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ASSESSMENT AND DETERMINATION OF MOTIVATIONAL FACTORS FOR WEIGHT LOSS AND INDICATORS OF THE FUNCTIONAL STATE OF OBESE WOMEN IN THE REHABILITATION PROCESS

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Resume. The rapid spread of obesity emphasizes the relevance of studying this issue and requires a detailed investigation, justification, and development of an appropriate physiotherapeutic intervention program tailored to the individual needs of each patient. Therefore, we have decided to dedicate our research to determining the motivational factors for weight loss in these women and analyzing the indicators of their functional status before undergoing a physiotherapeutic intervention program.

The aim of the research is to develop a comprehensive program of physiotherapeutic interventions for women with obesity based on the study of motivational factors and analysis of existing approaches to obesity treatment, as well as to evaluate its effectiveness.

Materials and methods. The study included a theoretical analysis of scientific and methodological literature, as well as instrumental examination methods using the remote body composition measuring method BC-418MA TANITA. A total of 68 women aged between 36 and 55 years (mature age) with different degrees of obesity participated in the research. They were divided into two groups: the control group (CG, n=34) and the experimental group (EG, n=34). The control group received rehabilitation measures following the standard treatment protocol, which included dietary №8 and physical exercises. The experimental group participated in a developed and pilot-tested physiotherapeutic intervention program, which included a complex of exercises aimed at improving the functional status of women, considering individual preferences, a modified method of dietary therapy (based on dietary table №8 according to Pevzner), and keeping a motivational journal. The study was conducted at the Sport Life fitness club in Kyiv, located at Mayakovskogo Avenue, 46, Troieshchyna district. The research course lasted for three months.

Research results. Based on the obtained data, it is evident that both groups experienced a decrease in total body weight and a reduction in specific weight of adipose tissue by the end of the 3rd month. However, it is noteworthy that the level of BMI reduction after the developed program was significantly higher in the experimental group. After completing the course of comprehensive physical therapy, significant reductions in body mass index (BMI) were observed in both groups, with the control group showing a BMI of $29,66 \pm 0,9 \text{ kg/m}^2$ and the experimental group showing a BMI of $28,03 \pm 0,5 \text{ kg/m}^2$, ($p < 0,05$).

Conclusions. The results of the survey of the studied group of women indicate that the vast majority of respondents – 73,0% chose the health factor as the main motivator for losing weight. For 54,4% of women, having a good appearance, especially physical attractiveness, can be achieved by correcting body weight. The results of the conducted research give grounds for asserting that the use of the diet therapy method and kinesiotherapy exercises developed by us as part of the physical rehabilitation program developed for women of the second mature age with obesity, led to a safe reduction of body weight and the fat component, and the achievement of individually planned results of figure correction. The advantages of the developed program are confirmed by the results of own research.

Keywords: obesity in women, physical therapy, motivation, weight loss

Introduction. Health status of the population is one of the social indicators of societal progress, economic growth potential, and state security, holding a prominent position in the value system of any civilized country [1, 2]. Health holds exceptional significance in the life of every individual and society as a whole. In developed countries, one of the key indicators of the success of government policies is healthcare. Average life expectancy, accessibility, and quality of medical services and medications determine the correctness of the government's direction, its accountability to citizens, and its ability to implement effective welfare policies. Therefore, all matters related to health protection, preservation, and improvement are significant and require special attention [3, 4].

Obesity is recognized as a global epidemic. According to the World Health Organization (WHO)

estimates in 2016, over 1.9 billion adults aged 18 and above were found to be overweight, with more than 650 million of them suffering from obesity. In 2020 approximately 40-45% of adults aged 18 and above were overweight [3, 5, 6].

Currently, there are numerous weight management and obesity correction programs that include dietary therapy, physical exercises, and other interventions. Most of these programs are targeted towards the adult population and lack clinical and functional justification regarding the intensity, duration, and frequency of physical activities, as well as individual patient needs. Rational organization of diagnostic and therapeutic work with such patients, combined with educational measures, is necessary to achieve the highest rehabilitation effectiveness and minimize the risk of complications [7, 8].

The rapid spread of obesity emphasizes the relevance of studying this issue and requires a detailed investigation, justification, and development of an appropriate physiotherapeutic intervention program tailored to the individual needs of each patient. Therefore, we have decided to dedicate our research to determining the motivational factors for weight loss in these women and analyzing the indicators of their functional status before undergoing a physiotherapeutic intervention program [7 – 9, 10].

The aim of the research is to develop a comprehensive program of physiotherapeutic interventions for women with obesity based on the study of motivational factors and analysis of existing approaches to obesity treatment, as well as to evaluate its effectiveness.

Materials and methods. The study included a theoretical analysis of scientific and methodological literature, as well as instrumental examination methods using the remote body composition measuring method BC-418MA TANITA. Statistical analysis of the research materials was performed using the MedStat software, employing descriptive statistical methods to calculate quantitative indicators in the study groups, such as mean values (M) and standard error of the mean (m). Qualitative indicators were presented as frequencies and their percentage ratios. The statistical significance of differences was determined using parametric and non-parametric methods. For independent groups of quantitative variables, the t-test was used. Differences were considered statistically significant at $p < 0,05$ for all types of analysis.

Study design. A total of 68 women aged between 36 and 55 years (mature age) with different degrees of obesity participated in the research. They were divided into two groups: the control group (CG, $n=34$) and the experimental group (EG, $n=34$). The control group received rehabilitation measures following the standard treatment protocol, which included dietary №8 and physical exercises. The experimental group participated in a developed and pilot-tested physiotherapeutic intervention program, which included a complex of exercises aimed at improving the functional status of

women, considering individual preferences, a modified method of dietary therapy (based on dietary table №8 according to Pevzner), and keeping a motivational journal. The study was conducted at the Sport Life fitness club in Kyiv, located at Mayakovskogo Avenue, 46, Troieshchyna district. The research course lasted for three months.

Research results and discussion. The women were asked to complete a questionnaire in order to identify the primary and secondary reasons for their desire to lose weight (they were asked to provide up to 3 factors and determine their priority). Out of the 68 surveyed women, 4 individuals (5,9%) declined to participate, and 7 women indicated only 1 or 2 factors (1 factor – 1,5%, 2 factors – 8,8% of women, respectively). The main factors chosen by the women are presented in table 1.

The results of the survey indicate that the majority of respondents – 73,0% - chose health as the primary motivator for weight loss – 54,4% of women believed that achieving a good appearance, especially body attractiveness, could be attained through body weight correction. Wearing nice clothes and increasing self-esteem were chosen by 13,7% and 13,2% of women, respectively, as reasons for their desire to lose weight. For 7,8% of women, improving physical activity was the main incentive for weight loss. Among the prioritized desires, 7,4% of respondents mentioned the desire to have a child, as they believed that excess body weight and related health conditions were barriers to pregnancy. The next motivational priority for women was disease prevention, chosen by 6,4%. Another factor motivating women to lose weight was the lack of a satisfying sex life, chosen by 4,9% of women and ranking eighth in priority.

Additionally, factors such as getting married and having a nice photoshoot were selected by 2,0% and 1,0% of women, respectively.

The dominating factors that contribute to weight loss in the older group of women with obesity at various levels are healthy – 39,7%, and the weight gain is 29,6%. All other officials may be less than – 7,5% (fig.1).

Table 1

Motivational factors for weight loss in women of the study group ($n=68$)

Motivational Factors	Priority	Quantity of women (%)
Health	1	73,0%
Better Appearance	2	54,4%
Wear Nice Clothes	3	13,7%
Increase Self-esteem	4	13,2%
Improve Physical Activity	5	7,8%
Desire to Have a Child	6	7,4%
Disease Prevention	7	6,4%
Improve Sex Life	8	4,9%
Get Married	9	2,0%
Have a Nice Photoshoot	10	1,0%

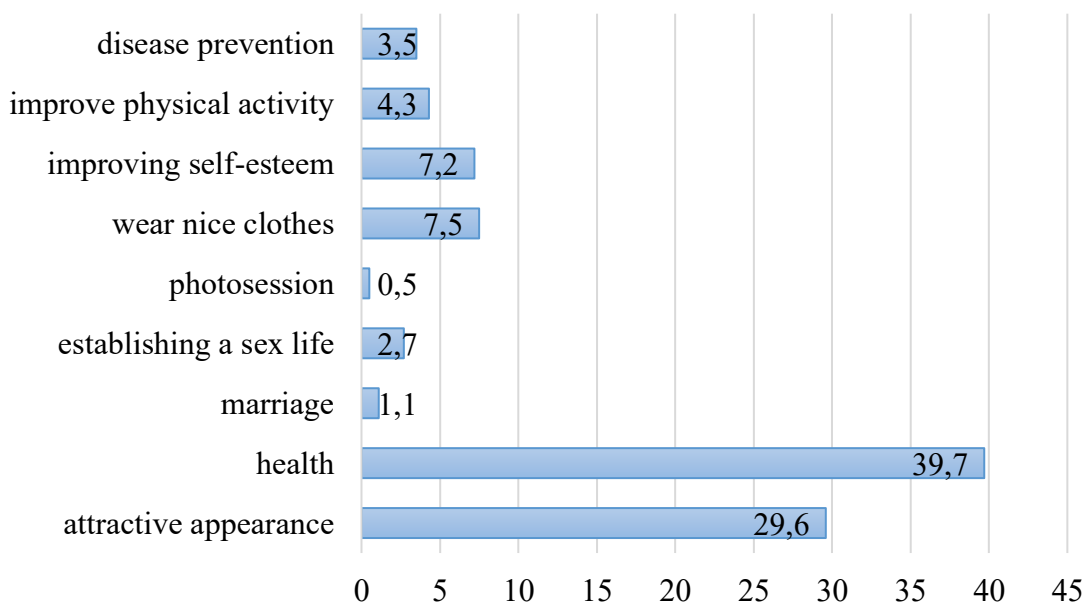


Fig. 1. Priority of factors for the goal of weight loss in obese women.

Upon more detailed analysis, the existing factors can be categorized into health-related (health improvement, increased physical activity, childbirth, disease prevention, and lack of sexual life) and social-related (attractiveness, wearing nice clothes, self-esteem, getting married, and having a photoshoot) factors, accounting for 54,1% and 45,9%, respectively.

A total of 68 women with different degrees of obesity, aged from 28 to 59 years, with a mean age of 40,4 ± 5,6, were examined. The distribution of participants by age was as follows: under 30 years - 2 individuals (2,9%), 30 to 40 years - 32 individuals (47,1%), 40 to 50 years - 30 individuals (44,1%), and over 50 years - 4 individuals (5,9%).

Women in the experimental group (EG) attended aerobic training sessions at Sport Life fitness club, while those in the control group (CG) underwent kinesiotherapy procedures at medical institutions near their place of residence. The comparative analysis of physical load

distribution during the sessions allowed establishing that for women with obesity, the maximum permissible load should be during the middle of the session and at the end of the main part, on the main and final stages, respectively. Analyzing the physiological curve at each stage (by heart rate), we determined the work regimes for women with obesity when performing exercises of different types: a) General developmental exercises - heart rate (HR) 120-130 bpm; b) Endurance exercises - HR 150-170 bpm; c) Strength exercises - HR 130-145 bpm; d) Speed exercises - HR 140-150 bpm. All these aspects were considered in implementing the treatment program for women with obesity.

During the objective examination before treatment, there were no significant differences in body mass index (BMI) between the experimental group (32,95 ± 0,39 kg/m²) and the control group (32,52 ± 0,5 kg/m²), (p > 0,05), tabl. 2.)).

Table 2
Indicator of body mass index in women of the second mature age of CG and EG before and after treatment

Indication	Statistical indicator	KG n = 34 (I)		EG n = 34 (I)	
		before FT	after FT	before FT	after FT
(BMI), kg/m ²	M	32,52	29,66	32,95	28,03
	m	0,5	0,9	0,39	0,5
p		>0,05		≤0,05	

Based on the obtained data (tabl. 2), it is evident that both groups experienced a decrease in total body weight and a reduction in specific weight of adipose tissue by the end of the 3rd month. However, it is noteworthy that the level of BMI reduction after the developed program was significantly higher in the EG. After completing the course of comprehensive physical therapy, significant reductions in body mass index (BMI) were observed in both

groups, with the CG showing a BMI of 29,66 ± 0,9 kg/m² and the EG showing a BMI of 28,03 ± 0,5 kg/m², (p < 0,05).

Based on the data obtained regarding the indicators of adipose tissue content in women of middle age, the following differences were identified: the percentage of fat (FAT, %) in middle-aged women in the CG, who followed the standard physical rehabilitation program for obesity, was statistically significantly higher than in women in the

EG, who participated in the comprehensive physical therapy program with a motivational diary and therapeutic preventive dietary regimen developed by us.

If before the program the indicated indicators in both groups of CG and EG were not significantly different (% FAT 31,8 and 31,7, respectively), ($p > 0,05$), then after 3 months their differences were reliable (CG – 30,9 and EG – 26,2%, respectively, ($p \leq 0,05$)).

Based on the obtained data, it is clear that both groups at the end of the 3rd month were characterized by both a decrease in total body weight and a decrease in the specific weight of adipose tissue. At the same time, the fact that the level of reduction in the specific weight of the fat component after the developed program was significantly greater in EG attracts attention.

Conclusions:

1. The results of the survey of the studied group of women indicate that the vast majority of respondents – 73,0% chose the health factor as the main motivator for losing weight. For 54,4% of women, having a good appearance, especially physical attractiveness, can be achieved by correcting body weight.

2. The results of the conducted research give grounds for asserting that the use of the diet therapy method and kinesiotherapy exercises developed by us as part of the physical rehabilitation program developed for women of the second mature age with obesity, led to a safe reduction of body weight and the fat component, and the achievement of individually planned results of figure correction. The advantages of the developed program are confirmed by the results of own research.

Perspectives for further research. The implementation of the presented physical rehabilitation program in the future will allow obtaining long-term results regarding the quality of life of such patients and evaluating the duration of the program's impact after 1 year or more.

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ОЦІНКА Й ВИЗНАЧЕННЯ МОТИВАЦІЙНИХ ФАКТОРІВ НА ЗНИЖЕННЯ ВАГИ ТА ПОКАЗНИКІВ ФУНКЦІОНАЛЬНОГО СТАНУ ЖІНОК ІЗ ОЖИРІННЯМ У ПРОЦЕСІ РЕАБІЛІТАЦІЇ

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Резюме. Мета дослідження – розробити комплексну програму фізіотерапевтичних втручань для жінок із ожирінням на підставі вивчення мотиваційних факторів і аналізу чинних підходів щодо лікування ожиріння та оцінити її (програми) ефективність.

Матеріали й методи. Дослідження передбачало теоретичний аналіз науково-методичної літератури й інструментальні методи обстеження з використанням дистанційного методу вимірювання складу тіла за допомогою приладу ВС-418МА TANIТА. У вивченні взяли участь 68 жінок віком від 36 до 55 років (зрілий вік) із ожирінням різних ступенів; обстежуваних було розподілено на дві групи: контрольну (КГ, n=34) й експериментальну (ЕГ, n=34). Перша з них отримувала реабілітаційні заходи за стандартною схемою лікування (дієтичний стіл №8, фізичні вправи). Експериментальна ж брала участь у розробленій і апробованій програмі фізіотерапевтичних втручань, що охоплювала комплекс вправ, спрямованих на покращення функціонального стану жінок із акцентацією на бажаннях пацієнтки, модифіковану методику дієтичного харчування (відповідно до дієтичного столу №8 за Певзнером) і ведення мотиваційного

щоденника. Дослідження проводили на базі фітнес-клубу Sport Life у Києві, за адресою: проспект Маяковського, 46, район Троєщина. Тривалість курсу становила три місяці.

Результати дослідження показали, що обидві групи досягли зниження загальної маси тіла й зменшення питомої ваги жирової тканини до кінця 3-го місяця. Проте варто зауважити: рівень, за якого впав індекс маси тіла (ВМТ) наприкінці дослідження досяг значно кращого результату в експериментальній групі

з показником $28,03 \pm 0,5$ кг/м² порівняно з контрольною $29,66 \pm 0,9$ кг/м² відповідно ($p < 0,05$).

Висновки. Результати опитування досліджуваних жінок свідчать, що більшість респонденток (73,0%) обрала фактор «покращення здоров'я» як основний мотив для схуднення, для 54,4% жінок «досягнення привабливої зовнішності», особливо фізичної, може стати основним мотиваційним фактором для корекції маси тіла.

Ключові слова: ожиріння в жінок, фізіотерапія, мотивація, схуднення.

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