Research Article

Diet Habits in Patients with Normal Weight, Overweight and Obesity from 20 to 64 Years from The UMF No. 16 of the IMSS in Cancun, Quintana Roo

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Abstract

Background: Diet habits are all those activities where an individual select, prepares and consumes food, this attitude will be modified according to various sociocultural factors, which leads to nutritional imbalances predisposing to overweight and obesity, a disease that brings with it multiple repercussions to health.

Aim: To determine the eating habits in patients with normal weight, overweight and obesity from 20 to 64 years of age from the family medicine unit 16 of the IMSS in Cancun, Quintana Roo.

Design: Analytic cross-sectional study.

Methods: An observational, cross-sectional, analytical study was carried out in patients from 20 to 64 years of age with normal weight, overweight and obesity in the Family Medicine Unit 16 of Cancun. The following variables were measured: eating habits, body mass index, age, sex, education, marital status, comorbidities, and socioeconomic level. A descriptive statistical analysis of the variables was performed; and to determine differences between habits and the category of body mass index, the Kruskal-Wallis test was used.

Results: A sample of 594 participants was analyzed, of which 39% were men and 61% women. The BMI was distributed as follows: normal weight 33%; overweight 33%; grade 1 obesity, 25%; grade 2, 7%; and grade 3, 2%. The most frequent eating habits were regular with 41%, bad 30%, good 19%, very good 9% and excellent 1%. An association was found between eating habits and BMI category (p 0.002).

Conclusion: These results emphasize the urgent need for interventions aimed at improving eating habits, through the implementation of educational programs on nutrition and the promotion of healthy eating behaviors, since eating habits are associated with weight changes in our population.

Keywords: Diet habit; Body Mass Index; Obesity; Overweight

Introduction

Diet habits are defined as the process by which individuals select, prepare and consume food, influenced by sociocultural, economic, educational and political factors. These habits are crucial since food provides the nutrients and energy necessary for metabolism and physical activity. Food has evolved from domestic to industrialized, increasing the availability of processed foods. The World Health Organization (WHO) classifies overweight and obesity according to the Body Mass Index (BMI) and considers them a non-communicable pandemic, which in-creases the risk of conditions such as hypertension, type 2 diabetes and certain types of cancer [1-2]. Obesity is also linked to decreased life expectancy and although losing a small percentage of body weight can improve health, disease prevention is more effective with weight reduction. Globally, overweight and obesity affect a significant proportion of adults, and Mexico ranks high in these statistics, aggravated by the consumption of ultra-processed foods and food insecurity. Food insecurity in Mexico affects millions, and ultra-processed foods, character-

ized by their low nutritional content and high energy density, are determining factors in the population's diet. In addition, non-modifiable factors such as genetics and other modifiable factors such as physical activity and tobacco and alcohol consumption play a role in the eating pattern and the risk of overweight and obesity [3-4].

Studies in Mexico reveal poor diet habits and a high consumption of processed foods, with a significant prevalence of overweight and obesity in both adults and children. Early intervention and the development of appropriate strategies are necessary to improve medical care and provide reliable information on dietary habits [5-6]. The main objective of this study was to identify the diet habits in the Family Medicine Unit (FMU) 16.

Material and Methods

Study Design and Population

An analytical cross-sectional study was conducted in Quintana Roo, Mexico, between March and july 2023. The research was carried out at FMU 16, of the Instituto Mexicano del Seguro Social (IMSS); primary care unit and main health care center in the region. The inclusion criteria were the following: patients aged between 20 and 64 years, of both sexes, with normal weight, overweight and obesity, according to the assigned group. The exclusion criteria were patients on a dietary regimen and with comorbidities that required a specific diet. Incomplete surveys were eliminated.

Variables

Information was collected in a data collection form in the SPSS version 25 program in Spanish, of the following variables: age, defined as years since birth; education, was the maximum level of education achieved by the patients; marital status was defined as the civil status of the patients; sex, according to phenotypic characteristics; occupation, defined as the work activity; socioeconomic level, according to the Graffar-Méndez method that evaluates the person's status in the social and economic sphere; BMI, according to the result of the Quetelet equation (weight/height2); comorbidities, presence of other diseases in addition to the primary disorder; and diet habits, defined as the relationship between the foods consumed daily and their impact on health.

The instrument called "questionnaire for the assessment and quantification of lifestyle habits related to overweight and obesity" was used to assess diet habits. This tool consists of 37 questions, is validated and was developed by 5 groups of specialists in Endocrinology and Nutrition from the Department of Health Sciences of the University of La Coruña in Spain during 2010 and adapted for the Mexican population in 2018 [7].

Statistical Analysis

The data were analyzed using descriptive statistics with measures of central tendency and dispersion for quantitative variables; frequencies and percentages for qualitative. In the inferential analysis we used the Kruskall-Wallis test to analyze the differences between BMI and eating habits in the three groups (normal weight, overweight, obesity). A $p < 0.05$ was considered statistically significant.

Ethics

The study was approved by the Local Committee for Ethics and Health Research number 2301; with registration number R-2022-2301-036. The research was carried out under the General Health Law on Health Research, the Declaration of Helsinki and the Bioethical Principles. Due to the type of study, no informed consent was required from the participants.

Results

A sample of 594 participants was analyzed, of which 39% (n=234) were men and 61% (n=360) women. The average age was 40.8+12.2 years. In terms of education, the most common educational level was bachelor's degree 35% (n=208), followed by high school 30% (n=177), and secondary school 19% (n=111). The main occupation was employee with 57% (n=341), followed by housekeeper with 21% (n=125) and student 11% (n=64). In marital status, the majority were married with 43% (n=257), followed by single 26% (n=155) and concubinage 22% (n=129). The complete characteristics of the variables are shown in Table 1.

The predominant socioeconomic level was upper-middle stratum with 42% (n=250), lower-middle stratum 37% (n=222) and worker 16% (n=97). The BMI was distributed according to the established groups (33%), but the frequency of degrees of obesity was as follows: grade 1 obesity, 25% (n=149); grade 2, 7% (n=39); and grade 3, 2% (n=10). Comorbidities were present in 46% (n=276) of the participants, the most common were diabetes mellitus 37% (n=101), arterial hypertension 30% (n=82) and dyslipidemia 15% (n=43). The most frequent diet habits were regular with 41% (n=245), bad 30% (n=178), good 19% (n=112), very good 9% (n=51) and excellent 1% (n= 8). In the normal weight group, the most frequent habit was regular with 45%; in the overweight group, it was regular with 38%; and in the obese group, it was regular with 40%. The complete characteristics of the previous variables are shown in Table 2.

Table 1: Sociodemographic characteristics of the participants.

Characteristics (n=594)	n(%)
Age–years	40.8(12.2)
Sex	
Man	234(39)
Woman	360(61)
Marital status	
Married	257(43)
Concubinage	129(22)
Widowed	21(4)
Single	155(26)
Divorced	31(5)
Education	
No education	8(1)
Elementary	42(7)
Middle	111(19)
High school	177(30)
University	208(35)
Posgrade	48(8)
Socioeconomic level	
High	20(3)
Middle high	250(42)
Middle low	222(37)
Worker	97(16)
Marginal	5(1)
Occupation	
Worker	341(57)
Merchant	36(6)
Student	64(11)
Home	125(21)
Others	28(5)

n= frequency; %= percentage

Table 2: Clinical characteristics of the participants.

Characteristic (n=594)	n(%)
Body Mass Index	
Normal weight	198(33)
Overweight	198(33)
Obesity grade 1	149(25)
Obesity grade 2	39(7)
Obesity grade 3	10(2)
Comorbidities	
Diabetes mellitus	101(37)
Arterial hypertension	82(30)
Dyslipidemia	43(15)
Cancer	4(2)
Others	46(17)
Diet habits	
Excellent	8(1)
Very good	51(9)
Good	112(19)
Regular	245(41)
Bad	178(30)

n= frequency; %= Percentage

Table 3: Association between BMI and diet habits.

BMI	Diet habits					
	Bad	Regular	Good	Very good	Excellent	p
Normal	40(20%)	89(45%)	46(23%)	17(9%)	6(3%)	
Overweight	66(33%)	76(38%)	34(17%)	21(11%)	1(1%)	0.002
Obesity	72(36%)	80(40%)	32(16%)	13(7%)	1(1%)	

p= Kruskall-Wallis test

When making the association between diet habits and BMI we found that there are significant differences between these variables, with a Kruskall-Wallis p value of 0.002. The association between these variables is seen in Table 3.

Discussion and Conclusion

The most important finding of the research was the high frequency of bad diet habits in the studied population (30%, n=178), even when adding the percentage of regular habits, it reaches 71% (n= 423). According to the above, the diet habits of the Mexican population have undergone serious changes in recent decades and they opt for quickly prepared industrialized foods, with a heavy load of saturated fats, carbohydrates and low fiber.

A study carried out by Gil et al., in 2022, in a sample of 467 adults, found that there are differences between the diet habits between men and women, Women's diet is healthier, with a greater number of meals during the day, more frequent consumption of fruits and vegetables, and the selection of products with lower energy value or preferring healthier foods [8]. This result differs from the findings of the study, since we did not find differences in the percentages of bad and regular habits according to sex.

Mizia et al., in 2021, in a sample of 307 adults, found that the diets of approximately 90% of patients were characterized by an excessively low content of pro-health products. Men showed a significantly higher intensity of adverse health traits compared to women. More than half of the men had insufficient knowledge about food and nutrition [9]. These results agree with the findings of the study in the frequency of regular and bad habits, but our frequency was lower (71%), in terms of gender, we did not find different percentages between men and women according to their diet habits.

Mazurek et al., in 2021, in a sample of 399 adults, found that the main reasons for healthy diet among the population was the intention to follow a doctor's recommendations, lose weight, and live a healthy lifestyle. The majority of the population had healthy diet habits (55%) and diet behavior varied significantly in relation to the physical activity of the participants [10]. This result differs from the present research, since our frequency of bad and regular habits was higher (71%), and on the other hand, we did not measure physical activity, which could have given us valuable information on this aspect.

In the study carried out by Becerra-Canales et al., in 2020, in a sample of 88 patients, it was found that 62% were female and 37% male, 57% had inadequate diet habits and 43% had adequate habits. 39% have a normal nutritional status and 61% have weight alterations [11]. These results are similar to the present research, where the majority of participants were women (61%), a high proportion had inadequate diet habits and 66% suffered from weight disorders.

Another study carried out by Zaragoza-Martí et al., in 2020, in a sample of 341 adult patients, found that 65% have bad diet habits, and in addition, living in rural areas, being divorced or illiterate, influences negatively diet habits. They conclude that it is important to know precisely the dietary intakes of the population and their diet habits, as well as lifestyles or sociodemographic characteristics that may predispose them to better or worse compliance with the recommendations [12]. This result agrees with our study, since a high percentage of patients have regular or bad diet habits, but it differs in the associated factors, since our population had a higher educational level, and the majority were married.

Chavarría et al., mention that normal nutritional status was associated with being a professional, having higher education and belonging to a higher income level, which allows for greater knowledge to select and acquire healthy foods, which is reflected in normal nutritional status [13]. This result agrees with our study in socioeconomic level, since we found a significant association between these variables; having a low socioeconomic level is related to bad diet habits.

Vázquez et al., mention in their study that the majority of people are dedicated to the home (80%) and that occupation was a factor associated with bad diet habits. This result is different from the present research, since we found a low proportion of participants who are dedicated to the home and there was no association between these variables [14]. On the other hand, García et al. mention that family organization has been affected by the mother's extra-domestic work, which has modified many behavioral patterns of family members, especially diet habits, which has association with poor diet habits of the family [15]. This result is different from what was found in the research, since these variables were not related and only 21% of the participants had home occupation.

According to Pascual et al., all food groups should be included, since the majority of patients with obesity have poor diet habits. In their study, a significant proportion of patients with obesity had poor diet habits (40%) [16]. This result agrees with the present study, finding a high frequency of these variables, which means that having bad diet habits is related to overweight and obesity.

Finally, according to Restrepo et al., the results of diet habits depend on the educational level of the patients. In their study,

they report that a lower education is a risk factor for bad diet habits, since it was found that the middle education level is the most frequent with 50.7% and elementary with 31.9%, only 1.4% have higher level education [17]. These results are different from our study, where high levels of educational level were found, where the bachelor's and high school level had the highest prevalence in the education degree and also in regular and bad diet habits.

Based on the results, we can conclude that a large proportion of the population studied has diet habits that are classified as regular or poor. In particular, the results suggest that the "regular" diet habits category is the most common across all weight groups, indicating a need to improve diet practices across the population, regardless of weight. Furthermore, it is notable that the prevalence of poor eating habits is high, constituting 30% of the population. These data suggest a relationship with the high rates of overweight and obesity in Mexico; on the other hand, it is worrying that less than a third of the population (29%) has diet habits that are rated as good or excellent. This reinforces the need for public health policies and programs focused on promoting healthy diet to combat the problems of obesity and overweight in the country.

Within this research, variables that may influence people's weight were not considered: physical activity, type of diet, family history of obesity, caloric intake, among others. The questionnaire used for diet habits measures some items of physical activity, but they are very ambiguous and not very objective with that variable. It is necessary to continue this line of research with long-term prospective studies, in combination with educational interventions that help reduce obesity. These results, emphasize the urgent need for interventions aimed at improving diet habits. Through the implementation of nutrition education programs and the promotion of healthy diet behaviors, it is possible to combat the prevalence of obesity. It is necessary to strengthen institutional programs focused on overweight and obesity.

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