

To the Scientific Jury,
Appointed by Order No. P-109-126/March 11, 2026
Of the Rector of the Medical University of Varna
55 Marin Drinov St., Varna 9002
In response to Protocol No. 1/March 16, 2026

REVIEW

By

Prof. Dr Karen Dzhambazov, MD, PhD

Head of the Department of ENT Diseases

Medical University of Plovdiv

Director of University Hospital „St. George“, Plovdiv

On a doctoral thesis on the topic of:

“Impact of COVID-19 on Otorhinolaryngology”

For the award of the educational and scientific degree “Doctor”

Author of dissertation: **Dr Kameliya Milcheva Korucheva**

Field of Higher Education: 7. Healthcare and Sports

Professional Field: 7.1. Medicine

Scientific Speciality: 03.01.35 Otorhinolaryngology

Form of PhD training: Full-time

Department: “Neurosurgery and ENT Diseases”; Academic Council of ENT Diseases

Scientific Supervisor: **Prof. Dr Nikolay Sapundzhiev, MD, PhD**

General Overview of the Procedure and the Doctoral Candidate

Dr Kamelia Korucheva was enrolled in the Department of Neurosurgery and ENT Diseases as a full-time doctoral student by Order No. P-109-56/January 27, 2023, of the Rector of Medical University – Varna. She was dismissed with the right to defend her dissertation by Order No. P-109-126 of March 11, 2026, issued by the Rector of Medical University – Varna. The procedures for the enrollment and withdrawal of Dr Korucheva were conducted in accordance with the requirements of the Higher Education Act and the Regulations on the

Conditions and Procedures for the Award of Academic Degrees and the Holding of Academic Positions at Medical University “Prof. Dr Paraskev Stoyanov” – Varna.

The submitted set of materials in hard copy complies with the instructions in the Conditions and Procedures for the Acquisition of the Academic Degree of “Doctor” in the Regulations on the Development of the Academic Staff at MU Varna. It contains the following documents:

- Application to the Rector of MU-Varna to initiate the procedure for the defence of a doctoral dissertation;
- Order of the Rector to initiate the procedure for awarding the academic degree of "Doctor";
- Curriculum vitae signed by the doctoral candidate;
- Copy of the master’s degree certificate;
- Copy of the diploma in otorhinolaryngology;
- Order of enrollment;
- Dissertation;
- Abstract;
- List of scientific publications on the dissertation topic - the doctoral candidate has attached three publications.

Brief Biography

Dr Kamelia Korucheva was born on October 6, 1971, in Varna. In 1995, she graduated from the “Prof. Dr Paraskev Stoyanov” Medical University in Varna and began working as a physician at the Centre for Emergency Medical Care in Aksakovo. Since 2005, she has been a resident in otorhinolaryngology at the ENT Clinic of the University Hospital “St. Marina” in Varna. She obtained her speciality in “Otorhinolaryngology” in 2009 and was appointed as an otorhinolaryngologist at the same clinic and as a half-part assistant professor in the Department of “Neurosurgery and ENT Diseases.” She was appointed as a full-time assistant professor in 2020. Since 2023, she has been a full-time doctoral student in the same department. She began working as the main investigator on a joint study by the Faculty of Medicine and the Faculty of Public Health with the title “Impact of COVID-19 on Otorhinolaryngology” in 2022. The study was approved by the Research Ethics Committee of MU-Varna with protocol/decision No. 118/June 23, 2022.

She is a member of the Bulgarian Medical Association (BMA) and the Bulgarian National Association of Otorhinolaryngology and Head and Neck Surgery. He is fluent in written and spoken English and Russian. The required and mandatory documents submitted

demonstrate that the entire procedure for enrollment, taking the doctoral minimum exams, dismissal, and referral to a public defence complies with the legal provisions and the regulations of the Postgraduate Studies Program at MU-Varna.

Relevance of the Topic

The impact of COVID-19 on otorhinolaryngology is of significant scientific and practical importance, as the recent pandemic has profoundly affected the organisation and scope of otolaryngology practice. Changes have been observed in the structure of morbidity, the frequency of emergency conditions, and diagnostic and therapeutic approaches. Studying these processes is important for assessing the consequences of the pandemic and for improving the healthcare system's preparedness for future crises. This study presents an original scientific model for assessing the pandemic's impact on the speciality of otolaryngology by combining an analysis of hospital activity with a national survey.

Understanding the Problem

The doctoral student demonstrates an in-depth analysis of the effects of the airborne infectious disease pandemic (COVID-19) on otolaryngological practice.

Characteristics and Evaluation of the Dissertation

The dissertation comprises 204 pages and includes 65 figures, 84 tables, and 1 appendix. The bibliography contains 320 citations - 8 in Cyrillic and 312 in Latin script. The text is written in an academic style and is presented in an accessible and systematic manner. The dissertation is properly structured and contains all the essential elements for a presentation.

The introduction to the dissertation effectively justifies the relevance of the problem. The literature review comprehensively examines the current state of the field; it is competently and thoroughly prepared. It demonstrates the doctoral candidate's thorough preparation and awareness regarding the changes in otorhinolaryngological practice observed during the pandemic. The objective is clearly defined: "To investigate and analyse the impact of the COVID-19 pandemic on the operations of a specialised otolaryngology tertiary clinic in the Republic of Bulgaria by comparing hospital activity before and during the COVID-19 pandemic (2018-2021); to analyse the experience, attitudes, and opinions of physicians working in the field of otorhinolaryngology regarding the changes in clinical practice resulting from the pandemic, and to track and assess the impact of the COVID-19 pandemic on the frequency and structure of rare, but clinically significant complications associated with otorhinolaryngological practice, such as rhino-orbito-cerebral mucormycosis (ROCM)". The objectives are clearly defined and lead convincingly to the achievement of the stated goal. The study design is described in detail. The methods used are modern, appropriate for the stated

goals and objectives, and are described precisely. The statistical analysis was conducted using modern statistical methods for data processing, ensuring the necessary reliability. The results are presented in a clear scientific style, and the included images effectively illustrate the findings. The COVID-19 pandemic has led to a lasting systemic effect on hospital operations, manifested in a reduction in hospitalisations, disrupted seasonality, and a diagnostic shift toward more severe pathology. The volume of oncology care has been maintained, but with a significant change in the admission pattern. The proportion of emergency oncology hospitalisations is increasing, suggesting delayed diagnosis and later clinical presentation. A national survey conducted during the COVID-19 pandemic highlights the exceptional organisational and psychosocial pressure on otolaryngologists. The described series of clinical cases of COVID-19-associated rhino-orbito-cerebral mucormycosis highlights the crucial importance of early and radical endoscopic debridement for infection control, even in the absence of systemic antifungal therapy. The discussion compares the results obtained with data from other authors, following the logic of the present study. The results do not show an increase in the number of tracheostomies performed during the study period, which contrasts with published international data and underscores the importance of regional factors in interpreting global trends. The conclusions and contributions of the dissertation are well-reasoned and clearly articulated. They provide a clear and comprehensive answer to the research questions posed at the outset. An original questionnaire in Bulgarian has been developed. The work presents a comprehensive scientific model for assessing the pandemic's impact on the speciality of otorhinolaryngology.

Abstract

The abstract is 76 pages long and presents the main results achieved in the study, including 24 figures and 20 tables.

Evaluation of the Dissertation

A detailed literature review of pandemics from antiquity to the present was conducted, with a focus on otolaryngological practice. Descriptive statistics were compiled on hospital activity at a representative ENT clinic in chronological order for the study period. A comparative analysis of the pandemic period with the pre-pandemic period was conducted. A series of clinical cases of COVID-19-associated mucormycosis was described for the first time in Bulgaria. Endoscopic surgery emerges as the primary method for treating ROCM. For the first time in Bulgaria, a national survey was conducted among physicians working in the field of otorhinolaryngology. The results are original and analysed. Statistical patterns have been

identified. In the discussion, a comprehensive comparison is made between the obtained results and data published in the literature.

Critical Comments and Recommendations

The study is retrospective and single-centred. To fully assess the impact of the pandemic, a prospective study should be conducted in the post-pandemic years.

Evaluation of Publications and the PhD Candidate's Personal Contribution

Dr Korucheva is a lead researcher in the joint project of the Faculty of Medicine and the Faculty of Public Health at MU-Varna, "Impact of COVID-19 on Otorhinolaryngology." She actively participated in the development of the national survey. In connection with the dissertation, two articles have been published in a peer-reviewed medical journal and one article in a non-peer-reviewed journal:

1. Milcheva K, Sapundzhiev NR, Georgiev R, Stoyanov GS, Niyazi D. Post-COVID-19 Related Rhinocerebral Mucormycosis in Bulgaria: A Report of Three Cases. Published: October 26, 2024 CUREUS; DOI: 10.7759/cureus. 72434

2. Milcheva K, Sapundzhiev NR. Impact of COVID-19 on Otorhinolaryngologists in Bulgaria: A Survey of Healthcare Professionals. Published: February 18, 2025, CUREUS; DOI: 10.7759/cureus. 79229

3. Milcheva K, Sapundzhiev NR. „The most common manipulation in otorhinolaryngology – from A to X“ - MEDINFO n.10,2022, p. 76-79

Checks using iThenticate confirm the originality of the materials she has developed.

She has presented two papers on the topic of her dissertation at national otolaryngology conferences and an e-poster at CEORL-HNS 06.2024 in Dublin, Ireland.

Conclusion

Dr Kamelia Korucheva's dissertation is fully completed, makes genuine contributions of a scientific-theoretical and scientific-practical nature, and meets the requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria (LDASRB), the Regulations for the Implementation of the LDASRB, and the Regulations for the Development of Academic Staff at MU-Varna.

The work demonstrates that the doctoral candidate has conducted a thorough literature review on the topic, possesses the necessary competence to analyse the presented original data and compare it with international data, and demonstrates a professional approach and analytical thinking in the conduct of the scientific research.

On this basis, I give a **positive** evaluation of the dissertation and propose that the distinguished jury award the educational and scientific degree of “Doctor” in the speciality of “Otorhinolaryngology” to Dr Kamelia Milcheva Korucheva.

Date: 31.03.2026,

Заличено на основание чл. 5,
§1, б. „В“ от Регламент (ЕС)
2016/679

Prof. Dr Karen Dzhambazov, PhD