



REVIEW

By Prof. Tsveta Georgieva, PhD,

National Center for Public Health and Analysis

Member of a scientific jury according to Order No. 20/15.01.2024 of the Director of NCPHA

Regarding dissertation on :"**STRESS AND WORKABILITY IN HEALTHCARE SPECIALISTS IN THE HOSPITAL CARE**,with author Assistant Ralitsa Stoyanova, "Occupational Health" Department, "Environment and Health Risk" Directorate and scientific supervisor:Prof. Katja Vangelova, dbfor awarding the educational and scientific degree "doctor" in the field of higher education: 7. "Health care and sports"; professional direction: 7.1. "Medicine"; doctoral program: "Hygiene"

The review was prepared on the basis of the submitted dissertation, abstract and set of documents provided by the candidate under the procedure. The dissertation and the abstract fully correspond to the required structure of a scientific work, according to the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations to it and the Regulations for the Development of the Academic Staff in the National Academy of Sciences.

As. Ralitsa Ivaylova Stoyanova is enrolled as a doctoral student of independent training in the field of higher education 7. "Health and sport", professional direction 7.1. Medicine, scientific specialty Hygiene by order of the director of the National Institute of Health and Welfare No. RD-71/14.02.2023. She was dismissed with the right of defense by order No. RD-17/12.02.2024.

Ralitsa Stoyanova has been working in the "Occupational Health" department, "Environment and Health Risk" Directorate since 2013 as an expert, and since 2016 as an assistant. Participates in studies related to safety and health at work; assessment of occupational risk factors for different occupational groups; hormone screening; assessment of working capacity, etc. With Stoyanova, he graduated in 2008 as a bachelor in molecular biology at the Faculty of Biology of

Sofia University, and in 2009 as a master in environmental protection. From then until now, he has been going through various trainings and continuing education seminars in order to improve his qualifications.

The topic of my dissertation thesis submitted for review, "Stress and work capacity in health care specialists in hospital care" is of particular importance and significance against the background of the challenges we face on a daily basis. Chronic stress and shift work in healthcare professionals not only adversely affects their health by increasing the risk of various diseases, such as cardiovascular, metabolic, endocrine and mental diseases, but also increases the risk of early retirement and puts patients at risk. Factors such as age, work experience, psychosomatic complaints and others can also have an influence on the emotional and physical state of healthcare professionals. On the other hand, we are increasingly seeing health care professionals who work in multiple locations or are over retirement age, which in itself increases the risk to both workers and patients.

This calls for a more in-depth analysis of the current state of the problem.

The dissertation is presented on 141 standard pages and illustrated with 30 figures and 31 tables. The literature review contains 32 pages with a conclusion. Contains hypothesis, objective, tasks, materials and methods, results, discussion, conclusions, contributions. The bibliography includes 172 literary sources, of which 14 are in Cyrillic.

The goalThe purpose of the development is to assess the stress and work capacity and the occupational risk factors that determine them among health care specialists in the hospital care of the city of Sofia. The goal fits the hypothesis.

To fulfill the set goal, 5 tasks have been set

Object1811 health care specialists from 19 hospitals in the city of Sofia participated in the study. Methods applied were appropriate: a questionnaire survey that included information on demographic characteristics as well as a subjective assessment of working conditions, previous and current health professionals' work schedules, such as shift work, night shifts, shift length. Biochemical determination of cortisol in saliva, as a biomarker of stress, was performed. A work capacity index of the Finnish Institute of Occupational Health was calculated. The results were processed with SPSS 23.0 static package.

The design the experimental part of the study is suitable for achieving informativeness of the results. Appropriate statistical methods were used to evaluate the results. The follow-ups for the PhD student were conducted.

The results from own research are presented in 53 pages grouped and illustrated with tables, graphs and figures. The results summarize the data collected by the PhD student on, the age structure and individual characteristics of the health care professionals covered in the study, the subjective assessment of working conditions and the organization of working hours in the main occupational groups of health care professionals, the psychosocial risks and resources of health care professionals, as well as the results of research in relation to assessment of stress through salivary cortisol levels in nurses with different occupational profiles.

The results are discussed in the light of the current scientific literature.

12 conclusions are drawn, which follow the set tasks and reflect the results obtained.

Attached are the questionnaire "Working conditions and health complaints" and the questionnaire "Employability"

Part of the results are presented in 6 publications, two of which are in Imapctin journals, the citations in Scopus are corrected. As. Stoyanova has participated in six scientific forums on the topic of the dissertation work.

A total of eight, the contributions are distributed as follows

CONTRIBUTIONS OF A SCIENTIFIC AND THEORETICAL CHARACTER:

- An assessment of psychosocial risks in the workplace was carried out and the risk factors for increasing emotional and physical exhaustion and psychosomatic complaints in the main groups of health care professionals were outlined.
- For the first time in Bulgaria, the concentration of cortisol in saliva was monitored in nurses from the intensive care unit and wards during the day and night shift, and the data confirm the subjective assessment of high levels of stress.
- For the first time in Bulgaria, an assessment of the working capacity of health care specialists was carried out with the use of a working capacity index.

- Factors determining work ability have been established.

SCIENTIFIC AND APPLIED CONTRIBUTIONS:

- A survey of a representative group of 1,811 healthcare professionals working in 19 hospitals in the city of Sofia was conducted, which ensures the reliability of the results.
- Data on psychosocial risks, emotional and physical exhaustion, as well as their interrelationships in the covered professional groups and types of workplaces are a basis for science-based measures for the prevention of risk related to psychosocial risks, stress and the spread of burnout syndrome.
- The data from the analysis of working capacity enable differentiated measures to improve the organization of work and increase the working capacity for different professional groups of health care specialists and those working in different workplaces.
- Recommendations have been developed to limit the risk to the health of health care professionals in hospital care.

The dissertation ends with recommendations to limit the risk to the health of health care specialists in hospital care and are oriented to the organization of work, optimization of shift work regimes, working conditions, occupational health care and income.

The presented abstract contains 32 pages and has been prepared in accordance with the requirements of the ZRASRB and the regulations for its implementation, as well as the Regulations for the conditions and procedures for acquiring scientific degrees and holding academic positions in NCPHA.

I recommend continuing work on the topic of stress and work capacity in health care professionals in hospital care, by undertaking risk communication activities with stakeholders.

In conclusion, I consider that the development of assistant professor Ralitsa Stoyanova is a completed dissertation work and has a significant contribution. The topic is very current and has a scientific and applied contribution in the field of healthy and safe working conditions of medical specialists. The doctoral student has also presented specific recommendations to limit the risk to the health of health care specialists in hospital care. The dissertation work and the author's reference to it fully meet the requirements of ZRASRB and the rules of its application, as well as

Art. 68, para. 1 and para. 2 of the Regulations on the terms and conditions for acquiring scientific degrees and occupying academic positions in the NCPHA. I give a high rating to the dissertation work, I vote "in favour" and recommend to the esteemed jury to award the ONS "Doctor" to Assistant Professor Ralitsa Ivaylova Stoyanova, in the field of higher education 7. Health care and sports, in professional direction 7.1. Medicine, doctoral program: "Hygiene".

Prepared the review:

Prof. Tsveta Georgieva, PhD, ERT

19.02.2024