

## **REVIEW**

of dissertation for awarding educational and scientific degree "Doctor"

of **GERGANA GEORGIEVA DESPOTOVA**,

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on the topic:

### **STUDY ON THE EFFECT OF PHYSIOTHERAPY IN STUDENTS WITH MUSCULOSKELETAL DYSFUNCTIONS, OVERWEIGHT AND OBESITY**

**Scientific supervisor: Prof. KOSTADIN KOSTOV, Ph.D.**

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**Reviewer: Assoc. Prof. Antoaneta Dimitrova, M.D., Ph.D.**

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#### **Relevance:**

The presented dissertation is devoted to an important medico-social problem, namely the possibilities of the impact of physiotherapy (PT) in subjects at a young age with musculoskeletal dysfunctions, overweight or obesity. The study contributes to the clarification of the factors that influence the results obtained. In addition to theoretical implications, this information has important practical implications for the role, duration and characteristics of the PT in students with musculoskeletal dysfunctions, overweight and obesity.

#### **Structure of the doctoral thesis:**

The dissertation is presented in 194 standard pages and includes 38 tables, 16 figures and 4 appendices. The reference list includes 177 sources (60 in Cyrillic, 111 in Latin, 6 websites) and the authors cited in the text correspond to those presented in the bibliography.

The structure follows the traditional forms of exposition: a literature review, the aim, objectives, organization and methods of the study, results and discussion, conclusions and recommendations. The text is linguistically sound and the specialised terminology used corresponds to modern requirements.

The PhD student is well acquainted with the literature on the subject, which is evident from the review. Our and foreign publications related to the epidemiology, ethiopathogenesis, risk factors and treatment of obesity are referred to and correctly interpreted. The importance of the continued use of PT as effectively influencing existing musculoskeletal dysfunctions and obesity, as well as pain symptoms, is correctly highlighted and the understudied aspects of their impact outlined. Thus, a rationale is provided for the need to conduct the present study.

**Purpose and tasks:** The aim is well formulated and the specific objectives are subordinate to its nature.

**Organization and methods of the study:**

The organisation of the study is correct. The study population consisted of 40 women equally divided into two groups, experimental group 1 (EG1) and experimental group 2 (EG2). Participants were selected according to their willingness to participate in the study and completion of questionnaires designed personally by the doctoral student for the purpose of the study.

The research methods used objectively reflected the changes in the patients' functional status. All measurements were performed personally by the PhD student, such as anthropometric and functional indices, visual analogue scale for pain quantification and survey methods. Statistical processing of the data is accurate.

The total duration of PT applied was 30 weeks. The difference in the two groups was in the frequency of one-hour PT sessions combined with training in the form of lecture material. EG1 conducted physiotherapy treatments once a week and EG2 three times a week. A variety of tools such as corrective exercises, resistance

exercises, balance and coordination exercises, breathing exercises, stretching and relaxation exercises are included in the exercise protocol.

### **Approach in interpretation and analysis of own results:**

The own results are analyzed correctly and show the skills of Gergana Despotova for adequate interpretation of the problem under consideration. The comparisons made with data of other authors are appropriate.

### **Conclusions:**

I accept the conclusions as reliable. As the most significant I consider the opinion that the developed and applied PT in students with musculoskeletal dysfunctions, overweight and obesity has a positive therapeutic effect related on the one hand to the reduction of body mass, body girth, skin folds and pain and on the other hand with improvement of cardiovascular system adaptation to exercises, improvement of static strength endurance of abdominal and paravertebral muscles and of students' body condition.

### **Contributions of the dissertation:**

Expressing my positive opinion, I will pay attention to the significant contributions of theoretical and scientifically applied nature in the dissertation work, namely:

1. A lecture course has been developed, contributing to the improvement and enrichment of the knowledge and health culture of the students, which lays the foundation for changing their exercise and eating habits.
2. A curriculum in physiotherapy for overweight, obese and musculoskeletal dysfunction students was developed.
3. Original data are presented showing the important role of regular physical activity in the prevention and treatment of overweight and obesity and in strengthening the health of the younger generation, confirming the need to increase compulsory activities in the discipline of sport.

4. The methodology of PT, applied with different weekly frequency, in overweight and obese students is developed, which can be included along with other forms of physical activity in the training of students.

5. The results achieved and the conclusions drawn from them, are an addition to the theory and methodology of PT for overweight and obese individuals at a young age with musculoskeletal dysfunctions.

*I have the following questions:*

- 1. Do you think it is appropriate to include research related to tracking changes in balance and coordination in overweight individuals with musculoskeletal dysfunction and why?*
- 2. Have changes in arterial blood pressure been tracked in the study contingent?*
- 3. Do you plan to continue and expand your research on this topic and in what direction?*

**Conclusion:**

The dissertation provides very good information of a theoretical and applied nature that has implications for PT practice. Gergana Despotova has demonstrated an ability to identify relevant issues, organise and interpret research.

No plagiarism was found.

I believe that the dissertation fully meets the requirements and I take the liberty to propose to the esteemed members of the scientific jury at the Sofia University "St. Kliment Ohridski" to give a positive vote to Gergana Georgieva Despotova for awarding the educational and scientific degree "Doctor" in the professional field 1.3 Pedagogy of education in...(Methodology of education in physical education and sport - kinesitherapy).

Sofia, September 14<sup>th</sup>, 2021

Reviewer:



/Assoc. Prof. Antoaneta Dimitrova, M.D., Ph.D./