

## THE EFFICIENCY OF KINETOTHERAPY IN COMBATING OBESITY OF YOUNG ADULT

Lucaci P., Iacob M.R.

Alexandru Ioan Cuza University, Iași, Romania

In recent years, according to specialist studies, obesity had become a problem that mankind faces, the incidence of people who fall into different degrees of obesity increasing from one year to the next. This paper aims to highlight the importance of kinetotherapy in combating obesity in young adult. The study was conducted on a group of 10 subjects (5 males and 5 females) aged between 22 and 25 years with overweight and obesity degree 1 respectively, who benefited from specialized and individualized kinesitherapy programs to combat overweight. Medical gymnastics programs were held over a 3-month period of time with a frequency of 3 sessions per week. Constant and rigorous performance of sessions has ultimately led to weight loss and approximation to normal body mass index values.

**Keywords:** overweight, body mass index, medical gymnastics.

**Introduction.** According to researches conducted by the National Institute of Public Health, the prevalence of obesity has risen more than two times between 1980 and 2014 internationally. In July 4-5, 2013, the European Ministerial Conference of the World Health Organization on Nutrition and Non Communicable Diseases was held in Vienna, in the Context of Health 202 Program.

The «Vienna Declaration» expresses the need for immediate actions to prevent overweight and obesity on their underlying causes. The statement highlights unanimous concern about the negative effects of obesity among children.

A predictive study published in the United States concludes that by 2030, 51% of the US population will be obese [E. Finkelstein, et al., 2012].

Obesity is a chronic condition of nutrition, characterized by increased body weight. This increase is due to fatty tissue, resulting from a lack of correlation between caloric intake and energy consumption.

A scientific paper, published in *The Lancet*, mentions that, in addition to physiological aspects, excess weight gain is due in particular to modern lifestyle, technological evolution, and fast food consumption [Ng. Marie, Et al., 2014].

Obesity is a disease that is particularly common in developed countries, being a part of public health issues. The sooner the onset of this disease is, the more poor the diagnosis, the disorder becoming a major public health issue because it has negative health effects, favoring the installation of type II diabetes, cardiovascular diseases and certain types of cancer [P. Wiklund, 2016].

One of the major problems is morbid obesity. This form of obesity characterizes those people who exceed the weight by over 50 kilograms by age and gender. These people may experience a multitude of dysfunctions that worsen the state of health by developing pathological conditions.

It should be underlined that besides physical and visceral problems, people suffering from obesity may experience certain psychological symptoms such as depression. These people may feel discriminated or discredited, so it is important to take action from this point of view to prevent the emergence of social isolation or the loss of self-esteem.

The importance of kinetotherapy is a major one, which is argued by the following aspects,

namely maintaining or improving muscle tone and movement amplitudes, preventing postural deficits, maintaining good articular mobility of the spine to prevent the installation of vicious posts. At the same time, being motion therapy, kinetotherapy programs have a major impact on calorie burning and on the cardiovascular system, which may result in the loss of excess weight. For weight loss it is advisable to practice aerobic exercise because it leads to the burning of lipids in the body [Vlad Ramona, 2017].

Later, the aim of the physical therapist is to induce individuals a healthy lifestyle that includes regular physical activities.

Studies have shown that day-to-day physical exercise such as walking, climbing stairs, gardening, participate in improving cardiovascular function and weight loss [R. Kushner, 2014].

**Material and method.** The study was conducted on a group of 10 young adults aged between 22 and 25 (5 female and 5 male) who were classified according to the body mass index in the overweight category (4 subjects) and grade 1 obesity (6 subjects), respectively.

The study was carried out over a 3-month period and the assessment was carried out using the body mass index, based on three measurements: initial, intermediate and final.

The main means of combating obesity was kinesiotherapy. It is important to mention that during the study the subjects also benefited from counseling and guidance from the nutritionist physician.

The kinetotherapy programs included aerobic exercises involving exercises for training the cardiovascular and respiratory system. Also exercises of mobility, strength and resistance have also been part of the medical gymnastics program.

**Results.** In order to be able to highlight the results obtained, we performed the graphical interpretation of the results using the Microsoft Office Excel program.

According to Figure 1, the body mass index of 3 female subjects reached normal values, two of the subjects falling into the sub-inferiority category at the final assessment, while at the initial assessment they were classified as 1st degree obesity.

Figure 2 highlights the course of the 5 male subjects over the 3 months of physical therapy. We can observe that 4 out of 5 subjects reached to fall

at the end of the study into the normoponderality category, one of the subjects being in the overweight category, a subject that in the initial assessment was classified as 1st grade obesity.

Figure 3 highlights the results obtained by female subjects in terms of weight loss. In this figure we can see that the subjects managed to make significant improvements, the highest value being 14 kilograms.

Significant values for weight loss were also obtained by male subjects actually recorded in Figure 4. The highest value obtained is 17 kilograms, a value registered by the subject with the number 6.

Figure 5 shows the comparison of the arithmetic average of the body mass index between the two groups (male, female) at the initial, intermediate and final evaluation. Thus, as a remarkable value, it can be seen that the arithmetic mean of the female group reached from 29.2 to the initial evaluation to 25.2 at the final evaluation. As for

the boys group, the final value of the arithmetic mean of the body mass index is 24.6, at the initial evaluation the arithmetic mean is 29.2.

In order to highlight the effectiveness of kinethotherapy programs, we have evaluated the arithmetic mean of the weakened kilograms in the three months over the two categories of subjects. So Figure 6 shows that the female lot weakened on average 10 kilograms and the male group weakened on average 13.2 kilograms.

**Discussions.** Based on the study, we could see that motion therapy significantly influences body mass index values. According to statistics made by the Romanian Association for the Study of Obesity, over 20% of Romanians over 18 years old face obesity. Moreover, the current childhood obesity is increasing over the past years. We believe it would be useful and of great importance to continue with studies on groups of children, since the prevention of obesity must start from childhood.

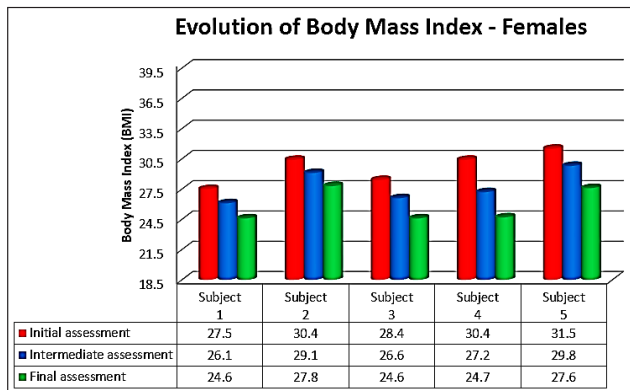


Fig. 1.

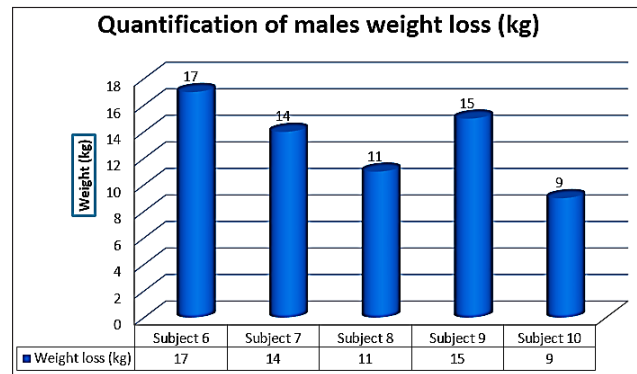


Fig. 4.

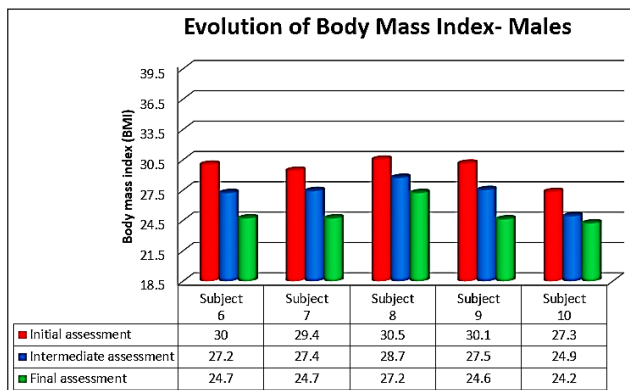


Fig. 2.

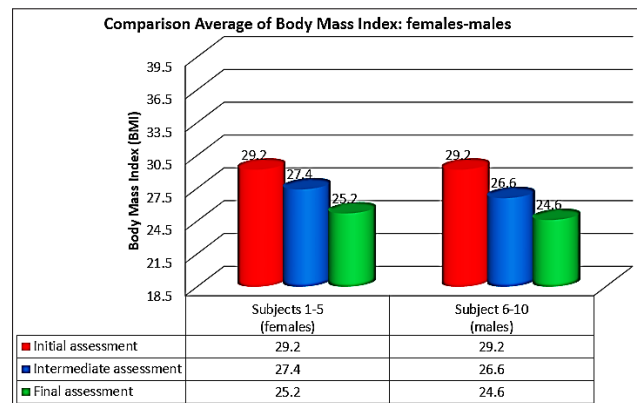


Fig. 5.

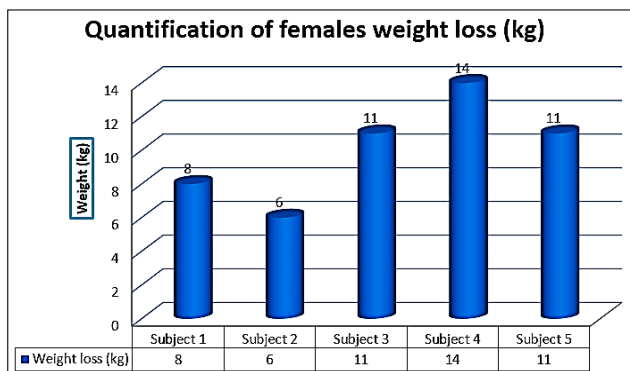


Fig. 3.

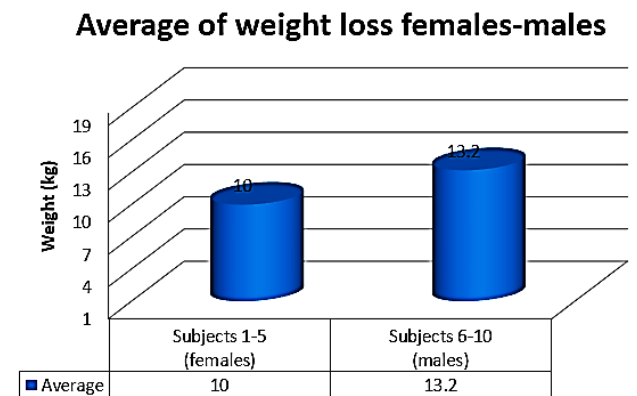


Fig. 6.

**Conclusions.** Overweight or obesity is one of the metabolic diseases that can adversely affect adult life through the complications it generates, both in the body and body systems and at the psychic level, by depressing or loneliness.

It can be said that motion therapy plays a key role in the fight against obesity, the effects of which are essential. Associating kinetotherapy with a proper diet and a healthy lifestyle will promptly improve body mass indexes and thus improve all other parameters: social, psychic or emotional.

### References:

1. Finkelstein E., Khavjou O., Thompson H., Trogdon J., Pan L., Sherry B., Dietz W., Obesity and Severe Obesity Forecasts Through 2030, American Journal of Preventive Medicine, Vol. 42, Issue 6, 2012, <https://doi.org/10.1016/j.amepre.2011.10.026>, p. 563-570.
2. Kushner F. R., Weight Loss Strategies for Treatment of Obesity, Progress in Cardiovascular Diseases, Vol. 56, Issue 4, 2014, <https://doi.org/10.1016/j.pcad.2013.09.005>, p. 466.
3. Marie Ng., et. al., Global, regional, and national prevalence of overweight and obesity in children and adults during 1980-2013: a systematic analysis for the Global Burden of Disease Study 2013, The Lancet, Vol. 384, Issue 9945, [https://doi.org/10.1016/S0140-6736\(14\)60460-8](https://doi.org/10.1016/S0140-6736(14)60460-8), p. 766-781.
4. Vlad R., Educational Aspects Related to Fighting Obesity at Pupils, Journal of Romanian Literary Studies, Issue no. 11/2017, p. 755-758.
5. Wiklund P., The role of physical activity and exercise in obesity and weight management: Time for critical appraisal, Journal of Sport and Health Science, Vol. 5, Issue 2, 2016, <https://doi.org/10.1016/j.jshs.2016.04.001>, p. 151-154.

**Лукаки П., Якоб М.Р.**

Університет Александру Иоан Куза, Ясси, Румунія

## ЕФЕКТИВНІСТЬ КІНЕЗІТЕРАПІЇ В БОРОТЬБІ ЛЮДЕЙ МОЛОДОГО ВІКУ З НАДМІРНОЮ ВАГОЮ

### Анотація

В останні роки, за даними спеціалістів, надмірна вага стала проблемою, з якою стикається людство, а кількість людей, які потрапляють в різні категорії ожиріння з року в рік, постійно зростає. Метою даної статті є важливість підкреслити ефективність кінетотерапії у боротьбі з ожирінням у людей молодого віку. Дослідження було проведене на групі з 10 осіб (5 чоловіків та 5 жінок) у віці від 22 до 25 років з надмірною вагою та першим ступенем ожиріння, відповідно, які скористалися спеціалізованими та індивідуальними програмами кінезотерапії для боротьби з надмірною вагою. Програми медичної гімнастики проводились протягом трьох місяців з частотою 3 заняття на тиждень. Постійне і суворе виконання занять в кінцевому підсумку призвело до втрати ваги та наближення до нормального значення індексу маси тіла.

**Ключові слова:** надлишкова вага, індекс маси тіла, лікувальна гімнастика.

**Лукаки П., Якоб М.Р.**

Університет Александру Иоан Куза, Ясси, Румунія

## ЭФФЕКТИВНОСТЬ КИНЕЗОТЕРАПИИ В БОРЬБЕ ЛЮДЕЙ МОЛОДОГО ВОЗРАСТА С ИЗБЫТОЧНЫМ ВЕСОМ

### Аннотация

В последние годы, по данным специалистов, избыточный вес стал проблемой, с которой сталкивается человечество, а количество людей, которые попадают в разные категории ожирения из года в год, постоянно растет. Целью данной статьи является важность подчеркнуть эффективность кинетотерапии в борьбе с ожирением у людей молодого возраста. Исследование было проведено на группе из 10 человек (5 мужчин и 5 женщин) в возрасте от 22 до 25 лет с избыточным весом и первым степенью ожирения, соответственно, которые воспользовались специализированными и индивидуальными программами кинезотерапии для борьбы с избыточным весом. Программы медицинской гимнастики проводились в течение трех месяцев с частотой 3 занятия в неделю. Постоянное и строгое исполнение занятий в конечном результате привело к потере веса и приближению к нормальному значению индекса массы тела.

**Ключевые слова:** излишний вес, индекс массы тела, лечебная гимнастика.