Childhood obesity correlates with a high risk of obesity and adult age associated pathologies. In comparison with normal weight children, the ones with high BMI have respiration difficulties, high risk of fractures, high blood pressure, premature increase of cardiovascular disease markers, insulin and psychological effects resistance [1].

At individual level, obesity prevention in children can be made by limiting the energy contribution from fat and sugar, increasing the consumption of fruits and vegetables, whole grains cereals and seeds, exercising at least 60 min per day.

At community and society level, public and private entities must be involved in order to offer the starting points for the children to make healthy choices, but also in exercising environment [2].

Recently, in an investigation [3] that included data from 4 population studies from Germany and 34,240 children with ages between 3-18 years old, was calculated the impact on obesity of familial, social, intrauterine life and immediately postpartum factors and also the life style. The identified determinants can explain 77.7 % of obesity prevention. Taking into account the risk pertaining to each factor calculated by the authors, they consider that in the right decisions and in the accessibility of healthy food choices, but also in exercising environment [2].

The research intends to investigate the body mass index, the self-weight perception and the intention of changing the weight in teenagers, from Timisoara, Romania. The data sample was made of 243 students of 11-18 years old: 37.9% in middle school and 62.1% in high school; 56.4% girls and 43.6% boys. The manner of work was a cross-sectional study, study case type. The results show that in middle/high school there are: underweight 39.8%/22.9%, normal weight 51.1% and overweight and obese, 9.1%/8.3, with a significant difference between the 2 age groups, the difference being very small. 62.2% of middle school students and 51.7% of the ones in high school appreciate their own weight as having the normal value. 24.4% of the middle school students and 32.4% of high school students consider that that they have a weight over the normal value, and at 15-18 years old, girls perceive weight as being significantly higher than boys. The students want to lose weight, 42.7% of middle school students and 42.8% of high school students. At 11-14 years old, boys want to gain weight more frequently than girls.

Keywords: teenagers, body mass index, self-weight perception
text. For comparing the ordinal data we used the Mann-Whitney and Kruskal-Wallis test. The chi-square test was used for ordinal/nominal data.

Results and discussions

Body mass index (BMI)

The body mass index of the study participants is between 14.38 and 48.44. The 11-18 years old students are from all categories, from underweight to obese. The average BMI value is of 20.61 and DS of 3.538, this being a normal value. For the groups of students taken in the study, the values are displaced towards right, most values being in the normal weight area (fig. 1).

Fig. 1. Study participants’ distribution according to body mass index

The students were placed according to BMI in the following groups: underweight with BMI<18.5, with a percentage of 28.8%; normal weight with BMI between 18.5 and 24.9, with a percentage of 62.1%; overweight defined with a BMI between 25 and 29.9, and obese with BMI over 30, with a percentage of 9.2%.

The students’ classification according BMI weight class is shown below, separately for middle school and high school. In middle school, the underweight represent 39.8%, the normal weight represent 51.1%, and the overweight and obese, 9.1%. In high school, the underweight are in percentage of 22.9%, normal weight in percentage of 68.8%, and the overweight and obese in percentage of 8.3%.

We applied a variation analysis to determine the gender and age categories effect on BMI in the teenagers group of 11-18 years old. The interaction between age category and gender was not statistically significant, p=0.932. We found a significant difference between the 2 groups, p=0.001, the difference being very small. The gender differences were not statistically significant, p=0.431 (fig. 2).

Self-weight perception

In middle school, the majority, 62.2% appreciate their own weight as being approximately at normal value, 24.4% consider that they have a weight over the normal value (girls more frequently) and 13.3% consider own weight as being under the normal value.

In high school, 51.7% appreciate their own weight as being approximately at normal value, 32.4% consider that they have a weight over the normal value (girls more frequently) and 15.9% consider own weight as being under the normal value (fig. 3).

Actions of modifying the body weight in the near future

A percentage of 87.6% of middle school students and 91% of high school students plan to take action concerning their own weight in the near future (fig. 4). Most frequently, they want to lose weight, 42.7% of middle school students and 42.8% of high school students, mostly girls. On the second place are the ones who want to keep their current weight, 31.5% of middle school students and 26.9% of high school students, especially high school girls. On the third place are the students who want to gain weight, 13.5% of middle school students and 21.4% of high school students, especially high school boys.

Excluding from the analysis the students who do not want to take any action in the near future, in the 11-14 years old age group, we found that frequently boys want to gain weight more than girls, U=736.5, z=-2.18, p=0.029. Following the same procedure, in the 15-18 years old age group, we found no differences between genders in the 2 age groups, neither in girls (p=0.459), nor in boys (p=0.969).

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Teenagers can have social difficulties in some aspects of their life, such as symptoms, violence and reduced levels of optimism, in addition to the frequent consumption of substances, depressive effects on health: seventh grade teenagers, who overestimate their weight are exposed to risk factors with a BMI. Perception of body weight, controlling the value of the real guardian were independently associated with wrong BMI.

Yan and colleagues [6] had applied a multivarious analysis from a cross-sectional study that included 2195 teenagers, perceived their weight significantly more increased, in comparison to the girls (p=0.895), nor in boys (p=0.264).

For the batches taken for study, BMI is within the normal limit for 62.1% of the participants and over the normal limit, representing the overweight and obese participants, at 9.2%, similar results with other studies [5], on the same population from western Romania. The statistical analysis has highlighted significant statistical differences between the 2 age groups, the 15-18 years old group having a significantly more increased BMI than the 11-14 years old group. Gender does not have a significant interaction with BMI increase between the 2 age groups. The difference between genders is not significant statistically. 62.2% of middle school students and 51.7% of high school students appreciate their own weight as being approximately at a normal value. 24.4% of middle school students and 32.4% of high school students consider that they have a weight over the normal value. 13.3 and 15.9% of students consider that they have a weight under the normal value. In the 15-18 years old group, girls perceive their weight more significantly more increased than boys.

In 87.6% of middle school students and 91% of high school students plan to take action concerning their weight, in the near future; most frequently, they want to lose weight, 42.7% of middle school students and 42.8% of high school students. In 11-14 years old we found that, boys want to gain weight more frequently, in comparison to girls.

Conclusions
According to BMI weight class, in middle school we have overweight students 39.8%, normal weight 51.1% and overweight and obese 9.1%; in high school, overweight 22.9%, normal weight 68.8% and overweight and obese 8.3%, with a significant difference between the 2 age groups, the difference being very small. The differences between genders are not significant statistically. 62.2% of middle school students and 51.7% of high school students appreciate their own weight as being approximately at a normal value. 24.4% of middle school students and 32.4% of high school students consider that they have a weight over the normal value. 13.3 and 15.9% of students consider that they have a weight under the normal value. In the 15-18 years old group, girls perceive their weight significantly more increased than boys.

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References


5. FIRA MLADINESCU,C.Comportamentul alimentar; in Comportamente cu risc la adolescentii din judetul Timis sub redactia Vlaicu B; 2007, Editura Eurobit; 147-178.


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