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Knowledge and attitudes about NOM-043-SSA2-2012 and clinical practice guides in medical students

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Abstract

Introduction: In Mexico there is an increase in the prevalence of food-related diseases, the most significant increase occurs in obesity, diabetes mellitus, arterial hypertension, dyslipidemias, and metabolic syndrome in the national health and nutrition survey and clinical practice guidelines. It is important to evaluate the knowledge with those who have medical nutrition students. Material and methods: a cross-sectional descriptive study that found 300 students of the Faculty of Medicine of the Benemérita Universidad Autónoma of Puebla (BUAP) was being selected by simple random probability sampling. A questionnaire of 20 questions based on the NOM-043-SSA2-2012 and some GPC. These criteria were used to provide guidance, in order to assess the level of knowledge about the nutritional medical. Results: 97% represents unknown of the feed unit. 72% Know get (BMI) body mass index. The 68% knows the value of BMI which belongs to obesity in adults. 37% denied having knowledge about the NOM-043-SSA2-2012 and 100% of the in the students questioned unknown the GPC of health sector. Conclusion: The level of knowledge on nutrition medical students in the medicine school from the BUAP is deficient.

Keywords: knowledge; Standard; Clinical; health; Practice; Guidelines (CPG)

1. Introduction

The Official Mexican Standard NOM-043-SSA2-2012, basic health services. Promotion and education for health in alimentary matters. Criteria to provide guidance, aims to establish the necessary concepts and criteria so that health personnel can provide the population with good dietary guidance and thus improve their nutritional status, preventing problems that are related to poor nutrition. Food encompasses biological, psychological and sociological processes that have as their main purpose the obtaining of nutrients, however the consumption of foods that in quantity and type may be sufficient and pleasant does not always cover the needs of the organism, which leads us to mark the difference with the concept of correct nutrition, which corresponds to the diet that meets the specific needs of a given living being according to the stage of life in which it is found, allowing its proper growth and development, as well as the prevention of the development of diseases.[1] Today Mexico is going through an epidemiological and nutritional transition, with a large increase in chronic-degenerative diseases related to poor diet and an increasingly sedentary lifestyle. The most notable examples of these diseases due to their impact are diabetes mellitus, dyslipidemia, obesity, arterial hypertension and metabolic syndrome.[2-4] Obesity is a complex multifactorial condition of a metabolic nature with psychological and social dimensions that can affect any person, and is characterized by excess fat in the body whose magnitude and distribution determine the health of the individual.[5-6]

According to the National Health and Nutrition Survey (ENSANUT 2023) in Mexico the prevalence of overweight and obesity between these years increased by around 12%, and currently it is estimated that more than 70% of the

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population between 30 and 60 years suffers from some degree of overweight or obesity, these figures put Mexico at the top of the world, as indicated by the Clinical Practice Guide (GPC) SSA-025-08 Prevention, Diagnosis and Treatment of overweight and exogenous obesity. At the childhood level, obesity is the most important public health problem, as reflected in the results of ENSANUT 2023 and GPC IMSS-046-08 Prevention and diagnosis of overweight and obesity in children and adolescents in the first level of care, which report a prevalence of 26% of overweight and obesity in children from 5 to 11 years of age.[2,6-11] Obesity can be classified according to its magnitude thanks to the body mass index (BMI), also called the Quelet index; which is obtained by dividing the weight (kg) by the height squared.[5] The word Diabetes dates back to the 2nd century, but Willis in the 17th century described the honey-like taste of diabetic urine and gave it the attribute mellitus. Diabetes mellitus (DM) is a metabolic disease, permanent and of multifactorial origin that prevents the normal use of nutrients due to defects in insulin secretion, its action or both, causing hyperglycemia. The effect of chronic hyperglycemia is largely responsible for its complications.[12] DM presents non-modifiable risk factors (age, gender, race and family history) and modifiable ones (excessive consumption of carbohydrates and fats, sedentary lifestyle, weight gain).[8-12] According to ENSANUT 2023 and GPC SSA-093-08 Diagnosis, outpatient control goals and timely referral of type 2 DM in the first level of care, the prevalence of DM in the general population during that year was 9.5%, with more than 90% corresponding to type 2 DM, in addition to an important relationship between age and the prevalence of this disease since it mainly affects adults with a prevalence of 13.3% in people aged 50 to 59 years while in people aged 60 to 69 years it was 19.2%. It represents an important cause of morbidity and mortality in Mexico because its rates have increased in recent years in the general population. It is estimated that by 2030 there will be more than 300 million people with type 2 diabetes mellitus in the world, which will have significant economic repercussions.[9-15] Dyslipidemias or hyperlipidemias are disorders characterized by an increase in blood lipids (hypercholesterolemia and hypertriglyceridemia), which leads to an increase in the risk of atherosclerosis. They are mainly related to bad lifestyle habits.16 Metabolic syndrome (MS) is the group of disorders that increase the risk of developing cardiovascular disease (3 times) and diabetes mellitus (5 times), it includes: atherogenic dyslipidemia (low HDL and high triglycerides), arterial hypertension, hyperglycemia, insulin resistance, obesity, and a pro-inflammatory and prothrombotic state.[16-18] Arterial hypertension is a multifactorial condition defined by a sustained systolic blood pressure equal to or greater than 140 mm Hg; a diastolic pressure (DBP) of 90 mm Hg or greater, or even both. It is a frequent cause of cerebrovascular disease and heart failure [19-22]. According to the National Health Survey (ENSA) 2023 and the GPC IMSS-076-08 Diagnosis and treatment of arterial hypertension in the first level of care, the prevalence of arterial hypertension is 30.8% in the population over 20 years of age, estimating that approximately 15 million Mexicans between 20 and 60 years of age suffer from this disease. With these data, it is predicted that in 2025 there will be an increase of 60%, which would be equivalent to 1.56 billion adults with this condition.[23-24] It is worrying that in our country the frequency of this type of disease increases every year and the age of onset of presentation decreases. It symbolizes a health problem at the national level reflecting that currently the personnel in the health area are not providing adequate nutritional guidance to the population, even when there is the best conscious, explicit and judicious medical evidence.

2. Material and methods

A descriptive, cross-sectional study was carried out in which the study population consisted of 300 students belonging to the Bachelor of Medicine of the Benemérita Universidad Autónoma de Puebla (BUAP), where men and women were selected through a simple random probabilistic sampling. Using a 20-question questionnaire with multiple choice answers, which was answered voluntarily and anonymously in June 2024, the level of knowledge on nutrition was evaluated, based on the Mexican official standard NOM-043-SSA2-2012 Basic health services. Promotion and education for health in food matters. Criteria to provide guidance and the Clinical Practice Guidelines SSA-025-08, IMSS-046-08, SSA-093-08, IMSS-076-08 of the Ministry of Health. Inclusion criteria: Students who have completed the basic level and the medical nutrition subject of the degree in medicine at the Benemérita Universidad Autónoma de Puebla (BUAP). Exclusion criteria: Students who have not completed the basic level of the degree in medicine, students who have not completed the medical nutrition subject, who do not belong to BUAP, who are performing community service, who do not wish to answer the survey. Elimination criteria: selection of more than one item, surveys not answered in their entirety. Data collection was carried out over a period of three days, at different times, during the free hours of the BUAP students. After collecting the data, they were compiled and categorized. The questions were evaluated individually and data were subsequently compiled and graphed in Microsoft Excel 2010

3. Results

300 surveys were conducted with BUAP medical students, of which 275 met the criteria established above and 25 were annulled, 22 because they did not complete the entire survey, 2 because they had not taken the nutrition course, and 1 because he had graduated from the faculty. When students were asked about the classification of fatty acids and in

which group omega 6 and omega 3 are found, 20% of the students answered correctly while 80% answered incorrectly. When they were asked about olive oil, canola, soy, peanut and almond oil and to which classification of fatty acids they belong, 18.5% of the students answered correctly while 81.5% did not. The third question was: Which of the following foods are rich in saturated fatty acids? Denoting that 68.4% knew the correct answer and 31.6% did not. When the students were questioned about whether they knew the definition of what food is: 64.4% have adequate knowledge while 35.6% do not. When asked about the set of processes that food encompasses: 32.4% of students answered positively. (Figure 1).

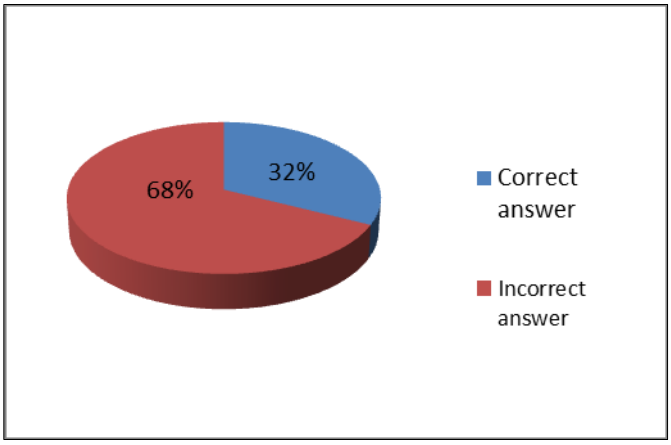

Figure 1 Knowledge About Foot

When asked to name an example of an antioxidant, 92% answered correctly while the remaining 8% got their answer wrong. 97% answered incorrectly when asked what is the unit of food? and only 3% got it right. When asked how is the Body Mass Index (BMI) obtained? 72% answered correctly and 28% incorrectly. Continuing with the same parameter, when asked what BMI value is considered obesity in adults? 68% of students answered correctly (Figure 2).

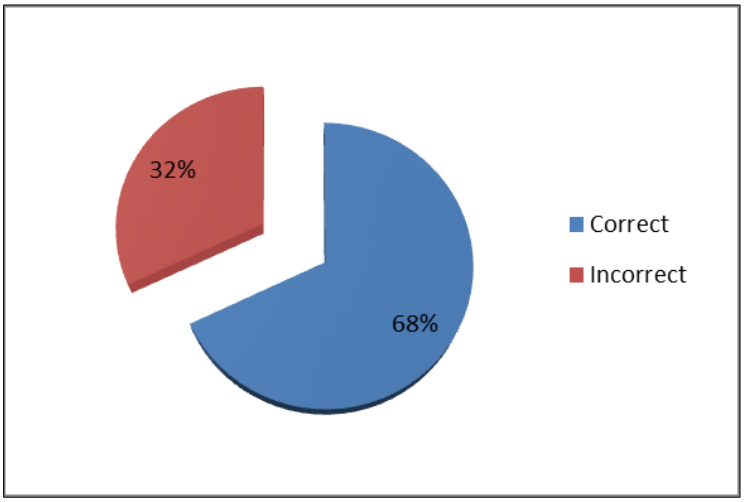

Figure 2 Knowledge IMC

It is noteworthy that when they were asked to answer up to what age should the infant be encouraged to be exclusively breastfed on demand; 68% answered coherently and 32% incorrectly. It is also noteworthy that 91% of the respondents answered incorrectly when asked what is the recommended weight gain in kilograms for a pregnant woman with a normal BMI? The next instruction was that the respondent should identify the clinical picture of diabetes mellitus; fortunately, 91.6% of the students were able to identify it (Figure 3).

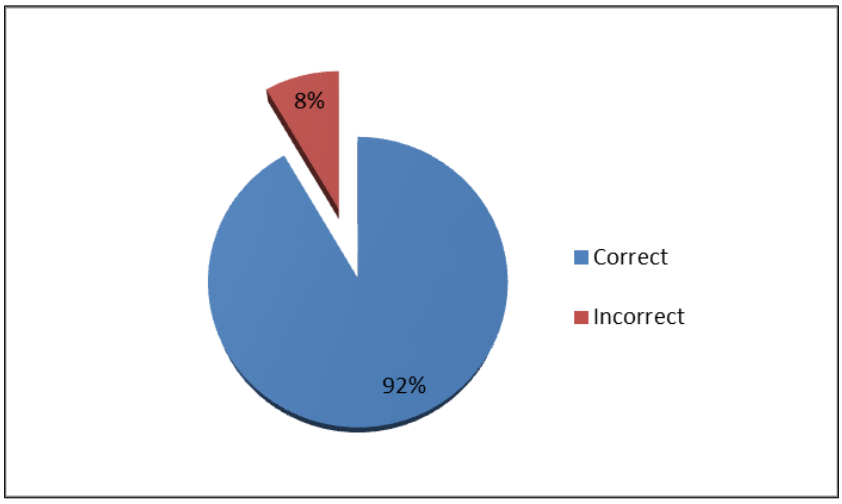

Figure 3 Identification diabetes mellitus

When asked their point of view about what a nutrient is and if this is a substance present in food that plays a metabolic role in the body; 61% answered correctly and 8% of them got the answer wrong. When asked their definition about whether a snack is a smaller portion of food than the main meals; 88% answered correctly while 12% were wrong. When asked if a diet that contains different foods from each group is considered varied? 57% answered correctly and 43% incorrectly. When interviewed and questioned about whether a diet in which foods keep the appropriate proportions between them is considered balanced; 85% answered correctly and 15% incorrectly. When asked about whether they consider malnutrition to be a state in which there is an insufficient balance of one or more nutrients; 94% answered correctly and 6% were wrong. When asked how important it is to have knowledge about nutrition and its preventive application to avoid diseases such as diabetes and hypertension? 84% answered that it is very important. Regarding the question, do you consider that you have the necessary knowledge about nutrition? Only 51.3% of the students considered their knowledge to be average.

Finally, the question was asked if they were aware of the NOM-043-SSA2-2012 and the GPC SSA-025-08, IMSS-046-08, SSA-093-08, IMSS-076-08; 76% of the respondents did not know the referred Standard, 24% knew it; therefore, 100% of the students were unaware of the GPC.

4. Discussion

The students surveyed must have sufficient and necessary knowledge on the subject of medical nutrition and be updated on GPC because they are part of the health area, which means that in theory they can apply their knowledge or disseminate it. Once the results of the entire survey have been obtained and captured, we can analyze them and notice that the knowledge of the students in the health area of the FMBUAP on the concept of Food is deficient. This proves that there is a lack of interest on the part of students to learn about the subject, even in the most basic aspects, even despite the increase in information on the subject and the ease with which it is accessed. Another important fact obtained with the survey is that 68% of the students adequately know the BMI parameters to be able to diagnose a degree of obesity, which is of utmost importance since the incidence of obesity and overweight in our country increases over time in an alarming way according to the data reported by literature [24]. This takes on even greater relevance if we consider that it will be precisely the students surveyed, in the very near future professionals, who will be in charge of preventing and treating these preventable diseases through nutrition. Not all the survey was unsatisfactory in terms of the results obtained, as it is worth mentioning that 92% of the students surveyed know how to identify a clinical picture of DM, which is encouraging as it is a pathology of utmost importance, not only because of the metabolic alterations it entails and its complications, but also because of its increased morbidity, mortality and the great economic expense that its care represents at a national and even international level. Finally, an important fact that should be mentioned is that in the survey, the majority of the students obtained on average regular results, which agrees with their self-evaluation. The students knew their limitations from the very moment of applying our work instrument, so they began to consider it pertinent to introduce the NOM and GPC in academic sessions, it being essential and necessary to work on these aspects; it should be emphasized that these students, while they belong to a medical school, are receiving a training process and it is right now the moment in which their constructivist knowledge and evidence-based medicine must be perfected in order to provide a better service to the general population in the future. Finally, awareness on this issue must be highlighted and action must be taken immediately, since if we base ourselves on the statistical data from

ENASUT and the Clinical Practice Guidelines referred to, the incidence of these diseases caused by bad habits and bad eating habits is predictable and we will be facing an increasingly serious public health problem.

5. Conclusion

This work shows that BUAP medical students lack sufficient knowledge in nutrition and its respective NOM and GPC despite having already taken the subject of medical nutrition and having various means that present the medical evidence on it. The above reflects the importance of rethinking the education they are receiving, the interest they show and the ability to apply their knowledge. The poor knowledge they have represents an obstacle in the adequate treatment of pathologies related to nutrition because the students will not be able to provide adequate nutritional guidance contributing to the rise in the incidence and prevalence of these diseases. It is necessary for students and academics to be interested in the information available on nutrition so that their knowledge is expanded and they can apply it in medical practice.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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