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| <p><b>The Prevalence of Obesity, Food Habits and Physical Activity Among Students of “Aleksander Xhuvani” University in Elbasan District, Albania</b></p> |  | <p><b>Healthcare</b></p> <p><b>Keywords:</b> obesity, BMI, body fat percentage, food habits.</p> |
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**Abstract**

Obesity among youth is today a major public health problem. The object of this study is the evaluation by questionnaire, anthropometric measurements, BMI, the way of nutrition, obesity and involvement in physical activities of students of the University "Alexander Xhuvani" Economic Branch, Elbasan. Through this paper we have provided answers to questions such as: How is the method of feeding the students? What is the prevalence of obesity among students? As students engage in physical activities and sports? Results showed that the prevalence of obesity was 2.3% being more common among men than among women (3.9% M and 14.1% F) In contrast, women were underweight compared with men. Gender difference in nutritional regimen to follow is significant. Students have different attitudes towards involvement in physical activities and sports. Despite the low prevalence of overweight and obesity among students of the University "Alexander Xhuvani" Elbasan, is necessary to establish a strategy for proactive intervention.

**Introduction**

Obesity and overweight are growing problems being called right now with one of the biggest challenges to healthy development of the population in the XXI century. During recent years has seen a change in lifestyle, food choice, the typical Mediterranean diet, to fast food and sedentary life. Feeding habits of young people are affected more by advertising fast-food. As a result, overweight and obesity are estimated at a pace significantly increasing among youth. Overweight and obesity are now a major public health problem worldwide. Obesity in combination with an unhealthy lifestyle, such as smoking, alcohol, drugs and physical inactivity increase the risk for an unhealthy life with chronic heart disease, diabetes, cancer and stress. In this view knowledge on how food and youth involvement in physical activity can act together in reducing obesity levels and the prevalence of a healthy active way of life. So our university can contribute significantly to reducing the prevalence of obesity among young people, through the promotion of healthy way of food and promoting sports activities. University, Department of Physical Education can form an ideal forum with participation of a high number of young people, that through educational programs which can positively influence the ways of eating and promoting student involvement in sports.

**Purpose of the Study**

The purpose of this study is to determine the distribution and incidence of overweight and obesity in a group of students surveyed at the University "Alexander Xhuvani" Elbasan and dietary implement them, in order to help health educators develop programs, which recommend good food choices, good habits of eating and involvement in sports.

**Material and Methods**

This is a descriptive study, transverse, conducted during the period October 2013-January 2014 at the "Alexander Xhuvani" Elbasan. A working group consisting of professors of physical education and sports, medical and nursing students trained, tested 300 students randomly selected EU Economic Branch, 42% were male and 58% female, aged 20 ± 1.9 years. Students who agreed to participate in this study were asked to give approval for the issue on the basis of the declaration of Helsinki.

**Data Collection**

Data collection was conducted in two phases: In the first phase the students were asked to fill out a self-reporting questionnaire, which included questions on feeding habits, consumption of tobacco, alcohol, drugs and involment in physical activities and sports.

The questionnaire was designed in the group, based on the principles of health education of the population, we designed questions for students at "Alexander Xhuvani" Elbasan. Before completing the survey, students were informed about the study by professors of the Department of Physical Education and Sports University "Alexander Xhuvani" Elbasan. They were given instructions on how to fill out the questionnaire can truthfully.

In the second phase were measured anthropometric parameters such as length and weight.

Body weight was measured using electronic scales, considering the fact that fluctuations in the state of hydration can affect bodily obtaining results. Measuring the weight was in the morning (at least three hours after waking up) when students had bladder empty, they did not exercise or did not eat or drink at least three hours before measurements.

Measuring the length was with a metal ruler. Students were asked to remove shoes and stay correctly. The body should be held towards the support of metal ruler and head (the tip of the ear was at eye horizontal tail) to achieve a more accurate measurement. All length measurements were performed in the morning, when the body length is higher, compared to the rest of the day.

The method of statistical processing of data: Indicators of physical measures of BMI was calculated using the statistical package program social Sciences (version 13.0) for determination of overweight and obesity among students, and to classify their food preferences.

According to WHO parameters weight status was classified into four categories based on the values of BMI: underweight (BMI  $\leq$  18.5); normal weight (BMI between 18.5-24.9); overweight (BMI between 25-29.9) and obesity (BMI  $\geq$ 30). Percentage rate to the level of fat in the body is considered: 10-20% for men and 20-30% for women. Statistical analyzes were performed using the statistical package social Sciences (version 13.0, SPSS, Inc.). Analysis of incompatibilities (Anova) was made to examine the difference anthropometrike student characteristics.

Results were expressed by  $\pm$  SD (standard deviation). Variable parameters were analyzed using t-test to students, and analyzes were conducted for non-parametric. All reported P values were based on both phases of the test and compared with a significant level of 5%. Differences were considered statistically significant for p values  $<$  0:05.

## Results

Anthropometric parameters. The study included 300 students (126 M and 174 F), with an average age of  $20 \pm 1.9$  years. The average weight of the participants was  $67.7 \pm 15.8$  kg and the average length  $168.0 \pm 10.0$  cm. The level of BMI and percentage of body fat mass was  $23.6 \pm 4.1$  and  $23.7 \pm 8.2$ , respectively. This study showed that 67% of students had a normal weight. (Table 1).

**Table 1 - Distribution of the main parameters of students by gender**

|                       | TOTAL            | MALE             | FEMALE           |
|-----------------------|------------------|------------------|------------------|
| No. of students       | 300              | 126              | 174              |
| Age                   | $20 \pm 1.9$     | $20 \pm 2.0$     | $20 \pm 1.8$     |
| The average weight    | $67.7 \pm 15.8$  | $58.6 \pm 12.8$  | $79.6 \pm 11.2$  |
| The average length    | $168.0 \pm 10.0$ | $177.0 \pm 10.0$ | $162.0 \pm 10.0$ |
| The average BMI       | $23.6 \pm 4.1$   | $25.3 \pm 3.7$   | $22.2 \pm 3.9$   |
| The percentage of fat | $23.7 \pm 8.2$   | $17.8 \pm 4.5$   | $28.3 \pm 7.4$   |

Based on the classification of BMI, the prevalence of obesity was more common among men than among women ( $29.3\% \pm 3.9\%$  and  $13.2\% \text{ M} \pm 1.14\% \text{ F}$ , respectively). In contrast  $16.6\%$  of female students were underweight compared with  $2.3\%$  of male students. The prevalence of obesity among students was  $2.3\%$  being more common among men than among women  $3.9\% \text{ M}$  and  $14.1\% \text{ F}$ . (Table 2)

**Table 2 - Prevalence of obesity among students by gender, based on BMI**

| Weight      | Female      | Male       | Total      |
|-------------|-------------|------------|------------|
| Underweight | 16.6% (29)  | 2.3% (3)   | 10.6% (32) |
| Normal      | 68.9% (120) | 64.2% (81) | 67% (201)  |
| Overweight  | 13.2% (23)  | 29.3% (37) | 20% (60)   |
| Obese       | 14.1% (2)   | 3.9% (5)   | 2.3% (7)   |

Note: Underweight (BMI  $\leq$  18.5), Normal (BMI between 18.5 - 24.9), overweight (BMI between 25 to 29.9), obese (BMI  $\geq$  30)

**Table 3 - Percentage of fat to the student body by gender**

|             | Male        |                  | Female      |                  |
|-------------|-------------|------------------|-------------|------------------|
|             | No students | (Means $\pm$ SD) | No students | (Means $\pm$ SD) |
| Underweight | 3           | $12.0 \pm 1.3$   | 29          | $16.9 \pm 11.2$  |
| Normal      | 81          | $14.4 \pm 3.13$  | 120         | $26 \pm 4.75$    |
| Overweight  | 37          | $20.1 \pm 1.94$  | 23          | $39.0 \pm 2.25$  |
| Obese       | 5           | $24.4 \pm 2.29$  | 2           | $42 \pm 1.91$    |

Note: Underweight (BMI  $\leq$  18.5), Normal (BMI between 18.5 - 24.9), overweight (BMI between 25 to 29.9), obese (BMI  $\geq$  30)

Table. 4 - Regime food and feeding habits

| Question  | Level                     | Male  |     |      | Female |      |        |
|---|---------------------------|-------|-----|------|--------|------|--------|
|   |                           | Total | Nr  | %    | Nr     | %    | p      |
| Eat you breakfast regularly?                              | Daily                     | 95    | 38  | 32.3 | 57     | 31.5 | > 0.05 |
|   | 3-4 times a week          | 62    | 26  | 19.8 | 36     | 21.8 |        |
|   | Rarely                    | 93    | 39  | 29.2 | 54     | 31.5 |        |
| Eat you meals regularly?                                  | Regularly                 | 184   | 85  | 64.6 | 99     | 58.9 | > 0.05 |
|   | Not regularly             | 116   | 46  | 35.4 | 70     | 41   |        |
| Eat you between meals?                                    | 1 times a week            | 23    | 11  | 8.3  | 12     | 15.3 | = 0.01 |
|   | 2 times a week            | 158   | 63  | 47.9 | 95     | 56.5 |        |
|   | 3 times a week            | 75    | 33  | 25   | 42     | 25   |        |
|   | 4 times a week            | 44    | 36  | 18.8 | 8      | 3.2  |        |
| Eat you meals out?  | Daily                     | 159   | 65  | 50   | 94     | 55.6 | > 0.05 |
|   | 3-4 times a week          | 61    | 61  | 24   | 37     | 17.7 |        |
| Whenever use greens?                                      | Daily                     | 91    | 35  | 29.2 | 56     | 31.5 | > 0.05 |
|   | 3-4 times a week          | 92    | 35  | 27.1 | 51     | 33.9 |        |
|   | 1-2 times a week          | 76    | 36  | 27.1 | 40     | 23.4 |        |
|   | Rarely                    | 41    | 22  | 16.7 | 19     | 11.3 |        |
| Eat you every time fruit?                                 | Daily                     | 82    | 38  | 29.2 | 44     | 25.8 | >0.05  |
|   | 3-4 times a week          | 65    | 26  | 19.8 | 39     | 23.4 |        |
|   | 1-2 times a week          | 82    | 37  | 28.1 | 45     | 26.2 |        |
|   | Rarely                    | 71    | 30  | 22.9 | 41     | 24.2 |        |
| Eat you every time fried foods?                           | Daily                     | 57    | 27  | 20.8 | 30     | 17.7 |        |
|   | 3-4 times a week          | 82    | 33  | 25   | 59     | 29   |        |
|   | 1-2 times a week          | 115   | 53  | 40.6 | 62     | 36.3 |        |
|   | Rarely                    | 46    | 18  | 13.5 | 28     | 16.9 |        |
| Eat you every time with your family?                      | Daily                     | 128   | 56  | 42.7 | 72     | 42.7 | > 0.05 |
|   | 3-4 times a week          | 102   | 45  | 34.4 | 57     | 33.9 |        |
|   | Rarely                    | 7     | 6   | 4.2  | 1      | 0.8  |        |
| How do you think what you need to consume a healthy food? | Only meat                 | 26    | 12  | 9.4  | 14     | 8.1  |        |
|   | Only vegetables           | 34    | 11  | 8.3  | 23     | 13.7 |        |
|   | Meat and other vegetables | 224   | 101 | 77.1 | 123    | 72.6 |        |
|   | Other                     | 16    | 7   | 5.2  | 9      | 5.6  |        |
| Use alcohol?  | 2-3 times a week          | 53    | 29  | 21.9 | 24     | 14.5 | = 0.05 |
|   | Never                     | 76    | 34  | 26   | 42     | 25   |        |
|   | Rarely                    | 171   | 70  | 52.1 | 101    | 60.5 |        |
| Smoke?  | Regularly                 | 90    | 44  | 34.4 | 46     | 27.2 | > 0.05 |
|   | Ex-smoking                | 22    | 12  | 9.4  | 10     | 5.6  |        |
|   | Never                     | 188   | 74  | 56.3 | 114    | 67.2 |        |
| Drink other drugs?  | Drink regularly           |       |     |      |        |      |        |
|   | Former customer           |       |     |      |        |      |        |
|   | Never                     |       |     |      |        |      |        |
| Make physical activity?                                   | Daily                     | 37    | 17  | 5.4  | 20     | 6.6  |        |
|   | 3-4 times a week          | 76    | 34  | 26   | 42     | 25   |        |
|   | 1-2 times a week          | 16    | 7   | 5.2  | 9      | 5.6  |        |
|   | Never                     | 171   | 70  | 52.1 | 101    | 60.5 |        |

Food preferences regime: students showed that most of them 61.4% were eating meals regularly. Female students showed more healthy way of eating, compared with male students regarding the frequency of taking the morning. 53.3% of female students reported eating breakfast every day and 3-4 times a week compared with 52.1% male students. Most students 52.7% reported eating two meals a day, 56.6% of women reported eating two meals a day, compared with 47.9% of men. Gender difference in nutritional regime to follow is significant  $p < 0.05$ . So, 27.3% of students reported daily consumption of fruit. Men eat more fruit daily compared with females respectively 29.2% M vs 25.8% F. Alcohol intake is not common among students. 25.3% among students studied did not consume alcohol, and most of the students 57% reported rarely drink alcohol while 17.2% reported that they drank two to three times a week, however, think that this index can not be estimated accurately assessed only after answers them, which can not be sincere regarding the consumption of tobacco, alcohol and drugs.

No healthy way of eating was influenced by the fact that the majority 57.3% of students reported eating fried foods more than three times a week. 29% of women reported eating fried foods 3 or 4 times a week compared with 33% of men. Eating light meals daily, in addition to regular meals was more common among females than males 55.6% F vs 50% M. Food consumption day with friends and family was common to 42.7% students without gender difference ( $p > 0:05$ ). Smoking was not common among students: 62.4% of students reported that they do not smoke, 7.2% former smokers and 30.3% are regular smokers. ( $p > 0:05$ ), while the consumption of drugs of all students answer was NO thing which must be called into question. In terms of physical activity shows that student participation is low. Physical activity is not inclusive of students. Only 11% of students do physical activity every day, 6.6% of women do physical activity every day. While 57% of students reported that they never engage in any physical activity.

## Discussion

The survey data showed that the majority of people get in the study had a normal weight. Normal weight was more common among women than men. Students with overweight and obesity were common men than women. Students in the category of normal weight had the same amount of body fat percentage. The prevalence of overweight was 29.3% in males compared with 13.2% in women. Obesity was more frequent among men than among women in the study population. In total, 3.9% of men were obese compared with 1.41% of women. Students obese had the same high values of percentage of body fat. Lower limit obesity among women was expected, that women are more cautious about their weight status than men, thanks to the perception of society, which encourages women to be weaker. This assumption was supported by the fact that only 2.3% of men were underweight compared with 16.6% of women. Conclusions same spread of obesity have been reported from recent studies contemporary. 24.3% of students at the University of New York are overweight, 6% obese. In a study done on 749 students (68% F and 32% M) members of the Public University of Baskut, prevalence of overweight was 25% in men and 13.9% in women (2). Another study which were included 989 medical students (527 M and 462 F) from the University of Crete reported that approximately 40% of M and 23% of F had BMI > 25kg / m<sup>2</sup> (5). High prevalence of overweight and obesity was observed in the University of Kuwait, among the 842 students had 32% of M overweight and 8.9% of M was obese (6). In the UAE a monitoring group surveyed 300 male students, finding that the prevalence of obesity was 35.7% (7). The term, feeding habits, our students do not follow healthy way of nutrition. The typical diet of the students of the University is rich in fats and low contents of fruits and vegetables. Students usually prefer fast food for their practicality and speed. A study by the American Organization of obesity and diet experts testified overweight are consequences of the fast-food (9). In future goals for healthy people 2020 will focus on overweight and obesity (9). In this study, the data show that students regularly eat meals and eat breakfast daily or 3-4 times a week. There was a significant gender difference in terms of frequency of taking meals in the study group ( $P = 0.001$ ). Consumption of fruits and vegetables is the same for both sexes among students, also the use of alcohol and tobacco. Most students believe that eating meat, vegetables and fruits will provide a balanced diet. 77.1% of men and 72.6% of women in this study were of the view that the diversity of food is important to have a balanced diet and nutritious. A study done at the University of Miduest between 105 m and 181 F, reported that 94.4% of students think that the variety of foods is important for good health (9). In another study healthy diet was classified a diet that includes more fruits and vegetables and less fat (9). Meals daily consumption was reported by most students. Not so healthy was observed in the consumption of fried foods. Frequent meals, and eating fried foods can adversely affect the health of students, giving them energy, abundance and fatty acids with high specific weight. By increasing students' knowledge of particular feeding and healthy way of eating can increase body weight management to students and reduction of overweight and obesity. A similar study in a community college students, who gave leadership diets result in Americans in 2005 appeared in a positive way on how to meals. People with normal pointer, had a high level of knowledge about food (9). For this, educational development programs advertise food healthy way of eating, which to the students should be encouraged. The data on the consumption of alcohol, smoking and drugs to students at "Aleksandëe Xhuvani" Elbasan, are limited. A previous study in 1980 to students of the University of Tirana shows that the prevalence of drinking alcohol, tobacco and drugs is rising sharply after 90s. We also noted that 57% of students do not merrishin physical activity. Meanwhile, a study conducted at the University of Mansourës in Egypt reports that 11.3% of the students involved in the study were inactive. Another study conducted in China and Brazil shows that 1/3 of the students involved in the study were inactive. Another American study showed that 17% of the students of the Universities were inactive (12).

## Limitations of the study

The data from this study are limited, taken at random from a group of students at a university in the country, which may not be representative of all students in Albania. Furthermore students at "Alexandër Xhuvani" Elbasan levels are usually low and middle socio-economic. However based on the information about the state of the weight, and eating habits among students asked a stick University present study, the first of its kind to be implemented at the "Alexandër Xhuvani" Elbasan.

## Conclusions

- The survey data showed that the majority of people get in the study had a normal weight. Normal weight was more common among women than men. Students in the category of normal weight had the same amount of body fat percentage.
- Students with overweight and obesity were more common among men than women. The prevalence of overweight was 29.3% in males compared with 13.2% in women. Obesity was more frequent among men than among women in the study population.

- In total, 3.9% of men were obese compared with 14.1% of women. Students obese had the same high values of percentage of body fat.
- The term feeding habits, students Uiversitetit "Aleksandëe Xhuvani" Elbasan not follow healthy way of nutrition. The typical diet of the students of the University "Aleksandëe Xhuvani" Elbasan is rich in fats and low contents of fruits and vegetables. Students usually prefer fastfood for practicality and speed.
- There was a significant gender difference in terms of frequency of taking meals in the study group.
- 77.1% of men and 72.6% of women in this study were of the view that the diversity of food is important to have a balanced diet and nutritious.
- By increasing students' knowledge of particular feeding and healthy way of eating can increase body weight management to students and reduction of overweight and obesity.
- Engaging students in physical activity was low. 57% of students do not ever deal with physical activity. While only 12.3% of students were taken daily physical activity. 23.6% of women and 19.3% of men involved in this study are active.
- Despite the low prevalence of overweight and obesity among students of the University study, it is necessary to establish a strategy for proactive intervention.
- Young people should be encouraged through university forums strong commitment in physical activities and sports to care for their health and to stay away from bad habits such as smoking, alcohol and drugs.
- Young people can take advantage of a promotional program ushqimimin, reduce the tendency to overweight and obesity, especially among men, by improving the ways of healthy nutrition to students as well as their involvement in physical activities and sports.

## References

1. BMI for Adults. [ <http://www.nhlbisupport.com/bmi/bmi-m.htm>]
2. Field AE, Cheung L, Wolf AM, Herzog DB, Gortmaker SL, Colditz GA. Exposure to the mass media and weight concerns among girls. *Pediatrics* 1999, 103(3): E36.
3. Taylor CB, Sharpe T, Shisslak C, Bryson S, Estes LS, Gray N, McKnight KM, Crago M, Kraemer HC, Killen JD. Factors associated with weight concerns in adolescent girls. *Int J Eat Disord* 1998, 24: 31–42.
4. Arroyo Izaga M, Rocandio Pablo AM, Ansotegui Alday L, Pasual Apalauza E, Salces Beti I, Rebato Ochoa E. Diet Quality, Overweight and Obesity in Universities Students. *Nutr Hosp* 2006, 21(6): 673-679.
5. Bertsias G, Mammias I, Linardakis M, Kafatos A: Overweight and obesity in relation to cardiovascular disease risk factors among medical students in Crete, Greece. *BMC Public Health* 2003, 3:3. E-pub.
6. Al-Isa AN: Obesity among Kuwait University students: an explorative study. *The Journal of the Royal Society for the Promotion of Health* 1999, 119 (4):223-227.
7. Musaiger AO, Lloyd OL, Al-Neyadi SM, Bener AB: Lifestyle factors associated with obesity among male university students in the United Arab Emirates. *Nutrition & Food Science* 2003, 33(4):145-147.
8. Healthy People 2010. Conference ed. Washington, DC: US Government Printing Office; 2000: Section 19.
9. Davy S, Benes B, Driskell J. Sex Differences in Dieting Trends, Eating Habits, and Nutrition Beliefs of a Group of Midwestern College Students. *Journal of the American Dietetic Association* 2006, 106(10):1673-1677.
10. Wardle J, Haase AM, Steptoe A, Nillapun M, Jonwutiwes K, Bellisle F. Gender differences in food choice: the contribution of health beliefs and dieting. *Ann Behav Med* 2004, 27:107-116.
11. Kolodinsky J, Harvey-Berino JR, Berlin L, Johnson RK, Reynolds TW. Knowledge of Current Dietary Guidelines and Food Choice by College Students: Better Eaters Have Higher Knowledge of Dietary Guidance. *J Am Diet Assoc* 2007, 107:1409-1413.
12. Physical activity profile of students in Mansoura University, Egypt A-H. El-Gilany,1 K. Badawi,2 G. El-Khawaga1 and N. Awadalla3 2011 *Eastern Mediterranean Health Journal*. Vol. 17 No. 8.