

STATEMENT

by

**ASSOC. PROFESSOR DR. IRENA YORDANOVA
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Regarding: Dissertation work for awarding the educational and scientific degree "Doctor of Medicine" in the field of higher education 7. Health and sport, professional direction 7.1. Medicine, scientific specialty "Physiotherapy, Resort therapy and Rehabilitation", prepared by Yasen Todorov Petrov, MD - PhD student at the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna.

Basis for drawing up the opinion: According to the order of the Rector of the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna No. P-109-165/09.05.24, protocol of the Faculty Council of the Faculty of Public Health at the MU - Varna, according to Protocol No. 224/07.05.2024, I have been designated as a member of the scientific jury and I prepare an opinion on the dissertation thesis of Yasen Todorov Petrov, MD - PhD student.

Admission: Full-time PhD Student

Topic: „A COMPARATIVE STUDY OF THE EFFECTS OF DEEP OSCILLATION (DEEP OSCILLATION) AND PHYSICAL THERAPY MODALITIES IN PATIENTS WITH CERVICAL SPONDYLOSIS”

Thesis supervisor: Assoc. Prof. Mariyana Mihaylova Krasteva-Ruseva, MD, PhD

This statement has been developed and presented in accordance with the requirements of the Law on the Academic Staff Development in Republic of Bulgaria (LASDRB), the LASDRB Implementating Regulations and the Regulations for the Development of the Academic Staff at the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna. The PhD student presented:

Biographical data and professional qualifications

Yasen Todorov Petrov, MD was born in 1994 in the city of Varna. In 2013 completed his secondary education "Dr. Peter Beron" in his hometown. In 2019, he graduated as a "master" in the specialty "Medicine" at the Medical University - Varna.

In his postgraduate education, Petrov took part in a number of qualifying thematic courses such as: Deep Oscillation, Orthopedic Medicine - Syriax, Pedagogical Competence, Innovative Educational Technologies, Research Methodology, Research Ethics and others.

In 2019, Dr. Petrov started working at CSMP - an emergency medical care center in the city of Varna. At the same time, he also worked as a doctor at the Medical Center for

Rehabilitation and Sports Medicine - Varna. Since 2020, he has been employed as a specialist student in "Physical and Rehabilitation Medicine" at Medical University - Varna and as an assistant professor at the Department of Physiotherapy, Rehabilitation and Sea Therapy at Medical University - Varna and at the Department of Rehabilitation at the clinic of Physical and rehabilitation medicine of UMBAL "St. Marina" EAD - Varna.

His main professional and scientific interests are in the field of treatment for degenerative joint diseases and sports injuries.

The PhD student is proficient in English.

He is a member of the Bulgarian Medical Association, the Association for Physical and Rehabilitation Medicine.

Relevance of PhD thesis

In recent years, an increase in the proportion of degenerative diseases in the cervical spine has been reported. This type of pathology, in particular cervical osteochondrosis, is the most common cause of pain in the neck. These changes and accompanying symptoms increasingly affect working people, and along with this, the age at which the disease debuts is constantly decreasing.

The disease negatively affects the psycho-emotional state and quality of life of the affected persons, leads to disability and represents a source of costs for the individual, the business and the health insurance systems.

The factors that are a prerequisite for the development of the pathological process can be found in the modern lifestyle associated with the increased load on the neck. These are the growing number of professions associated with a static posture of the body and the lack of sufficient motor activity. Another important factor is the increasing use of mobile devices and computers.

The implementation of prophylaxis and therapeutic measures applied at the right time are essential to delay and reduce the progression of degenerative changes and prevent disability.

Literature review

Dr. Yassen Todorov Petrov has presented a detailed literature review and has shown a good awareness of the applied therapeutic approaches and the characteristics of cervical spondylosis. Various physical factors routinely applied in practice for the treatment of the disease are presented together with their characteristics. The intimate mechanisms of the degenerative process and its development over time are described. Information on the researched therapeutic approach, action and effects of the Deep Oscillation procedure are comprehensively reviewed.

Aim, tasks and hypotheses

In the dissertation, eleven parameters were evaluated and compared over time for each patient in the three treatment groups. Eight specific tasks were set and three hypotheses were formed. The tasks and hypotheses are logically formulated, according to the preliminary studies and are subordinate to the set goal.

Materials and method

For the purposes of the study, 121 patients who met the defined criteria were included. An

assessment was made of: static and dynamic pain, assessed by the visual-analogue scale, muscle tone by using a specially developed three-point scale, range of motion in the cervical spine by goniometry, Zung's test for the objectification of the psycho-emotional state, quality of life using the modified Neck Disability Index questionnaire.

The evaluation methods used are specifically aimed at the complaints of patients with cervical spondylosis.

The evaluation scales used in the dissertation work have a great practical value for determining the condition of the examined persons. They are easy to fill in, process and analyze the results.

The statistical methods chosen by the PhD student provide a complete and reliable assessment of the data, in accordance with the purpose of the presented study

Results and discussion

The results correspond to the tasks set. They are clearly presented, illustrated with figures and tables.

From the analysis of the socio-demographic characteristics of the studied persons, it can be seen that there is no difference between the three groups, which leads to their homogeneity in relation to each other. No statistically significant differences were found between the studied indicators used to objectify the applied treatment in the initial state - before the start of the therapy.

The conclusions of the dissertation work are specific and there are nine in total.

The abstract is structured in accordance with the requirements, its content corresponds to the dissertation work, 62 figures and 46 tables are presented to illustrate the results obtained from the scientific research.

The articles published in connection with the dissertation work meet the quantitative criteria indicated by the LASDRB and the internal regulations of the MU-Varna for the publication activity of the doctoral student. The scientific study was approved by the Committee on Ethics of Scientific Research at the Medical University - Varna.

Contributions and relevance of research to practice

The contributions are formulated and distributed in two groups:

1. Theoretical-methodological contributions

- For the first time in Bulgaria, a targeted comparative study of the effect of the combined application of a low-frequency variable electrostatic field /Deep Oscillation/ and physical factors from routine practice in cervical osteochondrosis is being conducted.
- The therapeutic effectiveness of the combined application of Deep Oscillation, TENS and kinesitherapy in patients with cervical spondylosis has been proven.
- The Neck Disability Index is applied - a standardized tool for evaluating and monitoring the function of patients with cervical spondylosis.
- Zung's test was applied to evaluate the psycho-emotional state and the effectiveness of the treatment of patients with cervical spondylosis.

2. Practical-applied contributions

- A complex physiotherapy program has been developed, including the Deep Oscillation method with proven effectiveness in the treatment of cervical spondylosis.
- The therapeutic effectiveness of combined therapy including TENS, ultrasound and kinesitherapy has been confirmed.

Notes and recommendations

I have no notes and recommendations.

Conclusion:

The dissertation thesis presented to me for statement by Yasen Todorov Petrov MD "A comparative study of the effects of deep oscillation (deep oscillation) and physical therapy modalities in patients with cervical spondylosis" is a study on a current topic, with a good theoretical basis. The results that have been obtained fulfill the exact tasks set, therefore I accept that the aim of the dissertation work has been achieved. The paper contains original contributions of considerable value and I consider that it meets all the statutory requirements for the award of the educational and scientific degree of PhD.

Due to the above, I give a positive assessment and suggest to the respected members of the Scientific Jury to vote positively for the awarding of the educational and scientific degree PhD to Yasen Todorov Petrov MD in the scientific specialty "Physiotherapy, Resort therapy and Rehabilitation".

17.06.2024

Заличено на основание чл. 5,
§1, б. „В“ от Регламент (ЕС)
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Assoc. Professor Dr. Irena Yordanova Stoilova, MD, PhD