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Epidemiología de sobrepeso y obesidad en estudiantes universitarios de Chilpancingo, Guerrero

Epidemiology of Overweight and Obesity on University Students in Chilpancingo, Guerrero

Epidemiologia do sobrepeso e obesidade em estudantes universitários em Chilpancingo, Guerrero

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Resumen

El sobrepeso y la obesidad afectan a todos los grupos poblacionales sin distinción, por lo que es necesario delimitar las diferencias entre ellos para determinar las estrategias a seguir. El objetivo principal es determinar la epidemiología del sobrepeso y de la obesidad en estudiantes universitarios de enfermería en la ciudad de Chilpancingo, Guerrero. Para ello se realizó un estudio transversal y descriptivo en 252 alumnos de los niveles técnico y de licenciatura en enfermería. El instrumento aplicado consistió en 32 ítems de seis apartados: datos sociodemográficos, escolaridad,

medidas antropométricas, preguntas generales, ejercicio físico y hábitos alimenticios; asimismo, con las cifras sobre peso, talla, perímetro de cintura y cadera, circunferencia media braquial, se calculó el IMC de cada participante. Estos datos fueron procesados con el programa SPSS mediante estadística descriptiva, tomando en cuenta aspectos éticos. En total se encuestó a 200 alumnos de licenciatura y a 52 de nivel técnico en edades de 19 a 55 años, de los cuales 84 % eran mujeres. 54 % tenía familiares con sobrepeso y 25 % con obesidad, es decir, 21 % y 15 % respectivamente; por otro lado, 19 % nunca realiza actividad física y 17 % tiene obesidad central, donde 20 % corresponde a los alumnos de licenciatura. Más del 60 % de los alumnos de ambos programas no sigue un horario fijo de comidas. Se sugiere llevar a cabo estudios más complejos con respecto al sobrepeso y la obesidad en alumnos de instituciones de educación superior, ya que el actual estilo de vida propicia la paulatina ganancia de peso.

Palabras clave: sobrepeso, obesidad, epidemiología, estudiantes, enfermería.

Abstract

Overweight and obesity do not to discriminate between different population groups; that's why its continuous approach is needed to establish differences between groups that allow considering specific objectives of intervention. **Objective**. To determine the epidemiology of overweight and obesity in nursing university students of Chilpancingo, Guerrero, Mexico. **Methods.** A transversal descriptive study was conducted on 252 nursing students of technical and university degree. An instrument of 32 items was applied consisting of 6 sections: socio-demographic data, education, anthropometric measurements, general questions, aspects of physical exercise and nutritional aspects. Weight, height, waist circumference, hip circumference and middle brachial circumference were measured; BMI was calculated for each participant too. Data were processed in SPSS using descriptive statistics. Ethical aspects of research were considered. **Results**. 200 university students and 52 technical students was surveyed aged 19 to 55, where 84% were women. 54% had family with overweight and 25% with obesity clinical history, being 21% and 15% respectively. 19% says that never perform physical activity. 17% of the participants have central obesity, being the university students related to 20%. Over 60% of students in both programs do not have a fixed schedule of meals. **Conclusions**. It is necessary to develop more complex studies

to investigate about the issue of overweight and obesity within institutions of higher education related to the current lifestyles are influencing towards a gradual weight gain.

Key words: overweight, obesity, epidemiology, students, nursing.

Resumo

O excesso de peso e a obesidade afetam todos os grupos populacionais sem distinção, por isso é necessário delimitar as diferenças entre eles para determinar as estratégias a serem seguidas. O objetivo principal é determinar a epidemiologia do sobrepeso e obesidade em estudantes universitários de enfermagem na cidade de Chilpancingo, Guerrero. Um estudo transversal e descritivo foi realizado em 252 alunos de nível técnico e de graduação em enfermagem. O instrumento utilizado consistiu em 32 itens de seis seções: dados sociodemográficos, escolaridade, medidas antropométricas, questões gerais, exercícios físicos e hábitos alimentares; Da mesma forma, com as figuras sobre peso, altura, circunferência da cintura e circunferência do quadril, o IMC de cada participante foi calculado. Esses dados foram processados usando o programa SPSS usando estatísticas descritivas, levando em conta os aspectos éticos. Um total de 200 alunos de graduação e 52 estudantes técnicos foram entrevistados, com idade entre 19 e 55 anos, dos quais 84% eram mulheres. 54% tinham parentes com sobrepeso e 25% com obesidade, ou seja, 21% e 15%, respectivamente; Por outro lado, 19% nunca realizam atividade física e 17% têm obesidade central, onde 20% corresponde a estudantes de graduação. Mais de 60% dos alunos em ambos os programas não seguem um horário de refeições fixas. Sugere-se a realização de estudos mais complexos sobre sobrepeso e obesidade em estudantes de instituições de ensino superior, uma vez que o estilo de vida atual promove o ganho gradual de peso.

Palavras-chave: sobrepeso, obesidade, epidemiologia, estudantes, enfermagem.

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Introduction

According to the World Health Organization (WHO, 2016c), in the year 2014 there were 1.9 billion adults over 18 years of age worldwide, of whom 31.5% in 600 million were obese. Of that, approximately 13% represents the adult population with obesity and 39% that is overweight. About 41 million children were overweight or obese.

Obesity and overweight are defined as "an abnormal or excessive accumulation of fat that can be harmful to health." In a simple way you can measure overweight or obesity through body mass index (BMI). "A person with a BMI equal to or greater than 30 is considered obese and with a BMI equal to or greater than 25 is considered overweight. Overweight and obesity are risk factors for many chronic diseases, including diabetes, cardiovascular disease and cancer "(WHO, 2016b).

This public health problem is recognized as a phenomenon that can negate "the health benefits that have contributed to the increase of longevity in the world" (WHO, 2016a). As already known, overweight and obesity can start from childhood and continue throughout adulthood if the necessary actions are not taken.

Obesity derives from a number of factors: (1) unhealthy or obesogenic environments, (2) inadequate behavioral and biological responses, resulting from globalization and urbanization that affect both high and low income countries, eg exposure to ultraprocessed foods of high caloric content, low nutritional value and easy access.

In this regard, Mexico is considered worldwide as one of the countries with high rates of overweight and obesity. The National Health and Nutrition Survey (2012) reported that 35% of adolescents were overweight and obese, with a prevalence of 35.8% for females and 34.1% for males. Within the range of 20 to 29 years old, where the majority of university students are grouped, women were found to be 33% overweight and 20.4% overweight (Ensanut, 2012).

In general, the university student is characterized by a desire to perform adequately in the academic area, influenced by a series of "volitional, affective, cognitive, behavioral, psychosocial and academic factors" (Caballero D. and Breso, 2015) (Mollinedo Montaño , Ortiz Trejo, Araujo Espino, and Lugo Balderas, 2013), in addition to those of the individual, among which, of course, is the food dynamics.

Unlike countries like the United States, there is no transitional plan in Mexico to support the student in his transition from preparatory to university level, so he must work on his own to meet his new social challenges. This brings consequences such as sedentary lifestyle (due to the increase in the number of hours that remain seated), bad eating habits (little variety in the choice of healthy food and increase in rations), smoking or intoxicating drinks, among others (Cutillas , Herrero, San Eustaquio, Zamora, and Pérez-Llamas, 2013).

Students attending college face more serious academic and personal demands, which often end up affecting their body weight (Garay Sánchez, 2011). In general, they represent a group of young adults with a high probability of falling into malnutrition because they do not carry home-prepared foods, eat fast food with high fat content, and often skip breakfast or fast for long periods (Rodríguez Rodríguez, Espinoza Oteiza, Galvez Carvajal, Macmillan Kuthe, and Solis Urra, 2013).

Among the "bad eating habits" are skipping meals, excessive consumption of fast food or low food variety, aspects that should be understood and analyzed by this population group given their high academic level; however, they are not exempt from this type of disorder (Lorenzini, Betancur-Ancona, Chel-Guerrero, Segura-Campos, and Castellanos-Ruelas, 2015). Throughout his academic career there is a gradual increase in weight among students (Morales I., Valle R., Soto V., and Ivanovic M., 2013), and it is recognized that weight gain in university students could be a constant (Soto Ruiz et al., 2015).

Rizo-Baeza et al. (2014) carried out an investigation in Spain in 184 students of the area of health, specifically of the careers of nutrition and nursing. The data showed that in nursing 13.6% of students were overweight and 1.1% were obese. Similarly, a study that considered students not

only in the area of health but also in engineering and humanities reported that of 132 students, 12.9% were overweight (Salinas, Pérez Rivera, and Barona Meza, 2014).

In a study carried out in 404 university students of the University Center of the Autonomous University of the State of Mexico, UAEM Amecameca, it was found that 14.2% of the women and 11.9% of the men were overweight (Córdoba Adaya, Carmona González, Terán Varela , and Márquez Molina, 2013).

The objective of this research was to determine the epidemiology of overweight and obesity in university nursing students in Chilpancingo, Guerrero, to establish the best measures to prevent or control these disorders.

Material and methods

The present descriptive cross-sectional study was applied to 252 nursing students of technical and undergraduate level at the Autonomous University of Guerrero, Campus Chilpancingo. We worked with students enrolled in the 1st, 2nd and 3rd year of the technical level and the 1st and 2nd year of the degree in nursing. At the time of the study, the total enrollment of the institution was 940 students, with the majority of the undergraduate level. The sample size was determined using the formula for finite populations, with a confidence level of 95% with 6% margin of error, being established the sample in 273 students. To determine the number of students to choose per group and within each group, a first stratified sampling was carried out and simple random sampling was used.

Once the research project was approved by a Research and Bioethics Committee, the data collection instrument was evaluated, which was elaborated for research purposes. Its name is "Assessment of aspects of overweight and obesity in students". This instrument is composed of 6 sections: a) sociodemographic data, b) schooling, c) anthropometric measures, d) general

questions, e) aspects of physical exercise and f) aspects of food. The total number of questions was 32.

Then, all participants were assessed anthropometrically by determining their weight, height, waist and hip circumference, mid-arm circumference and BMI.

The data were collected and analyzed in a database in the SPSS v.20 program using descriptive statistics, such as frequency distribution, measures of central tendency, mean and median.

The research considered informed consent, as well as ethical aspects of respect for individuality, confidentiality, among others.

Results

Of the total of applied surveys, 21 were discarded for not presenting complete data. Of the 252 students, corresponding to correctly filled instruments, an age range of 15 to 55 years was obtained with an average of 22.3 + 7.0 years where 51% (129) is 19 to 22 years of age, 85% (214) are women, 84% (211) are single, 66% (166) do not work, and 18% have children. It is worth noting that 52 of the total number of students corresponded to the technical level, among whom the minimum age was 15 years and the maximum 16, with an average of 17.4 SD ± 2.4, 21.2% of the male gender (11) and 200 of the level, with students between 18 and 52 years of age, DS of ± 7.3, and 14% of the masculine gender (28).

With respect to the family history of the participants, the following was generally found:

- 54% reported having overweight relatives and 25% with obesity, of which in 21% and 15% the mother was the most prevalent relative.
- 57% have family members with diabetes, 32% of whom are grandparents.
- In 52% of cases alcohol is consumed in the family, with 32% of the parents doing this practice.

In relation to how the students feel or what health practices they have, the following was found:

- 48% feel stressed.
- 43% drink alcohol and 27% prefer beer.
- 2.4% have thyroid problems.
- 30% use a family planning method.
- 68% do not have established times to consume their food.
- 19% never exercise and 54% rarely. Of those who do some physical activity, 11% spend more than 30 minutes and 26% an hour.

Table 1 shows the diagnosis of body mass index, where data on overweight and obesity can be seen. It was observed that 54.8% of the participants are in normal weight. With central obesity there were 17% (43) of the participants, of which 16% (41) were women.

Table 2 shows the diagnosis based on the abdominal perimeter and physical activity, in which it can be observed that most people with central obesity do not exercise or do it less than twice a week.

With respect to the time of physical activity, Table 3 indicates the diagnosis, where the data are crossed with the abdominal perimeter. It can be observed that those who have central obesity perform less than 30 minutes of exercise.

Table 1. Relación del IMC de las participantes

	Frecuencia	Porcentaje
Bajo peso	9	3.6
Normal	138	54.8
Sobrepeso	74	29.4
Obesidad Grado I	27	10.7
Obesidad Grado II	3	1.2
Obesidad Grado III	1	0.4
Total	252	100

Source: instrumento aplicado

Table 2. Perímetro abdominal y frecuencia de la actividad física en las participantes

Frecuencia con la que realiza ejercicio	Peso normal	Obesidad central
Nunca	15. 5 % (39)	4.0 % (10)
Raramente (2 veces por semana o menos)	43.3 % (109)	11.1 % (28)
Frecuentemente (mínimo 3 veces por semana)	24.2 % (2)	2.0 % (5)

Source: instrumento aplicado

When analyzing the data by race, it was found that central obesity was present in 6% of technical level students and in 20% of undergraduate students. Similarly, 29% of students at technical level and 25% of undergraduate students engage in physical activity at least 3 times a week. For 60% of the students of technical level and 70% of degree there is no established schedule for consuming food. The results of the diagnosis of body weight according to the race are shown in figure 1.

Table 3. Cruce entre perímetro abdominal y tiempo en que se realiza el ejercicio

¿Cuánto tiempo empleas en el ejercicio?	Normal	Obesidad central
Nunca	15.5 % (39)	4.0 % (10)
20 min.	15.1 % (38)	6.3 % (16)
21-30 min.	19.4 % (49)	2.8 % (7)
Más de 30 min.	9.5 % (24)	1.6 % (4)
Al menos 1 hora	23.4 % (59)	2.4 % (6)

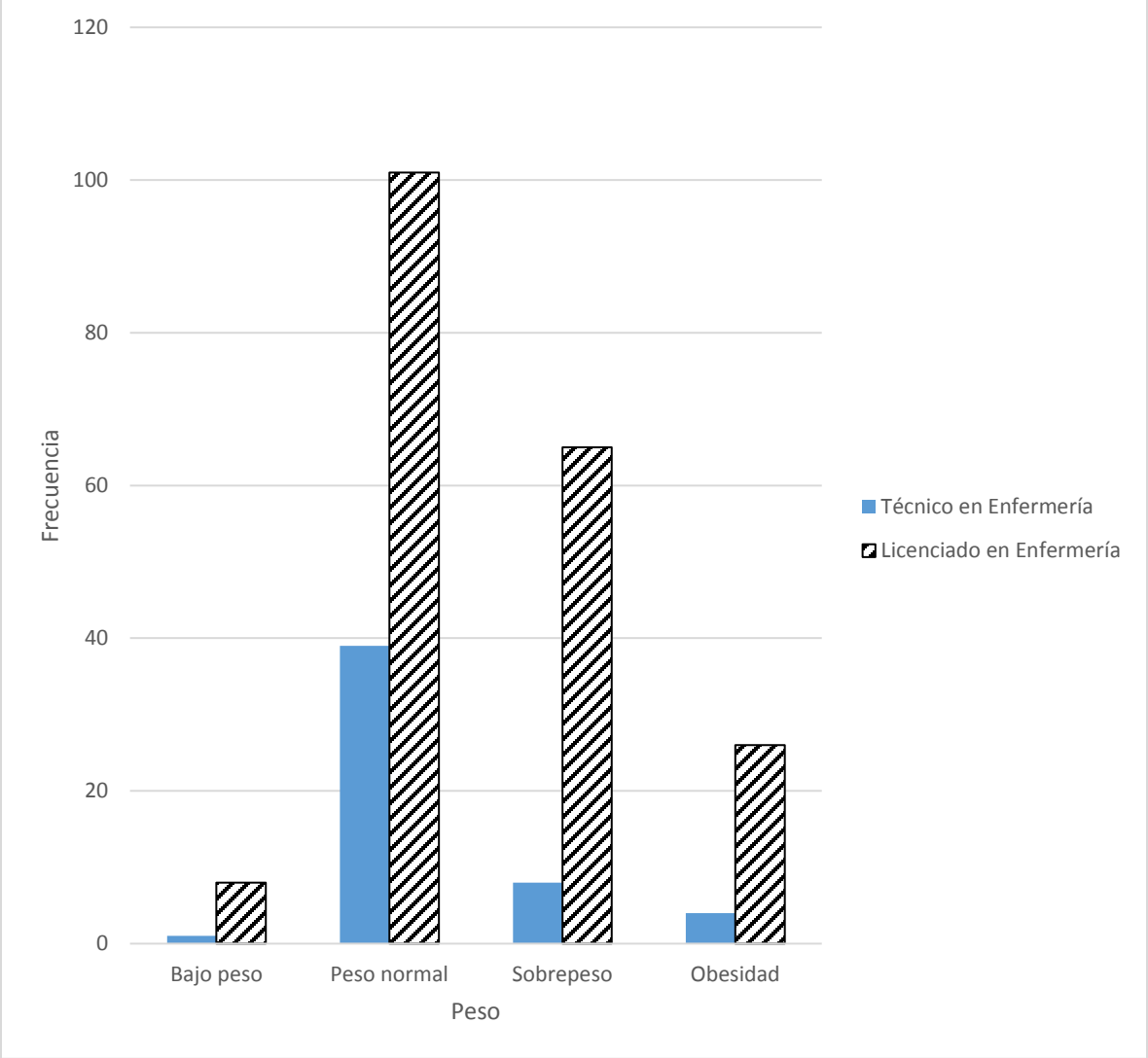
Source: instrumento aplicado

Discussion

The issue of overweight and obesity poses a huge challenge for any university, since it is necessary to include aspects of the university cafeteria system, food management, information in the classroom that guides the phenomenon, and even that teachers and administrative staff preach with example taking care of their own health.

The results of this research show relevant data regarding a public health phenomenon that does not recognize socioeconomic level, gender, country, culture, etcetera, however, its prevalence in students in the area of health draws attention since they are forming to promote healthy lifestyles, prevent health complications or delay the occurrence of damages resulting from bad practices. This coincides with what Farfán expresses and complements that the habits applied and taught during the period of university formation can be replicated in the professional life, since they establish a clear attitude towards the lifestyles (Farfán Briseño y Olarte Rueda, 2014).

Graph 1. Diagnóstico del peso en estudiantes de enfermería



Although no recent studies dealing with family history have been found, those who have had an overweight or obese relative at home may repeat harmful patterns that may also lead to the same phenomenon. In the case of the participants in this study, 79% have an overweight relative in a direct kinship relationship.

Likewise, the results show that students present the "own" aspects of any university-level student, that is, they are stressed, have an active sex life and some even have children (mostly between one and two).

Students at the undergraduate level have the highest prevalence of central obesity (46%). These data are far superior to those found in others, such as Farfán, who found that only 4.4% had obesity (Farfán Briseño and Olarte Rueda, 2014).

With respect to physical activity, it was observed that few students do it in a formal way, for more than 30 minutes or at least 3 times a week. In this regard, only 11% meets this criterion (for both academic programs). This is lower than that reported by Pérez (Pérez Ugidos, Laíño, Zelarayán, and Márquez, 2014), since in a study carried out in Argentina he surveyed 554 students from different careers, including Physical Education; among his findings was that 80% exercised between moderate and high. This point is also similar to that reported in Mexico by Mollinedo, where in 563 students, 41.2% practiced 1 or more sports, 91.2% more than half an hour a day (Mollinedo Montaño et al., 2013). Comparing the findings with students in the health area, it is observed that of 184 university students, 88 nurses performed an average of 2.8 hours of exercise per week in a Spanish university (Rizo-Baeza et al., 2014).

Regarding dietary habits, regardless of the type of food consumed in this research found that 60% of students do not have a set timetable for eating, which clearly influences overweight or obesity. Although this study did not ask about breakfast, it is observed that in the study of Rizo only 4.5% does not realize it, which may suggest that these students do foresee their meal schedules.

Conclusions

These results show that there is much to investigate regarding overweight and obesity in a group as critical as the university student, especially in the one that is being formed in health, since the current dynamics of university life refers in a greater number of researches that students alter their lifestyles, especially nutritional. This causes that the students who enter the race with normal weight or slightly overweight complete it with difficult reversible alterations, since they are immersed in a very different role to that of entering the race; that is, they already work or are parents.

Despite having a good percentage of apparently healthy students (over 50%), the rest should not be neglected, ranging from low weight (a minority) to grade III obesity, which makes us question what other factors health or social impacts on this phenomenon.

The data obtained show clear alterations in the food dynamics, such as the fact that there are students who do not consume food at appropriate times. This is further complicated by poor physical activity, stress, and contraceptive use.

Similarly, students should be aware that all factors affecting the health of the population also affect them, such as family history. These determine the development of a pathology, as evidenced by the fact that 57% of young people under study have a history of diabetes and 54% of overweight.

The university institutions must implement subjects related to:

- Physical activity, not as an activity that the students carry out at some time "free" of the day, but as part of their school activities, something that is not common in Mexico.
- Food, not only from the point of view of the care that patients should receive with their types of diet, but also from the maintenance of health in the healthy person.

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