

OPINION

By Assoc. Prof. Dr. Irena Yordanova Stoilova, Md, PhD

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Faculty of Public Health

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Regarding: Dissertation work for obtaining the educational and scientific degree "Doctor" in the field of higher education 7. "Health and sport", professional direction 7.1. "Medicine", scientific specialty "Occupational diseases", prepared by Dr. Alexandra Krasimirova Yankova-Aleksieva - PhD student at the "Occupational Diseases" Department, "Department of Optometry and Occupational Diseases", Faculty of Public Health, 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. R-109-301/07.06.2023, protocol of the Faculty Council of the Faculty of Public Health at the MU - Varna No. 104-576/ 01.06.2023 I have been appointed as a member of the Scientific Jury and prepare an opinion on the dissertation work of Dr. Alexandra Krasimirova Yankova-Aleksieva - PhD student.

Form of doctoral studies: full-time

Topic: "Sleep disorders during shift work"

Scientific supervisor: Prof. Dr. Veselinka Dimitrova Nestorova

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

Brief biographical data and professional qualifications

Dr. Alexandra Krasimirova Yankova-Alexieva was born on August 25, 1991 in the city of Ruse.

In 2010, she completed his secondary education at the "St. Constantine-Kyryl the Philosopher" in his hometown. She continued his education in the medical specialty of the Medical University - Varna and graduated with honors in 2016. In 2022, she acquired the specialty "Nervous Diseases". Dr. Yankova was appointed in October 2016 as a resident doctor in the Second Neurological Clinic of the "Sveta Marina" UMBAL EAD - Varna. Since 2018, she has been a doctor specializing in Nervous Diseases. Since 2018, she has been a full-time assistant at the Department of Occupational Diseases, and since 2019, she has been a full-time doctoral student at the educational sector.

Dr. Alexandra Yankova is fluent in written and spoken English and Russian.

Dr. Yankova has interests in the field of sleep disorders, cerebrovascular diseases, electromyography and neurological complications of occupational diseases.

She is a member of the Bulgarian Medical Union, the Bulgarian Society of Neurology and the European Stroke Organization.

Structure of the dissertation

The dissertation work of Dr. Alexandra Krasimirova Yankova-Aleksieva is 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 the MU - Varna. The dissertation is illustrated with 46 figures, 13 tables and 4 appendices.

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

The dissertation work has been approved and directed for defense by the departmental council of the "Department of Optometry and Occupational Diseases" at the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna.

Actuality of the dissertation

In today's industrialized world, 24-hour service has become necessary for public safety, health care, and a number of other services. As a result, one in five workers work shifts outside of the typical 9:00 a.m. to 5:00 p.m. According to the International Classification of Sleep Disorders, 2-5% of workers suffer from Shift Work Sleep Disorder.

Shift Work Sleep Disorder is a chronic sleep disorder that develops in workers with a shift work regime and leads to insomnia and/or excessive sleepiness, persisting even on non-working days. According to literature data from the last 10 years, workers with a changed work regime have an increased risk of developing various socially significant diseases. Therefore, they have more frequent hospitalizations, require many expensive and highly specialized tests, expensive medications and have a greater risk of disability.

Shift work makes the social life of workers difficult due to atypical working hours and can lead to social isolation. This significantly reduces the employee's quality of life.

Literature review

Dr. Alexandra Krasimirova Yankova-Aleksieva presented a detailed literature review and showed a good awareness of sleep disorders during shift work. 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.

Purpose, tasks and hypotheses

The dissertation compares the quality and indicators of sleep in two studied groups. Five specific tasks were set and five hypotheses were formed. The tasks and hypotheses are logically formulated, according to the preliminary studies and subordinate to the set goal.

Materials and methods

For the purposes of the study, 100 workers who meet the precisely defined criteria were examined. The Pittsburg Sleep Quality Index, Insomnia Severity Index, and Epworth Sleepiness Scale were used to assess sleep quality, respectively.

For an objective assessment of sleep indicators, a polysomnographic study was conducted, through which the duration, latency and efficiency of sleep, number of awakenings, Apnea-Hypopnea Index and number of periodic movements of the lower limbs were determined.

The assessment methods used are specifically aimed at sleep disorders.

The evaluation scales used have high reliability in diagnosing insomnia and excessive sleepiness. They are easy to fill out and process and analyze the results.

The selected statistical methods 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 presented clearly, 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 two groups, which leads to their homogeneity in relation to each other. Statistically significant differences were found in the quality of sleep and its various indicators in the two studied groups, and in workers with a shift work schedule, a significantly reduced quality of sleep and worsened sleep indicators were observed.

The dissertation concludes with five specific conclusions.

The abstract is structured in accordance with the requirements, its content corresponds to the dissertation work, 46 figures and 13 tables are presented to illustrate the results obtained from the scientific research.

The published articles in connection with the dissertation work meet the quantitative criteria specified by the ZRASRB and the internal rules 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 MU-Varna.

Contributions and relevance of the development to practice

Contributions are logically formulated in two groups: original and confirmatory.

1) Contributions of an original nature:

- For the first time in Bulgaria, the quality of sleep and the presence of sleep disorders in workers with a changed work schedule was studied

- For the first time in Bulgaria, the influence of the shift work regime on the health status of workers and accompanying diseases has been studied

- For the first time in Bulgaria, the influence of professional factors with a changed work schedule on the quality of sleep has been studied.

2) Contributions of a confirmatory nature:

- The reduced quality of sleep in workers with a changed work schedule is confirmed

It has been confirmed that with advancing age there is an increase in sleep disorders in shift workers.

- The deteriorated state of health of workers with a changed work regime is confirmed.

Critical notes and recommendations

I have no critical notes.

Conclusion:

The dissertation work presented to me for opinion by Dr. Alexandra Krasimirova Yankova-Aleksieva "Sleep disorders during a shift work regime" is a study on a current topic, with a good theoretical basis. The obtained results fulfill the set specific tasks, therefore I assume that the aim of the dissertation work has been achieved. The paper contains original and corroborating contributions and I believe it meets all the statutory requirements for the award of the educational and scientific degree "Doctor".

Due to the above, I give a positive assessment and propose to the respected members of the Scientific Jury to vote positively for the awarding of the educational and scientific degree

"Doctor" to Dr. Alexandra Krasimirova Yankova-Aleksieva in the scientific specialty "Occupational diseases", code 03.01.55.

Pleven, 01 July 2023


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Assoc. Prof. Dr. Irena Stoilova, MD, PhD