

## STATEMENT

**IN REFERENCE TO:** Conducting a procedure for defense of the dissertation thesis of Teodora Stoyanova Gugleva, MD entitled: "STUDYING THE ROLE OF DEEP INSPIRATION BREATH-HOLD TECHNIQUE (DIBH) WITH ACTIVE BREATHING CONTROL (ABC) IN RADIOTHERAPY OF LEFT BREAST TO REDUCE CARDIAC AND PULMONARY TOXICITY" for obtaining the educational and scientific degree " PhD" in 7. Healthcare and Sports— higher education area, 7.1 Medicine — professional field, Medical Radiology and Roentgenology speciality (including the use of radioactive isotopes).

I have been appointed as a member of the scientific jury and present Statement on the dissertation work by Order № R-109-466/06.12.2024 of Vice-Rector Academic Affairs  
Prof. Albena Georgieva Kerekovska, MD, PhD, Medical University - Varna

The statement is prepared by:  
PROF. IGLIKA SPASOVA MIHAYLOVA, MD, PhD  
Head of department of radiotherapy  
The University SHAT of Oncology "Prof. Ivan Chernosemski"-EAD,  
Sofia

**Dear members of the Scientific Jury,**

Teodora Stoyanova Gugleva, MD, graduated from the Medical University of Varna in 2014. She started her career in September 2016 as a physician at the Clinic of Radiotherapy, University Hospital "St. Marina," Varna, and from 2016 to 2020, she was a resident in the medical specialty of Radiotherapy in the same clinic. From 2017 to 2022, she has been an assistant professor at the Department of "Imaging Diagnostics, Interventional Radiology and Radiotherapy," Medical University of Varna.

In 2021, she acquired her Certificate of Completion of Special Training in "Radiotherapy." On January 15<sup>th</sup> 2018, she became a full-time Ph.D. student in Medical Radiology and Roentgenology specialty (including the use of radioactive isotopes) at the Department of "Imaging Diagnostics, Interventional Radiology and Radiotherapy," Medical University, Varna.

Teodora Stoyanova Gugleva, MD, speaks English. She is a member of European Society for Radiation Oncology (ESTRO) and Guild of radiation oncologists in Bulgaria.

The scientific advisor of the dissertation is Prof. Elitsa Petkova Encheva, MD, PhD.

The dissertation thesis is written on 132 standard pages and includes 16 tables and 44 figures. Its contains the following sections: Introduction - 2 pages, Literature Review - 36 pages, Aim and Tasks - 2 pages, Materials and Methods - 22 pages, Results - 30 pages, Discussion - 10 pages, Conclusions - 3 pages, Contributions - 2 pages.

References are presented on 18 pages and include 178 literary sources, of which three are in Bulgarian and 175 are in English.

The dissertation thesis is well structured, the proportions of the separate sections are balanced and it meets the requirements of the Law for Development of the Academic Staff in the Republic of Bulgaria.

In the beginning of the dissertation, contents and used abbreviations are provided which makes the thesis easier to read.

The introduction is short and clear and contains the main aspects underlying the presentation of the individual chapters of the dissertation. The literature review thoroughly analyzes the sources revealing epidemiological,



diagnostic, treatment, and prognostic factors in patients with breast cancer. The unspecified and debatable problems related to the radiotherapy of breast cancer are addressed in order to reduce early and late toxicity. The conclusions from the literature review lead to the essence of the present scientific work.

The aim is precisely formulated and corresponds to the topic of the dissertation.

The tasks are 13 in number and are in accordance with the set aim. The material and the methods are correctly and precisely selected to fulfill the set aim and tasks. For the purposes of statistical data processing, the programming language software were used Jamovi Version 2.3 and SPSS v 23 and A Language and Environment for Statistical Computing Version 4.1. The data were graphically presented with Microsoft Excel for Windows 10.

A correlation analysis using the Spearman method was applied to study the dependence of various indicators in order to establish the strength of their impact. The strength of association between the indicators was determined using the value of the Spearman coefficient as well as linear regression analysis.

The material and the methods used allow for the formulation of precise and concrete conclusions and to outline the contributions of the dissertation.

In the chapter "Results," Teodora Gugleva, MD presents her own data from the study on 100 patients. The description of the results corresponds to the aims set and is supported by extensive graphic and tabular material.

The "Discussion" chapter shows the dissertation's ability to thoroughly analyze, synthesize, and summarize her own results and draw logical conclusions. The studies and analyses performed by Teodora Gugleva, MD have practical value and show that the treatment of patients with breast cancer in the country follows the main international standards.

The conclusions are 19 in total and reflect the results obtained. They are logical, precise, and clear, with a conclusive and analytical nature.

I accept the 11 contributions presented in two directions: original and scientifically applied in nature. Most of them are unique, researched, and established for the first time in the country.

The dissertation summary is presented in a volume of 65 pages and contains the main chapters of the dissertation thesis.

The author has published 3 publications and 1 participation in a scientific forum in the country with a presentation were made.

The research conducted shows that the scientific activity of Teodora Gugleva, MD fully covers the evaluation criteria for the defense of the educational and scientific degree "PhD" of the Medical University of Varna.

All of the above gives me reason to claim that this dissertation thesis is relevant with practical contribution and unique in its essence. I hope that the evaluations, conclusions, and recommendations in the dissertation will find application in oncological practice in the country.

**In conclusion, I can say that the topic is dissertable, the methods used are adequate to achieve the aim and tasks, the results are significant and well reflected in the conclusions, and the contributions are significant.**

**The scientific paper submitted to me for review: "STUDYING THE ROLE OF DEEP INSPIRATION BREATH-HOLD TECHNIQUE (DIBH) WITH ACTIVE BREATHING CONTROL (ABC) IN RADIOTHERAPY OF LEFT BREAST TO REDUCE CARDIAC AND PULMONARY TOXICITY" by Teodora Stoyanova Gugleva, MD possesses all the necessary qualities of a dissertation. I appreciate the thesis proposed to me for review, and I propose to the esteemed members of the scientific jury to vote positively for the acquisition of the educational scientific degree "PhD" by Teodora Stoyanova Gugleva, MD.**

**Prof. Iglika Spasova Mihaylova, MD, PhD**

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