

STATEMENT

by **Prof. Juliana Krumova Marinova, MD, PhD**

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Theme of the presented dissertation: „**PROFESSIONAL BURNOUT AND DEVELOPMENT OF THE PHARMACEUTICAL PROFESSION**“
prepared by **Master in Pharmacy Maria Mitkova Ivanova**, PhD student in a full-time mode of attendance scientific specialty „**Social Medicine and Organization of Health Care and Pharmacy**”

professional field “**7.1. Medicine**“

field of higher of education **7. “Health and Sport”**

enrolled by Order No P-109-45/31.01.2020

I hereby submit this Statement as a member of the Scientific Jury appointed by Order No. P 109-316/26.06.2023 of the Rector of Medical University "Prof. Dr. Paraskev Stoyanov" – Varna - Prof. Dr. Svetoslav Georgiev, PhD, given Report having registration No. 102-1462/14.06.2023 by Assoc. Prof. Dr. Natalia Vasilevna Usheva, PhD. - Head of the Department of Social Medicine and Organization of Health Care by the decision of the Faculty Council of the Faculty of Public Health at the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna under Protocol No. 207/19.06.2023 in the procedure for obtaining educational and scientific degree of Doctor with candidate by **Master in Pharmacy Maria Mitkova Ivanova**, PhD student at the Department of Social Medicine and Health Care Organization, Faculty of Social Medicine, Medical University - Varna, Bulgaria. (enrolled by order No P-109-313/08.08.2016) with supervisors Prof. Dr. Lora Hristova Georgieva PhD and Assoc. prof. Anna Hristova Todorova, Ph.D. According to Protocol No 1/07.07.2023 of the first meeting of the Scientific Jury, I am appointed to prepare a statement. It is based on the documents submitted in the procedure, which are in full compliance with the requirements and are prepared expertly.

Career profile of the PhD student. She was born in 1976 in Varna. She graduated with a professional qualification of Assistant Pharmacist - Medical College - Varna in 1997. She holds a Bachelor's degree in Psychology from 2004 and a Master's degree in Applied Psychology by Varna Free University Chernorizets Hrabar – Varna, as well as a Master's degree in Pharmacy and professional qualification of Master Pharmacist since 2018 - Faculty of Pharmacy, Medical University, Varna.

In the post-graduate studies she is a post-graduate student in the specialty "Organization of the distribution and pharmacy network ". In the system of continuing education she has passed qualification courses in cognitive-behavioral and positive psychotherapy, as well as art therapy techniques for working with children and adults. Maria Ivanova has many years of experience as a Pharmacist in community pharmacies, has worked in the pharmacy "Medunipharm 2" in the position of "Master Pharmacist", and has experience as a Psychologist at the unit "Mother and Baby" - NGO, Varna. Maria Ivanova is an Assistant professor at the Department of Organization and Economics of Pharmacy at the Faculty of Pharmacy at the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna since 2019. She teaches classes in the following subjects: Social Pharmacy and Pharmaceutical Law; Pharmacoeconomics; Medical Devices for Pharmacy students and Pharmaceutical Regulation and Economics for students in the Master's degree Technology Transfer and Innovation in Pharmacy. **Summary:** The PhD student has extensive experience and qualifications as a Pharmacist and Psychologist, and focused and consistent professional development and improvement.

General description of the thesis: The thesis contains 156 pages, illustrated with 21 figures, 20 tables and one appendix - the instrument of the own study. The bibliographic reference includes 216 references, of which 54 are in Cyrillic and 167 in Latin. The development of the dissertation was financially supported by Project No. 20018/2020 "*Current trends and occupational stress in pharmaceutical service*", funded by the Science Fund of MU-Varna, with the supervisor Assoc. Anna Hristova Todorova, Ph.

Relevance and Significance of the Dissertation: The dissertation topic “**Professional Burnout and the Development of the Pharmaceutical Profession**” is consistent with the above-described profile of the PhD student and her interest as a researcher in this field. The problem developed in the dissertation is relevant in a scientific and scientific-applied sense. This relevance is argued by Maria Ivanova with skill and deep understanding.

Structure of the dissertation: The dissertation is developed into 4 main chapters: Chapter One, Literature Review; Chapter Two, Aim, Objectives, Material and Methods; Chapter Three. Results and Discussion; Chapter Four. Conclusions and recommendations. Then Conclusion; Contributions; Bibliography and an appendix are following.

Literature Review (first chapter) is presented by Maria Ivanova on 41 pages (26% of the dissertation work), structured in 12 **parts**: 1. Historical overview of the development of the pharmaceutical profession; 2. The role of the Pharmacist in modern society; 3. Development of the concept of pharmaceutical care; 4. Results of conducting pharmaceutical care; 5. Theoretical foundations of professional burnout; 6. Flow dynamics; 7. Etiology of occurrence; 8. Study of the burnout syndrome in medical specialists; 9. Burnout among Pharmacists; 10. Consequences of the high level of professional burnout among medical specialists; 11. Job satisfaction; 12. Conclusions from the overview and topicality of the topic. The literary sources used are scientific publications of Bulgarian and foreign researchers and significant national and international documents, cited in the overview. The overview is written in clear and accessible language and reflects a deep knowledge of the discussed issues and skillful handling of scientific terminology. The way the literature review is presented shows the author's ability to analytically present scientific information, conscientiously cite and argue the relevance and significance of the dissertation topic, as well as the approach of scientific research. **Summary:** Overall, Literature Review has a markedly **contributory nature** in an important interdisciplinary problem area and represents a solid basis for her own research.

Chapter Two, Aim, Objectives, Material and Methods (second chapter): are precisely defined in 9 pages of the dissertation. The aim is “*to analyze the current scope of activity of the pharmaceutical profession, the associated occupational stress and the*

factors that influence it". The research tasks are presented in 7 points, directly related to the achievement of the objective, clearly formulated. 3 research hypotheses are presented in the study: 1. The evolution of the pharmaceutical profession, the changing legislation in the pharmaceutical sector, and the dynamic work environment confront the Pharmacist in modern society with many new challenges; 2. Excessive workload and extreme stress, especially in the conditions of Covid-19, are a prerequisite for a high level of professional burnout among Pharmacists; 3. Burnout negatively affects effective communication with other medical professionals and with patients, and this leads to a deterioration in the quality of pharmaceutical care provided. **Methodology:** The methods are clearly justified and adequate, according to the set objective and tasks, and are described in detail. The following are applied: **documentary method; sociological method - direct individual survey; statistical methods:** a complex of statistical methods for analysis and interpretation of the obtained data - descriptive and analytical statistics - is applied. The **subject** of research is described in detail: level of burnout among Master Pharmacists practicing in community pharmacies in the territory of the city of Varna and the factors that influence it; the **object** of research: Master Pharmacists practicing in community pharmacies in the territory of the city of Varna. The **criteria** for inclusion and exclusion from the study are well presented; meeting the criteria for inclusion are 301 Pharmacists working on the territory of the city of Varna in community pharmacies, regular members of the Regional Pharmaceutical College, having a contract with the NHIF for the payment of prescriptions. 127 Master Pharmacists meeting the inclusion criteria were included in the study. **Organization, time and place of the study** are presented in detail. The study was conducted in the period March 2021 - December 2021. Research tools: for this purpose, a survey card was developed and enclosed to the dissertation. It includes structured, semi-structured and open questions, described in detail by Maria Ivanova in 4 groups: 1. Demographic characteristics; 2. Questions related to the specifics of working in a pharmacy to reveal the challenges facing the Pharmacist in modern society (presented in 8 directions); 3. Questions aiming to highlight the problems faced by Pharmacists in their work in the conditions of Covid-19 with defined 3 time periods: the first wave (March-June 2020), the second wave (October 2020-January 2021), the third wave (February-May 2021); 4. A validated tool for assessing burnout among medical professionals - Maslach Burnout

Inventory (MBI), purchased for the purposes of the study from an official representative. The three subscales of the instrument are described in detail: emotional exhaustion (EA), dehumanization/depersonalization (DP), work ability / professional achievements (PA). The scientific study was approved by the Committee on Ethics of Scientific Research at the Medical University - Varna. The limitations of the own study are presented in good faith. **Summary:** The selected approach, combining quantitative and qualitative analysis in the own research, allows to achieve the set objective by obtaining an adequate answer to the tasks solved in the dissertation work. Mag. Pharm. Maria Ivanova presents the methodology conscientiously and thoroughly.

Results and Discussion (chapter three). This part of the dissertation covers 79 pages (50% of the dissertation volume), precisely formatted and illustrated, and structured in 14 sections. Burnout among Pharmacists (in 3 subsections); 4. Relationship of scales to demographic characteristics (in 3 subsections); 5. Influence of work environment factors on burnout rates (in two subsections); 6. Influence of specific work environment factors in a population service pharmacy on the level of burnout (in 4 subsections); 7. Communication problems (in three subsections); 8. Pharmaceutical care; 9. Summary of results; 10. Motivation for job choice; 11. Willingness to change workplace; 12. Readiness to re-select pharmacy as a career field; 13. Suggestions from Pharmacists to address problems facing pharmacy practitioners; 14. Recommendations for recognizing and preventing burnout. Each of the sections is extremely well structured, the results are presented thoroughly, discussed, and summarized. The presentation and discussion of the results reflect the author's ability to handle research data, apply appropriate data analysis methods, and interpret the data thoroughly. **Summary:** This part of the dissertation deserves special attention and high appreciation for its adequate structuring, logical connection, and consistency of presentation.

Conclusions and recommendations (chapter four): The **findings** are presented in 7 paragraphs. They are skillfully formulated and directly related to the research aim and objectives. Maria Ivanova presents **recommendations to the legislator and the professional organization of Pharmacists**, structured in 6 points. A synthesized **conclusion** follows. The **contributions** are presented in two groups: contributions of theoretical and cognitive nature and contributions of practical and applied nature. Contributions of **theoretical and cognitive nature** are 4: 1. A thorough theoretical

analysis of the role of the Pharmacist in modern society is made and the challenges faced by the Pharmacist in Bulgaria in the performance of his duties are identified. 2. Difficulties in the working environment of Pharmacists practicing in community pharmacies during the Covid-19 pandemic were analyzed. 3. The main individual and work environment factors influencing the level of occupational burnout in pharmacists were studied for the first time. 4. The attitudes of Pharmacists to work in 24-hour pharmacies and small towns, which are important for the population's access to medicines and the opening of pharmacies in these areas, were studied for the first time. Contributions of **practical-applied nature** are presented in 3 points: 1. The identified factors of burnout among pharmacists can serve to streamline the process of administration and documentation in pharmacies and free up resources for effective pharmaceutical care. 2. The role of the pharmacist in counteracting infodemia, increasing the health culture of society, and supporting rational drug use is highlighted. 3. The information booklet developed on the causes of professional burnout and ways of prevention will be helpful to practicing pharmacists to prevent burnout.

Publications related to the dissertation: In connection with the dissertation, Maria Ivanova presents a **list of full-text publications** related to the dissertation, **containing three titles**, of which she is the leading author (one publication - independently developed, two publications co-authored with the supervisors) in the following scientific journals: Management and Education (two publications) and Proceedings of CBU in Medicine and Pharmacy, as well as **two participations in scientific forums**.

Abstract: The abstract is written in 55 pages, is structured as required, and reflects the main results achieved in the thesis.

CONCLUSION:


The dissertation contains scientific, theoretical, methodological, and applied results, which represent an original contribution to science and **meet all the requirements** of the Academic Staff Development Act in the Republic of Bulgaria (ASDARB), the Regulations for the Implementation of the ASDARB and the Regulations of MU-Varna. The dissertation work shows that the PhD student Maria

Mitkova Ivanova **possesses** in-depth theoretical knowledge and professional skills and demonstrates qualities for independent scientific research.

This is the reason to confidently give my **positive evaluation** of the conducted research presented by the above-evaluated dissertation, abstract, achieved results, and contributions.

I propose the Honourable Scientific Jury to award the educational and scientific degree **Doctor** to **Master Pharmacist Maria Mitkova Ivanova**, in the PhD Programme in **Social Medicine and Organization of Health Care and Pharmacy**, professional field 7.1 "**Medicine**", field of higher education 7. "**Health and Sport**"

15.08.2023
Stara Zagora

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Prof. Juliana Krumova Marinova, MD, PhD