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## Situation of Obesity in Different Ages in Albania

Edison Ikonimi<sup>1</sup> and Valbona Golemi<sup>2</sup>

<sup>1</sup>Department of Sports, Sport University Tirana, Albania

<sup>2</sup>Department of Movement and Health, Sport University Tirana, Albania

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### ABSTRACT

*Purpose of study was aimed at assessing the prevalence and risk obesity in adult population. Methodology was cross-transverse, for one year. The study included a representative sample population of aged 25 to 65 years and 1000 individuals participated, the average age  $55.29 \pm 6.2$  years. All data obtained from questionnaire to statistical analysis with method EXEL 2010. Software was used SM as a "Data Analysis" (DA) package in all the statistical procedures. Conclusions the study found that overweight and obesity have a high prevalence.*

**Keywords:** Factors, Prevalence, Health, Socioeconomic, Obesity

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### INTRODUCTION

Obesity is becoming an increasingly problem pressing of public health, affecting all developed most countries. In the United States of America, one in three people is classified as obese. Between 1990 and 2014 the prevalence of increased obesity [1] from 15% to 33% among adults, while the prevalence of overweight among children increased from 6% to 19%.

Overweight children often become obese adults. Obesity is complex condition, and therefore its prevention and treatment are difficult. In adults, obesity is associated with an increased risk of morbidity and mortality [2].

Among the major chronic diseases can mention diabetes, heart disease, arterial hypertension, celebrates and vascular accidents, syndrome of obstructive apneas during sleep and metabolic syndrome. On the other hand, obesity causes problems with associated daily ordinary activities affecting the quality of life. Diseases associated with obesity usually appear during the second half of life, morbidity crowding in the elderly [3].

#### Obesity by demographic characteristics

Prevalence of overweight seems to increase with age. Older adults have more likely to be obese than other persons. Obesity by age was encountered:

- At the age of 20-39 years 26.8%
- At the age of 40-59 years 34.8%
- At the age of 60-79 years 35.2%
- Over 80 years 17.3%

Higher prevalence of overweight was among children and adolescents of age, 11.5% of preschool children 6-8 years, 16.8% of children school 9-14 years and 16.5% of adolescents 15-19 years old. In 2004, in various ethnic groups of women had the obesity inequality. For example about 53% of non-hispanic women of color ages 40-59 years were obese women versus 36% of non-hispanic white of the same age. While the men do not show disparities in the prevalence of obesity by ethnic group. Similarly, racial differences are evident among school-age children and adolescents. Prevalence of obesity among socioeconomic status and body size for males and females. Historically, in

many contexts, a large body mass, including length, increased muscle size american boys is significantly higher among boys than non-hispanic white and colored. Among non-hispanic women, those with color were more likely to be over weight than white girls. Body size is often associated with socioeconomic status. However, the magnitude and direction of connectivity tend to vary according to level of economic development, gender, race and ethnicity [4].

In less developed countries, high body weight may be related to the welfare and prosperity, and may have a positive amount of fat increased, has symbolized power, dominance, welfare or a higher stage of social development. For men in developed countries, the length is positively associated with socioeconomic status. Instead, for women in developed countries, weight and BMI has had a strong relationship negative socioeconomic status. A thin body, which reflect past economic deprivation, limited access to foods, or a heavy physical work, now a days wants to waste time, money and energy [4].

***Purpose of study***

Our study was aimed at assessing the prevalence and risk factors of obesity in adult Tirana (Albania) population and its relationship with socioeconomic and demographic factors.

**METHODS**

***Type study***

Cross- transverse questionnaire, for one year. (October 2016-October 2017)

***The population under study***

The study included a representative sample of adult population of Tirana aged 25 to 65 years. In the study, 1000 individuals participated, the average age (in total)  $55.29 \pm 6.2$  years. Taking a sample of adult population of Tirana enables the generalization of results at country level, especially since the population of the capital in the last decade reflects the best of all Albanian population.

***Data collection***

Consisted of administering a structured questionnaire, which consisted of several components. In this paper we will treat only component associated with socioeconomic, demographic factors such as age, gender, marital status, employment status, economic level, education and faith religious. All participants were measured length, weight and to calculate body mass index (BMI) and ratio waist / hips (W / H).

***Analysis of data***

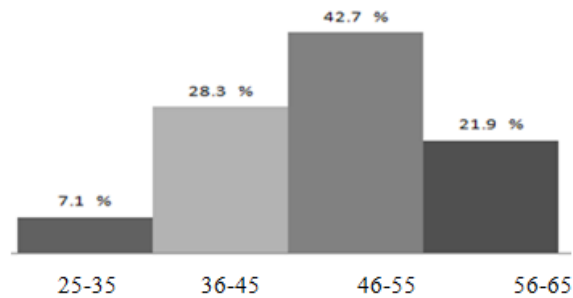
All data obtained from questionnaire to statistical analysis with method EXEL 2010. Software was used SM as a "Data Analysis" (DA) package in all the statistical procedures. In all cases, were considered statistically significant at values ( $p < 0.05$ ). For variables were reported numerical magnitudes of central tendency (arithmetic mean, median and the mode) and the size of the dispersion (standard deviation and distance intercuartile). For categorical variables were reported respective frequencies and percentages (Table 1).

**Table 1:** Description of the average age of participants in the study

	Males (N=486)	Females (N=514)
Age	Average ( +sd)	Average ( +sd)
(years)	55.03 7.02	56.25 6.9

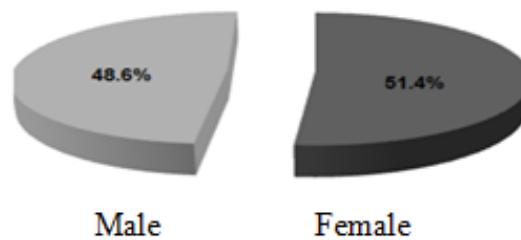
**RESULTS**

During data analysis, subjects who participated in the study were grouped according to age in categories the following: 25-35 years 71 persons (7.1%), 36-45 years 283 persons (28.3%), 46-55 years 427 persons (42.7%) and 56-65 years 219 persons (21.9%) (Figure 1).



**Figure 1:** Description of age group of participants in study

In the study, 486 participated (48.6%) males and 514 (51.4%) females (Figure 2).



**Figure 2:** Description of study population gender

Obtained in the study population was categorized according to level of education in three categories: the 9-year education, secondary and higher education. Thus, 36.8% belonged to 9-year education, 41.9% secondary education and upper 21.3%.

In our study 276 (27.6%) of individuals reported that their economic level was lower than the average in Albania, 366 (36.6%) reported that this level was the same as the average in Albania and 358 (35.8%) reported more mvel economical than the average high in Albania. By employment status of the entities involved in the study 428 (42.8%) were employed, 308 (30.8%) unemployed, and 264 (26.4%) were retired. Much of the study population belonged get married status (76.7%) versus 23.3% belonged to single status and divorced. Obtained in the study population was categorized into two groups based on religion: the muslim, which constituted 62.7% and the christian (in which subjects belonged to the orthodox faith, catholic) that accounted for 39.3% (Table 2).

**Table 2:** Sociodemographic data of the study population received

Sociodemographic characteristics	Frequency (N = 1000)
Education	
0-9 years	368 (36.8%)
9-12 years	419 (41.9%)
>12 years	213 (21.3%)
Status	-
Married	767 (76.7%)
Single / Divorced	233 (23.3%)
Religion	-
Christian	373 (37.3%)
Muslim	627 (62.7%)
Economic level	-

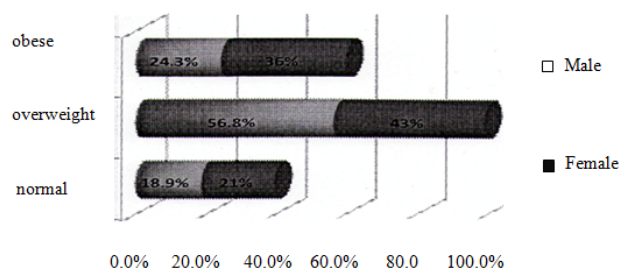
Lower than the average Albanian	276 (27.6%)
The same with the average Albanian	366 (36.6%)
Higher than the average Albanian	358 (35.8%)

The average value of BMI in females is higher than in males (28.9 & 30.1). The average value describing abdominal obesity (waist / hips) in females is 0.83, while in males is 0.91 (Table 3).

**Table 3:** Description of the average values of B.M.I. and the ratio of waist / hips by gender

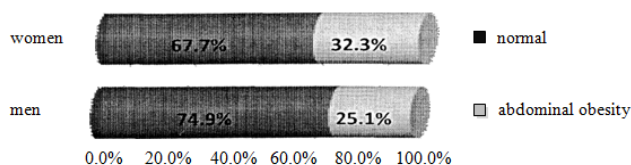
Variable	Males (N= 486) Average ( +sd)	Females (N=514) Average ( +sd)
Average values of B.M.I	28.1 2.7	28.9 3.1
Report waist / hips (W/ H)	0.91 0.04	0.83 0.05

If we compare both genders, in our study noted that women have a greater prevalence of obesity compared with men (36% & 24.3%). As for obesity overweight, noted that men have a greater prevalence of it than females (56.8% & 43%), and normal (18.9% & 21%) (Figure 3).



**Figure 3:** Description of overall overweight and obesity in both genders

Regarding obesity abdominal, in our study noted that women have a greater prevalence of abdominal obesity compared with men (32.3% & 25.1%) (Figure 4).



**Figure 4:** Description of abdominal obesity in both genders

During data analysis it was observed that there was evidence of a very strong positive relationship and linear between age group and overall prevalence of obesity. Thus, the prevalence of obesity was a linear increase with increasing age group. Individuals belonging to the 56-65 years age group had a report likely (RL) of about 2.17 times compared with younger subjects (25-35 years). The statistical test performed to determine the linear trend resulted in a high statistical terms ( $p < 0.01$ ). During binary logistic regression to control for age, it was noticed that women were more likely to be obese compared with men (RL=1.67, 95% CD=1:19 to 2.36), a result that was statistically significant ( $p < 0.02$ ) (Table 4).

**Table 4:** Evaluation of connection (association) overall obesity with socio-demographic characteristics of subjects in the study

Variable	Number (%)	RL 95% (CD)	p
Age			
25-35	171 (17.1)	1.00 (reference)	<0.01

36-45	283 (28.3)	1.56 (1.13-2.76)	<0.03
46-55	327 (32.7)	2.03 (1.34-3.19)	<0.01
56-65	219 (21.9)	2.17 (1.41-3.41)	
Gender			
Men	486 (48.6)	1.00 (reference)	0
Women	514 (51.4)	1.67 (1.19-2.36)	<0.02

From Table 5 shows that there is a significant link between obesity and education level (S =0:03). This connection, which is attributed to the category >12 years, has seen an inverse relation with obesity (RL = 0.53, 95% CD = 0.21-0.89). Finally we can say that the higher the level of education, the smaller are the chances of being obese and this result is highly statistically significant (p<0.01).

**Table 5:** General obesity (BMI) of likelihood ratios (OR) controlled for age by binary logistic regression.

Education			<0.03
0-9 year	368 (36.8)	1.00 (reference)	0
9-12 year	419 (41.9)	0.74 (0.49-1.23)	<0.12
>12 year	213 (21.3)	0.53 (0.21-0.89)	<0.01
Status			
Single/divorced	233 (23.3)	1.09 (0.63-1.42)	<0.37
Married	767 (76.7)	1.00 (reference)	0
Religion			
Christian	373 (37.3)	1.00 (reference)	0
Muslim	627 (62.7)	1.13 (0.83-1.29)	<0.26
Economic level			
Lower than the average Albanian	276 (27.6)	1 00 (reference)	<0.02
The same with the average Albanian	366 (36.6)	0.86 (0.68-1.32)	<0.23
Higher than the average Albanian	358 (35.8)	0.64 (0.35-0.92)	<0.02
Employment status	428 (42.8)	1.24 (0.91-1.39)	<0.19

Subjects single and divorced are more likely to be obese compared with married subjects, (RL = 1.09, 95% CD = 0.63-1.42). This result was not statistically significant (p<0.37).

Entities belonging to the muslim faith were more likely to be obese subjects compared with christian beliefs, (RL = 1.13, 95% CD = 0.83-1.29), but this result was not statistically significant (p<0.26). In general there is a significant link between the presence of obesity and economic level (p<0.02), which is attributed about high level category, which has seen an inverse relation with the presence of obesity, individuals with higher economic level than average are less likely to be obese compared with those with lower economic level than the average albanian (RL = 0.64, 95% CD = 0.35-0.92) (p<0.02).

Pensioners and unemployed subjects were more likely to be obese subjects compared with employees. (RL = 1.24, 95% CD = 0.91-1.39), although this result was not statistically significant (p<0.19).

### DISCUSSION AND CONCLUSIONS

Our study brought to light new data on the prevalence of overweight and obesity in Tirana (Albania). Noted that the incidence of obesity in Albania, as in other transition countries of South-Eastern [5] is increasing. Thus, the study found that overweight and obesity have a high prevalence in Tirana. The average value of body mass index (BMI) is above normal body weight values (> 25) and we estimated that the prevalence of obesity is 24.3%, while that of

overweight is 56.8%. The fact that the prevalence of obesity and overweight is significantly higher in this region of Albania compared with mediterranean countries like Italy and Spain to worry. In Italy, in fact only 17% of males and 16% of females aged over 15 years are reported to be obese [6] in 2010.

Also in Spain, from a study done in 2008 showed that only 15% of men and women aged over 16 were obese [7]. These values are more depressed than those reported by a previous study conducted in 1120 on the young age of 25 in Tirana, where 22% of men and 31% of obese women resulted. We think it is possible that the study made in 2001 have been an over estimate of obesity, because the participants involved in the study were first screened guests to the problems associated with obesity and diabetes. However, overweight and obesity pose a significant concern in Albania [8]. The lack of previous data on the levels of overweight and obesity in Albania hinder identification of the time trend of increasing obesity. However, there is reason to believe that over the last decade there has been a significant increase in BMI, in both genders.

Based on data from other countries in transition it is possible that the growth of urbanization and modernization of the style/way of life (e.g. changes in diet, increased physical inactivity, tobacco smoking) to play a key role in these changes [8].

An interesting finding of our study was the distribution of obesity in the elderly. According to a survey conducted in 2009, Albania is considered a country with high prevalence of obesity for the elderly. Middle Eastern countries have higher levels of obesity in the elderly, which can be explained by cultura perspective of these countries, where obesity is considered a sign of wealth and beauty [9].

This study showed clear gender differences in prevalence of overweight and obesity, with evidence of a positive relationship with overall obesity, especially in women, and abdominal obesity, especially in men. This cannot be explained entirely by sociodemographic factors and life style during the study track, but with differences in physical activity throughout, leisure. Among the social factors that were examined in this study, education level, employment status and economic level were significantly related to the likelihood of not being obese. Inline with other studies, our study also had a tendency for individuals with lower levels of education were more likely to be obese than those with higher education, while employment and high levels of income were the factors limiting obesity.

## RECOMMENDATIONS

As a result of health impact has increased the prevalence of overweight and obesity in Albania, we recommend the implementation of strategies that address the prevention and treatment of overweight and obesity in the population.

Due to lack of sufficient information on the prevalence of obesity and risk factors associated with, particularly in certain population groups, will recommend the creation of a national surveillance system that will be managing at least information associated with weight, height and waist circumference.

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