#### **STATEMENT**

by

## Prof. Silviya Borisova Dimitrova, PhD, DSc Faculty of Public Health Medical University "Prof. Dr. Paraskev Stoyanov"- Varna

on dissertation for the award of educational and scientific degree "Doctor"
Field of higher education: 7. Health Care and Sport
Professional field: 7.4 Public Health
Speciality: Health Care Management

Topic: Raising awareness of radiation risk in medical diagnostics and therapy

Author: Stanislava Milcheva Mavrodinova

Form of education: full-time form of study

Scientific Supervisors: Assoc. Prof. Anna Georgieva, PhD, Assoc. Prof. Veselina Slavova,

PhD

#### 1. Procedure Details

In accordance with Order No. R-109-499 issued by the Rector of MU-Varna on November, 04, 2020, Stanislava Milcheva Mavrodinova was enrolled as a doctoral student in an full-time form of study to obtain an educational and scientific degree of "Doctor" in the area of higher education: 7. Healthcare and sports, Professional field 7.4 Public health, Speciality: Health Care Management. A protocol for successfully passing the doctoral exam has been submitted. Based on the decision of the Faculty Council of the Faculty of Public Health, Protocol No. 214 dated November, 22, 2023, regarding readiness for public defense and the appointment of a scientific jury, Stanislava Mavrodinova has been enrolled with the right to defend with the Order of the Rector of MU-Varna No. R-109-508 dated November, 29, 2023.

The submitted set of documents complies with the Rules for the development of the academic staff at the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna and includes a dissertation, abstract, autobiography, list of publications related to the topic of the dissertation, copies of publications, declarations, and other relevant documents.

### 2. Brief biographical data of the PhD student

Stanislava Milcheva Mavrodinova graduated from Medical College - Plovdiv, specialty "X-Ray Laboratory Assistant" in 1999, after which she started working in the Department of Imaging Diagnostics at the Military Hospital Varna.

In 2003 she graduated from the Bachelor's degree programme in Social Activities at the University of Veliko Tarnovo and later, master's programs in "Public Health" and "Health Management at Medical University-Varna.

Stanislava Mavrodinova's career development related to the university education started

in 2009 as a lecturer and since 2020 as an "assistant" in the Teaching sector "X-Ray Laboratory Assistant" at the Medical College - Varna at the Medical University "Prof. Dr. Paraskev Stoyanov " in Varna.

In 2021 she successfully acquired a specialization in Public Health at the Medical University - Varna.

Stanislava Mavrodinova has authored more than 14 academic publications and 23 participated in national and international conferences.

He is an academic mentor of students in the specialty "X-Ray Laboratory Assistant" under the project of the Ministry of Education and Science "Student Practices". He also participated in an international project "Creation of a multidisciplinary educational environment for the development of personnel with integral competences in the field of biomedicine and health care", Turin, Italy.

She has completed over 17 national and international advanced training courses in the field of health care.

She is a member of national and international professional organizations.

#### 3. Evaluation of Topic Relevance

Conducting scientific research aimed at clarifying the possibilities for improving the participation of X-ray laboratory assistants in the process of informing and obtaining informed consent from patients for X-ray examinations and diagnostic procedures using sources of ionizing radiation in the Republic of Bulgaria is of key importance, both from both from a scientific and a practical point of view. Despite the development of science in relation to X-ray examinations and diagnostic procedures using sources of ionizing radiation and the numerous scientific studies, the effective practical implementation of the process of informing patients and medical professionals about these procedures still faces a number of challenges and unresolved issues.

In her dissertation, the doctoral candidate examines the current state of the problem of X-ray examinations and diagnostic procedures using sources of ionizing radiation. Taking and implementing actions, innovative tools and models to increase the awareness of medical professionals and patients is a necessity in the care of patient safety in the case of ionizing radiation in medical diagnostics and therapy.

In connection with the above facts, I believe that the topic chosen by Stanislava Mavrodinova's dissertation topic is topical and of high scientific value.

The aim is adequately formulated in relation to the material included in the dissertation, the tasks are also fully and accurately set. The chosen topic allows to draw substantiated conclusions, proposals and to formulate contributory aspects.

A study of the possibilities of increasing awareness regarding the radiation risk in medical diagnosis and therapy in Stanislava Mavrodinova's dissertation work is current, prospective and practically applicable, proving its scientific place in the management of health care.

# 4. Characteristics and Evaluation of the Dissertation

The dissertation, developed by Stanislava Milcheva Mavrodinova is 191 pages long, structured according to the standard requirements, including: Introduction, Literature review, Methodology and organization of the research, Results of own studies, Conclusions and contributions. It is richly illustrated with 74 figures and 3 tables and 4 appendices. The bibliographic reference includes 279 sources, 49 in Cyrillic and 230 in Latin.

The author provides an analytical review of the literature, considering the historical aspects of the emergence of the concept of ionizing radiation in medical diagnostics and therapy. In a logical sequence, Stanislava Mavrodinova examines fundamental scientific discoveries, as well as the evolution of the concept of ionizing radiation in medical diagnosis and treatment. The experience and knowledge of the doctoral student contribute to the correct and thorough analysis of the current state of the problem of X-ray examinations and diagnostic procedures using sources of ionizing radiation. International standards and good practices are analyzed to help the process of organization, documentation and systematization of information related to radiation risk. The process of informing and obtaining the patient's informed consent for X-ray examinations and diagnostic procedures using sources of ionizing radiation in the context of modern theory and practice in the Republic of Bulgaria is presented.

The logically structured literature review reveals the doctoral candidate's broad competences in the field of the problem under consideration.

The main goal and objectives are specifically formulated and reflect the precise research work carried out by Stanislava Mavrodinova. The author uses a wide range of methods adequate to achieve the goal. The structure and content of the developed toolkit are subordinated to the specificity of the information collected from the respective group of respondents. Innovative tools and models have been developed to raise awareness of medical professionals and patients about the risk of ionizing radiation for medical diagnosis and therapy.

Descriptive review and sociological research methods were used. In order to reveal the nature of the observed phenomena and their interdependencies, statistical methods of data analysis and interpretation were applied.

The survey instrument was self-developed and included questionnaires for surveying the opinion of patients, doctors (general practitioners and specialists), ordering X-ray examinations and procedures and X-ray laboratory Assistants. To establish the applicability of the developed innovative models and tools for raising awareness of the risk of ionizing radiation and optimizing the work efficiency of medical specialists performing medical diagnostics and therapy related to radiation risk, a Questionnaire was developed for conducting a semi-structured interview.

The dissertation presents results, logically structured and organized in chapter three. The results of the conducted studies on patients' awareness of radiation risk in medical diagnostics and therapy are presented. Information that should be provided to patients in the process of obtaining informed consent for X-ray examinations and procedures using ionizing radiation is examined. The need for additional training of medical professionals on radiation risk is identified.

The doctoral candidate analyzes the role and contribution of medical professionals in the process of obtaining informed consent from the patient. The functions of the X-ray laboratory technician for providing information about the radiation risk in the X-ray practice are outlined. The sources from which patients seek information about medical imaging have been explored, and the nature of the information discussed between patients and medical professionals has also been identified.

Stanislava Mavrodinova skilfully researches the professional capabilities and competencies of medical specialists to inform about the radiation risk in medical diagnosis and therapy.

Based on extensive research, the necessary knowledge and skills, both personally and professionally, regarding the risk of ionizing radiation for medical diagnosis and therapy have been established. The competences of the medical specialists in various areas in the field of imaging diagnostics are shown.

The results of the study define basic prerequisites for the improvement and standardization of informed consent practices in radiology.

The study by Stanislava Mavrodinova outlines a number of factors that ensure optimization and quality of the process of informing and obtaining informed consent of patients for radiological examinations and procedures.

The main reasons and advantages for the introduction of uniform informed consents in the practice of imaging specialists are outlined.

The developed Model (Unified) Patient Informed Consent Form for X-ray (mammography) in an accessible way addresses the needs of patients and medical professionals. The radiation passport developed by the PhD student is also a tool to increase patient awareness.

The statement of contributions presented with the dissertation reflects objectively the real achievements of Stanislava Mavrodinova. The contributions in the dissertation are cognitive-theoretical in nature and practical-applied, which I accept.

The presented conclusions, clearly and accurately formulated, characterize in detail the results obtained from the fulfillment of the set tasks and purpose of the dissertation.

The formulated recommendations and contributions of the dissertation are made on the basis of the own data from the scientific study.

The dissertation is written in good language, precise in terms of terminology.

The abstract faithfully reproduces the content of the dissertation. It is written in clear, understandable language and in a scholarly style, reflecting the main points of the dissertation and giving a clear picture of the doctoral student's achievements.

# 5. Assessment of Publications and Personal Contribution of the Doctoral Candidate

The PhD student has submitted two full-text publications on the dissertation topic in international journals.

#### 6. Conclusion

Stanislava Milcheva Mavrodinova's dissertation is of high scientific and practical value, while contributing to raising awareness of radiation risk in medical diagnostics and therapy.

On the basis of the overall assessment of the documentation provided to me, I consider that Stanislava Milcheva Mavrodinova fully meets the requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria, the Regulations for its Application and the Regulations for the Development of Academic Staff at Medical University - Varna.

I give my affirmative vote for the award of the academic and scientific degree of Doctor in speciality Health Care Management to Stanislava Milcheva Mavrodinova.

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

23.01.2024

Varna

Statement written by:

Prof. Silviya Borisova Dimitrova, PhD, DSc