



Collegium Humanum Warsaw Management University  
Slovenská spoločnosť všeobecného praktického lekárstva SSVPL  
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Slovenská komora sestier a pôrodných asistentiek SKSaPA

**ZBORNÍK VEDECKÝCH PRÁC –  
DNI PRAKTICKEJ OBEZITOLÓGIE  
A METABOLICKÉHO SYNDRÓMU 2021**

**Warszawa 2022**



# **ANALYSIS OF THE EFFECTIVENESS OF THE PROGRAM OF PHYSICAL REHABILITATION FOR OBESITY IN FEMALE STUDENTS**

**Mgr. Mariana Dub**

*Physical Therapist,*

*Senior Lecturer at the Health Sciences Department of Uzhgorod*

*National University*

*(Ukraine)*

## **Introduction**

The problem of overweight and obesity in Ukraine has gained the epidemic proportions for the past decade (Dyachenko, 2020). The living and education conditions of the modern studentship leave the disease as obesity to fill the first places among other problems, giving it a special relevance, since adiposis damages the state of their health and life quality. It is primarily caused by a sedentary lifestyle, stress situations, improper feeding, technical progress, peculiarity of computer technologies development that contribute to a general reduction in motor activity, specially under the conditions of pandemic.

The health state of the students depends on many factors, among which an important place is occupied by a healthy lifestyle and systematic physical exercise (Aravitskaya, 2018, Kozak et al., 2015). The modern approach to rehabilitation of obese students is based on recognition of the chronic nature of the disease and, consequently, the need for long-term intervention. The use of kinesiotherapy for obesity in female students allows to get a high and stable therapeutic effect, leads to weight loss, and is one of the main aspects in the system of physical rehabilitation (Dyachenko, 2020, Dub, 2020, Lazareva, 2017, Marchenko et al., 2018).

There is no doubt, at present, and the fact of the positive impact of physical exercise on the state of physical and mental health, improving the activity of the respiratory, cardiovascular and other systems of the body.

This makes it necessary to study in-depth the effect of kinesitherapy in combination with other means of physical rehabilitation on the health indicators of the obese persons in the dynamics of rehabilitation treatment. Thus, the assessment of the physical rehabilitation comprehensive program effectiveness for the obese female students is optimised and timely.

**The aim** – is to determine the effectiveness of the physical rehabilitation comprehensive program for the obese female students.

**Materials and methods of research.** The study involved 42 obese students of Uzhhorod National University. For further studies, the female students were divided into two groups: with abdominal 57.1 % (n=24) and gluteofemoral 42.9 % (n=18) types of obesity. In accordance with the goal, these **research methods** as theoretical analysis of scientific and methodological literature, instrumental, sociological, psychodiagnostic research methods, and methods of mathematical statistics were applied.

### **Research result**

The modern approach to rehabilitation of obese students is based on recognition of the chronic nature of the disease and, consequently, the need for long-term intervention. In terms of the limited opportunities of the generally accepted system of the physical education in the higher educational institution, the physical rehabilitation complex program is developed for body mass correction in obese female students, which included the following means as kinesotherapy (based on the health fitness tools), SPA-procedures, correction of eating behaviour, motivation education in combination with psychocorrective exercises, introduction of an electronic diary and multimedia application of information-methodological programme "MS". The means and methods of physical rehabilitation were used depending on their therapeutic orientation,

considering the problems identified in the students: reducing body weight, reducing girth size, improving the psychoemotional state, life quality, increasing the level of physical state, motor activity, creating a stable motivation for active and systematic activities, improving activity of the cardiovascular system, gastrointestinal tract, metabolic processes.

The efficiency of the elaborated complex program of the physical rehabilitation is determined by the indexes of the morphofunctional state, kinetic capacity, life quality, indexes of physical and psycho-emotional state and physical activity of the female students.

Comparing the indexes of the female students depending on the obesity type it was possible to trace the following common factors: The body weight in female students decreased approximately equally regardless of the type of obesity; by 7.97 % (7.42 cm) in female students with abdominal type of obesity there was a decrease in waist circumference, in female students with gluteofemoral type of obesity by 4.5 % (only 3.72 cm) hip circumference decreased, the dynamics of optimization of body fat mass was 6.61 % (only 2.52 kg) and 5.63 % (only 2.14 kg) in female students of abdominal and gluteofemoral type.

It was possible to reduce a part of female students with manifestations of physical inactivity: in female students with abdominal obesity by 8.33 %; in female students with gluteofemoral obesity by 11.1 %. There was an improvement in the physical condition of the female students, 58.3 % (n = 14) of female students with abdominal obesity improved the initial result. Therefrom, 4.2 % (n = 1) of female students passed to a lower-than-average level of physical state, and 16.7 % (n = 4) of female students proceeded to an average level of physical state. The part of the female students with above-average physical state increased by 37.5% (n = 9). The part of the female students with the gluteofemoral type increased by 66.7 % (n = 12), who became characterized by a higher-than-average level of physical state due to a decrease in the share with the average level by 27.8 % (n = 5) and with a lower-than-average level by 38.9% (n = 7). According to the levels of motor ability, 20.83% of the female students with abdominal obesity moved from the permissible level to the optimal level, and the share with the permissible level of motor

ability increased by 37.53 %. The female students with obese gluteofemoral type had the proportion with the optimal level increased by 38.9% due to a reduction in the proportion with acceptable and critical levels by 21.7 and 22.2%, respectively.

The positive changes have occurred in the improvement of the general and physical component of the life quality, in general, the physical component in the female students with abdominal type of obesity improved to 9,9 %, and overall psychological component to 10,4 %. The female students with gluteofemoral having type of obesity, the increase in indicators of the total physical component improved by 4.53% and the total psychological component by 3.16 %. The self-assessment level has increased from low to average level 58.3% in the female students with abdominal type and 44.5 female students with gluteofemoral type of obesity. The software multimedia product in the comprehensive rehabilitation program of the obese students has allowed to increase the level of their theoretical knowledge on this issue and contributed to motivation formation among the female students to lead a healthy lifestyle and a stable interest in the independent motor activity.

Thus, the offered program not only promotes body mass optimization and also leads to improvements of the physique improvement by means of the targeted treatment of the "problem areas", and positive changes of the physical development indicators cause an increase in the self-assessment level as well.

## **Conclusion**

This indicates the effectiveness of a comprehensive physical rehabilitation program. Comprehensive program of physical rehabilitation, which contains methodological and organizational approaches to the fight against obesity and lifestyle modification contributes to a more effective recovery of indicators of physical and psychoemotional states, contributes to the body weight normalization, its control and life quality improvement of the obese students.

Taking into account the above, it can be noted that the prospects for further study are aimed at improving the effectiveness of physical rehabilitation programs for the women with obesity and metabolic syndrome of older age groups (according to the WHO classification for young women aged 44-60 years).

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**Author's contact:**

**Mgr. Mariana Dub**

Physical Therapist,

Senior Lecturer at the Health Sciences Department of Uzhgorod

National University (Ukraine)

email: marjana.dub@uzhnu.edu.ua





ISBN 978-83-958245-5-5



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