poor body habits. Both studies showed that, in general, the prevalence of misclassification increased with age, indicating BMI may be less suited as a proxy for adiposity among older compared with younger individuals. There has been a steady rise in the prevalence of obesity among Hispanics especially those of Mexican descent (Isasi et al., 2015). Hispanics that immigrated to the United States before hitting fourteen years have higher obesity prevalence as compared to those that get into the nation after the age of 14. Environmental and social influences can be associated with the high prevalence of obesity amongst Hispanics living in the US for over twenty years. The explanation is that since the US environment is defined by low physical activity and high energy diets, the continued exposure to these factors contributes to the excessive weight among Hispanics.

Since statistics show that most immigrants from Spanish-speaking countries are relatively healthier compared to how they are after a few years in the states, intervention is needed. Lindberg, Stevens, & Halperin (2013) attribute this disparity to the adoption of high-sugar and high-fat diets in the USA. There is a linear correlation between obesity and the duration of stay in the USA for these Hispanic people. This 2013 study also provides that genetics has a role to

play and increases the probability of these people developing obesity. This research indicates that the diet interventions that might work for Hispanics are not similar to the ones to be applied for non-Hispanics. Most of the food-based interventions in the USA insist on accurate food measurements, which is not akin to the Hispanic culture. Therefore, there is a necessity for targeted educational programs designed to meet the needs of this group of people regarding diet.

The attitudes of people towards weight and body shape determine how receptive they will be towards proposed interventions and how well they receive information concerning obesity. According to Lindberg, Stevens, & Halperin (2013), Hispanic people prefer a rounded plump shape to slim body types. They attribute thinness to poor health and poverty and plumpness to vitality and good health. Therefore, the first steps in any intervention method and education program are to sensitize the focus group on the dangers of entertaining overweight and obesity in a bid to change their attitudes. This is a sure way of instilling motivation and discipline in the implementation of the education program.

One 2014 study investigated the influence of individualized monthly educational messages on weight gain for three years (Brown, Bambra, Cairns, Moore, & Summerbell, 2014). During the three years, the program showed great results, which stopped after the period of exposure. These results showed that the influence of the educational program was felt after that exposure stopped. The same study shows a one-year randomized controlled that was culturally tailored for two hundred and eighty-eight Hispanic adults, mostly women. The program focused on educating and counseling the target group regarding lifestyle habits. The intervention group showed significant loss of weight and a reduction in the BMI as compared to the non-intervention group (Brown, Bambra, Cairns, Moore, & Summerbell, 2014).

According to Holub, *et al.* (2016), research using various studies among Hispanic women indicated that participants of dietary and physical exercise interventions benefitted from the programs. Measurement of BMI and eight measures indicated an average effect size of 0.3. The participants also lost weight an average of 8.7 pounds. Education played a great role in the achievement of these results since it inspired the undertaking of the preventative measures.

In a 2015 study, researchers found that women have a high retention and applicability rate, and are therefore likely to follow what they are taught and make positive changes. The research indicated that 37.8% of women in the intervention group attended all classes, 82% attended at least half, and 71.2% attended at least three-quarters of the classes (Koniak-Griffin et al., 2015). The behavioral outcomes within the intervention group indicated an increase in the level and frequency of physical exercise and adoption of healthy eating behaviors as well. Consistent assessment of obesity indicators such as BMI and weight also reduced significantly over a nine-month period. The control group, however, indicated slight increases or decreases in these measures, not as significant as in the intervention group (Koniak-Griffin et al., 2015).

Research Methods

Research Design

The research design denotes the combination of processes that a researcher(s) intends to apply in their study to provide answers to the research question and problem. It is the research problem that determines the kind of design a researcher uses. In this project, the most suitable model is descriptive research design. Descriptive design can take three approaches, observational, case studies, and surveys. In this project, since the plan is to use secondary sources of information, the best method is through the use of surveys. Surveys can be conducted using interviews and questionnaires. However, in this research, the interviews and questionnaires have already been administered by other researchers and the results analyzed. Descriptive design allows for secondary sources to be used for conclusions. The project will describe the results obtained concerning the issues of obesity among adult, Hispanic females and improvement regarding BMI, weight, hypertension, and lab results when exposed to an education program focused on diet and exercise.

Eligibility: Inclusion/Exclusion Criteria

This section of the study defines the characteristics used to qualify and disqualify the prospective participants. This process is to ensure the study is relevant and in line with the research question. In this research project, the most common inclusion factor is gender. The study focuses on the females, and male-oriented studies are therefore disqualified. The second factor involves race. The study is specific to Hispanic women. The medical issue under study could affect various kinds of women, but the study is focused on those of Hispanic descent. Studies and data related to women of other races are, therefore, irrelevant in the completion of the project. The third characteristic used to determine inclusion and exclusion is age. This study

is particular to adult women of Hispanic descent. There are issues of child and adolescent obesity across cultures, ages, and genders, but this study focuses on adults. The fourth most important factor is a diagnosis of obesity. It is a factor and characteristic that should and will be common to all the participants and data sources.

From there, the selected data sources will vary regarding exposure to an education program focused on diet and exercise. The key aim of this study is to ascertain the effectiveness of education programs related to diet and exercise for the secondary prevention of diabetes amongst Hispanic women. The measured variables for improvement include weight, BMI, hypertension, and laboratory results. The only variable in the data sources used is the exposure to the program. Its effect should be felt when absent in one group of the participants.

Data Collection

Data collection denotes the methods a researcher will apply when gathering data from diverse sources to provide answers to the research question, test hypotheses, and assess outcomes. Most research evidences two forms of data collection. Primary data collection methods utilize first-hand information obtained originally by the researcher. This is costly and time-consuming, although it yields accurate results. This research, however, uses secondary data collection methods. This is data collected by other researchers and analyzed to explain outcomes and draw conclusions. It is less time-consuming and less costly since the data is already prepared for analysis.

The data obtained can be either qualitative, seeking opinions and motivations, or quantitative, using quantifiable data. The results expected in this research project require being quantifiable to fully show the impact of an educational program on the issue at hand. They have to effectively demonstrate the changes and improvements in weight, BMI, hypertension, and lab

results. Statistics on all these factors can be obtained from the selected sources. Quantitative

research also allows for the quantification of opinions, behaviors, and attitudes. This research

and data collection approach is more result-oriented, deductive, and conclusive than qualitative

data is.

Research Methods: Study Variables

Independent and dependent variables constitute a study.

Dependent Variables

In this study, the use or lack of use of education programs constitute the dependent

variables. One group of patients is subjected to an education program. The other group is the

control. The disparity in the results shows the effectiveness of such a program.

Main Independent Variables

Independent variables are obesity diagnosis, gender, age, and race. The study focuses on

participants that have been diagnosed with obesity and are women of Hispanic descent.

Results and Statistical Analysis

From the above research, it is evident that incorporating education programs involving exercise and diet is an effective way of addressing obesity among female adults of Hispanic origin. This is so since the application of diet and exercise nutrition programs contributes to an improvement of specific measures that are attributed to obesity. Some of the factors that show improvement when obese adults are subjected to education programs pertaining diet and exercise include BMI, body fat percentage, blood pressure, waist circumference, cholesterol level, and fasting blood glucose. Therefore, involving obese female adults of Hispanic descent to these education programs proves beneficial in addressing obesity.

Discussions and Conclusions

The attitudes and traditions of a people are bound to influence their decisions and their reception of new ways of doing things. As indicated before, Hispanic communities prefer rounded figures to slimness as they perceive weight as a sign of vitality. However, in this study, the culture was not an issue the research focuses on one group of people with similar characteristics. That is, the effectiveness of educational programs was not dependent on their perception, but rather on other factors. Though researchers avail and present the plan to people with similar characteristics, how they perceive the information and whether they use it is an individual's issue that is not influenced by culture or race.

After analyzing the studies applied to this project, it is evident that secondary prevention of obesity is possible with the use of education programs regarding nutrition and exercise. Measures referred to prevent the occurrence of obesity-related conditions such as cardiovascular diseases, or hypertension is termed as secondary prevention. The education programs are effective when it comes to sensitizing people the possible dangers of not checking their weight. It

is quite challenging for obese individuals to transform their livelihoods if they do not engage in

the diet and exercise education programs. There are no apparent changes in the level and

prevalence of obesity among those who do not take part in the education programs.

Adoption of healthy living habits enables the partakers to reduce their weight, and BMI

as well. There is also a significant decrease in the fat percentage in the participants due to

increased metabolism as a result of the changes. Laboratory tests are also bound to indicate

changes in the levels of cholesterol and total lipids in the bloodstream (Tovar et al., 2014). The

reduction in the level of lipids in the blood is vital in the prevention of arteriosclerosis, which is a

precursor of deep vein thrombosis and pulmonary embolism. The reduction is the result of the

adoption of healthy lifestyles. However, it is the education programs that inspire these changes

and yield the results.

The null hypothesis is supported by the study results since after undergoing education

programs involving diet and exercise, there was notable improvement in blood pressure, weight,

BMI, laboratory results, and blood glucose among female Hispanics diagnosed with obesity.

Implications for Nursing Practice

Nurses deal with patients one-on-one to ease the recovery process and guide them

towards recovery and post-treatment recovery. Therefore, the effects of this research project are

significant to nurses. The results on whether education programs are effective in the prevention

of obesity. It is a guide to what and whether to use the approach in the dealing with patients

targeted in the project. These nurses can effectively manage obesity among the patients during

treatment (Keyworth, Peters, Chisholm, & Hart, 2013). This study is also essential in eliminating

some kinds of treatment that patients provide. Understanding the prevalence and the presentation

of obesity enables nurses to avoid using the medication in areas that need education on changing lifestyle and adopting healthy habits.

This study is a necessary tool for secondary prevention of obesity. Advising patient against certain practices and encouraging physical exercise and healthy eating is crucial in the prevention of hypertension and other obesity-related conditions. Not only does it count in the prevention, but also in the control of hypertension for those already living with the condition. Abnormal increase in weight among hypertensive patients increases their risk of developing cardiovascular complications such as heart failure. The study is therefore essential for nurses, especially in dealing with patients with terminal illnesses. The same applies to diabetic patients. For them, obesity increases the blood sugar levels significantly and induces insulin resistance. It also raises the possibility of developing wounds and difficulty in healing the wounds because of the level of sugar in the blood. This issue also enhances the development of myocarditis. Nurses, can, therefore, advise patients on the prevention of these conditions by spreading information on the same. Presenting successful studies in this area aids in inspiring change among them.

Another implication of this study concerns the education of nurses at their undergraduate level. There is need to ensure their training and education reflects the accurate perceptions towards obesity. Without much care focused on this area, nurses would have a hard time treating and advising their patients on matters obesity control and secondary prevention. Negative attitudes towards patients with obesity are prevalent among some nurses. The nurses need to be sensitive while communicating and advising these patients to inspire positive results (Keyworth, Peters, Chisholm, & Hart, 2013). The nurses' weight also influences their perception towards the issue. They should also lead by example to further encourage patients.

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