Prevalencia de obesidad exógena en Hombres y Mujeres de 20 a 45 años de edad en la Comunidad de Alfredo V. Bonfil durante el periodo del 1 de enero al 30 de octubre del 2014

Prevalence of exogenous obesity in men and women 20 to 45 years of age in the community of Alfredo V. Bonfil during the period from January 1 to October 30, 2014

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Resumen

La **obesidad exógena** se define como aquella que tiene como origen una ingestión calórica excesiva a través de la dieta, mientras que la **endógena** se produce por disturbios hormonales y metabólicos. El método más utilizado en el adulto para definir y clasificar la obesidad es el índice de masa corporal (IMC) que es igual al peso (kg) / talla (mtrs). Es el parámetro que mejor se correlaciona con el porcentaje de grasa corporal, aunque lo sobrestima en individuos musculosos e infravalora en personas con baja masa magra. La Organización Mundial de la Salud clasifica la obesidad según el IMC en Normopeso (18.5-24.9), Sobrepeso (25-29.9), Obesidad Clase I (30-34.9), Obesidad Clase 2 (35-39.9), Obesidad Clase 3 (>40).

Objetivo general: determinar la prevalencia de obesidad exógena en hombres y mujeres de 20 a 45 años de edad en la Comunidad de Alfredo V. Bonfil. **Material y métodos**: se analizó a un total de 150 personas, 75 hombres y 75 mujeres, obteniendo el Índice de Masa Corporal, Perímetro de Cintura y el Índice de Cintura-Cadera mediante métodos convencionales establecidos. **Resultados**: la prevalencia de sobrepeso fue de 27.33 %, mientras que la prevalencia de obesidad fue de 43.33 %, sumando un total de personas con peso excesivo en 70.67 %, de las cuales 66.66 % corresponde a los hombres y 74.67 % a las mujeres. Se encontró que la prevalencia de sobrepeso fue mayor entre hombres (29.33 %) que en las mujeres (25.33 %), sin embargo, la prevalencia de obesidad fue mayor en estas (49.33 %) que en los hombres (37.33 %). La prevalencia de obesidad abdominal basados en la circunferencia de cintura fue de 66.66 % en hombres y 86.67 % en mujeres, representando un total de 76.67 %. Sin embargo, basados en el Índice de Cintura-Cadera encontramos una prevalencia solo del 14.67 % en hombres y del 61.33 % en mujeres, teniendo un total prevalente del 38 % de la población general de entre 20 a 45 años. **Conclusión**: existe una alta prevalencia de peso excesivo en la población de 20 a 45 años (70.67 %), siendo la obesidad la representante más prevalente, que es inverso a las cifras totales de México, en las cuales el sobrepeso es más prevalente, sin embargo coincide con las cifras de estados como Yucatán, Campeche y el Distrito Federal.

Palabras clave: prevalencia, obesidad exógena, sobrepeso.

Abstract

Exogenous obesity is defined as one that has as its source an excessive through dietary caloric intake, while the endogenous is caused by hormonal and metabolic disturbances. The method most commonly used in the adult to define and classify the obesity is the Body Mass Index (BMI) which is equal to weight (kg) / height (mtrs). It is the parameter which is better correlated with the percentage of body fat, although it overestimates in muscular individuals and underestimated in people with low lean mass. The World Health Organization classified according to BMI obesity *normal weight* (18.5-24.9), *overweight* (25-29.9), *obesity class I* (30-34.9), *obesity class 2* (35-39.9), *obesity class 3* (> 40).

General objective: determine the prevalence of exogenous obesity in men and women 20 to 45 years of age in the community of Alfredo V. Bonfil. **Material and methods**: is analyzed to a total of 150 people, 75 men and 75 women, obtaining the Body Mass Index, perimeter of waist and the rate of hip by methods conventional established. **Results**: the prevalence of overweight was 27.33%, while the prevalence of obesity was 43.33%, a total of people with excess weight at 70.67%, of which 66.66% are men and 74.67% women. Is found that the prevalence of overweight was greater among men (29.33%) that in the women (25.33%), however, the prevalence of obesity was greater in these (49.33%) that in them men (37.33%). The prevalence of abdominal obesity based on waist circumference was 66.66% for males and 86.67% in women, representing a total of 76.67%. However, based on the rate of hip found a prevalence of only the 14.67% in men and from the 61.33% in women, taking a total prevalent of 38% of the general population aged 20 to 45 years. **Conclusion:** there is a high prevalence of excess weight in the population of 20 to 45 years (70.67%), obesity being the representative more prevalent, which is inverse to the total figures of Mexico, in which overweight is more prevalent, however coincide with figures from States like Yucatan, Campeche and the Federal District.

Key words: prevalence, exogenous obesity, overweight.

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Introduction

Excess body weight is recognized today as one of the challenges of public health in the world given its magnitude, the rapidity of the increase and the negative effect that has on the health of the population that suffers from it, since it significantly increases the risk of Chronic Noncommunicable Diseases (CNCDS).

The distribution of adipose tissue in different anatomical deposits is also important in relation to morbidity. Especially intra-abdominal and subcutaneous abdominal fat has higher value in this area than the subcutaneous fat of buttocks and legs. The way to

distinguish them is by determining the Waist to Hip Ratio, which is abnormal with figures > 0.85 in women and > 1.0 in men. Many of the most important consequences of obesity as a resistance to insulin, diabetes, hypertension and hyperlipidemia have a closer relationship with intra-abdominal fat, with the upper part of the body fat or both locations, as with global adiposity.[3]

The study NHANES II (National Health American Nutrition Examination Survey) determined that obesity offers a relative risk of 3.8 times greater of developing T2DM in people between 25 and 45 years of age, compared to 2.9 times in the range of 20 to 75 years and between 45 and 75 years 2.1. In a matter of HTA, obese people aged between 20 and 45 are at risk 5.6 times more suffer from the disease, in relation to persons from 20 to 75 and 45 to 75, in which the relative risk is 3 and 2 respectively.

It obesity is related with different factors, but some of them are them responsible of the unused increase in them prevalences of the overweight and the obesity in the last 20 years in the world and in Mexico. Such is the case of eating habits and patterns of physical activity, sedentary, while other factors, such as hereditary, although important do not explain the increase unprecedented in obesity rates.

The World Health Organization reported on its Fact Sheet number 311 that since 1980 the obesity is has more than doubled worldwide. In 2008, 1500 million adults (20 and more years) were overweight. Within this group, more than 200 million of men and about 300 million of women were obese. 65% of the world's population lives in countries where the overweight and obesity take more lives than underweight. In 2010, around 43 million children under five years of age were overweight.

The Organisation for Economic Co-operation and Development (OECD) said on September 24, 2010 in Mexico 30% of the population is obese and 70% overweight. The United States follows with 28% of obese and 68% overweight. Breaking down the figures in adult women and men, Mexico and the United States ranks first in overweight. In the US, men are more overweight (72%) than women (64%). In Mexico it is the opposite: women are

more overweight, 72%, than men, with 67%. As for obesity, the US ranks number one in obese women, with 36%, followed by Mexico with 35% there.

Studies in other countries show that in Spain the prevalence of overweight and obesity in men is 36.8% and 7.1% respectively in the age range of 25-34 years and 48.5% and 11.7% respectively in the age range of 35 -44 years. In the case of Spanish women, the prevalence of overweight and obesity was 20.2% and 4.8% respectively from 25 to 34, and 31.1% and 12.2% of 35-44 years.9

In the case of Colombia the prevalence of overweight has an average of 32% in persons 18-64 years of age, with no difference between genders. However, the prevalence of obesity is almost double in women (16.6%) than men (8.8%).
On the other hand, in Chile the prevalence of overweight is significantly higher in men than women, with 45.3% and 33.6% respectively in the age group 25-44 years. The prevalence of obesity is greater in women than in men, reaching 30.7% and 19.2% respectively in the same age group.

In the National Health Survey 2000 (ENSA-2000), was recorded in women aged 20 to 59 years, the prevalence of overweight and obesity was 36.1% and 28.1% and in men in the same age group was 40.9% and 18.6%. Comparing these data with the international context it was observed that the prevalence of overweight and obesity in women in our country, is among the highest in the world, this being worrisome given the close relationship of these conditions with chronic degenerative diseases.

In contrast to the study by the National Health and Nutrition Survey 2006 (ENSANUT), the national prevalence of overweight was higher in men (42.5%) than females (37.4%), while the prevalence of obesity was higher in women (34.5%) than men (24.2%). The sum of the prevalence of overweight and obesity in older than 20 years was 71.9% for women (representing about 24,910,507 women) and 66.7% of men (representing about 16,231,820 men).

This situation presented in our country is related to demographic changes. Before the rural population was 75 to 80% of the total urban was only 20 to 25%. For half of the twentieth century these conditions were reversed and at most 20% of the country's population lives in areas rurales.18

Other associated factors are adopting unhealthy life styles and rapid urbanization in recent years, coinciding with changes in the epidemiological profile and patterns alimentarios.19

According to the hypothesis of "genotype savings" proposed by Neel in 1962, it is concerned that obese poor may have developed a mechanism of metabolic adaptation. This hypothesis postulates that populations exposed to periods of famine, in which the body usually store and metabolize fewer nutrients as protection, these groups manage to provide food on a regular basis, causing the body shop store energy as fat finally expressed in obesidad.20

The ENSANUT 2006 shows that the prevalence of overweight or obesity in the Federal District was 73% in adults older than 20 years (69.8% for men and 75.4% for women). Coupled with the high rates of overweight and obesity, the prevalence of waist circumference seen as abdominal obesity was 75.8% in the capital, with a marked difference between the sexes: 65.1% men and 83.5% women. Seven in 10 adults over age 20 in the Federal District are overweight (IMC≥25). More than 75% of the population over 20 years of age are obese abdominal.21 Federal District

On the other hand, the same study shows that the prevalence of overweight or obesity in Yucatán was 74.4% in adults older than 20 years (76.9% for women and 70.8% for men). Coupled with the high rates of overweight and obesity, the prevalence of waist circumference seen as abdominal obesity was 73.4% in the state, with differences between the sexes: 61.4% men and 81.1% women. Seven in 10 adults over 20 years are overweight Yucatán (IMC≥25) and 73% of this population have abdominal obesity. 22

In the case of Campeche, the ENSANUT 2006 shows that the prevalence of overweight was 75.1% in adults older than 20 years (70.5% for men and 78.2% for women). A breakdown by type of dwelling, the prevalence in urban areas was 76.1% and rural 1.7%, and for the latter 17 percentage points higher in women compared to men. Coupled with the high rates of overweight and obesity, the prevalence of waist circumference seen as abdominal obesity was 74.4% in the state, with a marked difference between the sexes: 57.8% men and 85.3% women. The prevalence of waist by type of dwelling was 75.4% urban and 70.7% rural. The most relevant study was that 7 out of 10 adults aged 20 years in Campeche are overweight (IMC≥25) and abdominal obesity.[23]

Throughout this framework, the Federal Government has launched in 2010 a National Agreement for Health Food "Strategy against overweight and obesity," which aims to contribute to the sustainability of national development to reverse the epidemic diseases chronic noncommunicable facing the country, resulting in overweight and obesity, with targeted especially minors actions, individually, community and national levels to improve the supply and favorable access to food and health drinks, and promoting the practice of constant throughout the different stages of life physical activity. And the vision that by 2012 will have been slowed and stopped the growth in the prevalence of overweight and obesity in children and young people, thanks to the concerted implementation of all relevant stakeholders actions. In this way will ensure that the company is a shift towards a culture of environments and behaviors for better food and beverage consumption, and an increase in physical activity, thereby slowing the increase in overweight and obesity in children and youth .

Today, Mexico ranks first in obesity prevalence worldwide, after the United States. This high prevalence of overweight and obesity is a major public health priority which requires the implementation of a national policy that recognizes the multifactorial origin of the problem. The epidemic involves significant for the public health system for the sustainability of the pension system and for economic and social stability of the population, especially the poorest costs.

The Alfredo V. Bonfil is made up of immigrant settlers from different parts of the republic, which has a rich food variety, however, breeding cattle and pigs is one of its mainstays, so consume meat beef and pork, and high carbohydrate drinks. This, coupled with a sedentary lifestyle caused by short periods of work, has created a vicious circle resulting in the suffering of excessive weight and consequently, suffering chronic communicable diseases which have been increasing worldwide.

MATERIAL AND METHODS

the doctor in charge of the Rural Medical Unit Alfredo V. Bonfil, nurse base and alternate assistant on this research for their approval and prior explanation to patients who are within the criteria reported selection, approval thereof is sought.

measurements of weight, height, waist circumference and hip in both sexes trained and according to conventional procedures and protocols by personnel following measuring instruments were obtained: height and weight are measured with scales with stadiometers brand Nuevo Leon, with a 100g 1mm accuracy and ability to 200cm and 160kg. For the measurement of waist-hip brand tape measures accurately Selanusa 1mm and 1.52mt capacity used.

The evaluation of the nutritional status of the population over 20 years was carried out by two indicators: BMI and waist-hip index. The classification based on BMI cutoffs used as proposed by WHO: adequate nutritional status (18.5 to 24.9 kg / m2), overweight (25.0 to 29.9 kg / m2) and obesity (> 30.0 kg / m2). For the analysis of waist circumference proposed by the International Diabetes Federation that abdominal obesity considered a waist circumference> 80cm for women and> 90cm for men approach was used. And waist-hip index considers obesity in men> 1.0 and in women> 0.85.

Valid data were included as those of persons belonging to the community and who are within the age range of 20-45 years and BMI values between 10 and 58 kg / m2. They were considered as valid data size of between 130 and 200 cm values. BMI data were excluded when the size was less than 130 cm for waist in those who were between 50 and 180 for both sexes. Similarly excluded those who did not belong to the community, they were outside the age range of 20-45 years for both sexes and for pregnant women.

RESULTS

The population of Alfredo V. Bonfil is of 2060 inhabitants, with 630 people in the age range of 20-45 years (31%) (gráfica1), within which 49% are men and 51% women, so a representative sample was taken. (Figure 2).

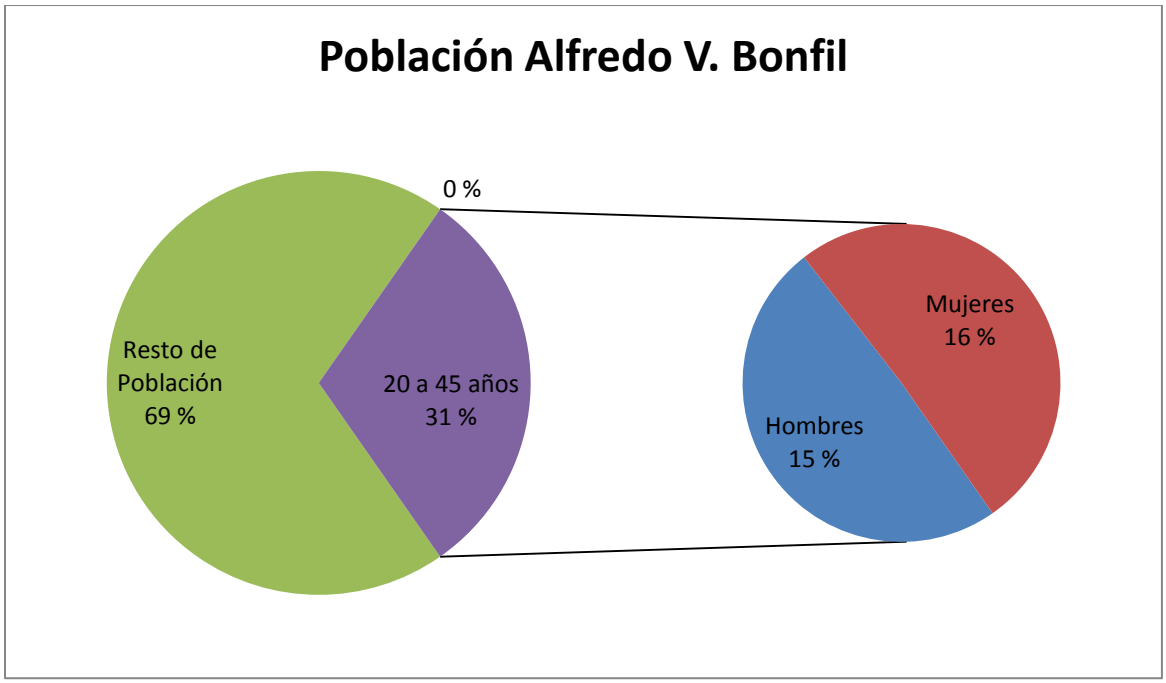

Figure 1. Population aged 20 to 45 with respect to the total population of the Alfredo V. Bonfil Campeche. Source: INEGI.

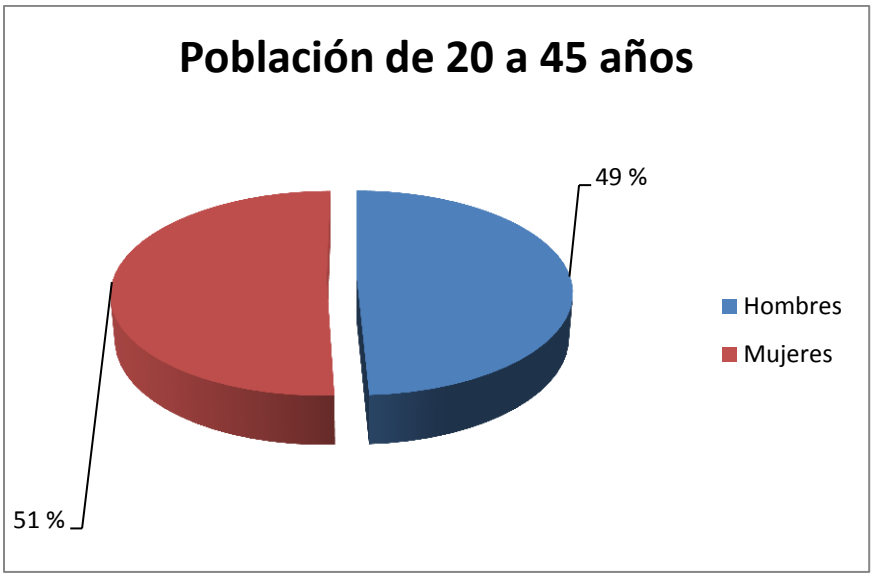

Figure 2. Distribution of the population 20-45 years of age the Alfredo V. Bonfil. Source: INEGI.

Information of 150 people, 75 men and 75 women aged between 20 and 45 years of age (Table 1) is analyzed.

	Hombres		Mujeres		Ambos	
Total	75		75		150	
	Presentan Condición		Presentan Condición		Presentan Condición	
Condición	Número	%	Número	%	Número	%
Normopeso	25	33.33	19	25.33	44	29.33
Sobrepeso	22	29.33	19	25.33	41	27.33
Obesidad	28	37.33	37	49.33	65	43.33
Sobrepeso + Obesidad	50	66.66	56	74.67	106	70.67
Obesidad Abdominal según Cintura	50	66.66	65	86.67	115	76.67
Obesidad Abdominal según índice Cintura-Cadera	11	14.67	46	61.33	57	38

Table 1. Percentage distribution of BMI and the ICC in the population 20-45 years of Alfredo V. Bonfil, Campeche. Source: 2014 study.

The prevalence of overweight was 27.33%, while the prevalence of obesity 43.33%, giving a total of people with excessive weight of 70.67% (Figure 3), of which 66.66% are men and 74.67% women .

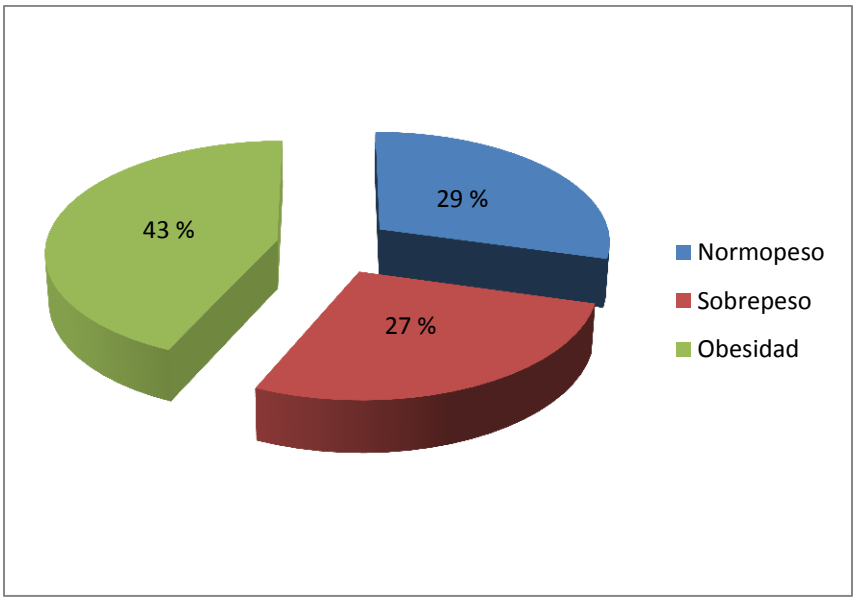

Figure 3. Prevalence of overweight and obesity in men and women 20-45 years old at the Alfredo V. Bonfil. Source: 2014 study.

It was found that the prevalence of overweight was higher among men (29.33%) than women (25.33%), however, the prevalence of obesity was higher in those (49.33%) than men (37.33%) (Figures 4 and 5).

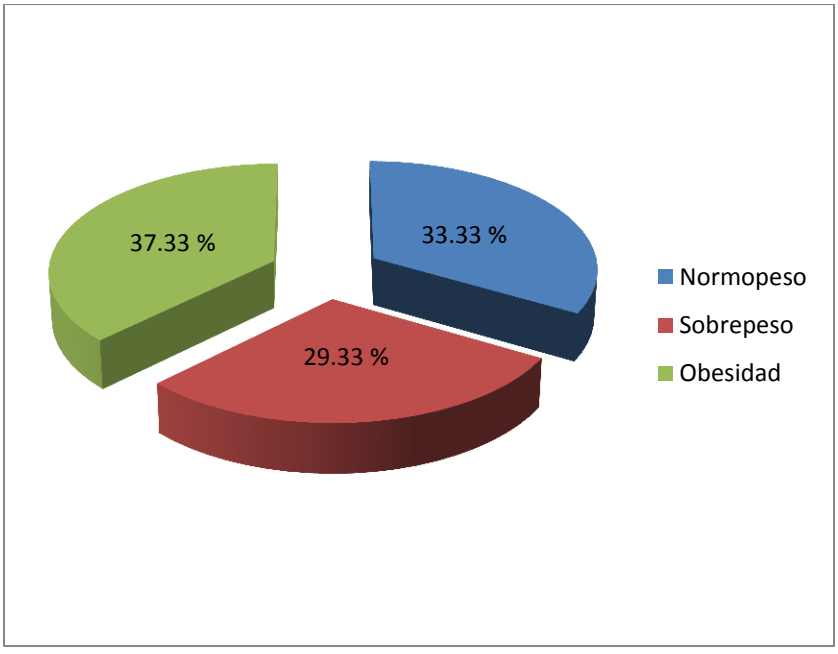

Figure 4. Prevalence of overweight and obesity according to BMI in men 20-45 years of age of the Alfredo V. Bonfil. Source: 2014 study.

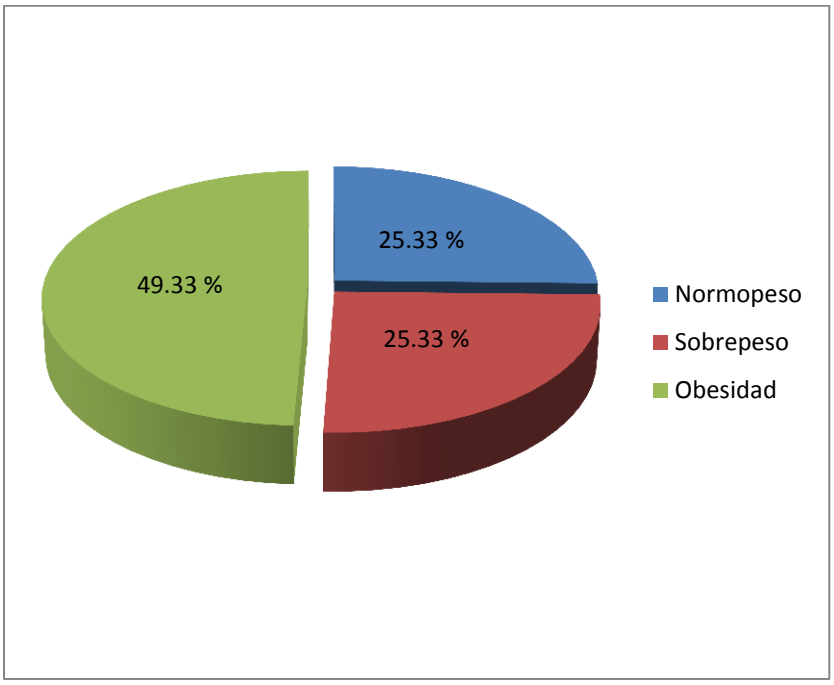

Figure 5. Distribution of overweight and obesity according to BMI in women 20-45 years old at the Alfredo V. Bonfil. Source: 2014 study.

In addition to the high levels of overweight and obesity, the prevalence of abdominal obesity based on waist circumference was 66.66% in men and 86.67% women, representing a total of 76.67% (Figure 6).

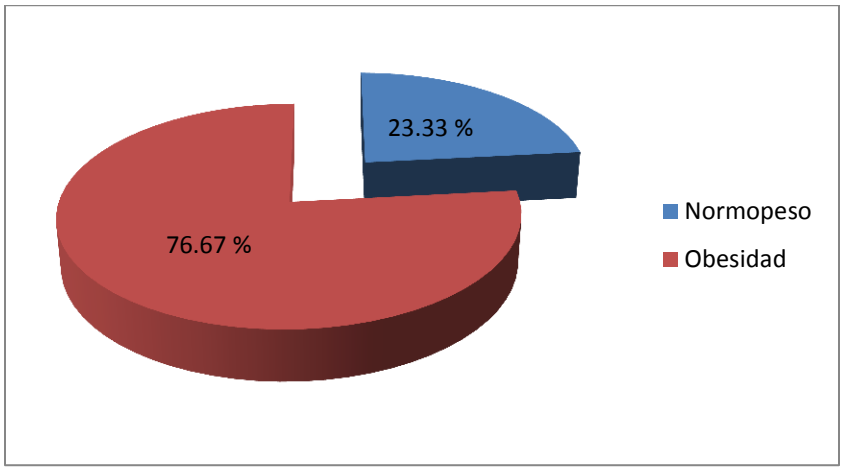

Figure 6. Prevalence of Abdominal Obesity According waist circumference in men and women 20-45 years old at the Alfredo V. Bonfil. Source: 2014 study.

However, based on waist-hip index we found a prevalence of only 14.67% in men and 61.33% women (Figure 7), having a prevalent total 38% of the general population aged 20-45 years (graph 8).

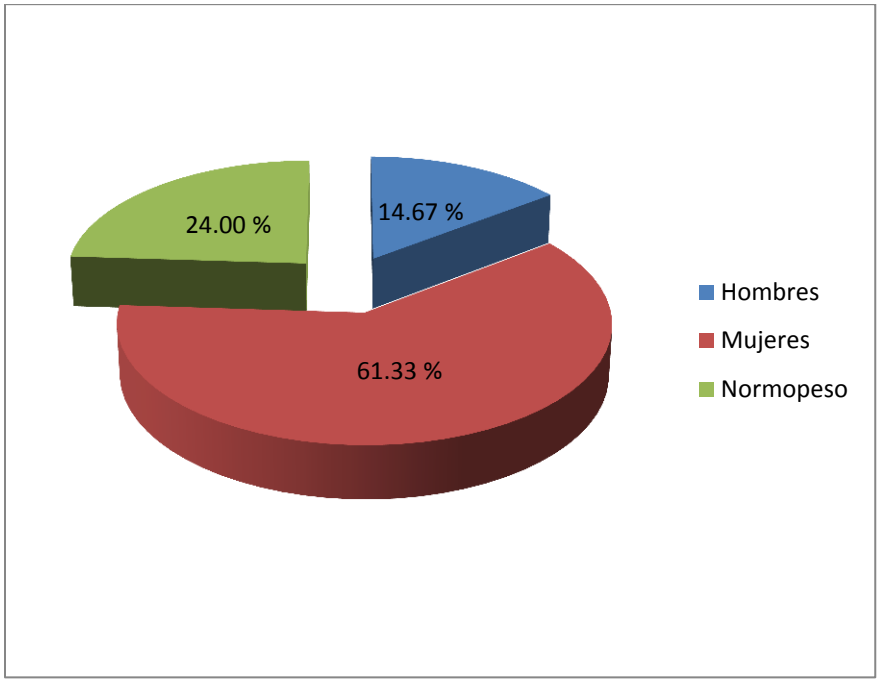

Figure 7. Prevalence of Abdominal Obesity according to BMI in men and women aged 20 to 45 years of the Alfredo V. Bonfil. Source: 2014 study.

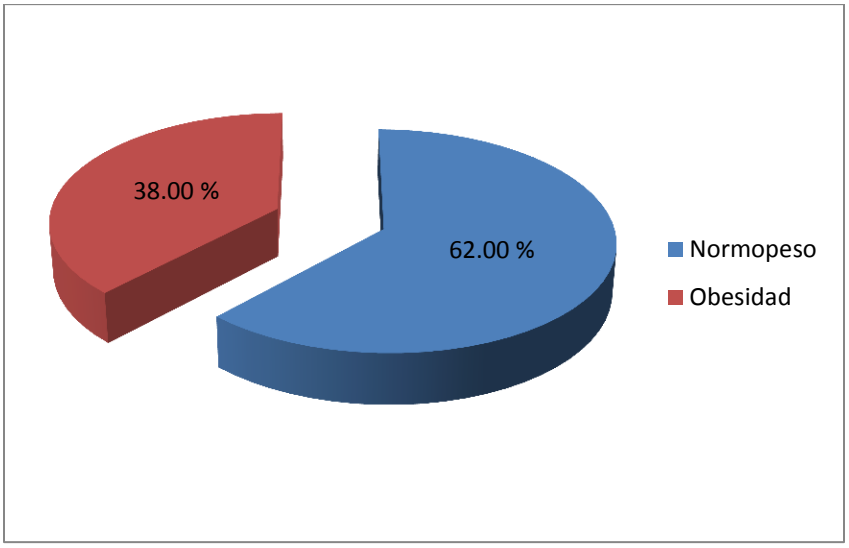

Figure 8. Total Prevalence of Abdominal Obesity as ICC in the range of 20-45 years of age the Alfredo V. Bonfil. Source: 2014 study.

DISCUSSION

At the international level, to compare the prevalence of overweight and obesity in the Alfredo V. Bonfil in the age group of 20-45 years, there is a lower prevalence of the first (27.33%) compared to the higher prevalence of obesity (43.33%) in contrast to figures from Mexico (70% and 30% respectively) and the US with 68% and 28% respectively. However, there is a greater prevalence of obesity in this community, 37.33% in men and 49.33% for women, compared to countries like Spain, with 7.1% for men and 4.8% for women, 8.8% and Colombia with 16.6% and respetivamente Chile with 30.7% men and 19.2% women, all within the same age group.

At the national level the prevalence of overweight in the Alfredo V. Bonfil in both genders (70.67%) is only slightly lower against the Federal District with 73% and states as within the group of 20-45 years Yucatan and Campeche 74.4% to 75.1%. To disaggregate by gender, the prevalence of overweight and obesity in this community, 66.66% to 74.67% for men and women does not vary significantly with respect to DF with 69.8% men and 75.4% women and 70.8% in Yucatan and Campeche and 76.9% respectively with 70.5% and 78.2% respectively.

Likewise, the prevalence of abdominal obesity based on waist circumference is slightly larger obtained in this community (76.67%) relative to D.F. (75.8%), Yucatán (73%) and Campeche (74.4%).

CONCLUSIONS

In this study it was found that the prevalence of overweight in the Alfredo V. Bonfil, in the age group 20-45 years is lower compared to the total figures for Mexico, however, there is a higher prevalence of obesity in this community on the same figures. But much higher prevalence of both conditions in the community with respect to the total numbers of countries such as Spain, Colombia and Chile.

In contrast, compared to the Federal District and the states of Yucatan and the totals of the same state of Campeche, we found that the prevalence of overweight and obesity in both

genders is lower by only a few percentage points in this community, which indicates which is almost on a par with those states.

The prevalence of abdominal obesity based on waist circumference shows that just over ¾ of the population aged 20 to 45 have this disease.

However, the most reliable indicator of abdominal obesity is the waist-hip index, which showed that only 14.67% of the male population in this age group suffer from abdominal obesity, in contrast to the female population in which there 61.33%, with a total of 38% of both genders, aged 20 to 45 years old with abdominal obesity in this community, which places the male population with lower risk of chronic noncommunicable diseases compared to the female group as we NHANES II study indicates the aforementioned.

In short, there is a high prevalence of obesity in the Commonwealth of Alfredo V. Bonfil.

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