

## REVIEW

by **Prof. Dr. Kuncho Trifonov Tchamov, MD**, member of the scientific jury according to order No. R-109-119 / 15.02.2023 of the Rector of the Medical University Prof. Dr. **Paraskev Stoyanov - Varna**

**Subject:** procedure for the defense of the dissertation work of Martina Stoyanova Ivanova, full-time PhD student at the Department of Health Care at the Faculty of Public Health at the Medical University - Varna on the topic: "Optimization of health care for chronically ill patients by assessing distress" under the doctoral program "Health care management" from the field of higher education 7. "Health care and sports" in professional field 7.4. "Public Health".

**Research supervisor: Assoc. prof. Stanislava Pavlova Peneva, MD**

**Scientific consultant: Associate prof. Nikolay Vladimirov Tsonev, MD.**

### 1. Biographical data and career development of the PhD student

Martina Stoyanova Ivanova was born on 01.10.1989 in Varna. In 2013, she successfully completed a bachelor's program in the specialty "Nursing", and in 2015 she obtained a master's degree in the Major "Health Care Management" from the Medical University Prof. Dr. Paraskev Stoyanov - Varna. She began her professional career as a nurse in 2013 at Sveta Anna Hospital AD - Varna, where she has been working until now. She worked successively in the Neurosurgery Clinic (2013-2014), in the Medical Oncology Clinic (2014-2015) as a nurse, and in the Medical Oncology Clinic from 2015 and until present as a senior nurse. In February 2019, she won a competition for a full-time PhD student in the "Healthcare Management" PhD program at the Healthcare department of the Medical University - Varna. The topic of Martina Ivanova's dissertation work is "Optimization of health care for oncological patients by assessing distress." From 2016 to 2022, she conducts classes for students in clinical practice of the „Major Nursing" at the Medical University - Varna. In the period 2019-2022, she participated in the educational activities of the Healthcare department, conducting exercises for students in the subjects "Nursing care for patients with oncological diseases", "Nursing care for patients with somatic diseases" and "Palliative nursing care“.

The presented information about the PhD student's career development shows a desire for professional development and improvement.

### 2. Dissertation work data

Martina Ivanova's dissertation work presented for discussion has a volume of 185 standard pages. The text of the development is illustrated with 66 figures, 8 tables and 6 appendices. The literature reference contains 226 sources, of which 56 are in Cyrillic and 170 are in Latin.

The paper work is presented in 5 chapters and is structured as follows: Introduction; Literature review; Methodology and organization of scientific research; two chapters including analyzes of results of measuring the levels of distress in the target groups and of approaches to optimizing health care for oncological patients by assessing distress; conclusions, recommendations, literature and appendices. The individual chapters of the work are



chronologically connected and meet the structural and content requirements for a similar scientific work. In an appendix, are represented six appendices for researching the problem independently developed by the PhD student as a methodological toolkit, including: two so-called "distress thermometers" for self-assessment of the level of distress in the patient and his relatives; patient questionnaire; patient monitoring checklist; an interview questionnaire to explore the possibilities of optimizing the nurse's participation in the care of oncological patients; and an informed consent form for research participation.

In the thematic connection with the dissertation work, 3 scientific publications are presented, and two of the articles were printed in authoritative foreign journals.

## 2. Relevance of the dissertation work

The increased incidence and spread of oncological diseases worldwide has directed scientific research, in addition to the search for better diagnostic and therapeutic approaches to the treatment of the disease itself, but also to the study of the psychosocial consequences of the disease. Within the process of fulfilling her professional duties, the nurse develops and deepens her relationship with the patient and his relatives. This development requires a significant expansion of the nurse's role in relation to the growing needs and expectations of people with cancer and their relatives. Diagnosing the patient with an oncological disease inevitably leads to adverse effects on his mental health and social behavior, most often resulting in distress. The National Comprehensive Cancer Network (NCCN) defines the distress as "a multifactorial unpleasant emotional experience of a psychological, social, and/or spiritual nature that may affect the patient's ability to cope with the symptoms of their disease and the treatment being administered." Distress also affects members of the family of the oncological patient. In this direction, the health care provided to oncological patients already exceeds the traditional medical skills of the nurse, requiring communication, consultations and assessment of the distress levels of the patient and his relatives. Current guidelines for the management of distress in oncological patients recommend screening at first contact with a healthcare professional and follow-up at key stages of disease progression.

In this context, the dissertation work presented by Martina Ivanova deals with an actual, but poorly studied in our country, medico-social problem, related to the optimization of health care for oncological patients, through the assessment of distress in a hospital environment. The relevance of the presented study is also supported by: the relatively small number of scientific studies and publications on the problem in our country according to the specifics of activity in hospital departments; need for evidence-based adequate models to optimize health care for cancer patients by assessing the level of distress.

## 3. Awareness of the issue

The literature review in a volume of 53 pages includes 226 literary sources, a significant part of which were published in the last 10 years. The analysis of scientific publications is structured in three sections, which chronologically analyze main aspects of the studied problem, including: epidemiology, classification, screening, diagnosis and treatment of oncological diseases; the role of the nurse in the course of the disease and in providing palliative care; distress screening, distress testing, and the nurse's role in distress assessment.



The PhD student demonstrates good literature awareness and analytical abilities to place the right emphasis on current problems related to analysis and assessment of nurse's role in optimizing health care for oncological patients through distress assessment based on national realities and international experience. The synthesis of the literary sources shows a thorough knowledge of the problem, good professional and terminological competence. The conclusions of the literature review served as a basis for formulating the goals and structure of the dissertation work. The obtained summaries convincingly substantiate the necessity and relevance of the study, supporting the chronological selection of its tasks and the approaches to their implementation.

#### 4. Purpose, tasks and methodology of the study

The aim and the set eight tasks of the dissertation development are clearly formulated, specific and justified. The subject, scope, logical units and characteristics of the study are defined in detail. It included 597 people, divided into the following three groups of respondents: patients with proven oncological disease (n=374); family members with cancer (n=200); and nurses working in the oncology clinic of UMBAL St. Marina EAD - Varna (n=20). The logical units of observation include representatives of the above mentioned three groups of respondents selected on the principle of voluntariness and random selection. The methods for selecting the logical units, the criteria for their inclusion and exclusion, and the stages of the study are precisely defined. Territorially, it was carried out in the Medical Oncology Clinic of UMBAL St. Marina EAD - Varna.

The methodology selected allows successful fulfilment of the selected aim and adequate finalization of the tasks of the dissertation. The methods selected are successfully chosen, extensively described and statistically validated. The study is of multilateral and labour-consuming for realization due to the variety of instrumental elements used, which increases the cumulative effect of the quality of the scientific and practical contributions.

The applied combined methodology for collecting the information is original by means of: two "distress thermometers" for collecting information from the patient and his relatives; patient questionnaire; patient monitoring checklist; interview questionnaire. A high degree of correspondence was achieved between the 8 tasks set, the number of scientific interventions undertaken and the results obtained.

I should point out the high quality of the methodological tools, the precision of the conducted research and the reliability of the results obtained. In this regard, I should emphasize the merit of the scientific supervisor and the scientific consultant.

#### 5. Evaluation of the obtained results

The results of the study are presented in the third and fourth chapters with analyzes and assessments, respectively, of: the medico-social, demographic and ethnic characteristics of the respondents; the results of measuring levels of distress, both among patients and among their relatives; family, emotional, physical, and spiritual concerns affecting levels of distress; the



opinions of nurses regarding the possibilities to optimize nursing care; proposed practical approaches to optimize nursing care through distress assessment, etc.

The analysis of the results reflected in the 3rd chapter begins with a detailed socio-demographic and clinical-pathological characteristic of the examined patients and their relatives. Of scientific interest is the wide scope of the selected groups, units and signs of observation, dividing the respondents according to the following characteristics: confirmed oncological diagnosis, age, gender, level of education, marital status, organ localization of the disease; professed religion, etc. The diverse set of observational signs included in the study and the precise statistical processing ensure reliability, quality and credibility of the results obtained and the conclusions drawn. The obtained results of research on the characteristics of the target groups are presented and interpreted in 6 thematic sections corresponding to the tasks set.

The characteristics of the examined patients found a predominance of: females 55 %; respondents in stage II/III non-metastatic – 60%; the group of family patients – 69.2 %, followed by the group of widowed; patients with secondary education – 54.3%; breast cancer patients – 26.5 %, followed by those with colorectal carcinoma 25.7 %. The socio-demographic characteristics of the patients' relatives were also studied. The assessment of distress levels in patients was carried out in two stages, with the first determining the baseline level at admission and the second after completion of chemotherapy. During each of the two stages, the doctoral student uses an identical distress thermometer. In the first stage of assessment, patients with a high level of distress - 55.3 % - predominate. Mann-Whitney analysis showed higher recorded levels in patients under 65 years of age compared to those over 65 ( $p = 0.08$ ) and in female patients compared to male patients ( $p = 0.014$ ). The same analysis showed a significantly higher level of distress in patients with a performance status (PS) according to ECOG above 1. Statistical analysis showed that there was no relationship between the characteristics of age, sex, religion, ethnicity and place of residence and the level of distress. Univariate regression analysis conducted by the doctoral student showed that poor performance status, single status, lung and breast carcinomas were independent predictors of high levels of distress, suggesting intensive nursing supervision. The analysis of the results of the measured levels of distress among relatives of cancer patients found no statistically proven relationship with age, gender, family status, ethnicity and level of education.

The doctoral student's assessment of distress, concerning the patient's subjective feelings about problems related to everyday life, grouped into the following five categories: practical, family, emotional, physical and spiritual concerns, is of a contributing nature. For this purpose, a questionnaire with 36 questions was used. The analysis of the results found a significantly higher level of distress related to the following problems: difficulties with transportation; dealing with daily work; relationships with children, partner and close friends; the performance status of the patient and the location of the carcinoma; the presence of anxiety, depression and sleep problems.

For the purposes of the study, the patient's verbal and non-verbal behavioral reactions were observed during the period of his hospitalization - upon admission to the clinic, during hospitalization and during discharge. For this purpose, a "Checklist" adapted by the doctoral



student was used with ten types of reactions that reveal and complement the psycho-emotional status of the patient. Its use develops nurses' skills to monitor changes in patients' behavioral responses and is essential for providing timely and effective health care. The most frequently observed behavioral reactions of the patients during their admission for treatment were nervousness - 85.8 %, anger - 52.0 %, anxiety - 47.1 %, aggression - 28.0 %. The obtained results for the behavioral reactions of the patients during the stay in the clinic and upon their discharge show a high degree of similarity in the following indicators: desire to receive more information about the prescribed therapy - 98.2 %; desire to talk about his illness with the nurse - 73.8 %; desire to communicate with other patients - 86.2 %, etc. A comparative analysis of the most common behavioral characteristics of the patient during the admission, the stay in the clinic and upon discharge was also made, which allows to form a profile of the patient. The scientific-practical contribution of the use of the checklist is related to the possibility of quickly identifying the main emotional reactions of the patient, in order to optimize nursing care and to support his adaptation to the hospital environment and to the applied treatment.

The results of the interview with 23 nurses about the usefulness and applicability of the distress thermometer regarding the possibilities of optimizing their clinical work with oncology patients with distress and their influence on their behavioral reactions are an applied contribution. The opinions expressed on the questions included are mixed, but they emphasize the need for: nurse involvement in the assessment of the physical and emotional state of patients with oncological diseases; assessing and understanding the patient's needs to alleviate distressing emotional reactions; use of additional validated tools to screen at-risk patients.

The fourth chapter of the dissertation work synthesizes the results of the conducted study, finding practical implementation in the formulation of approaches to optimize the professional activity of the oncology nurse in patients with distress. The scientific results obtained in the previous chapter find their application in the following synthetically developed models of the following scientific and applied instruments:

- Distress assessment cycle in oncological patients;
- Stages in the evaluation of patients with distress;
- Model for "Professional nursing behavior in a patient with an oncological disease."

The cycle of assessment of distress in oncological patients offers a model of nursing behavior following the "pathway of the oncological patient" with the necessary sequence of nursing activities depending on the presence or absence of distress. It begins with the use of the "Distress Thermometer" as soon as the patient is admitted. The PhD student has developed a five-step step-by-step "Distress Patient Assessment Scheme" as well as a schematic "Professional Nursing Behavior Model for the Oncology Patient." The need for nursing staff training is emphasized, which thematically includes: introduction to screening procedures in patients and their relatives; familiarization with the procedures, recommendations and stages of distress assessment; models for professional nursing behavior in cancer patients.

## 6. Evaluation of contributions

I believe that the dissertation work presented by the doctoral student has contributions of a theoretical-cognitive, scientific-applied and informative nature, the main ones of which are:

- An in-depth comparative analysis of literature sources on optimizing health care for oncological patients by assessing distress was made.
- An original study was conducted on levels of distress in oncological patients and their relatives using the Distress Thermometer.“
- The relationship between levels of distress in oncological patients and their subjective feelings about practical, family, emotional, physical and spiritual problems and worries caused by everyday life and communication with their loved ones was analyzed.
- The following original models and schemes for optimizing health care have been developed: "Model of professional nursing behavior in a patient with oncological disease", "Scheme for assessment of patients in distress", "Model of nursing behavior in a patient with oncological disease“.
- The obtained results establish important realities and trends for optimizing the role of the nurse in patients with distress and offer opportunities for their integration in clinical practice and in the learning process.

In conclusion, I should emphasize that the analysis of the respondents' answers is precisely presented with numerous figures and tables that reveal existing correlational dependencies, detailed in the conclusions. The main conclusions, 8 in number, are systematized in the main thematic areas, accurately reflecting the obtained results, respectively, the purpose and tasks of the dissertation work. The recommendations are too succinctly presented compared to the possibilities arising from the obtained results. They are institutionally addressed to medical universities and medical institutions.

The content and quality of the abstract meets the requirements of the Regulations of the Medical University - Varna, faithfully and adequately reflecting the main results of the study.

**In conclusion,** I believe that the dissertation work presented by Martina Stoyanova Ivanova on the topic "Optimization of health care for oncological patients, by assessing distress" in terms of relevance of the problem, precision of the methodology, quality of the obtained results and scientific contributions meets the requirements of the Law on development of the academic staff in the Republic of Bulgaria and the Regulations for the development of the academic staff of the Medical University - Varna.

In this regard, I will vote positively and strongly recommend to the members of the Scientific Jury to award Martina Stoyanova Ivanova, a full-time PhD student in the PhD program "Health Care Management" of the Health Care Management Institute at the Medical University-

Varna, the educational and scientific degree "PhD" in the field of higher education 7. "Health care and sports" in a professional field 7.4. "Public Health" and the scientific specialty "Management of health care".

03.04.2023

Sofia

Reviewer:

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