International Journal of Advanced Multidisciplinary Research
ISSN: 2393-8870
www.ijarm.com
(A Peer Reviewed, Referred, Indexed and Open Access Journal)
DOI: 10.22192/ijamr Volume 8, Issue 2 -2021

short Communications

DOI: http://dx.doi.org/10.22192/ijamr.2021.08.02.001

Most frequent comorbidities in the Naval Obesity Clinic of the Naval Hospital of High Specialty in Veracruz, Mexico

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Keywords

Obesity,
treatment,
multidisciplinary.

Abstract

Introduction: Obesity is a disease present throughout Latin America. There are several factors for the development of obesity, so the ideal treatment would have to be in charge of a multidisciplinary team composed of nutrition, psychology, physical activity and medical evaluation, however there are other elements that could facilitate the effectiveness for the reduction of weight. **Objective:** To described most frequent comorbidities in the Naval Obesity Clinic of the Naval Hospital of High Specialty in Veracruz, Mexico. **Material and method:** A cross-sectional study was carried out, including patients from the HOSNAVER obesity clinic, with a BMI greater than 30 kg / m2. We evaluating weight, BMI, and chronical pathologies. **Results**: A total of 57 patients concluded the investigation being women in their majority (82.5%), with participation of 9 (19.3%) active military. The patients reported hypertension in 54% of them, diabetes in 36.6% and hypercholesterolemia in 17.5%. **Conclusion:** hypertension was the most frequent chronic disease, persistent in patients in the Naval Obesity Clinic.

Introduction

Overweight and obesity can be defined according to the WHO as "*an abnormal or excessive accumulation of fat that can be harmful to health*". (1), (2) Both definitions coincide in the accumulation of excess body fat that will facilitate health damage from different pathophysiological pathways.

Worldwide, the WHO has a record of a 39% prevalence of obesity in patients over 18 years of age, (1), 'while in Mexico has 64% and Bahamas with 69% being more prevalent in women in the region. In Mexico, the national health and nutrition survey (ENSANUT) 2016 showed a prevalence of overweight of 39.2% and overweight/obesity of 72.5%, increasing by 1.2% with respect to the result of 2012, with a greater increase for the female sex. (3)

A simple indicator that can show us the relationship between weight and height of a subject is the body mass index (BMI) with which it can be classified in different degrees, being normal that with a value of 18.5 to 24.99 kg/m2, overweight with a BMI result of 25 to 29 kg/m2 and obese with a BMI value of 30 kg/m2 or more. 99 kg/m2 and obesity with a BMI value of 30 kg/m2 or more.(4) This, taking into account the health regulations for civilian subjects, however, within the Institute of Social Security for the Mexican Armed Forces, a subject is considered obese from 28 kg/m2.(5)

The main cause of overweight/obesity is determined by an imbalance between the number of calories ingested and expended, (4) although there are other factors that facilitate the presence of overweight/obesity in an individual such as sedentary lifestyle, comorbidities, lack of physical activity, genetic factors, lifestyle, education, social environment, hours of sleep and the patient's family function; Additionally, the population is currently influenced by advertising for the consumption of high-calorie industrialized foods, the increase in energy-dense foods, as well as the social conditions of the Mexican population, such as low wages, the number of working hours without flexible schedules (4,6,7). Currently, epigenetics is also having a boom as the basis to understand the risks of a subject to gain weight, since it explains that from the diet during pregnancy a "developmental plasticity" or "nutritional programming" is generated that modifies the epigenetics of the individual.(8) In all this, the family plays a fundamental process, and there is evidence that family dysfunction facilitates the presence of overweight/obesity in individuals(9), being able to observe this situation since childhood. (10, 11)

As of the year 2019, the High Specialty Naval Hospital of Veracruz (HOSNAVER) has integrated an obesity clinic where multidisciplinary treatment is offered for military members who require it and for their family members (called beneficiaries). It is relevant to mention that the military population has different characteristics from the general population, therefore, presenting with obesity can increase the probability of work incapacity as a consequence of pathologies dependent on weight gain, as it has been shown in scientific evidences (14), so the main objective of this research was to determine Most frequent comorbidities in the Naval Obesity Clinic of the Naval Hospital of High Specialty in Veracruz, Mexico.

Materials and Methods

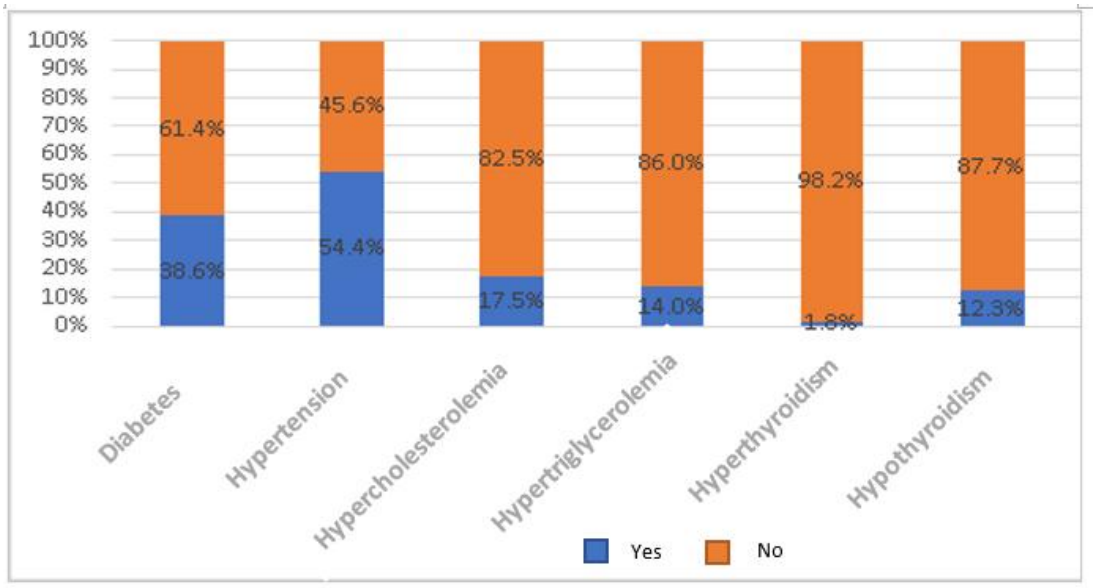
A prospective cross-sectional study was conducted during the period January –June 2019 at the HOSNAVER clinic in Veracruz, Mexico. Patients of both sexes, aged between 18 and 59 years, with a body mass index equal to or greater than 30 kg/m2 were included, excluding patients with schizophrenia, sequelae of cerebral vascular event, cancer, renal disease, and with liver cirrhosis, eliminating those patients who dropped out of treatment.

Those patients who agreed to participate in the study were evaluated and attended by a multidisciplinary team, they measure patients BMI and they were classified in a degree of obesity according to the WHO.

Results

A total of 57 patients met the selection criteria, of whom 91.2% were women, 82.5% were married, with the most frequent entitlement being a relative of an active military member (49.1%), likewise, 64.9% of the patients had at least one comorbidity. Figure 1 shows the main comorbidities of the participating patients.

Figure 1. Comorbidities of the study participants.



Active military members presented type II obesity in 72.7% cases and type III obesity in 27.3% cases; the average age of patients with type I obesity was 36 (±19. 8) years, those with type II obesity was 50.23 (±12.58) years and those with type III obesity 51.7 (±12.67) years. Table 1 shows metabolics values in our patients.

Table 1. Somatometric and biochemical data in patients of the HOSNVER obesity clinic.

Evaluated factors		Mean	Standard deviation
Glucose	Basal	105.11	38.49
Triglycerides	Basal	139.12	49.95
Cholesterol	Basal	178.75	29.77
Weight	Basal	100.7109	15.21
BMI	Basal	40.2453	6.25

Statistical significance with p-values <0.05* obtained by Mann-Whitney U-test. n= 64 patients.

Discussion and Conclusion

Patients with type II obesity are those who most frequently visit the obesity clinic, and this degree of obesity is more prevalent in family members with affiliation as well as in active military personnel, a situation that is different from that of Mexican military personnel who more frequently present type I obesity, in addition, in our research there were active military personnel with type III obesity, while in other military camps they did not present these levels of obesity (19).

The most prevalent nutritional condition among patients attending the Naval Obesity Clinic in Veracruz is type II obesity, being this degree of obesity the most frequent in both military patients and affiliation patients.

The level of obesity has a positive relationship with age, since the higher the level of obesity, the higher the average age of the patients in these groups, a situation that is inversely presented in the military patients evaluated by Vázquez.(19) This may be due to the type of population studied, since the evidence in the literature comes from a group of active military, while in our results, both affiliation and active military patients were evaluated, the latter being those with the lowest participation in the obesity clinic.

It is important to identify strategies that reinforce adherence to treatment of participants in the obesity clinics to give the patient the maximum benefit as a consequence of being attended by a multidisciplinary team, since although this research showed improvement in a large percentage of patients, it cannot be shown that the changes are statistically significant.

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Subject: Medical Sciences

Quick Response Code

DOI:10.22192/ijamr.2021.08.02.001

How to cite this article:
TTE. NAV. SSN. MCN. Yadira Méndez Paredes, TTE. NAV. SSN. MCN. MED. FAM. BAR. Alexis Ojeda, CAP. CORB. SSN. CD. END. Ana Lucía Hernández González, UGS. María Guadalupe Chiang Rascon, MIC. Félix Guillermo Márquez-Celedonio, MIC. Josué Eli Villegas-Domíngueza. (2021). Most frequent comorbidities in the Naval Obesity Clinic of the Naval Hospital of High Specialty in Veracruz, Mexico. Int. J. Adv. Multidiscip. Res. 8(2): 1-5.
DOI: http://dx.doi.org/10.22192/ijamr.2021.08.02.001