

REVIEW

by

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Regarding:

Doctoral thesis titled:

"Organization of Neurosurgical Care in Bulgaria - Comparative Analysis"

by

Dr. Svetoslav Kirilov Todorov

for the award of

educational and scientific degree "Doctor,"

in the professional field 7.1 Medicine, scientific specialty "Neurosurgery"

Biographical Data

Dr. Svetoslav Kirilov Todorov graduated from the Medical University of Pleven in 2014 and obtained his medical degree. He began his specialization in Neurosurgery in January 2015 at the Medical University "Prof. Dr. Paraskef Stoyanov" in Varna, with practical training at Burgas Hospital. In 2018, he completed a second master's degree in Public Health and Health Management from the Medical University of Pleven. Since January 2021, he holds a recognized specialty in Neurosurgery. In 2024, he became a lecturer in Neurosurgery for students of the Faculty of Medicine at "Prof. Dr. Asen Zlatarov" University in Burgas, and in February 2025, he was appointed as an assistant at the Department of "Anesthesiology, Gynecology, Surgery, Orthopedics and Traumatology, Urology, Neurosurgery, Emergency and Intensive Medicine" at the same faculty after a competitive selection. He is a member of the Bulgarian Society of Neurosurgeons and the Bulgarian Association of Health Professionals. He regularly enhances his professional qualifications through participation in national and international conferences, as well as individual training in the country and abroad.

Relevance of the Topic

In Bulgaria, there is currently no available approach for evaluating the neurosurgical care offered. Developing recommendations for the organization of neurosurgical care based on a comparative analysis would be highly beneficial. The present doctoral thesis aims to present, analyze, and compare the current state of neurosurgical care in Bulgaria. A primary component is to develop and implement recommendations for accessing neurosurgical care for Bulgarian patients, with the goal of improving the quality and accessibility to a level

comparable to that of developed European countries like Germany and other high-income countries (HICs).

Characteristics and Assessment of the Dissertation

The dissertation titled "Organization of Neurosurgical Care in Bulgaria - Comparative Analysis" contains 129 pages, illustrated with 6 tables and 48 figures. The bibliography includes 104 literary sources, of which 90 are in Latin script and 14 in Cyrillic. The publications related to the doctoral thesis are 2, along with two conference presentations with posters on the topic. The analysis conducted on the major healthcare institutions providing neurosurgical care in Bulgaria reveals a pronounced asymmetry in distribution across the country's regions. The analysis of neurosurgical operations performed in the country indicates a significant reduction in these operations in 2020, attributed to the onset of the COVID pandemic. There is also a trend of performing neurosurgical interventions in healthcare facilities that do not have established neurosurgery clinics/departments. The analysis of neurosurgical operations in Burgas shows that 41% of them were performed at "Burgas Hospital." The tendency to perform neurosurgical interventions in facilities without established neurosurgery departments persists here as well. A survey conducted to analyze the staffing, equipment availability, operational activity, and access to imaging diagnostics confirms the asymmetrical distribution of neurosurgery clinics/departments across the country and the neurosurgeons working in them, with a concentration in the capital and a significant shortage in certain regions, e.g., Northern Bulgaria. The comparative analysis of the parameters of neurosurgical care organization in Bulgaria with those in Germany shows that there is a shortage of personnel in both Bulgaria and in developed European countries like Germany. Nevertheless, Germany has significantly more neurosurgeons per capita compared to Bulgaria. Additionally, access to neurosurgical care in Germany is evenly distributed throughout the country, ensuring prompt treatment for patients regardless of their location, whereas in Bulgaria, treatment for patients from remote areas can be delayed.

Original Contributions

1. An innovative study of the current status and organization of neurosurgical care in Bulgaria has been conducted. Problems and opportunities for improvement have been identified.
2. An original research study comparing the parameters of the organization of neurosurgical care in Bulgaria with those in Germany has been carried out, and conclusions have been drawn.
3. Recommendations have been formulated for the responsible structures in the country regarding healthcare organization, aiming to improve the quality and accessibility of the offered neurosurgical care.
4. Using artificial intelligence tools, forecasting of neurosurgical operations by hospitals and pathways has been conducted; a comparative analysis of the relationships between diseases and operations has been made; and data clustering has been performed.

Abstract

The abstract meets the requirement for volume, structure and presents the content of the results, conclusion and conclusions in the dissertation in an accessible way.

As a conclusion, I can add that the PhD student Dr. Svetoslav Kirilov Todorov has the necessary theoretical training and professional skills to independently conduct scientific research, which is available through this scientific work.

Taking into account the successful professional development of Dr. Svetoslav Kirilov Todorov, his publication activity, participation in scientific conferences, teaching activities and the presented dissertation "Organization of Neurosurgical Care in Bulgaria - Comparative Analysis" in Professional Field 7.1 Medicine, Field of Higher Education 7. Health and Sports, majoring in Neurosurgery, which fully meets the requirements of the Law on Neurosurgery, the Regulations for its Implementation and the Regulations of the Medical University "Prof. Dr. Paraskev Stoyanov" Varna, I confidently propose to the esteemed scientific jury to award the educational and scientific degree "Doctor" to Dr. Svetoslav Kirilov Todorov in the doctoral program in "Neurosurgery" and I vote positively.

12.05.2025

Sign by:



Ass. Prof. Tony Avramov MD PhD

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