

TO THE CHAIRMAN OF THE SCIENTIFIC JURY
DESIGNATED BY A WRITTEN ORDER Nr. R-492/04.02.2025
OF THE RECTOR OF MEDICAL UNIVERSITY OF PLOVDIV

STATEMENT OF OPINION

by Assoc. Prof. Georgi Angelov Pavlov, MD, PhD
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On doctoral thesis **“Evaluation of the volume distribution of body fluids and the effect of fluid therapy in intensive care by bioimpedance analysis”** for awarding educational and scientific degree “Doctor of Philosophy” in doctoral programme in Anesthesiology and Intensive Care.

Doctoral candidate: Dr. Emral Seyfiev Kyosebekirov- Assistant Professor, Department of Anesthesiology, Emergency and Intensive Care Medicine, Medical Faculty, Medical University of Plovdiv

Scientific Supervisor: Prof. Chavdar Stefanov Stefanov, MD, PhD, DMSc - Department of Anesthesiology, Emergency and Intensive Care Medicine, Medical Faculty, Medical University of Plovdiv

1. General presentation of the procedure and the doctoral student.

The submitted set of materials on paper and electronic media is in accordance with the requirements specified in Article 70 (1) of Section I. Acquisition of the educational and scientific degree “Doctor of Philosophy” and the scientific degree “Doctor of Science” in the Medical University of Plovdiv; Regulations for academic staff development in the Medical University of Plovdiv from 28.01.2021. and includes all required documents.

Dr. Emral Kyosebekirov was born in 1993 in Uelzen, Germany. He graduated his Master’s degree in Medicine from Medical University of Plovdiv in 2018. In 2019 he started his medical practice as a resident at the Department of Anesthesiology and Intensive Care at the University Hospital “St. George” – Plovdiv., where he has still been working so far. In 2023 after successfully passing the state exam he was recognized as a specialist in Anesthesiology and Intensive Care. Since 2021 he has been a doctoral student and assistant professor at the Department of Anesthesiology, Emergency and Intensive Care Medicine at the Faculty of Medicine of Medical University of Plovdiv. He is fluent in English.

2. Relevance of the topic

Dr. Emral Kyosebekirov's PhD thesis is dedicated to the application of bioimpedance analysis for assessment of the volumetric body fluids distribution and the effect of infusion therapy in intensive care. I believe that the topic is an extremely relevant, promising and practically significant problem which has not been the subject of scientific research in Bulgaria to date.

3. Characteristics and evaluation of the doctoral thesis

The thesis represents a fully completed scientific work. It is properly constructed and includes all the relevant sections following the established specific form. It is written in an understandable grammatically correct Bulgarian in accordance with the scientific nature of the paper. The following sections are included in the thesis: Table of Contents – 2 pages; Abbreviations – 1 page; Introduction – 2 pages; Literature Review – 34 pages; Aim and tasks – 1 page; Materials and Methods – 23 pages; Results and Discussion – 37 pages; Conclusion – 2 pages; Conclusions- 1 page; Contributions- 1 page; References- 11 pages; Appendices- 3 pages. The dissertation contains a total of 119 pages. It is illustrated with 41 figures and 25 tables. The bibliography includes 166 titles, 6 of which in Cyrillic and 160 in Latin in the order of citations.

The title is clearly formulated and sufficiently informative, It reflects adequately the content of the scientific study and corresponds to the presented data and conclusions.

The Literature review covers 34 pages and constitutes about 28% of the volume of the PhD thesis. It demonstrates an excellent understanding of the problem and a creative analysis of the cited literature. It systematically and comprehensively presents the problem posed, which is the subject of the scientific research and identifies the discussed and unresolved issues in both global and national clinical practice. It is written in short accessible sentences, is easy and pleasant to read and provides sufficient information regarding the problem of the application of bioimpedance analysis for assessment of body composition and body fluids distribution in the main compartments as well as its capabilities for assessing the effect of infusion therapy among critically ill patients. In general, the presented literature review allows the author to analyze accurately the various aspects of the problem as well as to determine the main goal and priorities of the scientific study.

Main goal - it is correctly defined, clearly and precisely formulated, in line with the title of the dissertation and corresponds to the further development of the scientific research.

Four tasks have been set, aimed at achieving the established objective, describing the necessary actions to be taken. They are formulated precisely and academically.

In the section "Materials and Methods" the subject, the object and the design of the study are precisely presented. It is very well structured and correctly presented. It covers 23 pages of the dissertation work. The overall methodology of the scientific research is very well described. The materials and research methods are appropriately and accurately selected to fulfill the set goal and tasks. The inclusion and exclusion criteria are precisely formulated and manage to limit as much as possible the side factors that could affect the correctness and reliability of the study results. For statistical processing, tests for modern and precise statistical analysis were used ensuring the reliability of the obtained results and conclusions.

The obtained results meet the set tasks. Their description is supported by detailed graphic and tabular material with comprehensive textual descriptions. Discussing his own results, the doctoral student offers generalisations, systematization and comparison with the other authors and teams' results postulating his own hypotheses as well.

Conclusions - the dissertation ends up with six conclusions. They are clear and informative reflecting the essence of the research. I accept the conclusions from the dissertation as content and as a personal achievement of the doctoral student. I appreciate the fact that they follow the set tasks and convincingly and systematically present the study results.

Contributions - Dr. Emral Kyosebekirov draws five contributions divided into two groups - theoretical and applied contributions. They are completely sufficient for such a dissertation work. I accept the contributions without remarks. Based on the analysis of the obtained results, the doctoral student developed and proposed an easy-to-apply clinical protocol for personalized approach for infusion therapy and assessing its effect in the

intensive care unit. The proposed protocol is actually **the most significant contribution** of Dr. Kyosebekirov's dissertation work as it offers an opportunity for optimizing medical care, increasing the quality of medical assistance and improving the outcome of the specified patients category.

4. Abstract

The abstract has been prepared in the standard manner and in compliance with the requirements of the Regulations of Medical University – Plovdiv. It is written on 53 pages. It summarizes the structure of the dissertation well and contains the most important results, conclusions and contributions, and is illustrated with a sufficient number of figures and tables. I have no critical remarks about its content.

5. Assessment of publications and the personal contribution of the doctoral candidate

In relation to the PhD thesis Dr. Emral Kyosebekirov has presented three publications. He is the first author of all of them. Two of the publications are in Anesthesiology and Intensive Care Journal, and the third is in Folia Medica, which is indexed and referenced in the world-renowned scientific databases Scopus and Web of Science. The scientific works meet the requirements for acquiring the educational and scientific degree "Doctor of Philosophy" according to the Regulations of the Medical University - Plovdiv.

6. Critical remarks and recommendations

I have no critical remarks. All remarks and recommendations during the preparation of the dissertation work and the preliminary defense have been taken into account in the final version of the dissertation.

CONCLUSION

The PhD thesis "**Evaluation of the volume distribution of body fluids and the effect of fluid therapy in intensive care by bioimpedance analysis**" by Dr. Emral Seyfiev Kyosebekirov contains scientific and applied results that constitute an original contribution to the field of science and meet all the requirements of the Law on Academic Staff Development in Republic of Bulgaria, the Regulations for its implementation and the Regulations of the Medical University of Plovdiv.

The doctoral thesis shows that the PhD student - Dr. Emral Seyfiev Kyosebekirov, possesses in-depth theoretical knowledge and professional skills in the scientific specialty "Anesthesiology and Intensive Care Medicine" demonstrating qualities and skills for independent conduction of scientific research.

Taking into account all the above-mentioned facts I grant my positive assessment of the study presented by the reviewed doctoral thesis, abstract, results and contributions, proposing to the members of the honorable Scientific Jury to give their positive vote for awarding the educational and scientific degree "Doctor of Philosophy" to Dr. Emral Seyfiev Kyosebekirov in doctoral programme "Anesthesiology and Intensive Care".

March 24, 2025

Reviewer:



Заличено на основание
Чл.5 §1, 6. "В" Регламент (ЕС)2016/679

Assoc. Prof. Georgi Pavlov, MD, PhD