

REVIEW

from

Prof. Asena Hristova Serbezova, PhD
lecturer at the Department of Health Policy and Management, Faculty of Public Health,
Medical University-Sofia

for the dissertation work of an independent doctoral student

MARIA MITKOVA IVANOVA, M.Sc.Pharm.

on the topic: "**PROFESSIONAL BURNOUT AND DEVELOPMENT OF THE
PHARMACEUTICAL PROFESSION**"

for awarding the educational and scientific degree "Philosophy Doctor"
in the field of higher education 7. "Health care and sports"
doctoral program: *Social Medicine and Organization of Health Care and Pharmacy*

RESEARCH SUPERVISORS: Prof. Dr. Lora Hristova Georgieva, PhD
Assoc. Prof. Anna Hristova Todorova, PhD

1. General presentation of the procedure and the PhD student

The presented thesis of Maria Mitkova Ivanova, doctoral student of independent training at the Department of Social Medicine and Organization of Health Care, Faculty of Public Health, Medical University-Varna presents an analysis of the modern scope of activity of the pharmaceutical profession, the related professional stress (burnout) and the factors that affect it.

In connection with the procedure, I was provided with a set of materials on paper and electronic media in accordance with Article 69 of the Regulations for the Development of the Academic Staff of MU-Varna and includes the required documents.

The set of documents meets the requirements, I got acquainted in detail with the procedure for development, presentation and development of training in the doctoral program and I believe that they fully meet the requirements of the regulatory framework.

2. Brief biographical information about the PhD student

Maria Mitkova Ivanova graduated as an assistant pharmacist in 1997, and later in 2018 as a master pharmacist from the Faculty of Pharmacy of MU-Varna. In 2004, Maria obtained a bachelor's degree in psychology, and a year later she upgraded it with a master's degree in applied psychology. From 2019 to the present, Maria Ivanova is an assistant professor at the Medical University of Varna in the department "Organization and Economics of Pharmacy" at the Faculty of Pharmacy - Medical University of Varna. She has professional experience as a cognitive-behavioral consultant. She speaks English.

3. Relevance of the topic and appropriateness of the set goals and tasks

The subject of burnout syndrome in medical professions is current and significant, given the role of pharmacists in the healing process. In connection with the need for more in-depth follow-up of this syndrome, as well as its adverse effects on the health and well-being of the population, the World Health Organization declared it an occupational phenomenon in the 11th revision of the International Classification of Diseases (ICD-11) in 2019.

Burnout affects the health care system by reducing work capacity, increasing absenteeism, negatively affecting patient health outcomes by lowering the quality of care and services, and predisposing to medical errors. In recent years, large-scale studies have been conducted on the occurrence of burnout among workers in various sectors. In the field of health care, studies on the level of professional burnout among nurses, doctors of various specialties, even among medical students are most prevalent, but there is a lack of in-depth studies among pharmacists and in this sense, the dissertation work of Maria Mitkova Ivanova fills a gap.

The studies in the dissertation work of Maria Mitkova Ivanova are contemporary and relevant, and I definitely believe that they are interesting and useful for the field of pharmacy, social medicine, public health and health economics, as well as the overall development of the pharmaceutical profession. The conclusions, conclusions and recommendations made will be of interest to public health, government institutions and the non-governmental sector.

The content, volume, own research conducted and conclusions drawn are comprehensive and have the necessary balance in terms of individual elements. In the situation of a health crisis, it is especially important that efforts be directed to the prevention of professional burnout and helping medical professionals cope with stress. This will lead both to an increase in health and safety at work, to the prevention of the mental and somatic effects of stress and to an improvement in their quality of life, as well as to an increase in the quality of care and services provided.

4. Knowledge on the matter

The doctoral student shows an excellent level of knowledge and mastery of the studied subject. The acquired education, professional experience (as a pharmacist and psychologist), academic career and skills in the field of pharmacy and public health allow her to approach the problem of burnout syndrome in pharmacists in an interdisciplinary, scientifically in-depth and at the same time practically oriented way.

5. Research methodology

I believe that the methodological apparatus used is sufficiently comprehensive and allows the achievement of the set goals and realization of the research tasks. For the achievement of completion of the dissertation work, the goals and tasks have been fulfilled. It is evident that the doctoral student has mastered basic scientific methods and techniques for conducting research.

To fulfill the purpose and tasks of the dissertation, the following methods are applied:

- Documentary method - used to research normative documents and literary sources to trace the development of the pharmaceutical profession and the concept of professional burnout;
- A sociological method for collecting information is a questionnaire, which includes structured, semi-structured and open-ended questions, with options for free answers.

The survey contains information about the demographic characteristics of the respondents (age, gender, work experience, etc.) and the specifics of the work environment (position in the organizational-management structure, type of organization), as well as questions related to the specifics of working in a pharmacy with aim to trace the challenges faced by pharmacists in modern society and questions aimed at differentiating the problems faced by pharmacists in their work in the context of COVID-19.

The following statistical methods were used:

- Descriptive analysis. Quantitative variables are presented as mean value and standard deviation (\pm SD), categorical variables - as number and relative share (N, %);

- Statistical confirmation of the questionnaire was carried out through the reliability coefficient Alpha Cronbach (Cronbach, 1976). By calculating the coefficient, the level of homogeneity of the questionnaire (MBI) as a whole and for each subscale was confirmed;
- Correlation analysis is applied to describe the strength and direction of dependence between variables. Pearson and Spearman correlation coefficient was used for the study;
- Analysis of variance;
- Regression analysis.

The statistical processing of the data was done with the program IBM SPSS, ver. 19. Statistically significant differences were accepted at $p < 0.05$.

The Microsoft Office Excel software package was used to create the graphs.

The scientific study was approved by the Committee on Ethics of Scientific Research at the Medical University-Varna, with protocol No. 101/24.03.2021.

6. Characterization and evaluation of the dissertation work

The presented dissertation is written on 156 pages and is illustrated with 21 figures, 20 tables and 1 appendix, according to the requirements, namely - introduction, literature review, aim and objectives, research hypotheses, methodological part, results and discussion, concluding discussion, conclusions, contributions and references. Individual parts are proportional in volume. There are 216 literary sources used, of which 54 are in Cyrillic and 167 are in Latin.

The aim of the dissertation is to investigate the modern scope of activity of the pharmaceutical profession, the occupational stress associated with it and the factors that influence it. 7 tasks have been formulated in connection with a study of the specifics of the organization of the professional environment and the challenges faced by pharmacists working in pharmacies serving the population; study of the difficulties and challenges in the work of pharmacists in the conditions of the COVID-19 pandemic; study of the level of professional stress among pharmacists practicing in pharmacies serving the population; study of the factors influencing the occurrence of burnout among pharmacists; study of the interrelationships between burnout among pharmacists and the pharmaceutical care provided by them; study of satisfaction with the work environment among the surveyed pharmacists and develop guidelines for identifying the manifestations of occupational stress in pharmacists and recommendations for dealing with them.

I highly value the methodological part of the dissertation work. It is professionally prepared and described at a high scientific level.

In the part with the own studies, the results of the study conducted among 127 master pharmacists, working in pharmacies serving the population, who have a contract with the National Health Service (NHIF), regular members of the Regional Pharmaceutical College-Varna, are described in detail. The doctoral student examined problems related to access to pharmaceutical services and medicinal products, focusing on the population's access to pharmacies in small settlements, round-the-clock pharmacies and the problem of the lack of medicines. When considering the difficulties related to the legislation, the influence of the dynamic changes in the legal framework and the unclear regulatory requirements are mainly considered. The problems in fulfilling prescriptions paid by the NHIF are focused on the administrative burden of processing the prescriptions, the lack of precise instructions and prior information. Other groups considered are technical difficulties; organization of the work environment and the provision of pharmaceutical care. The Maslach Questionnaire for Medical Professionals-MBI-HSS(MP) was used to determine the level of professional burnout. The data of the study show that 95 (75%) of the examined persons have at least one

scale, with a value associated with a high level of burnout, which approaches the obtained results published by other authors. The level of burnout is medium and high in 53% of the examined persons.

The doctoral student found that the lack of opportunity to provide pharmaceutical care is a prerequisite for a high level of professional burnout. Pharmacists feel dissatisfied with their work, emotionally exhausted and distant from their patients because they do not have the opportunity to apply the acquired knowledge and competencies, which also reduces their sense of professional satisfaction from the work performed.

The results also present difficulties in communication between pharmacists and other medical professionals, as well as between pharmacists and patients. The challenges of the infodemic in the context of COVID-19, related to superimposed panic and the need to work with anxious patients, correct wrong treatment regimens and prevention, are also discussed.

Based on the conducted research, the doctoral student has developed a brochure in which the main symptoms related to professional burnout are distinguished. The obtained results outline the most accessible ways of self-help and prevention for pharmacists.

7. Contributions and significance of the development for science and practice

7 conclusions have been formulated, which logically follow the goal and the completed tasks, and concern the challenges in the work of pharmacists in pharmacies serving the population; the frequently changing requirements of the administration under the conditions of COVID-19; the prerequisites for professional burnout among pharmacists; the factors related to the organizational environment that influence burnout to the greatest extent; pharmacists' communication difficulties with other medical professionals as well as with patients and pharmacists' job satisfaction.

The contributions are correctly formulated as scientific-theoretical and applied-practical.

The scientific-theoretical contributions are as follows:

- An in-depth theoretical analysis of the role of the pharmacist in modern society was made and the challenges faced by pharmacists in Bulgaria, fulfilling their official duties, were determined;
- The difficulties in the working environment of pharmacists practicing in pharmacies serving the population during the COVID-19 pandemic were analyzed;
- For the first time, the main individual factors and the factors of the work environment influencing the level of professional burnout among pharmacists were investigated;
- For the first time, the attitudes of pharmacists to work in round-the-clock pharmacies and small settlements, which is important for the population's access to medicines and the discovery of pharmacies in these areas, were investigated.

I also acknowledge the following practical contributions:

- The outlined factors for burnout among pharmacists can serve to rationalize the process of administration and processing of documentation in pharmacies and free up resources for effective pharmaceutical care;
- The role of the pharmacist in countering the infodemic, increasing the health culture of the society and supporting the rational use of medicines is highlighted;
- The developed information brochure on the causes of occupational burnout and methods of prevention will be of benefit to practicing pharmacists in order to prevent burnout.

I accept the formulated conclusions and the presented abstract of the dissertation.

8. Assessment of dissertation publications

In connection with the dissertation, 3 publications are presented, one of which is in English, the doctoral student is the first author in all three articles, there are 2 participations in scientific forums.

9. Personal participation of the doctoral student

The doctoral student's personal participation in the conducted research, goal formulation, tasks, obtained results, derived recommendations and contributions is present. I accept as a personal merit and achievement the overall scientific production of the doctoral student.

I believe that the dissertation work is an original development, exceeds the minimum national requirements and meets the qualitative and quantitative requirements of MU-Varna.

10. Critical remarks and recommendations

None.

In conclusion, highly appreciating the topicality of the studied problem, in-depth research and presented results, I give my **positive assessment** of the dissertation work and propose to the members of the respected Scientific Jury to award the educational and scientific degree "Philosophy Doctor" to MARIA MITKOVA IVANOVA, M.Sc.Pharm. in the doctoral program Social Medicine and Organization of Health Care and Pharmacy for the development of the topic: "PROFESSIONAL BURNOUT AND DEVELOPMENT OF THE PHARMACEUTICAL PROFESSION"

Sofia,
07.Sep.2023

Signature:



Prof. Asena Serbezova, PhD