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## RESEARCH ARTICLE

### ANXIETY AND ASSOCIATION WITH EATING BEHAVIOR, ALCOHOL CONSUMPTION, DEPRESSION AND MANIAS IN UNIVERSITY STUDENTS

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#### ABSTRACT

Eating behavior, alcohol consumption, and anxiety, depression and manias, can negatively influence university students, in their healthy lifestyle. This study of transversal and inferential descriptive type that included a representative sample conformed by university students of the last degree of the health area of the Autonomous University of Campeche, México. The purpose of this work was to determine in students of the health area, the associations that exist between the alimentary behavior with the consumption of alcohol, anxiety, depression and manias. The tests used were alcohol consumption (AUDIT), anxiety and depression (GOLDBERG) and manias (YOUNG) and FOOD BEHAVIOR for Mexican students. Descriptive statistic was used to determine the frequencies of: body mass index, eating behavior, alcohol consumption, anxiety, depression and manias, and Chi-square test as inferential statistic test to obtain the existing associations or not, among the variables studied. Our results demonstrating more than half of the university students included in the study of the health area presented problems of overweight and obesity. More than two thirds of the population have a poor eating behavior. The fifth part of participant's abuse in the consumption of alcohol. Almost half of young have the psychological anxiety disorder. One third of young's have depression behavior. Almost a fifth of the population showed manias behavior. Thus, overweight and obesity were associated with poor or regular eating behavior in students; while the psychological disorder of anxiety was associated with eating behavior, alcohol consumption, depression and manias.

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## INTRODUCTION

Eating behavior, alcohol consumption, and the suffering of anxiety, depression and manias, can negatively influence university students, in their healthy lifestyle. The alimentary behavior in the human being, is the normal behavior related to eating habits, selection, preparation, ingestion preferences, beliefs and schedules of food that are ingested, and quantities ingested of them. This behavior is not just a reflex action that prevents the appearance of feelings of hunger, but it has its own significance in which the students own lifestyle intervenes (Duffey, 2009).

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The consumption of alcohol, by drinking beer, wine or hard liquor can lead the university students to an addiction. Depression is one of the individual psychological problems that most affect daily activities around the world, where feelings of uselessness, guilt, sadness and despair coexist. Anxiety is the intense inner discomfort, with a feeling of not being able to control future events, focusing on the present and tackling the tasks one at a time (Flores, 2007). Manias are repetitive acts, for no apparent reason and which draws the attention of others (Colom, 2002). Thus, the factors that lead to poor eating habits in college students, may be related to extreme situations due to deficit (malnutrition) or nutritional gain (overweight or obesity). We can also relate abdominal obesity to alcohol consumption, which can be worsened by anxiety, depression and manias. Thus, good nutrition for a good formation of healthy eating habits during the university

student time, has a great impact on the future of their health (Ríos, 2015). Raising awareness of food intake should be a delicate and crucial process, where the intake of alcohol should not lead to alcoholism, without forgetting the commitment to mental health to carry out their student activities in an appropriate manner. Therefore, the purpose of this work was to determine in students of the health area, the associations that exist between the alimentary behavior with the consumption of alcohol, anxiety, depression and manias.

**MATERIALS AND METHODS**

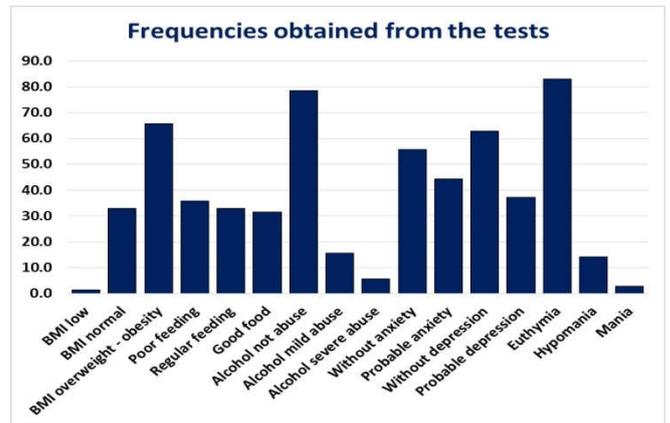
Study of transversal and inferential descriptive type that included a representative sample conformed by university students of the last degree of the health area of the Autonomous University of Campeche. The students included in the study met the inclusion criteria: enter the study voluntarily giving their approval through informed consent and be a student of the health area. Exclusion criteria were: participants with thyroid gland disease. Descriptive statistic was used to determine the frequencies of: body mass index, eating behavior, alcohol consumption, anxiety, depression and manias. Regarding inferential statistics, the Chi-square test was used to obtain the existing associations or not, among the variables of eating behavior, alcohol consumption, anxiety, depression and manias (with a confidence level of 95%). The statistical program used was the Statistical Package for the Social Sciences (SPSS V. 21).

This study was applied with the approval of the Research Commission of the Autonomous University of Campeche and complying with the provisions of the regulations of the General Law on Health in the Field of Health Research and Official Mexican Standard NOM-012-SSA3-2012. University students under study were interviewed in the medical office of the health area, requesting their voluntary participation by signing the informed consent prior explanation of the study to be carried out and that the information will be confidential and anonymous. Subsequently, the application of the instruments was initiated, first with the data identification card that allowed to collect: enrollment, grade, group, full name, gender (female/male), date of birth and age. Subsequently, the anthropometric measurements of weight and height were obtained to calculate the body mass index (BMI). After, the design and validation tests that including the questionnaires: eating behavior in Mexican students, alcohol consumption test (AUDIT), anxiety and depression test (GOLDBERG) and manias test (YOUNG), were applied. When end the interview, the data identification card and questionnaires will be kept in an envelope, without registering the name of the participant to preserve the confidentiality of the data. The test to evaluate FOOD BEHAVIOR in Mexican students of the health area consisted of items that covered the following topics: meal times, food and beverage consumption preferences, food preparation form, reading nutritional labels, consumption of food outside the home, satiety, monitoring of therapeutic or special diets, and perception of a healthy diet, barriers to change and beliefs. The score for the interpretation of the test was the following: bad behavior from 0 to 15, regular behavior from 16 to 18 and good behavior from 19 to 30 points (Márquez, 2014). AUDIT test for alcohol consumption is a simple test of ten questions developed by the World Health Organization that determines whether a person's alcohol consumption can be considered dangerous.

This test is made up of questions related to alcohol consumption, alcohol dependence and problems related to alcohol consumption. He test was interpreted with a score of 7 to 12 as initial abuse of alcohol and 13 to 40 severe abuse indicating dependence on this substance (García, 2016). The GOLDBERG scale is a questionnaire with two subscales: anxiety and depression. Each of the subscales (anxiety and depression) is structured into initial items of screening to determine whether or not there is a mental disorder, and a second group of items that are formulated only if positive answers are obtained to the screening questions. So, cut-off points for the interpretation of the subscales were: 4 or more points for the subscale of anxiety and of 2 or more for the subscale of depression (Balanza, 2008). Young's test for manias is a questionnaire aimed at measuring the intensity of manic symptoms and evaluates the symptoms presented during the last week. The total score in this test corresponds to the sum of the scores of all the items with a maximum score of 60 points. A score up to 6 was interpreted as euthymia, from 12 to 19 as hypomania, and 20 or more points, as a mania. The higher score after 20 points was interpreted as a manic picture of greater severity. Between 7 and 11 points, indicated subclinical symptomatology (Colom, 2002).

**RESULTS**

The total sample was representative, being conformed by 100 last degree students of the health area of the Autonomous University of Campeche, Camp., Mexico. The ages of the participants ranged between 21 and 25 years. 47% corresponded to males and 53% to females. Based on the BMI, 67% of the students were overweight, obese, obesity grade I and low weight (46%, 16%, 4%, 1%, respectively). The BMI classified as overweight had the highest prevalence among university students (Figure 1).



**Figure 1. Frequencies in percent obtained from the applied tests to university students about: body mass index (BMI), eating behavior, alcohol consumption, anxiety, depression and manias**

About the food, 69% of students had regular or bad eating behavior, with a higher frequency in women. Besides, 44% of college students with abnormal values in their weight also presented from bad to regular eating behavior (bad: 27%, regular: 17%). The statistical analysis showed an association between the weight calculated as BMI and the eating behavior test ( $\chi^2$ ,  $p < 0.05$ ). The studied population presented an anxiety in 44% of them with a higher frequency for this disorder in women. In relation to anxiety and a bad behavior, it was found in 33% of university students.

The statistical analysis showed an association between both variables ( $\text{Chi}^2$ ,  $p < 0.05$ ). Regarding alcohol, 21% of participants ingested alcohol substances abusively. Anxiety and abuse in alcohol was observed in 13% of the population, demonstrating in addition to this psychological disorder and alcohol to statistical association ( $\text{Chi}^2$ ,  $p < 0.05$ ). The data of the studied population showed data of 37% with relation of depression, being found more frequently in women. Thus, 26% of the students presented anxiety and depression with an association shown by inferential statistics between these two psychological disorders ( $\text{Chi}^2$ ,  $p < 0.05$ ). Finally, in 17% of students manias were detected, predominantly as hypomania and scarcely as mania. A statistical association was also found between anxiety and manias ( $\text{Chi}^2$ ,  $p < 0.05$ ).

## DISCUSSION

In Mexico, from 2012 were reported 48 million obese Mexican people. In addition, it reported that overweight and obesity affected college students regardless of gender. In this same age group, the five states of Mexico with the highest prevalence of obesity were, for men: Tamaulipas, Quintana Roo, Yucatán, Tabasco and Nuevo León (from 32.1 to 28.3%); while in women: Sonora, Campeche, Durango, Baja California Sur and Tabasco (from 46.9 to 41.2%); being the women who presented the obesity in greater degree (Ríos, 2015). In this study the ages of the participants ranged between 21 and 25 years. 47% corresponded to males and 53% to females. Based on the BMI, 67% of the students were overweight and obesity, predominating in women. In a correlational descriptive study applied to students of the health degrees of the University of Guadalajara, they validated the food behavior questionnaire used in this study. Their results showed that the questionnaire was reliable with a Cronbach's alpha of 0.98 for the internal consistency of the items; values very similar to those obtained in our surveys. It should be noted that this questionnaire has a focus to know the eating behavior in Mexican university students (Márquez, 2014).

Our study indicates that Food Behavior questionnaire obtained a Cronbach's alpha of 0.70 having a representative population of 100 university students indicating that there is an acceptable level of reliability. On the other hand, in a correlational descriptive study involving students from the Faculty of Higher Studies of the UNAM, a correlation was found between anxiety and depression in men and women who develop school activities during most of the day (Flores, 2007), coinciding with the results obtained in this study. As shown in studies by Flores, where was found that no significant differences between the depression and anxiety scores of the participants, the women showed higher scores in the two tests, coinciding with our results. Other correlational descriptive research was carried out in students of first-graders from the Faculty of Higher Studies Zaragoza of the National Autonomous University of Mexico (UNAM) with the aim of studying the relationship between two variables; anxiety (of trait and state) and subjective psychological well-being (personal satisfaction, material and with studies). The results indicate that students present association between high levels of psychological well-being and low levels of anxiety (Villaseñor, 2010); so that, students with high levels of psychological well-being and low levels of anxiety, as in our sample of study, indicating that anxiety is a factor trigger to manias. Considering that alcohol consumption causes addiction, and that it constitutes one of the main causes of anxiety in drinkers, it was relevant to find the

association between students with anxiety and alcohol consumption that coincides with that other reported (Castaño, 2014). Showing important results related to harmful consumption and dependence, with effects at the academic level, in social relationships and in the psychological and sexual spheres, as well as in our study where it is shown that a trigger variable for alcohol consumption is anxiety. That is why the importance of this research, since it must be taken into account that universities and educational stays must have knowledge about the sufferings or problems of their students related to their feeding system and lack of programs that encourage physical activity or cause of overloaded schedules and matters, so that with the early identification of such ailments preventive measures are carried out and reduce the probability of future complications to their health. At present there is no research at the Autonomous University of Campeche applied to 8th-semester students of the health Sciences that indicate associations between eating behavior and alcohol consumption, anxiety, depression and manias; these factors influence the lifestyles of university students. It should be mentioned that poor eating behavior can be caused by alcohol consumption and/or psychological disorders, which can contribute to the overweight, obesity or malnutrition. So this novel research can help detect students who are at risk of suffering or have an inadequate nutritional status and thus contribute to the formation of prevention and health promotion programs in order to provide them with good control in his eating behaviors.

## CONCLUSIONS

More than half of the university students included in the study of the health area of the Autonomous University of Campeche presented problems of overweight and obesity. More than two thirds of the population have a poor eating behavior. The fifth part of student's abuse in the consumption of alcohol. Almost half of young have the psychological anxiety disorder. One third of participants have depression behavior. Almost a fifth of the population showed manias behavior. Thus, overweight and obesity were associated with poor or regular eating behavior in students; while the psychological disorder of anxiety was associated with eating behavior, alcohol consumption, depression and manias.

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