

## OPINION

by **Prof. Dr. Silviya Aleksandrova-Yankulovska, D.Sc.**,

Head of the Department of Healthcare Management, Medical Ethics and Information Technologies at the Faculty of Public Health of MU-Pleven

on the dissertation work of **Maria Mladenova Georgieva** on the topic "**Health Well-being and Psychological Support for Patients with Heart Failure**"

By order No. P-109-38/25.01.2023 of the Rector of MU-Varna, Prof. Dr. Valentin Ignatov, MD, I have been selected as a member of the Scientific Committee for the procedure of acquiring an educational and scientific degree of "Doctor" in the scientific specialty of "Healthcare Management" with candidate **Maria Mladenova Georgieva**, a regular doctoral student at the Department of Healthcare at the Medical University "Prof. Dr. P. Stoyanov" - Varna, with a dissertation on the topic "**Health Well-being and Psychological Support for Patients with Heart Failure**".

### **Biographical information and career development of the doctoral student**

Maria Georgieva obtained a Bachelor's degree in Healthcare in 2008 from MU "Prof. Dr. P. Stoyanov" in Varna. From 2008 to 2010, she pursued a Master's degree in Healthcare Management at the same university. She has been a regular doctoral student at the Department of Healthcare at the Faculty of Public Health since 2019.

Maria Georgieva began her professional career in 2009 as a regular nurse at Lukovit Hospital, and since 2010, she has been working in the intensive care unit of St. Marina University Hospital in Varna. From 2011 to 2017, she worked as a regular nurse, and since 2017, she has been working as a senior nurse at the Cardiology Clinic - non-invasive, at the same hospital. Since 2017, she has also been an honorary lecturer at the Department of Healthcare at the Faculty of Public Health, MU "Prof. Dr. P. Stoyanov" in Varna.

The candidate has a B2 level of proficiency in English.

### **General characteristics of the dissertation and its relevance**

The dissertation work is 195 pages long and is structured into five chapters: 1. Literature review; 2. Aim, objectives, material and methodology of the study; 3. Results and discussion; 4. Managing heart failure - a challenge in nursing practice; 5. Conclusions, recommendations, and contributions. The dissertation includes 36 figures, 10 tables, 2 diagrams, and 7 appendices.

**The bibliography** contains 209 literary sources, of which 31 are in Cyrillic and 178 are in Latin script. The sources are contemporary, with 94% published after 2000. The extensive range of sources is impressive, as the doctoral student has sought out more difficult-to-access sources such as dissertations, abstracts, and collections of scientific papers.

**Relevance of the dissertation work.** The topic chosen by the doctoral student is relevant and in line with the latest perspectives in studying the incidence of non-communicable diseases, namely their social and psychological effects.

### **The evaluation of the structural parts of the dissertation**

**The literature review** represents 19% of the total volume of the dissertation. The epidemiology of heart failure, risk factors, clinical presentation and prognosis, including complications in patients with heart failure, worsening symptoms, hospitalizations, and readmissions related to this disease have been examined. Maria Georgieva has focused on the aspects that are subsequently the subject of her own research: the quality of life, anxiety, and depression in patients with heart failure. Particularly noteworthy is the presentation of international experience in heart failure clinics led by nurses.

**The aim** of the study is to improve the well-being and quality of life of patients with heart failure through the implementation of a Model for Ambulatory Nursing Care. Nine specific tasks have been formulated to achieve this goal, including the creation of a Model for the implementation of ambulatory nursing care in priority areas of activity for patients with heart failure. Maria Georgieva has formulated three working hypotheses.

**The methodology** of the study is presented in detail. The objects of the study are 72 patients with heart failure, medical records, and literary sources. The latter two objects are studied using a documentary method, but the questionnaire for extracting information is neither applied nor described. The questionnaire for the survey method is also missing, although its main categories are described. The patients are studied using various methods within the framework of prospective and empirical research. These include a clinical examination, ECG, echocardiographic assessment, laboratory biochemical studies, a method for assessing functional capacity using the 6-minute walking test (6MWT), and evaluation of quality of life, depressive moods, and anxiety using internationally established questionnaires.

For the purposes of the study, a *Checklist for Heart Failure Control* has been developed, which I find more suitable to be presented in the appendices as an original development of the PhD student.

**The results** represent 25% of the total volume of the dissertation work. A comparative analysis was gradually made by gender, age, blood pressure, heart rate, 6MWT, laboratory parameters, ejection fraction; clinically monitored indicators (body weight, blood pressure, heart rate); quality of life. A particular interest is the section "Safety of Nurse Monitoring," where comparisons were made in the monitoring indicators between the group of patients with an organizing nurse (Group A) and the group of patients where the nurse only has a supporting role (Group B). The results show that monitoring patients with heart failure by a healthcare specialist is safe for them and does not pose significant risks.

The presentation of the results in tables and graphs is appropriately selected and well illustrates the observed statistical dependencies. My technical recommendation is to include translated into Bulgarian category names in the graphs.

The collected empirical data support important conclusions regarding the care for patients with heart failure:

- Cardiological nursing care reduces the risk of repeated or subsequent hospitalizations of patients with heart failure, but the group of patients followed by a nurse are more frequently readmitted compared to the group followed by a doctor and a nurse.
- In monitored patients, body weight shows a consistent decrease, and systolic blood pressure values remain stable without statistically significant differences from baseline values.
- Serum levels of NT-proBNP, significant for clinical improvement, have shown more pronounced reduction in the group followed by a nurse. In this group, improvement in kidney function (53%), adherence to a dietary regime (78%), and physical activity (62.5%) were also reported.
- The nurse more often directs patients to another specialist (57.1%) compared to the group followed by a cardiologist and a nurse (47.1%), with the most frequent consultation (23.8%) being with a psychiatrist/psychologist for psychological support.
- Patients followed up by a nurse have a significantly better quality of life according to the EQ-5D scale.

**The fourth section of the dissertation** is focused on Maria Georgieva's practical developments: a model for outpatient cardiology care; a clinic for cardiology nursing care; a nursing process for heart failure with detailed *Guidelines for caring for patients with heart failure*; and care for unexpected situations. The shared experience in applying various forms of telemedicine in these cases is innovative and deserves further study.

I highly appreciate the developed *model for outpatient cardiology care*. The model includes two main packages of health care, distributed in five visits, tailored to the specifics of the disease and the necessary tools for assessing the patient's condition. The model creates an opportunity for organization in line with the competencies of the nursing staff.

Among the **applications**, the precisely designed and beautifully crafted *Observation Card for the treatment of heart failure patients* and the *Patient Passport for the treatment of patients with heart failure* stand out. The passport helps patients to actively participate in their treatment, in line with the modern priorities of health systems in developed countries.

Based on the results, Maria Georgieva draws 13 conclusions, including conclusions on the fulfillment of the hypotheses. All conclusions are in accordance with the research objectives and are supported by the results and statistical analysis.

The recommendations are in the form of **proposals**. *Two proposals have been formulated to the Ministry of Health*, with the recommendation for the establishment of a specialization program "Cardiac Nurse" being particularly valuable, given the increased interest of nurses in acquiring specialties in the healthcare system and the relatively limited choice of such specializations currently available. *Three proposals have been made to the Medical Universities*, the first of which is linked to the aforementioned specialization program and outlines the doctoral student's vision for collaboration between universities and the executive authority. There are *five proposals for healthcare facilities*, with the last proposal regarding the conditions for independent clinical monitoring of patients with heart failure by a cardiac nurse being particularly valuable. This is a much-debated issue, which even led to amendments to the Law on Healthcare Facilities, but without achieving a change in the practice of organization and provision of healthcare in our country.

I fully accept the **contributions** indicated by the doctoral student. They are divided into *contributions with a theoretical-cognitive character* (seven contributions) and *contributions with a practical-applied character* (six contributions). The formulations are justified and follow directly from the doctoral student's research.

**The abstract** reflects well the content of the dissertation and presents in full the conclusions and recommendations made to the Ministry of Health, Medical Universities, and healthcare institutions.

In connection with the dissertation, four **publications** in scientific journals in Bulgaria and three full-text publications in conference proceedings are presented, one of which is in the National Reference List. In addition, the candidate's list of scientific achievements includes five participations in scientific forums with presentations on the topic of the dissertation, which demonstrate Maria Georgieva's scientific potential.

With her dissertation project, the PhD student has also won a scientific project funded by the "Science" fund. The dissemination of the results of her work is also supported by the course she has developed jointly with Prof. Yoto Yotov, her academic advisor, on the topic "Heart Failure - Theoretical Knowledge Aimed at Clinical Success in the Practice of Health Care Specialists."

## **Conclusion**

The presented dissertation work stands out for its relevance and originality. The overall organization and conduct of the study is the personal accomplishment of the doctoral student and demonstrates her good potential for scientific research.

The dissertation work "**Health well-being and psychological support for patients with heart failure**" meets the requirements of the Regulation for the development of academic staff at the Medical University - Varna, therefore, I give my positive opinion and propose to the esteemed members of the Scientific jury to vote positively for awarding the educational and scientific degree of "**Doctor**" to **Maria Mladenova Georgieva**.

Prepared the statement:



Prof. Dr. Silviya Aleksandrova-Yankulovska, D.Sc.

March 20, 2023