



The Presence of Overweight and Obesity Among a Sample Taken from High School Number 7 Under University of Guadalajara and a Comparison to the Presence of Obesity and Overweight in Mexico

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Abstract

Aim: The purpose of this article is to observe the presence of obesity and overweight in 551 students between the age of 15 to 19 years old from first year high school this is a cross sectional study in High school number 7 established under the University of Guadalajara.

Methods: Using NCBI, PubMed and data from the University of Guadalajara.

Findings: First year students were evaluated for presence of overweight or obesity comparing the results with the population in the state of Jalisco, Mexico having a 278 women and 273 male samples ranging from 15 to 19 years of age.

Keywords: Type II diabetes; BMI; Mexico

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Introduction

As we know nowadays one of the major public and health issues in society is the prevalence of obesity and overweight in the general population many important factors have changed the world in the last 50 years, not only technologically are we more advanced nowadays cell phones, computer gadgets, using a car instead of walking and the sedentary life most people live nowadays have made a huge impact, also the processing of food, different type of sugar and chemicals used in food in the present day have modified our bodies towards having a lot of chronic diseases such as hypertension and type II diabetes as well as cancer increasing by the day, with a population set to double in type II diabetes by the year 2040 [1,2].

As I mention obesity and overweight is one of the most important public health problems in Mexico, according to INEGI (Nutrition and Health National survey) roughly 75% of the Mexican population is overweight or is in other case obese, with childhood overweight and obesity being a major concern ranging in 41% obesity in girls ranging from 12 to 19 years old and 35.8% in boys ranging from 12 to 19 years of age. Obesity is not only a major health problem in Mexico but in the World is expected to reach 9.1% of the population being overweight or obese by 2020 [3,4].

Obesity and overweight can have a major impact in health as time passes because it can increase risk for several diseases such as hypertension, type 2 diabetes and multiple health problems also depression and anxiety problems for the child in further years. Several reasons have being pointed out as for the reason of increased obesity in Mexico such as poor health decisions, genetic, environmental factors and low exercise among teenagers. But first we have to define what is overweight and obesity, according to World Health organization.

The Worldwide obesity has tripled since 1975 with 1.9 billion adults being overweight and 650 million being obese an alarming number considering there is roughly 6 billion people in the world that is practically 10% of the world population and as the aspect that we are going to talk about more specifically teenagers and young adults 340 million children and adolescents ranging between the ages of 5 to 19 years of age are either overweight or obese by 2016, especially considering that

be sided genetics a healthy lifestyle should be enough to maintain a normal body weight (Organization, 2016).

Body Mass Index

It is practically defined as the relation between weight and height being the a person that is overweight will generally have a BMI greater or equal to 25, a person with obesity will have a BMI with a pattern of obesity being over 30% BMI, and in young adults and adolescents being overweight will be a BMI for age greater than a one standard deviation above the WHO growth reference (Organization, 2016).

Type II Diabetes

It is one of the major chronic illness in the world as it affects nearly 1 in every 10 Mexicans according to the national diabetetic association from which nearly 55% follow treatment regularly and it goes as up to being 27% from Mexicans with type II diabetes using treatment only when they feel bad, most Mexican families don't have healthy meals, Mexican cuisine is fill with fatty meals and soda being one of the most consumed beverages in Mexico, it is estimated that nearly 12 million Mexicans have diabetes nowadays and it will increase to 15 million by 2025, type II diabetes is diagnosed when HbA1c glycosylated hemoglobin is seen with a percentage of 6.5% or above as well as glucose being above 126 before eating a meal and 200 or above after eating a meal in the morning, so the important recommendations to controlling type II diabetes is primarily having a diet low in crabs and fatty meals, with high protein intake and richer in vegetables and fruits it is important to have a diet plan when having type II diabetes as well as having regular medication that should be implemented by a credited physician. Mexican schools have made changes towards meals being served in Mexican schools and food sold to children, also most Mexican schools have a sports class; this can have a major change towards the future in a country that has had the number one position in childhood obesity.

Methods

This type of study was made in the years of 2012 to 2017 in 5 schools in the city of Guadalajara in which the Hospital Juan I Menchaca mentioned that roughly 38% of Guadalajara teenagers averaging 15 to 19 years of age were either overweight or obese, this study was conducted in the high school number 7 under the establishment of Universidad de Guadalajara as part of the program healthy university in which different talks about sexual education, use of vaccinations and healthy patterns are discussed to students, the previous report mentions that roughly 38% of the population in this age are obese or overweight as well in 2018 a study publish by Conapo mentioned that there are 720,000 young adults and adolescents in the state of Jalisco home state to the city of Guadalajara, we can imply that roughly our population would be 720,000 individuals from which a sample was taken on the high school number 7 for this investigation in order to observe the prevalence of overweight and obesity in a representative sample with a 5% margin error. It is important to mention that in the last decade Mexico managed to become the country with number 1 obesity rates in the world according to the food and agriculture organization of the united nations which talks about the contrast we live nowadays in relation with countries that belong to the same region such as Haiti, we can imply it is because fried food being present in high rates in Mexican cuisine, fatty meals, over consumption of soda and sweet beverages in Mexican families as well as a sedentary life with low exercise ratings in Mexican people and overpopulation (nations s.f.).

We will mention that this study was done in the institution having a cross sectional study done in which high school students studying the first year of high school were recruited to be measure their weight and height, it was taken and later added to data base, trained examiners took height and weight to students raging in from 15 to 19 years currently studying first semester in high school the values were obtained and used to calculate body mass index by dividing weigh by height.

Justification

The purpose of this study is to observe and compare our results to the number of young teens in the state of Jalisco which according to Inegi 720, 387 residents nowadays in the state from which using the equation

$$n = \frac{z \wedge 2 (p * q)}{e \wedge 2 \frac{z \wedge 2 (p * q)}{N}}$$

with a 95% confidance and 5% error margin 551 students is enough to evaluate obesity and overweight in our sample, we want to compare our results to general population in the state and compare our results to data obtained between the year 2012 to 2017 done in 5 schools in the city of Guadalajara where 38% of children population was set to have either overweight or obesity, we want to inform about our results and talk about the importance of having a proper diet and exercising daily ir order to maintain a healthy lifestyle (IIEG, 2018).

Results

As results came back we were able to observe that besides the general idea about obesity being a problem in Mexico nowadays a low body weight was seen in most students with most of them having a normal to low weight also we can mention that 17.7% of the students that were measure weight and height had overweight or obesity, we can imply that as they age the balance of this will decline because their metabolism will change in time and the presence of chronic diseases will be present, it's important to mention that even though many adults nowadays in Mexico have a normal body weight many of them have diseases underlying such as high cholesterol, of presence of fatty acids in large numbers which makes them more susceptible to heart attacks.

A sample of 551 all studying the first semester in High school number 7 in Guadalajara Mexico was evaluated from which 278 were women and 273 were men, all of them between the ages of 15 to 19 years of age, all of them were evaluated as to weight, height and body mass index, also were mentioned as to the importance as to having a

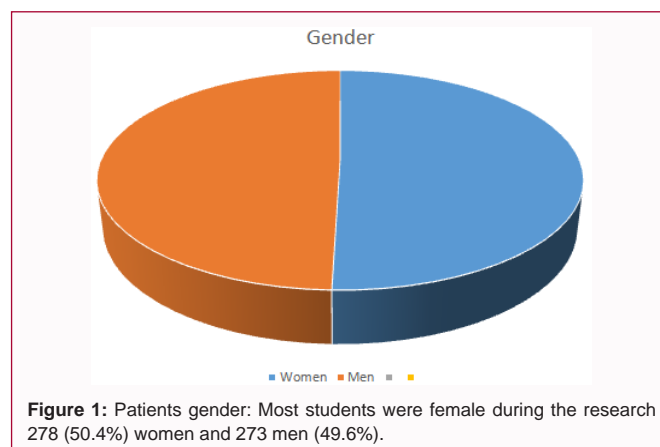


Figure 1: Patients gender: Most students were female during the research 278 (50.4%) women and 273 men (49.6%).

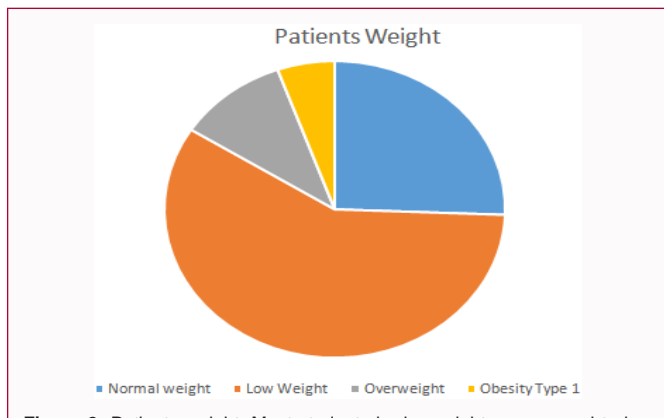


Figure 2: Patients weight: Most students had a weight on a normal to low range 322 (61%) students had low weight, 136 students had normal weight (26%), 63 students had overweight (12%) and 30 students were obese (5.7%).

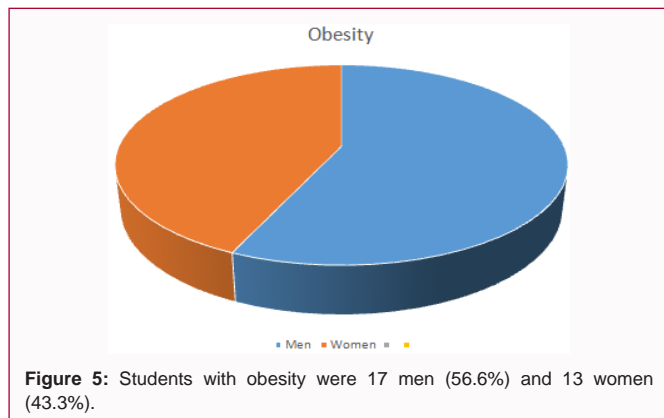


Figure 5: Students with obesity were 17 men (56.6%) and 13 women (43.3%).

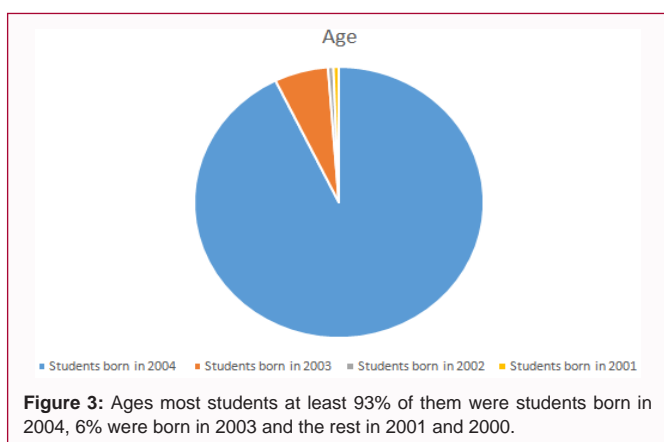


Figure 3: Ages most students at least 93% of them were students born in 2004, 6% were born in 2003 and the rest in 2001 and 2000.

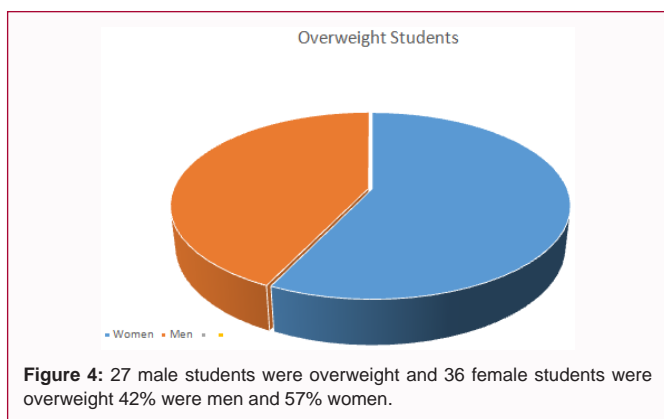


Figure 4: 27 male students were overweight and 36 female students were overweight 42% were men and 57% women.

healthy lifestyle, were taught on the importance of applying vaccines and preventing unwanted pregnancy (Figures 1-5).

Conclusion

We can make a change in society if diet plans and exercise were implemented and young individuals were oriented in having healthy patterns because exercise and diet are habits at the end of the day and it is important to have this type of patterns, we can infer from the results that nowadays obesity and overweight are seen less than a normal to low weight but as people age they tend to gain weight and this is the time where chronic illness and other type of diseases are seen, even individuals with thin body type at an older age can have chronic illness.

So it is important to implement changes in the food that is sold in normal cafeteria in Mexican schools, and also is important to implement change such as talking to children and young teens about the importance of having a healthy diet and exercising regularly.

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