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Obesity and Chronic Noncommunicable Diseases: A Person-Centered Approach

M.S.P. Paulo Daniel Rúa Vázquez[1], Dra. Luz Del Carmen Ramírez Zazueta[2]

[1]Teacher "B" UdG CUSur. PhD candidate in Human Development, Education and Intercultural Studies.
Contact: paulo.rua@cusur.udg.mx
ORC ID: 0000-0002-5113-9884
[2]Master's degree in Bioethics,
Contact: lucy_rz@hotmail.com
ORC ID: 0009-0001-2692-8742

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ABSTRACT

Obesity is a major public health problem associated with the development of noncommunicable diseases, including type 2 diabetes mellitus and hypertension. This study aims to analyse the relationship between obesity and noncommunicable diseases from a person-centred perspective grounded in human dignity. Materials and methods: A descriptive, retrospective, cross-sectional study was conducted using secondary data collected from clinical records in a primary healthcare setting in Mexico. The study period covered records corresponding to the year 2024.

Results: 620 records, of which 386 (62.4%) were women and 233 (37.6%) were men. With regard to nutritional status, the women were found to have grade I obesity, whilst the men had grade II obesity. The majority of women were identified as having grade I obesity and the men as having grade II obesity. With regard to noncommunicable diseases, hypertension was the most prevalent, followed by type 2 diabetes, as well as a high proportion of sedentary behaviour, with 59.2% failing to meet the recommendation for moderate weekly physical activity. It is concluded that an overweight or obese person does not necessarily suffer from a chronic non-communicable disease, but there is a higher likelihood that one condition is associated with the other. This is an urgent and pressing issue, and it has become a need that must be addressed in a timely and personalised manner by healthcare professionals, with an emphasis on promotion, prevention, diagnosis and person-centred treatment.

Keywords: Obesity, Chronic Diseases, human dignidy and person-centred approach

Introduction

Obesity is regarded as a public health problem and is closely linked to the onset of chronic noncommunicable diseases, such as diabetes and hypertension; furthermore, among modifiable lifestyle risk factors, physical activity, rest, diet, alcohol and tobacco consumption, and lack of adherence to appropriate pharmacological treatment have a significant impact on the health sector.[1]

Conditions are classified as such if they have one or more of the following characteristics: they are permanent; they result in residual disability; they are caused by an irreversible pathological condition; they require the patient to undergo specialised rehabilitation training; and they are likely to require a long-term period of monitoring, testing or care.[2] These diseases are characterised by being preventable, long-term, and slow-progressing; they are leading cause of death worldwide and currently represent the leading cause of death worldwide and represent a major global health challenge.[3]

According to clinical practice guidelines for the diagnosis and treatment of overweight and exogenous obesity, obesity is a chronic, multifactorial and neurobehavioural condition. Abdominal fat accumulation is diagnosed when waist circumference measures more than 80 centimetres in women and more than 90 centimetres in men. Waist circumference is considered an additional indicator for detecting potential health risks associated with the accumulation of abdominal fat.[4]

Noncommunicable diseases constitute a public health burden; this problem is exacerbated when they go unmanaged, particularly when the individuals fail to adhere to pharmacological and non-pharmacological treatment, leading to the development of overweight or obesity.[5]

Overweight and obesity are generally classified using body mass index (BMI), in addition to the presence of comorbidities such as diabetes or high blood pressure. In this regard, an increase in these factors contributes to the development of complications; therefore, treatment requires an ethical approach based on human dignity, promoting interventions centred on the individual rather than solely on the disease, alongside lifestyle changes.[6]

To discuss patient-centred care and the dignity of each individual, particularly those suffering from chronic illnesses, we must go back to 1970, the heyday of bioethics. With the aim of creating a multidisciplinary ethical framework to ensure survival, Potter advocates the creation of bioethics, which is subordinate to ethics and is defined by the PAHO Regional Office as: "the creative use of inter- and transdisciplinary dialogue between the life sciences and human values to formulate, articulate and, as far as possible, resolve some of the problems raised by research and intervention concerning life, the environment and planet Earth".[7]

Taking about human values into account and emphasising that they form the basis of all morality, Immanuel Kant's ethical theory stands out; he defined the person as: "as freedom in the face of the machinery of the whole of nature", thereby establishing the moral conception of the person, in contrast to nature, in a manner similar to Descartes in conceiving the person as a thinking thing, radically opposed to the extended matter that constitutes nature; based on this moral conception of the person according to Kantian theory, it is established that the person is autonomous in the sense of being subject only to imperatives established by their own reason.[8]

The World Health Organisation, in 2018, emphasises that autonomy is regarded as a cornerstone of health systems, in line with the Astana Declaration, which, in addition to committing to building sustainable primary care, pledges to empower individuals and communities.[9]

Statement of the problem

Obesity is defined as a BMI ≥ 30.0 kg/m² and is characterised by excess body fat; it varies according to age, sex, genetics and cultural background. An BMI of over 40.0 kg/m² is considered morbid obesity.[2]

Similarly, It is influenced by genetics, cultural, lifestyle, eating habits and a sedentary lifestyle.[10]

According to the National Health Survey (ENSANUT) in 2024, it was reported that in Mexico, among adults aged 20 and over, 37% are overweight and 36.1% are obese, meaning that the prevalence is 78%, approximately 7 out of every 10 Mexicans; and when broken down by gender, 26% of women aged 20 to 29 are reported to be overweight, compared with 46% of men aged 30 to 59.[11]

This growing prevalence requires timely, personalised and interventions on preventions by healthcare staff, with an emphasis on promotion, prevention, diagnosis and person-centred treatment. Treating these conditions by recognising predisposing factors and addressing them through a comprehensive, person-centred approach that respects dignity ensures adherence to high-quality, evidence-based treatment.[12]

Type 2 diabetes mellitus (T2DM), considered a multifactorial condition, has increased globally, its prevalence rise in recent decades, increasing from 153 million people living with the condition worldwide to 382 million, with the number of cases expected to reach 552 million by 2035. It is worth noting that some risk factors associated with T2D include a lack of physical activity.[13]

In Latin America and the Caribbean, type 2 diabetes is the fourth leading cause of death among people aged 60 and over, affecting the physical, mental and social well-being of those who suffer from it.[14] Similarly, in Peru there is evidence of an increase in non-communicable diseases, of which 60% are cardiovascular diseases (21%), followed by cancer, chronic diseases and T2D (17.6% and 4%, respectively).[15]

In a study conducted on a Mexican population, the authors point out that perceptions of body weight must be taken into account, as there is a high probability of identifying associated health risks, particularly the link between being overweight or obese and the risk of developing type 2 diabetes or cardiovascular disease.[16]

Hypertension is a leading cause of cardiovascular disease and high mortality worldwide; however, it does not always occur in isolation and often coexists with other risk factors such as diabetes, dyslipidaemia, obesity, alcoholism and smoking.[17] According to the Clinical Practice Guidelines for the Diagnosis and Treatment of Hypertension in Older Adults, the non-modifiable factors associated with essential systemic arterial hypertension are: advanced age, family history and race, with the condition being more common in Black people; and the modifiable risk factors are: obesity, a high-sodium diet, hazardous alcohol consumption, physical inactivity, diabetes and dyslipidaemia.[18]

The actions of multidisciplinary staff are essential to health promotion; it is considered that an ethical approach based on human dignity promotes interventions centred on the individual rather than solely on the illness, which is why, in order to address a health intervention where the focus is on the person rather than the condition afflicting them, the National Bioethics Commission developed the Decalogue of Bioethics and Primary Health Care, which states the following in its first three principles: to recognise each individual, family and community as the centre of care; to respect the values, beliefs and autonomy of the individual in health decision-making; and to protect the dignity and safety of individuals, particularly those in vulnerable situations.[19]

Highlighting these first three principles of Mexico's primary regulatory framework on bioethical issues encourages us to continue working towards a deliberative model of the doctor-patient relationship, as in some institutions decision-making is still dominated by a paternalistic model. The application of the deliberative healthcare professional-patient model ensures that decisions are made on the basis of patients' principles, values and beliefs, prioritising the dignity of the person above all else, rather than the illness with which they have been diagnosed.[20]

Materials and Methods

Methodological design: A descriptive, retrospective, cross-sectional study was conducted using secondary data collected from clinical records in a primary healthcare setting in Mexico. The study period covered records corresponding to the year 2024. The study population consisted of 872 clinical records. The sample size (n = 620) was calculated using a 95% confidence level, a margin of error of 5%, and an expected proportion of 50%, ensuring maximum variability.

A probabilistic sampling method stratified by quotas was applied to ensure representation across sex and age groups. Within each quota, records were randomly selected to minimise selection bias. The characteristics of a single sample are described using data collected in the past, so there is no manipulation of variables. Probabilistic sampling by quotas was used; the data collection method is considered to be from a secondary source as it meets the inclusion criteria (quotas) at the time of selection. In addition to quota selection, random selection is maintained to ensure empirically that each member of the population has the same probability of being part of the sample. An Excel spreadsheet was created to record participants' personal details and vital signs.

Inclusion criteria: complete clincal records in the database; duplicate records were excluded. A univariate analysis was carried out using descriptive statistics, frequencies and percentages, measures of central tendency and measures of dispersion. Data analysis was performed using the freely available SPSS version 21 software in Spanish, with a statistical significance level set at $p \leq 0.05$. Exclusion criteria: duplicate records and incomplete or inconsistent data.

VARIABLES AND MEASUREMENTS:

The main variables analysed included: sociodemographic variables (age and sex), anthropometric variables (weight, height, body mass index (BMI), waist circumference), clinical variables (resence of hypertension (HTN), type 2 diabetes mellitus (T2DM)) and lifestyle variables (leve lof physical activity).

Ethical considerations: This research is based on the Regulations of the General Health Act issued by the Government of the Mexican Republic to govern matters relating to health research, drawing on the following articles: Article 16, to protect individual privacy; and Article 17, under which the research was deemed to be risk-free, as the data source was secondary (records). The study also took into account the application of the principles of the Declaration of Helsinki (beneficence, respect for human dignity and justice) of the World Medical Association for Medical Research Involving Human Subjects.

Results

The data obtained provide answers to the research question and are presented below: with regard to gender, there were 620 records, of which 266 (42.9%) were men and 354 (57%) were women (see Table 1: Gender).

With regard to body mass index, among women, 6 (0.96%) were classified as underweight, 110 (17.7%) as normal weight, 125 (20.1%) as overweight, 77 (12.4%) as obese, and 36 (5.8%) as severely obese. Among men, 4 (0.64%) were underweight, 51 (8.2%) were of normal weight, 102 (16.4%) were overweight, 74 (11.9%) were obese, 22 (3.5%) were severely obese and 13 (2%) were morbidly obese. Overweight was the most common category, followed by obesity, indicating a high prevalence of excess weight in the study population.

The prevalence of chronic non-communicable diseases by gender was as follows: in the study population (n=620), it was observed that the prevalence of hypertension (HTN) was higher among men than among women. 42 men (15.8%) had HTN, whilst 224 (84.2%) did not. As for women, 28 (7.9%) had AH and 326 (92.1%) did not have this condition. The overall prevalence of AH was 70 cases (11.3%), whilst 550 (88.7%) of the population did not have it. As for type 2 diabetes mellitus (T2DM), its prevalence was low in both groups; only 3 cases (0.8%) with hyperglycaemia were identified, and 351 (99.2%) did not have the condition. Among men, 1 case (0.4%) of T2D was

recorded (see Table 2: Chronic Non-communicable Diseases).

Table No. 1 Sex

Gender	Thinness 10-18.88	Standard weight 18.5-24.9	Overweight 25-29.9	obesity 30-34.9	Severe obesity 35-39.9	Morbid obesity >40	Total
	f (%)	f (%)	f (%)	f (%)	f (%)	f (%)	f (%)
Woman	6 (0.96)	110 (17.7)	125 (20.1)	77 (12.4)	36 (5.8)	0	354 (57.0)
Man	4 (0.64)	51 (8.2)	102 (16.4)	74 (11.9)	22 (3.5)	13 (2.0)	266 (42.9)
Total	10	161	227	151	58	13	620

Source: Records n=620

Table 2. Chronic Non-communicable Diseases

Gender	Presented by HAS	With out HAS	Presented by DM-2	With out DM-2
	f (%)	f (%)	f (%)	f (%)
Woman	28 (7.9%)	326 (92.1%)	3 (0.8%)	351 (99.2%)
Man	42 (15.8%)	224 (84.2%)	1 (0.4%)	265 (99.6%)
Total	70 (13.3%)	550 (88.7%)	4 (0.8%)	616 (99.4%)

Source: Records n=620

The prevalence of HAS-related NCDs was estimated at 11.3%, with a higher incidence among men (15.8%) than among women (7.9%), as well as a prevalence of T2D of 0.6%, with a slightly higher proportion among men than among women. Furthermore, physical activity levels were examined by gender, revealing that only 40.8% meet the recommendation to engage in at least 150 minutes of moderate-intensity physical activity per week, whilst 59.2% are physically inactive, indicating a prevalence of a sedentary lifestyle. When comparing by gender, it was found that men had a higher proportion of physical activity (47.6%) compared to women (36.7%), who had a higher frequency of inactivity (63.3%), showing a pattern of low consistency in the study population, specifically among women (see Table 3: Physical activity 150 minutes per week).

Table 3: Physical activity – 150 minutes per week

Gender	Yes	No	Total
	f (%)	f (%)	f (%)
Woman	142 (36.7%)	245 (63.3%)	387
Man	111 (47.6%)	122 (52.4%)	233
Total	253 (40.8%)	367 (59.2%)	620

Source: Records n=620

Discussion

In Mexico, the adult population aged 20 years and over shows high prevalence of overweight and obesity, with 37% being overweight and 36.1% obese, meaning that the prevalence is 78%, approximately 7 out of every 10 Mexicans; and when broken down by sex, 26% of women aged 20 to 29 are reported to be overweight or obese, compared with 46% of men aged 30 to 59.[11] The study identified a proportion of participants living with overweight and obesity; these data highlight the presence of cardiometabolic risks associated with health. These findings point to unfavourable health conditions and behaviours that do not promote health, where social beliefs and lifestyles constitute determining factors in the problem and its impact on health.

In this regard, there is a need to develop, implement and strengthen comprehensive interventions focused on prevention, health promotion, education and early diagnosis, which encourage sustainable lifestyle changes. Furthermore, these conditions must be addressed in a timely manner, recognising predisposing factors and adopting a holistic, person-centred approach that treats patients with dignity and ensures adherence to high-quality, evidence-based treatment.[8]

The effects of an unhealthy lifestyle have consequences that directly impact a person's development and quality of life. This is highlighted in a meta-analysis conducted by Hussain, which reports a higher risk of mortality among people who are overweight and have a BMI greater than 25 kg/m².[21] In contrast, it was observed that a significant proportion of the study population was overweight or obese, and that there was a high prevalence of physical inactivity. Excess weight and a sedentary lifestyle are directly associated with the development of chronic non-communicable diseases such as type 2 diabetes mellitus and high blood pressure, amongst others.

On the other hand, Rivero[17] noted that high blood pressure is the leading cause of death worldwide; however, this condition does not always occur in isolation, but rather coexists with other cardiovascular risk factors such as type 2 diabetes mellitus, being overweight, obesity and unhealthy lifestyles. The research findings are consistent with the author's observations, as patients presenting with comorbidities and an elevated body mass index do so due to their personal and pathological characteristics, without this being associated with gender.

In contrast to the Clinical Practice Guidelines for the Diagnosis and Treatment of Hypertension in Older Adults, the non-modifiable factors associated with essential systemic arterial hypertension are: advanced age, family history and race, with black race being the most common; and the modifiable risk factors are: obesity, a high-sodium diet, hazardous alcohol consumption, physical inactivity, diabetes and dyslipidaemia.[18] The results showed a higher prevalence of SHT in men compared with women, as well as a greater prevalence of a sedentary lifestyle in women than in men. Importantly, studies conducted in Mexican populations have demonstrated that perception of body weight is closely linked to risk awareness, particularly regarding the development of type 2 diabetes and cardiovascular disease. This reinforces the need for health education strategies that not only provide information but also actively reshape risk perception and promote behavioural change. However, adherence to treatment remains a persistent challenge, often influenced by social, psychological, and structural barriers rather than clinical factors alone.

There is an urgent need to strengthen comprehensive strategies focused on prevention, early detection, and management. Evidence supports the implementation of integrated approaches base on health promotion and primary care interventions, which emphasise education, lifestyle modification, and community engagement. Moreover, adopting a person-centred care model is essential to improve adherrence, as it recognises individual needs, preferences, and sociocultural contexts.

Finally, the integration of primary care strategies focused on health promotion, early detection, and

lifestyle modification is essential. Evidence supports the effectiveness of community-based interventions that encourage physical activity, nutritional education, and continuous follow-up. However, their success depends on sustained implementation and the active participation of multidisciplinary healthcare teams committed to a holistic and ethical model of care.

Conclusion

The relationship between obesity and other chronic non-communicable diseases is strongly influenced by modifiable risk factors such as adverse social environment, a sedentary lifestyle, poor diet and lifestyle. Overweight and obesity, particularly when combined with physical inactivity, are key drivers of the increasing prevalence of chronic diseases affecting populations across all age groups and genders.

Although not all individuals with overweight or obesity develop chronic diseases, the probability of comorbidity is significantly higher. This association is further exacerbated by unhealthy behaviours, including insufficient physical activity and low adherence to personalised treatment plans.

Furthermore, unhealthy behaviours among individuals, such as a lack of physical activity and failure to adhere to a personalised, patient-centred treatment plan, play a role. This is an urgent and pressing issue, becoming a need that must be addressed in a timely and individualised manner by healthcare staff, with an emphasis on promotion, prevention, diagnosis and person-centred treatment. Treating these conditions, recognising predisposing factors and addressing them through a comprehensive, person-centred approach that upholds dignity ensures adherence to treatment and a healthy quality of life.

In conclusion, addressing obesity and its associated chronic noncommunicable diseases requires a comprehensive, multidisciplinary, and ethically grounded approach. Interventions must move beyond biomedical management to incorporate social, behavioural, and ethical dimensions, ensuring that care is both scientifically effective and centred on human dignity. Such an approach is essential to improve quality of life, reduce disease burden, and achieve sustainable health outcomes in the population.

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