

## REVIEW

by Assoc. Prof. Valya Ivanova Dimitrova, Ph.D.,  
Faculty of Public Health, Department of Health Care at the Medical University - Varna,

member of the scientific jury according to order No. R-109-119 of 15.02.2023 of the Rector of the Medical University - Varna, and on the grounds of the first Minutes of Meeting of the Scientific Jury No. 1 of 28.02.2023, I have been appointed to prepare a review under the procedure for acquisition of educational and scientific degree "Ph" in the field of higher education 7. Health care and sports, professional direction 7.4 Public health, scientific major "Health care management", with applicant

### MARTINA STOYANOVA IVANOVA,

with a dissertation work on the topic "*Optimization of health care for oncological patients, by assessing distress*", with scientific supervisor Assoc. Prof. Stanislava Pavlova Peneva, MD. and scientific consultant Assoc. Prof. Dr. Nikolay Vladimirov Tsonev, MD.

#### Procedure data

The procedure for the development and presentation of the dissertation work and the training under the PhD program fully comply with the regulations.

By Order of the Rector of Medical University-Varna R-109-58 dated 01.02.2019, Martina Stoyanova Ivanova was enrolled as a doctoral student in full-time study for the award of the educational and scientific degree "PhD" in the field of higher education 7. Health care and sports, professional direction 7.4. Public Health, major Health Care Management. The Protocol for successfully passing the PhD minimum exam from 05.03.2020, in compliance with Order R-109-109 of 20.02.2020 of the Rector of Medical University – Varna and the Protocol for successfully passing the foreign language exam from 04.15. 2021 on the basis of Order R-100-30 of 19.01.2021 of the Rector of the Medical University – Varna. In view of the report with entry No. 102-378 of 01.02.2023 of Prof. Silvia Borisova, Ph.D, DSc. - head of the Department of Health Care regarding the readiness for public defence, proposal for a Scientific Jury and decision of the Faculty Council of the Faculty of Public Health at Medical University-Varna according to Protocol No. 201 of 09.02.2023 and pursuant to Art. 24, para. 6 and Art. 30, para. 3 of Rules for implementation of the law on the development of the academic composition in Republic of Bulgaria, Art. 68, para. 1 of the Regulations for the development of the academic staff of the MU - Varna with the Order of the Rector of the Medical University-Varna No. R-109-119 dated 15.02.2023, Martina Stoyanova Ivanova was entitled with the right of defense.

The entire package of administrative documents provided for in the Law on the Development of the Academic Staff and the Rules for the Development of the Academic Staff of Medical University-Varna is presented.

#### Biographical data and career development of the PhD applicant

Martina Stoyanova Ivanova was born in 1989 in Varna. Acquired medical education in the major "Nurse" with educational and qualification degree "Bachelor" at Medical University - Varna in 2013. In the period 2013 - 2015, she has studied and successfully completed the Master's program of Medical University-Varna in Health Care Management. Immediately after graduation, in 2013 - 2014, she worked as a nurse in the Neurosurgical Clinic at the "St. Anna AD - Varna. Since 2014 until nowadays, Martina Ivanova has been working in the Medical

Oncology Clinic at the St. Marina" EAD - Varna, and since 2015 she has been working as a senior nurse. As a full-time PhD student at the Department of Health Care, ever since the start of school year 2019/2020, she has been conducting exercises for students under the Major "Nurse" in the subjects "Nursing care for patients with somatic diseases", "Nursing care for patients with oncological diseases", "Palliative nursing care" and clinical practice in the Medical Oncology Clinic for majors "Nurse" and "Midwife". Martina Ivanova's scientific interests, as can be seen from the presented publications, are focused on the medical, psychological, social and ethical problems in providing care for oncological patients. Two of the publications have been presented at international scientific conferences and published with an impact factor. The applicant Martina Ivanova speaks English at a good level. She is a member of the Bulgarian Association of Health Care Professionals.

#### **General characteristics of the dissertation work**

The dissertation work, presented by Martina Ivanova, was developed at the Department of Health Care of the National Institute of Health at the Medical University - Varna. The dissertation work comprises of 185 pages, is presented in 5 chapters and includes: introduction (3 pages), literature review (44 pages), methodology and organization of the scientific study (11 pages), results and discussion (87 pages), practical approaches (8 pages), conclusions, recommendations and contributions (4 pages), conclusion (2 pages). References and six appendices are also presented. The text is illustrated with 66 figures, 8 tables and 6 appendices. The Reference list includes 226 literary sources, out of which 55 in Cyrillic, 170 in Latin and 1 Internet source.

#### **Relevance of the dissertation**

In the conditions of a progressive increase in the number of patients with oncological diseases, every researched and analyzed problem on the subject develops special relevance. The study of the question of the assessment of distress in patients with oncological diseases and the proposal of concrete practical approaches to optimize the nurse's role in their identification and subsequent care, is a current and significant problem in modern nursing theory and practice. Clarifying the role of the oncology nurse in the assessment of distress in patients with oncological diseases, revealing difficulties and problems in nursing practice, makes it possible to discover new approaches to improve the condition of the patient with oncological disease and increase their quality of life. This will undoubtedly affect the self-esteem of the oncological nurse, make her feel important and useful, which will reflect on the level of satisfaction whilst practicing the profession. The analysis of the literature sources shows that in our country, studies in the field of distress in patients with oncological diseases and assessment of problems in their daily life, as well as the role of the oncology nurse, are fragmented, isolated and not systematized, which is the basis of the motives of the PhD student in choosing a topic for the dissertation. In this sense, the topic is interesting and dissertable. Constant changes in the healthcare system as well as new scientific discoveries integrated into the care of oncology patients indicate that the role of the oncological nurse will continue its development. By increasing their qualification level and expanding their competences, nurses have the opportunity to develop their potential and perform their professional duties better and better.

#### **Structural evaluation of the dissertation work**

**The literary review** systematizes and analyzes 226 literary sources, of which 55 in Cyrillic, 170 in Latin and 1 Internet source. The literature is contemporary, with 81% of the literature sources being from the last 20 years. About ¼ are the literary sources from the last 10 years (24 %). The literature review is structured in four separate parts, where in a logical sequence the PhD student presents current problems and the role of the nurse in the process of screening for distress in patients with oncological diseases. The development of medical science and practice imposes new roles and functions of medical professionals, and the activity of the health care professional allows patients and their families to receive additional help and build a more thorough approach, which is key in the fight against oncological diseases. In the second part of the literature review, Martina Ivanova separates a special section focused on oncological diseases, where epidemiology, etiology, biological behavior of cancer, classification of tumors - nomenclature, diagnosis, staging, treatment and prevention of oncological diseases are examined in detail. This is followed by a review of the literature regarding the role of the nurse in cancer care and palliative care. In a separate part, the PhD student distinguishes the studies of distress as a health and psycho-social problem, main moments in screening for distress in oncological patients and the role of the nurse in its assessment. At the end of the literature review, based on the studied sources, the author formulates seven summaries, in which she points out the importance of optimizing the nurse's role when conducting screening for distress. For the development of the literature review, the author relies on sufficient sources, which she skilfully analyzes and shows in-depth knowledge of the opinion of other authors on the problem she has chosen. The structure of the literature review and the stylistic layout show Martina Ivanova's skills in handling literary sources, analyzing information and expressing her own opinion on the topic of the dissertation.

#### **Purpose, tasks and working hypotheses**

**The purpose** of the study is to identify and assess the level of distress in cancer patients with a view to optimize health care.

In order to achieve the goal, **seven** tasks were set out, among which are a study of international experience and the role of the nurse in the assessment of distress in oncological patients, establishing the relationship between the type of oncological disease, general condition, the stage of the oncological disease and the level of distress, before and after chemotherapy, analysis of the relationship between socio-demographic factors and the level of distress in patients with oncological diseases, study of the level of distress in the relatives of patients with oncological diseases, considering their care and interaction, revealing the relationship between practical, family, the emotional, physical problems, spiritual/religious concerns of the patients and the level of distress, conducting an observation in a real working environment, tracking the behavioral reactions of the patient during the period of hospitalization, researching and evaluating the need to apply a distress thermometer in daily nursing work, analysis of opportunities to optimize nursing care for distressed patients and development of practical approaches to optimize the nurse's activity for distressed oncology patients

Three working hypotheses relevant to the aim and objectives of the scientific study are defined.

#### **Methodology**

The methodology of the scientific research is described in detail and correctly, as the subject of the research is the evaluation and analysis of distress among oncological patients, and

three groups are indicated as the object of the study - patients with histologically proven oncological disease and referred for treatment to the Medical Oncology Clinic to University Multi-profile Hospital for Active Treatment St. Marina EAD - Varna (n = 374), family members of patients (n = 200) and nurses in the same clinic (n = 23). In the study methodology, the logical units of the study are correctly described with their signs, as well as the place of the study - Medical Oncology Clinic at University Multi-profile Hospital for Active Treatment St. Marina EAD - Varna. Criteria for inclusion and exclusion of patients and their relatives in the "Distress Thermometer" study, for filling out a "Questionnaire for the assessment of problems" by the patient, for participation in the observation of the patient's behavioral reactions, as well as for conducting the study have been carefully selected among nurses, which is a prerequisite for the objectification and validity of the obtained results. The study was conducted in the period 2019 - 2022, and was mainly carried out independently by the author, in a real working environment.

The method statement of the study, determined by the PhD student, the scientific supervisor and the scientific consultant, is very well detailed, correctly described and allows achievement of the set goal and tasks. Research methods are precise and statistically validated. The diverse toolkit that was used also contributes to the in-depth and multi-aspect nature of the study, which increases the quality of the presented dissertation work and its contributions.

To achieve the scientific research goals and tasks, the PhD student has developed: "Distress Thermometer" to collect information from patients and their relatives, through a standard NCCN tool with additional information about the needs of the study with social and demographic characteristics; Questionnaire card for assessment of patient problems; A checklist for monitoring patient's behavioral responses; Questionnaire for conducting a face-to-face interview“.

The study was approved by the Medical Research Ethics Committee at the University of Medicine - Varna with Decision No. 64/13.07.2017.

### **Results and discussion**

The presentation of the third chapter begins with socio-demographic and clinical-pathological characteristics of the examined patients. Depending on performance status (PS), patients with PS -1 predominate in the sample (n = 201, 53.8 %). Age, gender, marital status, professed religion, ethnicity, education, disease stage were analyzed as factors affecting the level of distress. The analysis of the results continues with the socio-demographic characteristics of the patients' relatives (200), and the same indicators were examined. The following is an analysis of the results of the measured levels of distress among the patients using the "Distress Thermometer", with a cut-off point for the interpretation of the data obtained and the two stages of the study being described - at the start and end of chemotherapy treatment. The presented results indicate that, according to the measured level of distress, patients with a high level of distress predominate (n = 207, 55.3 %), and the level of distress is influenced by performance status (p = 0.006), localization of carcinoma (p = 0.001) and the level of education (p = 0.017). The Mann-Whitney analysis shows that there is a tendency for a higher level of distress in patients under 65 ( $4.07 \pm 3.07$ ) and there was a significantly higher level of distress in female patients ( $4.3 \pm 3.2$ ) compared to male respondents ( $3.2 \pm 2.8$ ) (p = 0.014). Patients with higher education showed a tendency for a higher level of distress ( $4.4 \pm 2.9$ ) compared to patients with secondary and primary education ( $3.6 \pm 3.1$ ) (p = 0.08). The one-factor logistic regression analysis showed that single status, poor performance status, lung and breast carcinomas were independent predictors of high levels of distress, suggesting intensive monitoring by the nurse to



identify early symptoms. Some factors are associated with a higher risk for high levels of distress among cancer patients, such as: marital status - single (OR 5.3, 95 % CI, 1.2 - 21.3;  $p = 0.02$ ), poor performance status (OR 0.46, 95 % CI, 0.26 - 0.8;  $p = 0.006$ ), lung carcinoma (OR 4.9, 95 % CI, 2.1 - 11.3;  $p = 0.001$ ), breast carcinoma (OR 2.7, 95 % CI, 1.2-6.1;  $p = 0.01$ ).

The data from the study among the relatives of cancer patients show that there is a high level of distress in most of the studied persons ( $n = 116$ , 58 %). The description of the analysis is precise and consistent, presenting the obtained results and dependencies. The PhD student summarizes that the health care provided by the oncology nurse is not limited to impeccable manipulative skills, knowledge of drug therapy, nutrition, etc., but is rather more comprehensive and includes communication and interaction not only with the patient, but also with his close ones. The presentation of the third chapter continues with an assessment of the relationship between patients' practical, family, emotional, physical problems, spiritual/religious concerns and the level of distress explored by a questionnaire for patients with criteria related to physical and mental status, based on the hospital documentation (225). The relationship of distress with solving financial issues, non-medical expenses related to the oncological disease was studied. The analysis continues with an assessment of family problems and those affecting family relationships. The PhD student deepens the research by assessing emotional problems, which include depression, fears, nervousness, sadness, anxiety and loss of interest in usual activities. The relationship of distress with some physical problems and difficulties related to oncological diseases such as changes in appearance, bathing/dressing, breathing, micturition, defecation, eating, fatigue, high temperature/fever, walking, digestion, memory/concentration, sore mouth, nausea, dry/stuffy nose, pain, sexual problems, dry or itchy skin, sleep problems, numbness in hands/feet, which shows Martina Ivanova's desire to explore the different aspects of the problem.

The description of the obtained results continues with an examination of nurses' ability to observe verbal and non-verbal behavioral responses of patients and their importance in providing health care. Observation of hospitalized patients and their reactions was carried out by filling in a checklist with 30 observed reactions in three stages - at admission, during the stay and at discharge. In order to identify the main emotional reactions of the patient and thus support the period of adaptation, not only to the hospital environment, but also to the treatment administered. On the basis of the obtained results and his professional experience, the doctoral student prepares a Profile of the patient's behavior during hospitalization, which is again examined in 3 stages and is presented descriptively and schematically.

A deepening of the research was achieved through an interview with nurses about the need to apply a distress thermometer and the possibilities for optimizing nursing care for patients with distress. Nurses consider it a tool to improve clinical work with patients, as a result of understanding their individual needs.

In chapter Four, the PhD student presents practical approaches to optimize the professional activity of the oncology nurse in distressed patients. It is presented by defining a cycle for assessing distress in cancer patients, identifying distressed patients, planning, implementing and evaluating nursing care. The model proposed by Martina Ivanova contains stages for assessing patients with distress and professional nursing behavior in a patient with an oncological disease, describing in detail the patient's path and nursing care.

### **Conclusions and recommendations**

The fifth chapter of the dissertation work presents conclusions and recommendations. On the basis of the conducted scientific study, eight conclusions were formulated, presenting the levels

of distress found in the patients and their relatives and the factors that influence its formation. The conclusions drawn correctly follow the set tasks and bring out the need to optimize the role of the nurse for the prevention of distress in oncological patients.

Recommendations and proposals are formulated in the dissertation work, which would be valuable in a methodological aspect for the Medical Universities, where students are trained in the specialty "Nurse" and "Midwife" and the medical institutions.

### **Evaluation of contributions**

The dissertation represents a first-of-its-kind purposeful and an in-depth, comprehensive study to assess levels of distress in cancer patients using the Distress Thermometer. The role of the nurse in the assessment of distress in cancer patients and the possibilities for individualizing health care are outlined. For the first time in Bulgaria, the levels of distress in relatives of cancer patients are assessed. In the formulated Contributions of a practical-applied nature, the practical guidelines for optimizing nursing care for distressed patients and the possibilities for their integration *into real clinical practice with the developed Stages* for the assessment of distressed patients combined with a schematic model for "*Professional nursing behavior in patients with oncological disease*" and the '*Distress Assessment Cycle for Oncology Patients*' based on professional nursing behavior and the '*patient pathway*', as well as the defined *Patient Behavior Profile during hospitalization*. The author associates the modern concept of nursing with building skills and habits in the nurse for clinical observation, analysis of the patient's condition and application of an individual approach in nursing care.

**The abstract** comprehensively reproduces the most essential moments of the dissertation and is presented in a volume of 81 pages.

In connection with the dissertation work, the PhD student presents three full-text publications at home and abroad. *I recommend* Martina Ivanova to develop a greater publication activity in specialized scientific journals at home and abroad in order to make available to a wider circle of specialists and experts in the field of health care the author's view on the possibilities for optimizing the role of the nurse in care for oncological patients.

Through the developed dissertation work, which is sufficient in volume and can be considered as an up-to-date scientific work with important theoretical and practical contributions, Martina Ivanova fully covers the requirements established by Medical University for awarding the educational and scientific degree "PhD", I have no critical comments to the dissertation work.

### **Personal impressions**

I have known Martina Ivanova since she was hired as a part-time lecturer in clinical practice at the Medical Oncological Clinic for students in the major "Midwife". I highly appreciate her ability to dig deeper and correctly and positively assess any situation. Outspoken, inquisitive and consistent in her actions, she established herself as a respected tutor and colleague. She demonstrates very good team-collab skills, as well as clear communication ability and leadership. I believe that the accumulated practical and tutorial experience are the basis for a realistic evaluation of the existing nursing clinical practice as a starting point for introducing innovations with multiple effects both for improving the quality of life of patients, improving health care, and in terms of the level of satisfaction of the practicing nurses.

**Conclusion:** On the basis of professional development, scientific and tutorial achievements and complying with the criteria of the Law on the Development of Academic Staff in the Republic of Bulgaria, the Regulations to it and the Regulations on the Development of Academic Staff at the Medical University Prof. Dr. P. Stoyanov - Varna, **I give my positive vote and confidently propose to the esteemed Scientific Jury** that the PhD student MARTINA STOYANOVA IVANOVA acquires the scientific specialty "Doctor" in the scientific Major "Health Care Management".

03.04.2023

Compiler of review:



**Assoc. Prof. Valya Dimitrova, Ph.D.**