

## **REVIEW**

of a PhD work with a topic:

### **“MANAGEMENT OF CARDIOLOGICAL CARE IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION AND COMORBIDITIES”**

For acquiring of scientific degree “PhD” in Public Health in the field of Higher education 7. Health and Sports, professional field 7.4 Public Health, Doctoral Program in “Health Care Management”.

**Author: Ivanka Atanasova Stoyanova**

**Scientific advisor: Prof. Dr. Maria Negreva, MD, PhD, DSc**

**Prof. Silvia Borisova, PhD**

**Reviewer:** Assoc. Prof. Dr. Maria Stoyanova Dimova-Mileva, MD, PhD,  
Department of Propaedeutics of Internal Medicine, MU-Varna

#### **1. Information about the procedure:**

By Order of the Rector of MU - Varna, No. P- 109-475/ 18.12.2024, the composition of the scientific jury for the defense of the PhD work of nurse Ivanka Atanasova Stoyanova was determined. No violations have been found in the documentation submitted by the PhD student, the requirements of the Law in the Republic of Bulgaria, the Regulations for the Development of Academic Staff at the Medical University - Varna have been complied with.

I have no conflict of interest caused by my participation in this scientific jury, which regulated to submit a review.

#### **2. Brief biographical data:**

Ivanka Atanasova Stoyanova graduated from the Vocational High School of Chemical Technology and Design "Prof. Dr. Asen Zlatarov" in the town of

Novi Pazar, majoring in "Organization and Production of Chemical Products" in 2008. Finishing that, she continued her education at the Medical University - Varna. She initially acquired a Bachelor's degree in Nursing in 2013 and later she upgraded her education with a Master's degree in Healthcare Management in 2015. Since December 2021, she has been a doctoral student in the Department of Health Care in the doctoral program "Health Care", the topic of the PhD work is "Management of Cardiological Care in Patients with Acute Myocardial Infarction and comorbidities". Her professional path began and currently continues at the First Cardiology Clinic with ICU.

### **3. Relevance and significance of the PhD work:**

Despite the significant progress in the organization and management of patients with acute coronary syndrome over the last three decades, due to the established and well-functioning networks between emergency care and invasive cardiology laboratories, acute coronary syndrome remains an important health and social problem. This sudden, severe and in many cases life-threatening condition has a huge impact on the physical and mental health of patients, both at the time of its onset and in the long term. The patients' relatives, who should take care of the patient after their discharge from the hospital, are also affected. Medical care for patients with ACS is complex, team-work and long-term, and for those patients who have concomitant diseases it is even more complex. Given the increasing commitment of doctors, the lack of time for conversations and explanations about the disease, its course, the importance of adhering to a dietary and physical regimen and keeping strict to the prescribed regimen, the availability of excellently educated and trained healthcare professionals who actively participate in patient care and establish relationships with doctors and relatives is more than urgent. In this regard, the topic of the PhD work of nurse Ivanka Stoyanova is extremely timely, with important clinical, practical, and scientific significance for Bulgaria.

### **4. Structure of the PhD work:**

The dissertation submitted for opinion is structured according to the standards of a PhD work for the degree of Doctor of Philosophy. The dissertation is written on 240 standard pages and includes: table of contents (3 pages), abbreviations (2 pages), introduction (2 pages), literature review (59 pages), goal and objectives (1 page), material and methods (14 pages), own results and discussion (99 pages), conclusions (1 page), contributions (2 pages) and suggestions (2 pages), bibliography, as well as 28 pages applications. The

bibliographic reference contains 247 literary sources, arranged alphabetically, 6 of which are by Bulgarian authors. Most of the cited literature sources were published in the last 10 years. The dissertation contains 18 tables, 35 graphs and 8 appendices.

## **5. Literature review**

The literature review is written in-depth, analytically and demonstrates the excellent and systematic awareness of Ivanka Stoyanova on issues related to the epidemiology, classification and etiology of acute coronary syndrome. The organization and structure of emergency care for these patients are critically examined, with a focus on the care they receive, the challenges faced by medical professionals in patients with ACS and concomitant diseases. The need for in-depth training of the knowledge and skills of nurses is emphasized so that they have the ability to quickly recognize complications and adapt their care according to the presence of concomitant diseases. The historical perspective in the presentation of care for patients with myocardial infarction also makes a good impression, with the stages of diagnosis and treatment examined chronologically. Analytically and with an emphasis on ACS, the most common comorbid conditions such as arterial hypertension, diabetes mellitus, chronic renal failure, chronic obstructive pulmonary disease, and anemia are also examined. An essential point in the review is the consideration of the cardiac monitoring indicator and the indicators by which patients are stratified, the education and continuing education of nurses to improve the care of patients with ACS and concomitant diseases.

## **6. Goals and objectives**

The aim of the dissertation is correctly and precisely formulated: To study and analyze the main nursing activities and their role in the management of cardiac care in comorbid patients with acute myocardial infarction, in order to develop effective approaches to improve the quality, coordination and individualization of nursing care, aimed at optimizing patient outcomes and prognosis.

In relation to the main goal, seven tasks have been defined, concerning the theoretical analysis of Bulgarian and foreign databases on activities and care in comorbid patients with acute myocardial infarction; study the demographic, social and medical characteristics of patients with AMI and comorbidities, in order to determine their specificities and healthcare needs; study lifestyle factors that influence the health status of patients with cardiovascular diseases. The following tasks in the dissertation work are related to identifying and assessing the main risk factors and clinical features that determine the severity and prognosis of the cardiac condition in comorbid patients with AMI; analyzing existing approaches and strategies for treatment and care of comorbid patients

with AMI in hospital and outpatient settings; researching the role of nursing assessment, interventions, and monitoring on patients' quality of life and health outcomes and developing an integrated framework including key principles, methods and strategies for optimal management of cardiac care, aimed at improving health outcomes and quality of life for patients.

Based on the accumulated data from the developed literature review, four working hypotheses have been derived: 1. Optimized nursing care management, tailored to the individual needs of comorbid patients with acute myocardial infarction, leads to improved health status and quality of life of patients; 2. No significant difference was found in the condition and prognosis of comorbid patients with acute myocardial infarction under different approaches to management of nursing and cardiological care. 3. Improving coordination between nursing care and the multidisciplinary team significantly increases the effectiveness of treatment and reduces the risk of developing complications in patients with acute myocardial infarction and comorbidities. 4. The active participation of nurses in the identification and management of risk factors in comorbid patients with acute myocardial infarction improves the long-term prognosis of patients.

## **7. Material and methodology**

A theoretical and empirical study was conducted to investigate and evaluate the effectiveness of cardiac care management in comorbid patients with acute myocardial infarction. The methodology includes two subsections – theoretical research and empirical research. The theoretical study analyzed the practices of cardiac care in comorbid patients with AMI, the activities and care of nurses in these patients. The theoretical studies analyzed the practices of patients with morbid patients with AMI, the activities and practices of nurses in these patients, qualitative study among patients on interactions between patients and healthcare professionals, as well as the effectiveness of treatment and care for acute myocardial infarction and comorbidities, quantitative study among medical professionals on nursing activities and care regarding cardiological care in comorbid patients with AMI using multiple well-established and standardized questionnaires in practice. Innovative in scientific work in this field is the inclusion of sociological methods such as in-depth interviews, focus groups, observation, and questionnaire groups.

A wide range of modern, diverse and adequate statistical methods for the development were used, which allows for clear and specific conclusions to be drawn. A sufficient number of parameters were analyzed that fully correspond to the study design and the set goals and objectives. All statistical analyses were

performed using IBM SPSS Statistics version 29.0.1.0 Statistical significance was accepted at a confidence level of  $p < 0.05$  using a two-tailed test..

## **8. Results and discussion:**

In the course of the study, a large number of results were successfully systematized, analyzed, and visualized, richly illustrated with tables and figures. The results are divided into several subsections, the first of which is dedicated to the characteristics of the individuals studied - there is an even and good representation of medical specialists, a total of 223, by doctors and nurses, as well as a distribution from all regional hospitals in the eastern region of Bulgaria. When analyzing the results, the length of professional experience of the medical staff, the educational and qualification level of the medical staff were also taken into consideration. The second subsection examines patient characteristics. A sufficiently informative base has been collected regarding the patients' attitudes and professions - demographic, social factors, risk factors before the disease (smoking, eating habits, family burden, etc.). An interesting approach is to study the extent to which patients were informed about the relationship between the presence of risk factors and the occurrence of a disease. The next subsection of the PhD is dedicated to the analysis of the condition of patients with AMI. Further presentation of the results includes examining the role of the nurse in cardiac intensive care – what is the level of training, competencies, what are the challenges. Professional experience has been thoroughly analyzed as a factor influencing the care provided, as well as the period of adaptation to the work process, the need for mentoring and support during the adjustment to the job. The opinion of healthcare professionals on the need for additional training and qualification was studied, with the majority of respondents giving a positive answer. The role of the nurse as an essential part of the team has been critically analyzed and evaluated, especially the acquisition of teamwork skills and coordination of activities in the care of patients with ACS and concomitant diseases. Results were obtained for high ratings of "significance of nurses' activities" from both the nurses themselves and the doctors. Both emphasize that the role of the nurse is "Extremely important". The issue of the main causes of conflict is critically examined, and here, quite understandably, the overloaded schedule is highlighted as the main reason.

The effectiveness of existing nursing interventions in patients with acute myocardial infarction (AMI) and comorbidities was assessed through the opinions of medical specialists who work in the field of cardiology and have direct experience in the care of comorbid patients with acute myocardial infarction. An applied method for collecting information is a focus group, through which the strengths and weaknesses of practices are identified, as well

as opportunities for their improvement. Significant attention has been paid to the interaction between patients and medical professionals in the treatment and care of acute myocardial infarction and comorbid diseases. Patient satisfaction with communication with the medical team was studied. The issue of the psychological aspects of the disease when going through the different stages is analyzed - acute stage, hospital stay, dehospitalization, the role of the attitude of loved ones and relatives.

The next chapter of the dissertation addresses the challenges and opportunities for nursing care in patients with AMI and comorbid conditions. Solutions are proposed to optimize the management of cardiac care in comorbid patients with acute myocardial infarction. This includes providing integrated and coordinated care, a personalized approach to the patient, ensuring safety, continuing education of medical professionals, implementing innovations and digital technologies, recommendations for patients and their loved ones regarding recovery in a home environment, etc. All these developed aspects would contribute to obtaining better outcomes in providing care to patients with comorbid conditions in ACS.

## **9. PhD work conclusions.**

The conclusions drawn from the results obtained, which are eleven in number, are clear, well formulated and reflect the main highlights of the study conducted. They confirm the correctness of the structuring of the dissertation work, the accuracy of the selected criteria, methods and patients, and their compliance with the initially set tasks.

The contributions that are of extremely practical and innovative importance for Bulgaria are the developed and proposed guidelines for monitoring and response to acute conditions such as hypertensive crises or heart failure; curriculum for nursing care for comorbid patients with AMI; curriculum for rehabilitation and nursing care for patients after AMI in a hospital setting.

Several proposals have been made to the Minister of Health regarding the regulations governing the activities of nurses. There are also proposals to medical universities to develop programs aimed at increasing the competencies of nurses in cardiology practice. There are also proposals for medical universities to develop programs aimed at increasing the competences of nurses in medical practice.

Теоретико-познавателните приноси ще повишат и изведат на качествено ново ниво ролята на медицинската сестра в обгрижването на пациенти с

ОКС и коморбидни състояния, а изтъкнатите приноси с приложно-практично значение ще усъвършенстват работата на медицинските екипи в кардиологичните отделения.

Publications on the topic of the PhD are in World Journal of advanced Research and Reviews (WJARR); (eISSN: 2581-9615) September 2024, 23(03), 2764–2772.

### **10. Critical notes and recommendations**

Ivanka Stoyanova's dissertation is extremely thorough, analytical, comprehensive, with multiple aspects of patient care monitoring, the role of the nurse in managing patients with ACS and comorbid conditions, her interaction and collaboration with other members of the medical team. A recommendation could be to continue the developed sustainable plan for improving care, and to continue and implement the proposed strategies for improving the qualifications of healthcare specialists.

### **11. Conclusion of the review:**


The dissertation work of Ivanka Atanasova Stoyanova on the topic: “Management of cardiological care in comorbid patients with acute myocardial infarction” is very well structured with a clearly defined goal, proper selection of material, critical evaluation of the results and precisely formulated conclusions. The development and presentation of the dissertation work fully meets the requirements of the Law on the State of the Republic of Bulgaria and the regulations for its implementation. The exhaustive nature of the research conducted, the conclusions and contributions made give me reason to propose to the members of the esteemed scientific jury to give a positive assessment for awarding the educational and scientific degree "Doctor" to Ivanka Atanasova Stoyanova

11 March 2025

Varna

Respectfully:

/Assoc. prof. Dr. Maria Dimova, MD, PhD/



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