

OPINION

By Assoc. Prof. Dr. Evgenia Petrova Dimova, MD
Department of Physiotherapy, Rehabilitation and Thalassotherapy
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regarding

dissertation work for the acquisition of the educational and scientific degree
"Doctor" in area 7. Health care and sports, professional direction 7.1. Medicine,
in the scientific speciality "Physiotherapy, Resort Therapy and Rehabilitation"
prepared by

Dr. Detelina Damyanova Nedyalkova-Petkova

PhD student at the Faculty of Public Health
Medical University "Prof. Dr. Paraskev Stoyanov," Varna

Dissertation topic:

"Therapeutic Effectiveness of Physical Factors in Early Rehabilitation in Patients with Distortion of the Talocrural Joint"

Grounds for preparing the opinion: By order of the Rector of MU-Varna №R-109-151/29.04.2024, I was appointed to participate with an opinion on the defence of Dr. Detelina Nedyalkova.

1. Relevance of the problem

An ankle sprain is one of the most frequent musculoskeletal ailments, particularly among athletes and physically active people. This injury causes substantial discomfort, limited mobility, and temporarily diminished functionality. Early and effective rehabilitation is essential to shorten recovery times and prevent chronic problems. It is one of the most prevalent injuries, accounting for roughly 20–30% of all sports-related injuries. Every year, millions of people around the world sustain this type of damage, which has serious social and economic consequences. Inappropriate or insufficient treatment might result in persistent ankle instability, post-traumatic osteoarthritis, and repetitive strain injuries. This emphasises the need for effective early rehabilitation treatments. Physical therapy is essential in the treatment of this sort of injury. The utilisation of physical factors can considerably improve rehabilitation results. These techniques aid in pain relief, inflammation reduction, improved blood circulation, and faster recovery times. Numerous studies have demonstrated the efficacy of various physical approaches in treating talocrural joint sprains. However, further study is required to optimise treatment procedures, identify best practices, and assure the best possible recovery for patients.

2. Formulation of the goal and tasks:

The dissertation's goal is to conduct a comparative assessment of the influence of an electrostatic field utilizing the deep oscillation method, the "PRICE" protocol, and their combined use in the early rehabilitation of patients with talocrural joint distortion.

There are six tasks, which are clearly and accurately written and serve the objective of the study.

3. Dissertation structure:

The dissertation is 146 typewritten pages long, with 20 tables and 33 figures. It covers the following sections: purpose, objectives, hypotheses, material and methods, results and discussion, conclusions, contributions, and bibliography.

4. Literary awareness of the doctoral student:

The literature study for the dissertation paper is 44 pages long and demonstrates knowledge of the themes explored. The overview finishes with logical, properly stated conclusions. The bibliography includes 279 titles, consisting of 7 in Cyrillic and 272 in Latin.

5. Methodology and design of scientific research:

The study is randomised and parallel. For its purposes, 120 individuals aged 18 to 50 with clinical indications of ankle joint distortion, selected according to particular criteria, underwent evaluation.

All ethical standards and rules governing medical research on humans were followed.

Dr. Detelina Nedyalkova has chosen the appropriate modern statistical, descriptive, and visual approaches, which allow her to obtain precise answers to the dissertation's goals and tasks and draw proper conclusions. The study's data were organised using Microsoft Office Excel 2021 and the software program SPSS Statistics for Windows v. 26.0.

6. Consistency among the objectives, findings, and conclusions:

The author's results and discussion are presented in 41 pages of well-illustrated tables and figures, which, along with statistical analysis, track the progress of the tasks set. The analysis of the results reveals the doctorate student's ability to evaluate and analyse information and data. The dissertation concludes with seven clearly and concretely stated outcomes that logically result from the tasks presented. The findings obtained accurately represent the analysis of the results and correspond to the set goal.

7. Contributions of the dissertation work:

Three theoretical-methodological and four practical-applied contributions of the dissertation are indicated, which are objective and stem from the obtained results.

For the first time in Bulgaria, a randomised parallel study on the effect of the deep oscillation method on talocrural joint distortion was conducted. The study demonstrated the short- and long-term therapeutic effectiveness of deep oscillation complex therapy in treating talocrural joint distortion.

Deep oscillation therapy and the "PRICE" regimen have been proven to be more effective when combined.

A novel noninvasive therapy approach is suggested for treating the primary symptoms in patients with talocrural joint deformity. The objective is to achieve a lasting impact on the condition while reducing the chance of chronicity and the necessity for surgical treatment.

A therapeutic protocol was developed to administer treatment to patients with ankle joint deformity utilizing the deep oscillation approach, which involves the application of a low-frequency variable electrostatic field.

8. Abstract:

The abstract, covering 66 pages, provides a concise summary of the content, findings, and contributions.

9. Publications and participation in scientific events related to the dissertation:

As part of the dissertation, three non-refereed full-text publications and two participations with reports in scientific forums have been presented, fulfilling the required quantitative criteria.

10. Critical notes and recommendations:

I have no criticisms or recommendations to offer. Suggestion: It is advisable to publicly release all dissertation findings. The doctorate student's scientific engagement could be enhanced through participation in regional, national, and international scientific conferences with reports, posters, or scientific announcements.

11. Personal impressions of the candidate:

Dr. Detelina Nedyalkova is a dynamic and inspiring person, a competent medical doctor and a specialist in physical and rehabilitation medicine. In her quest to develop and upgrade her knowledge, she actively seeks up-to-date scientific information and regularly attends medical seminars and refresher courses to keep up with the latest trends in the field of physiotherapy and rehabilitation. With his high level of energy, he is often the initiator of new projects and concepts in the work process. Her creativity and impulsiveness make her a valuable member of the team.

12. Conclusion:

Dr. Detelina Damyanova Nedyalkova-Petkova's dissertation on the topic *"Therapeutic Effectiveness of Physical Factors in Early Rehabilitation in Patients with Distortion of the Talocrural Joint"* has clearly defined goals and objectives, accurate and well-supported conclusions, and innovative theoretical-methodological and practical-applied contributions. The work provided is methodologically rigorous and showcases the PhD student's proficiency in gathering and evaluating scientific data.

The provided materials comply with the requirements of the Law for the Development of the Academic Staff of the Republic of Bulgaria, the Regulations,

and the order for acquiring scientific degrees and holding academic positions in the MU—Varna.

After reviewing the information provided, I confidently endorse and recommend to the esteemed scientific jury that Dr. Detelina Damyanova Nedyalkova-Petkova be awarded the educational and scientific degree of "Doctor" for her dissertation titled *"Therapeutic Effectiveness of Physical Factors in Early Rehabilitation in Patients with Distortion of the Talocrural Joint."*

17.05.24
Varna

Assoc. Prof. Dr. Evgenia Vladeva, MD, Ph.D.

Заличено на основание чл. 5, §1, б. „В“ от Регламент (ЕС) 2016/679
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