

*To the Chairman of the
Academic Jury,
determined by Order No. R-109-35/07.02.2024
of the Rector of the MU – Varna*

OPINION

by Prof. Zornitsa Zlatarova, MD, PhD, DSc,

Head of the Department of Optometry and Occupational Diseases

Medical University Varna

REGARDING: Defense of the dissertation work of Dr. Dimitrinka Rosenova Dimitrova, for awarding the educational and scientific degree "Doctor" on the topic "Occupational risk factors in the epidemiology of stroke" with supervisor Prof. Veselinka Dimitrova Nestorova, MD, PhD.

Dr. Dimitrinka Rosenova Dimitrova has gone through all the procedures provided for in the Regulations for the Development of the Academic Staff of the Medical University - Varna. The presented set of documents is in accordance with the Regulations for the acquisition of the educational and scientific degree "Doctor" in the MU - Varna.

Brief biographical data and career development

Dr. Dimitrinka Rosenova Dimitrova was born in 1989 in General Toshevo. She completed her secondary education in 2008. In 2015, he graduated from the Medical University of Varna as a "Master" in the specialty "Medicine".

Dr. Dimitrova's professional career began in November 2015 as a resident physician at the Emergency Department of the "St. Anna" Hospital- Varna, where she worked until July 2016. In August 2016, she was appointed as a specialist doctor in the Second Neurological Clinic of UMBAL "St. Marina" Hospital - Varna. Her academic career began in 2020, when after winning a competition, she became a full-time doctoral student in the doctoral program "Occupational Diseases" at the Department of Occupational Diseases, Medical University-Varna.

Dr. Dimitrova has participated in qualifying thematic courses for postgraduate studies: Pedagogical competence; Legal framework regulating the education of doctoral students; Research methodology; Research ethics; Statistical methods for data processing and presentation; Communication techniques and presentation skills, etc.

She is a member of the Bulgarian Medical Union and the Bulgarian Society of Neurology.

Evaluation of the relevance of the dissertation work

Cerebrovascular diseases occupy a major place among the socially significant diseases of our time. They are among the leading causes of disability and mortality, and their incidence is constantly increasing worldwide. It is not by chance that the World Stroke Organisation defines

stroke as "the epidemic of the 21st century". This makes studies on the role of not only generally accepted and proven vascular risk factors, but also on the influence of occupational hazards and factors of the working environment and the work process innovative, extremely important and necessary for the successful prevention, early diagnosis and adequate control of acute cerebrovascular disorders. That is why Dr. Dimitrova's dissertation, which examines these problems in detail, is particularly relevant, not only in a scientific-theoretical, but also in a scientific-applied sense.

Structure of the dissertation

The presented dissertation work is structured according to the established requirements. It is developed in a volume of 87 pages, contains 17 figures, 17 tables and 3 appendices, including: introduction, literature review, aim and objectives, working hypotheses, material and methods, own results, discussion, conclusion, conclusions, contributions, literature and 3 applications.

The bibliography covers 156 sources of total, 2 of which in Cyrillic and 154 in Latin script, quite up-to-date considering that about 80% of the cited sources are from the last decade.

Literature review

The literature review is comprehensive and includes contemporary sources on the topic, showing knowledge of the essence of the problem by the doctoral student. The presentation is characterized by logical consistency, thoroughness and sufficient concreteness in presenting the published foreign and Bulgarian experience on the subject. Dr. Dimitrova has managed to synthesize and summarize the vast information, skilfully analyse the available specialized literary sources and present the controversial and poorly clarified issues, thus motivating the need for the research she is conducting.

The aim of the dissertation work is clearly formulated: "To study the role of occupational risk factors in the epidemiology of strokes, in patients of working age".

To achieve this goal, the dissertation student has set himself seven specific tasks.

Three working hypotheses are logically derived.

Material and methods

The object of the study is a total of 351 patients of working age, hospitalised in the Second Neurological Clinic of the University Hospital "St. Marina" - Varna, in the period of November 2021. – January 2023. Based on a questionnaire filled out by the patients, anamnesis taken, physical and neurological status assessed, the following risk factors were analysed in all patients: non-modifiable - age and gender; modifiable - hypertensive disease, diabetes mellitus, rhythm-conduction disorders, chronic heart failure, ischemic heart disease, other heart diseases, dyslipidemia; behavioral - smoking and alcohol use; professional - total length of service, position, weight, stress, work posture, work movements, work and rest regime, microclimate, mechanical fluctuations (vibrations, noise), dust, chemical hazards, stress. Laboratory tests and CT and/or MRI were performed. The Glasgow-Liege Coma Scale (GLCS) was used to assess

the level of consciousness, and the National Institute of Health Stroke Scale (NIHSS) was used to assess the severity of the stroke.

Statistical processing of the data was performed using a specialized software product SPSS v. 26.0. **Descriptive and analytical methods were used to evaluate the results.**

Results

The obtained results are in accordance with the set tasks, they are well presented, being systematized and appropriately illustrated with tables, figures and appendices.

The main results related to the occupational risk factors are the following: a correlation dependence is reported between the long total working experience (30> years) ($p=0.02$), working "mostly physical work" ($p=0.011$), working "indoors" , the dynamic work posture ($p=0.017$) and uniform movements (0.008) and the diagnosis of stroke; no statistically significant correlation was found between the length of the working day ($p=0.84$), the level of stress (0.292), the mode of work ($p=0.912$) and the frequency of stroke among patients; the relative share of stroke patients exposed to physical hazards is significantly higher, without finding a statistically significant correlation between occupational hazards and stroke diagnosis ($p=0.807$).

Discussion

In the discussion chapter, Dr. Dimitrova compares her results with those published by other authors in similar studies. The similarities and differences in the given data are examined, and the possible reasons for the existing discrepancies are discussed. Critical analysis of the scientific information on the problem in the context of the author's own results shows his deep knowledge of the subject.

Six clearly formulated conclusions were made, which accurately reflect the results of the conducted research and fully meet the set goals and objectives.

As the main contributions of the dissertation work, I can point out the following:

1. For the first time in our country, an in-depth study was conducted on the influence of occupational factors on stroke in patients of working age;
2. The relationship between levels of occupational stress and acute disorders of cerebral blood circulation was thoroughly analysed;
3. A comparative analysis of the degree of recovery of the functional deficiency from the stroke during hospitalization and dehospitalisation in patients of working age was carried out.


The abstract is written on 79 pages and repeats in an abbreviated version the structure and content of the dissertation. It is illustrated with 17 tables, 17 figures and 3 appendices.

Publications on the subject of the dissertation

Dr. Dimitrinka Dimitrova is the author of 3 full-text scientific publications in Bulgarian and foreign periodicals related to her dissertation work. Also attached are 6 dissertation-related participations in national and international scientific forums.

In conclusion, the presented dissertation is a completed and well-structured scientific work, fully meeting the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for its implementation and the relevant Regulations of the Medical University of Varna. It is the first in-depth study of its kind in our country on the problem of the relationship between stroke and occupational hazards and factors, it was developed thoroughly and comprehensively, it presents scientific and scientific-applied results and conclusions with an original contribution to science. The dissertation shows that the doctoral student has in-depth theoretical knowledge and professional qualities and skills for independent conduct of scientific research.

All of that leads me to the conclusion to provide my positive assessment and to propose to the honourable Academic Jury to vote in favour for awarding Dr. Dimitrinka Rosenova Dimitrova the educational and scientific degree "Doctor" in the scientific specialty "Occupational diseases".



Заличено на основание чл. 5, §1, б. „В“ от Регламент (ЕС) 2016/679
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01.03.2024

Varna

Prof. Zornitsa Zlatarova, MD, PhD, DSc

