

## **OPINION**

**by Assoc. Prof. Dr. Nevyana Georgieva Feschieva, Ph.D**

of a dissertation on a topic:

**„Modern approaches in the care of patients with early reactions to radiotherapy“  
of Kalina Stoyanova Katrandzhieva**

**Scientific supervisor:**

**Assoc. Prof. Katya Genova - Eguruze, Ph.D**

**Scientific consultant:**

**Prof. Dr. Elitsa Encheva-Mitsova, Ph.D**

for the awarding of the ECD "Doctor" by field of higher education: 7. Health and sports,  
professional direction: 7.4. Public Health and Scientific Specialization "Nursing Care  
Management"

By order No. R 109-118/ 15/02/2023 of the Rector of the University of Varna, Prof. Valentin Ignatov, based on a report by Prof. Silvia Borisova, Ph.D., DS.c. with entry No. 102-377/01.02.23 and by decision under protocol No. 201/09.02.2023 of the Faculty of Public Health of the Medical University of Varna, I have been appointed as an external member of a scientific jury, and with Protocol No. 1 of the Scientific jury to submit an opinion on the dissertation work on the topic "Modern approaches in the care of patients with early reactions to radiotherapy" for awarding the educational and scientific degree "doctor" in the scientific specialty "Nursing Care Management", professional direction 7.4. Public health and field of higher education 7. Health care and sports.

### **Brief biographical data and career development of the doctoral student**

Kalina Katrandzhieva was born on 29.12.1968 in Varna. In 1988, she graduated from the "Dr. Nencho Nikolaev" Institute for Health Personnel with Secondary Special Education, Varna, majoring in "Nurse - General Profile". A period of upgrading his education followed: in 1994/95 he received a semi-higher education in the same specialty; in 2000-2005, he studied at the Varna Free University and obtained a bachelor's degree in psychology, and in 2006, also

there, a master's degree in "Applied Psychology". In 2008-2010, at Medical University-Varna, he obtained a second master's degree - "Nursing Care Management". By Order R-109-69/01.02.2019 is enrolled as a full-time doctoral student at the University of Varna in the "Nursing Care Management" doctoral program at the Department of Health Care.

K. Katrandzhieva began her professional career immediately after graduating in 1988 at UMHAT "St. Marina", Cardiology Clinic, ICD and worked there until the end of 2014. From 01.01.2015, she transferred to the Radiotherapy Clinic in the same hospital, where she continues to be a senior nurse. He speaks English and Russian at a good level.

*Summary:* Kalina Katrandzhieva has extensive practical experience as a nurse and manager; has a continuously updated education in the field of health sciences and in general and applied psychology. All this is a good prerequisite for developing a dissertation work.

### **General characteristics of work**

The dissertation presented by Kalina Katrandzhieva contains 158 standard pages and is illustrated with 5 tables, 46 figures and 5 appendices. The bibliographic list includes 289 literary sources, of which 27 are in Cyrillic and 262 are in Latin. The material is structured in the classic way in well-balanced main sections.

**Actuality of work.** It is determined by the increasing number of oncological diseases in the structure of morbidity and mortality, both in the world and in our country. The increased life expectancy, the huge scientific progress in the diagnosis and treatment of these diseases and, as a result, the increased survival of patients for whom it is vitally important to maintain a good quality of life. In health care systems, there is an increasing need for a large and diverse number of medical professionals to meet the needs of the increased number of cancer patients undergoing radiation therapy, where recognition and management of early reactions is essential. The focus on the role of the nurse, either individually or as a member of an interdisciplinary team (IMT), reflects a strong contemporary trend to use the increased competencies of new nurses to optimize patient care, both preventive and curative, through appropriate evidence-based and modern approaches. organizational technologies. This trend is a new research field for Bulgaria, in which the current dissertation successfully fits.

**Evaluation of the literature review.** It is about 1/3 of the actual text of the dissertation, organized into 9 paragraphs that address two main topics. The first refers to the latest data on the epidemiology of oncological diseases in the world, Europe and Bulgaria and is focused on

radiation therapy and its early reactions in patients with head and neck cancers and mammary gland cancer. Special attention is paid to skin reactions, fatigue, pain. Differences were noted between head and neck tumors where pain was present in 92% and mammary tumors where pain was present in 21.6%. The quality of life in these patients and its measurement in its various aspects – functional, emotional, social/family and physical well-being – is discussed in detail.

The second theme refers to the analysis of good practices for complex care of patients with early reactions to radiation therapy of the indicated tumors with the participation of nurses in clinical observation, recognition and management of symptoms of early reactions, as well as the competencies they need to upgrade through training so that they can perform this role well. In addition to the individual plan, the nurse's role is also discussed as a member of the MDE - patient education, care coordination, participation in therapy, symptom management, supportive care. The summaries from the literature review served to define the purpose and methodology of the own study.

### **Evaluation of objective, tasks and methodology**

**The aim** of the dissertation is clearly formulated: to study the early radiation reactions in patients undergoing radiotherapy and to propose a model for health care, guaranteeing the improvement of the quality of life of oncological patients.

Seven tasks are set, which relate to theoretical and practical issues of the occurrence and management of early radiation reactions during treatment, and especially those of skin and mucous membranes in patients with head and neck cancer and mammary gland; assessment and follow-up of quality of life in patients with early radiation reactions by a nurse; to investigate the readiness of nurses working in radiation treatment units to participate and monitor early radiation reactions; to explore the need for further training of nurses in planning and providing care for patients with early radiation reactions; to develop and validate an algorithm for the assessment of early radiation reactions and to develop and validate a model of nursing care in patients with early radiation reactions. Three hypotheses are presented, the subject and object of research are well defined. They are covered:

- ✓ Nurses working in 4 radiotherapy facilities in Varna, Burgas and Ruse (30)
- ✓ Patients undergoing radiotherapy at the Radiotherapy Clinic of the University Hospital "St. Marina" (63 people)
- ✓ Doctors working in radiotherapy facilities in Varna, Burgas and Ruse (15)

The methods applied were: documentary, questionnaire (in nurses and patients) and semi-structured interview in physicians; observation conducted by the researcher on the included 63 patients from the Radiotherapy Clinic.

For the statistical presentation of the results, the following were used: analysis of variance, examination of quantitative characteristics, comparative analyses  $\chi^2$  (Chi-square test), Student's test, discriminant analysis (ANOVA) to assess whether the influence of one factor is significant or not, risk assessment analysis (OR), odds ratio, correlation analysis to assess the dependence of the studied indicators. Data processing was performed using SPSS v.20, the significance level of the results was taken as  $p < 0.05$ .

The instrumentarium - questionnaires, questionnaires, observation evaluation sheet are very well developed. The PhD student has also developed an Algorithm for the assessment of early radiation reactions in patients undergoing radiotherapy.

**The methodology** of the dissertation meets the modern requirements, includes quantitative and qualitative methods, as well as own modifications, which proves the good preparation of the doctoral student for research work and is a guarantee for the reliability of the obtained results.

**The results** are presented accurately, according to the objectives, well illustrated, in parallel for head and neck cancer and breast cancer. A 43-fold higher risk of pain was found in patients with head and neck cancers, as well as a lower quality of life compared with those with breast cancer. Pain, fatigue, skin reactions with manifestations of pruritus, burning and oral mucositis were monitored and their relationship to each of the quality of life items was shown. Nurses working in radiotherapy facilities had a high degree of willingness to actively participate in the follow-up process of patients' treatment (80.0%), although physicians were reluctant to delegate such rights due to the lack of additional qualifications of health care professionals in this area.

Based on the results, the doctoral student has developed in detail and approved in the Radiotherapy Clinic of UMHAT "St. Marina" A model of nursing care for patients with early radiation reactions that connects the nurse, the patient and his family and the MDE. It represents the final stage and fulfillment of the objectives of the dissertation work. A useful addition is the developed Practical Tips for Patients, which are important for educating the patient to deal with possible situations during radiotherapy.

I agree with the formulated contributions as the most important:

- For the first time in Bulgaria, a study of early radiation reactions in patients with head and neck cancer and mammary gland cancer was conducted with the participation of nurses.
- The role and contribution of nurses in the assessment and follow-up of early radiation responses in patients with head and neck cancer and breast cancer are detailed.
- The need for additional qualification of nurses in connection with their active participation in the follow-up and assessment of patients undergoing radiation treatment has been proven.
- An algorithm and model of nursing care for the assessment and follow-up of early radiation reactions in patients undergoing radiation therapy are theoretically justified and proposed.

In a practical-applied plan, it deserves to be noted:

- ✓ A sheet was developed and proposed for the assessment and follow-up of early radiation reactions of the skin and mucous membrane by the nurse, in order to improve the effectiveness of the treatment process.
- ✓ A model of nursing care for patients with early radiation reactions has been developed with precise and clear guidelines, which brings health care to a new level with the possibility of their individualization.
- ✓ A questionnaire was implemented to assess the quality of life of patients undergoing radiation treatment by the nurse, based on which an individual approach to patient care is created.

### **Abstract and publications on the work**

The abstract for the dissertation correctly reflects the structure of the work and contains the most important results and conclusions of the study.

In connection with the topic of the dissertation, three publications have been made, of which the doctoral student is independent in one, and first author in two.

The practice of the Department of Nursing Care for cooperation with the clinics of UMHAT "St. Marina", basing research doctoral projects in them, incl. testing new approaches, which will certainly have a beneficial effect on practical work. It is worth noting the scientific leadership of Assoc. Prof. Katya Genova and the consulting role of the head of the Clinic, Prof. Elitsa Encheva.

## **Conclusion**

The presented dissertation work on the topic: "Modern approaches in the care of patients with early reactions to radiotherapy" in terms of relevance, volume and quality of the development, as well as in terms of the significance of the contributions, meets the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Rules of MU - Varna for its implementation.

In connection with everything stated above, I confidently give my positive assessment and appeal to the honorable scientific jury to award the educational and scientific degree "Doctor" in the scientific specialty "Nursing Care Management" to Kalina Stoyanova Katrandzhieva.

10.04.2023

Member of the Scientific Jury:



/Assoc. Prof. Nevyana Feschieva, Ph.D/