

OPINION

By Assoc. Prof. Dr. Evgenia Petrova Dimova, MD
Department of Physiotherapy, Rehabilitation and Thalassotherapy
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Medical University "Prof. Dr Paraskev Stoyanov" – Varna
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 "Occupational diseases",

prepared by

Dr. Alexandra Krasimirova Yankova,

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

Dissertation topic:

“Sleep Disorders in Shift Work”

The basis for drawing up the opinion: By order of the Rector of MU-Varna N P- N P-109-301/07.06.23 I am determined to participate with an opinion on the defence of Dr Yankova.

1. Significance of the problem and formulation of the goal and tasks:

The scientific work examines the so-called shift work disorder (SWD) - a condition that is caused by a disturbance in the circadian rhythm and leads to insomnia and/or excessive sleepiness. These sleep disorders lead to significant health problems, impaired quality of life and make it difficult to exercise the profession.

Shift work is associated with an increased risk of developing malignant diseases, cardiovascular and gastrointestinal issues, metabolic disorders, obesity, melancholy, and other socially significant diseases. Due to decreased attention and delayed reactivity, the majority of night shift employees are less productive and have a higher risk of occupational accidents.

According to literature data, the increased risk of developing various socially significant diseases in conditions of a shifting regime is associated with more frequent hospitalizations, requiring many expensive, highly specialized examinations, costly medications and a high risk of disability.

The aim of the dissertation work is clearly formulated and concerns the study of sleep quality and disorders, as well as their impact on the health status of individuals working shift work.

The tasks are 5 in number, formulated clearly and correctly and correspond to the purpose of the study.

There is relevance of the problem developed in the dissertation in scientific and scientific-applied terms.

2. Structure of the dissertation:

The dissertation has a classical structure, presented in 114 standard pages in eleven sections with an adequate ratio. The structure is according to the requirements specified in the Regulations for the Development of the Academic Staff of MU-Varna. Illustrated with 46 figures, 13 tables and 4 appendices.

The presented bibliography consists of 198 sources, of which 4 are in Cyrillic and 194 are in Latin. About 50% of the citations are from the last ten years, 25% of which are from the last five years.

Literary awareness of the doctoral student:

The literature review of the dissertation is set out on 32 pages, extensive, and thorough, showing knowledge of the issues discussed in the dissertation. Various sleep disorders, their characteristics and etiology and their relationship with shift work are presented. The socially significant diseases in the shift work regime, which increase the risk of developing sleep disorders, are described. The various possibilities for diagnosis and follow-up of sleep disorders are comprehensively described.

3. Methodology and design of the scientific research:

The study is prospective, randomized and parallel. For the set tasks, a total of 100 workers were studied, divided into two groups. The first group consists of 50 shift workers. The second group includes 50 workers with regular working hours (from 09:00 to 17:00) - controls.

The software programs SPSS, version 29 and GraphPad Prism, version 9.51 were used for the statistical processing of the data obtained from the dissertation work.

The doctoral student has chosen appropriate modern methods, enabling the achievement of the set goal and obtaining an adequate answer to the tasks set in the dissertation work.

4. Consistency between the objective, results, and conclusions:

Personal results and analysis are presented in forty pages. The dissertation includes 46 figures, 13 tables, and 4 appendices, which, along with the statistical analyses, follow the sequence of the assigned tasks. The analysis of the results demonstrates the doctoral candidate's information evaluation and data analysis skills. The dissertation concludes with five plain and concrete conclusions that reflect the analysis of the results and respond to the intended purpose.

The specified contributions of the dissertation work are objective and derive from the obtained results. For the first time in Bulgaria, the quality of sleep and the presence of sleep disorders in workers with a shift work regime, as well as the influence of the shift work regime on the health status of workers and accompanying diseases, have been studied. The reduced quality of sleep in workers with a changed work schedule is confirmed. Reduced sleep quality in

shift workers, poor health status in shift workers and an increase in sleep disorders with advancing age in shift workers are confirmed.

Abstract:

The abstract is written on 125 pages (together with the appendices), it is sufficient in volume and summarizes in a synthesized way what is presented in the dissertation work, as well as the achieved results.

5. Critical notes and recommendations:

I have no critical remarks. Recommendations – to maintain a good publication activity, and to publish all results related to the dissertation work.

6. Publications and participation in scientific events on the dissertation work:

Three non-refereed full-text publications and four participations in scientific forums are presented in conjunction with the dissertation. The published articles associated with the dissertation satisfy the quantitative requirements specified by the Law on the Development of Academic Staff and the internal regulations of MU-Varna for the doctoral student's publication activity. The MU-Varna Research Ethics Committee approved the scientific study.

7. Conclusion:

The presented dissertation work of Dr **Alexandra Krasimirova Yankova**, on the topic “**Sleep Disorders in Shift Work**” is a complex study with clearly formulated goals, tasks, correct and well-founded conclusions and original contributions. Demonstrates the doctoral student's abilities to collect and analyze scientific information.

The presented materials comply with the requirements of the Law for the Development of the Academic Staff of the Republic of Bulgaria and the Regulations and the order for acquiring scientific degrees and holding academic positions in the MU–Varna.

Based on the above, I recommend to the members of the highly respected scientific jury to award the educational and scientific degree "Doctor" to Dr Alexandra Krasimirova Yankova for the dissertation "Sleep Disorders in Shift Work”

01.07.23
Varna

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

