

STATEMENT

by

Assoc. Prof. Stanislava Pavlova Peneva, PhD

Department of Logopedics and Medical Pedagogy

Faculty of Public Health

Medical University "Prof. Dr. P. Stoyanov" – Varna

on the dissertation titled:

Competencies and Roles of the Nurse as Part of the Interventional Cardiology Team

prepared by:

Teodora Radeva Dimitrova

for obtaining the educational and scientific degree of **Doctor**

Field of higher education: **7. Health and Sports**

Professional subfield: **7.4. Public Health**

Specialty: **Healthcare Management**

General overview of the procedure

By order No. R-109-531, dated 02.12.2021, of the Rector of the Medical University of Varna, **Teodora Radeva Dimitrova** was enrolled as a full-time doctoral student to obtain the educational and scientific degree of Doctor in the field of higher education 7. Health and Sports, professional subfield 7.4. Public Health, specialty in Healthcare Management. Her doctoral supervisor is Prof. Sonya Toncheva, Ph.D., D.Sc. Following a decision from the Faculty Council of the Faculty of Public Health, recorded in Protocol No. 235, dated 27.11.2024, regarding readiness for public defense and the appointment of the Scientific Jury, Teodora Radeva Dimitrova was discharged from her enrollment status with the right to defend her dissertation by Order No. R-109-428, dated 04.12.2024, of the Rector of the Medical University of Varna.

All necessary documents required by the Law on Academic Staff Development in the Republic of Bulgaria, its Regulations, and the Academic Staff Development Rulebook at the Medical University of Varna have been submitted.

Brief biography of the doctoral candidate

Teodora Radeva Dimitrova was born on 13.06.1976 in Shumen. In 1997, she graduated from the Semi-Higher Medical Institute in Shumen with a specialty in Nursing. She then obtained a Bachelor's degree in Social Pedagogy from the Ep. K. Preslavski University of Shumen in 2000 and a Master's degree in Healthcare Management from the Medical University "Prof. Dr. Paraskev Stoyanov" in Varna in 2019.

Her professional career began in 1997 as a nurse at the Emergency Medical Center in Shumen. She subsequently worked in the emergency department and the ENT department at Multi-profile Hospital for Active Treatment – Shumen AD. Since 2013, she has been working as a nurse in the interventional cardiology department at the "Madara" Specialized Hospital for Active Treatment in Cardiology EAD, Shumen. In 2020, she was appointed as a Lecturer at the Department of

Healthcare at the Shumen affiliate of Medical University "Prof. Dr. Paraskev Stoyanov" – Varna. She participates in student training, preparing and conducting practical classes in various subjects. She has participated in national and international scientific forums and has publications in the field of healthcare. In December 2021, she was enrolled as a full-time doctoral student in the doctoral programme of Health Care Management, with a dissertation topic on Competencies and Roles of the Nurse as Part of the Interventional Cardiology Team. In 2022, she obtained a specialty in Clinical Social Work.

She is a member of the Bulgarian Association of Health Professionals, the Bulgarian Public Health Association, and the European Public Health Association.

Assessment of the relevance of the subject

The topic of Teodora Dimitrova's dissertation, **Competencies and Roles of the Nurse as Part of the Interventional Cardiology Team**, is highly relevant and valuable as there is a continuous need to improve the quality of care and life for patients with cardiovascular diseases. The doctoral student addresses an important practical issue, as the rapid development of medicine and technology necessitates the introduction and use of high-tech equipment for the diagnosis and treatment of cardiovascular diseases. This requires the systematic knowledge enhancement of interventional cardiology (IC) nurses, defining their role in the interventional cardiology team. The scope of practice for IC nurses is continually being refined. Analyzing the core competencies of nurses as part of the interventional cardiology team leads to optimizing specific nursing activities aimed at direct patient care and professional development. The need for specific nursing knowledge and skills in performing angiographic procedures is undeniable due to the high the complexity of minimally invasive procedures and the high diagnostic accuracy of said procedures, which lead to immense benefit for patients with cardiovascular diseases. The doctoral student researches the specific nursing care in the catheterization laboratory, which is of key importance for both the science and practice of healthcare. The specific role and responsibilities of the IC nurse in providing care are the focus of the discussed topic. The questions raised in the dissertation have high scientific and practical value.

Structure of the dissertation

The dissertation developed by lecturer T. Dimitrova is 147 pages long and structured into 5 chapters, it includes an introduction, literature review, methodology and coordination? of the study, results and analysis, practical approaches, conclusions, contributions, recommendations, bibliography, and 6 appendices. It is illustrated with 61 figures and 19 tables. The bibliography consists of 172 sources, 46 of which are in Cyrillic.

The literature review is well-structured and comprehensive. A detailed and in-depth review of scientific information related to the significance of cardiovascular diseases, specific nursing care, and activities performed during interventional cardiology procedures is provided. Selective coronary angiography is examined as a specialized study of particular importance for the patient. Based on this, opportunities for optimizing nursing care for these patients are outlined. The certification and training of IC nurses are widely discussed, emphasizing on high qualifications, critical thinking skills, and problem-solving abilities. The work of the nurse in the IC setting is thoroughly analyzed, presenting numerous challenges and unresolved issues. In this context, the study of the competencies and roles of the nurse as part of the interventional cardiology team has significant scientific and practical importance. The logically structured literature review

demonstrates the doctoral student's extensive theoretical and practical knowledge in the field of the studied problem.

Chapter Two presents the research methodology. The objective is clearly and precisely formulated: "*To analyze the core competencies of the nurse as part of the interventional cardiology team and, based on this, to propose the optimization of specific nursing activities by developing a Model of the Modern Interventional Radiology Nurse and implementing a Protocol aimed at minimizing errors*". To achieve this, 8 research tasks and 3 working hypotheses were outlined. The detailed presentation of the research methodology is impressive. The stages of the scientific research work are detailed in tabular form. Various methods were used, including *documentary, historical, survey, SWOT analysis, and in-depth interviews*. A complex of *statistical methods* was applied for the analysis and interpretation of the obtained data, aiming to reveal the essence of the observed phenomena and their interdependencies. The data were processed using the IBM Statistics - SPSS for Windows, ver. 19, and MS Excel 2021 statistical packages.

The study included 196 participants, divided into three groups: patients (n=130); nurses (n=35); and experts (n=31). The criteria for including individuals in the respective groups were well-formulated. For each group, a specially developed toolkit was applied to conduct the *survey* with several thematic directions. A *Questionnaire for conducting in-depth interviews* with experts was developed to assess the competencies and roles of the nurse as part of the interventional cardiology team.

The effectiveness of the proposed **Protocol for the Roles of the Interventional Radiology Nurse** was tested using an experimental method. The experiment included two groups of respondents – nurses and experts (interventional cardiologists and senior nurses) working in the angiography laboratory. After conducting the experiment, the effectiveness of introducing specific work documentation was studied, with two additionally developed survey forms.

Chapter Three presents the results and the analysis of the study through appropriate tables and graphs. The activities of the nurse in the angiography laboratory are analyzed in depth, outlining the main and specific activities. The need for preliminary training for work in the IC setting is highlighted, given the complexity of the angiographic procedure and the use of high-tech specialized equipment. Continuing education ensures quality care due to innovations and the dynamic development of interventional cardiology. In response to the need for specialized knowledge and skills in the catheterization laboratory, the introduction of an Interventional Radiology Nursing specialization is discussed. The research interest is also directed towards assessing the adaptation of the nurse in the IC suite, which is a complex and multifaceted process. To provide effective and high-quality care and as part of the interventional cardiology team, the nurse must possess various competencies – clinical, technical, communicative, etc., which are thoroughly discussed in the dissertation. The need for the introduction of specialized documentation for performing activities and care in the IC suite is outlined.

The analysis of the results from the conducted in-depth interviews is particularly impressive, supported by well-chosen quotes from the respondents' answers.

Chapter Four presents a *Model of the Modern Interventional Radiology Nurse*, which can be applied in practice to enhance work efficiency and reduce the risk of errors. Based on the analysis of available literature, real practice, and the results of the conducted study, a *SWOT analysis of the professional development of nurses working in the IC suite* was performed. The SWOT analysis is a useful tool for strategic planning, providing insights into the personal and professional

development of the IC nurse. Considering the specific work of nurses in the IC setting and their professional competencies, a theoretical **Model of the Modern Interventional Radiology Nurse** was developed and presented. This model is based on the overall concept of modern health care and integrates technology, human values, and teamwork.

A particularly valuable part of this chapter is the experiment conducted and the subsequent analysis of the results. The developed *Protocol for the Roles of the Interventional Radiology Nurse* was implemented in practice, and its effectiveness was studied. The protocol is meticulously developed, covering all aspects of the IC nurse's activities. It is structured into several sections, describing specific work rules. The implementation of the *Protocol for the Roles of the Interventional Radiology Nurse* improves the quality of work in the angiography laboratory, reduces the risks of errors, and serves as a good guide for newly hired nurses. The interpretation of the obtained data demonstrates an understanding of work processes, allowing for a thorough analysis of the results and the correct formulation of conclusions and recommendations.

The conclusions from the conducted study are nine, well-founded, clearly formulated, and directly derived from the conducted research. Based on the results, proposals addressed to the relevant institutions and experts were made. They seem convincing and feasible because they are directed at the appropriate institutions. I fully accept the **contributions**, which are of theoretical and practical nature.

In connection with the dissertation, lecturer **Teodora Radeva Dimitrova** presents three full-text publications.

The abstract reflects the content of the dissertation, presents the methodological approaches and the results of the study, and is illustrated with informative tables and figures. It is written in a scientific style.

CONCLUSION

The dissertation stands out for its relevance and high scientific and practical value. It provides new information that contributes to the development of practical nursing in the field of interventional cardiology.

The dissertation meets all the requirements of the Law on Academic Staff Development in the Republic of Bulgaria, its Regulations, and the Academic Staff Development Rulebook of the Medical University of Varna.

The dissertation shows that lecturer **Teodora Dimitrova** possesses in-depth theoretical knowledge and demonstrates the ability to conduct independent scientific research. Her accumulated practical experience allows her to thoroughly assess the real problems faced by nurses.

Based on the above, I feel positive in giving **my affirmative vote** for awarding the educational and scientific degree of Doctor to Lecturer Teodora Radeva Dimitrova in the specialty of Healthcare Management.

17.01.2025

City of Varna

Prepared by: ..

Assoc. Prof. Stanislava Pavlova, PhD

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