To the Chairperson of the Scientific Jury,
Appointed by
Order No. P-109-279. 24.06. 2025
of the Rector of MU-Varna
"Prof. Dr. Paraskev Stoyanov"

OPINION

by Assoc. Prof. Dr. Stanislava Kostova Ivanova, PhD

Department of Ophthalmology, Faculty of Medicine, Medical University - Sofia, appointed as a member of the Scientific Jury, according to Order No. P- 109-279 от 24.06.2025 of the Rector of MU-Varna and designated as an internal member of the scientific jury, preparing an opinion

REGARDING: The dissertation for obtaining the educational and scientific degree "Doctor" by Dr. Dr. Slavyana Dimitrova Malcheva–Marinova, doctoral student at the Department of Ophthalmology and Vision Sciences, Faculty of Medicine, Medical University – Varna "Prof. Dr. Paraskev Stoyanov", on the topic "Ophthalmological Perspectives on Children's Eye Health" in the field of higher education 7.1. Medicine, and scientific specialty Ophthalmology appointed according to Order No P-109-490/04.11.2020 with scientific supervisor Prof. Dr. Yana Manolova Manolova, PhD.

This opinion has been prepared in accordance with the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for the Implementation of the Law, and the Regulations on the Conditions and Procedures for Obtaining Scientific Degrees and Holding Academic Positions at MU-Varna "Prof. Dr. Paraskev Stoyanov".

General Biographical Data on Dr. Slavyana Dimitrova Malcheva–Marinova

Dr. Slavyana Dimitrova Malcheva-Marinova was born in 1986. She completed her secondary education at the Foreign Language High School "Nikola Yonkov Vaptsarov" in the city of Shumen. In 2011, she graduated from the Medical University "Prof. Dr. Paraskev Stoyanov" in Varna. She began her residency in Ophthalmology at the Specialized Eye Hospital "Dr. Taskov" in Targovishte, and later continued at the University Multiprofile Hospital "St. Marina" in Varna. She obtained her specialty in Ophthalmology in 2016.

In 2019, she worked for two months as a specialist in ophthalmology at Schumacher's Eye Practice in Bottrop, Germany. From June 2020 to February 2024, she practiced at Diagnostic and Consultation Center-1 in Shumen. Since February 2024, she has been part of the team at the Medical Center for Eye Diseases "Dr. Marinovi" in Shumen.

She attends courses and conferences both in Bulgaria and abroad. She is a member of the Bulgarian Medical Association and the Bulgarian Society of Ophthalmology. She is fluent in English and has a basic knowledge of German.

Relevance of the Topic

Eye health in childhood is a critical aspect of overall health development, with long-term implications for education, social integration, and quality of life. Early diagnosis and timely treatment are essential for preserving visual function, as delays in detecting eye diseases can lead to permanent damage and social isolation.

In recent years, there has been a concerning trend of increasing myopia among children, particularly in the context of digitalization and lifestyle changes. Prolonged screen time, limited outdoor activities, and the lack of systematic preventive care are identified as major risk factors for early-age visual impairments.

Against this backdrop, raising awareness among healthcare professionals, parents, and educational institutions about the importance of eye health has become crucial. The development and implementation of effective screening programs at regional and national levels are key to reducing preventable visual impairments and building a sustainable strategy for protecting childhood vision.

The doctoral candidate explores this timely topic by presenting the first systematic study in Bulgaria dedicated to the ophthalmological perspectives of children's eye health. The research includes an analysis of prevalence, risk factors, and social consequences of visual impairments, as well as an evaluation of the effectiveness of modern preventive and therapeutic approaches.

The dissertation is presented in 148 standard typed pages and is illustrated with 39 figures and 23 tables. A total of 255 literary sources are cited, of which 14 are in Cyrillic and 241 in a foreign language.

The introduction (2 pages) outlines the core idea and significance of the research, providing a general overview of its objectives and methodologies.

The literature review (57 pages) occupies approximately one-third of the dissertation. The information is detailed and comprehensive, offering an in-depth examination of various ocular pathological conditions in childhood, as well as global data on the prevalence of pediatric eye diseases. It also includes various programs dedicated to the preservation of children's eye health.

The objectives and tasks (1 page) define the main goal of the research-namely, the creation of an epidemiological profile of childhood eye morbidity in the city of Shumen, with a focus on the factors influencing its spread and dynamics. The study aims to provide evidence-based recommendations for improving preventive practices and eye care in childhood.

To achieve this goal, five specific tasks have been formulated: 1. Collecting and

systematizing medical data from ophthalmological examinations of children (ages 0–17) from three healthcare institutions in Shumen for the period 2019–2022. 2. Conducting statistical analysis of the frequency and distribution of ocular pathology by year and across the entire study period. 3. Monitoring changes in eye morbidity in the context of the COVID-19 pandemic. 4. Comparing the results with available data from national and international sources. 5. Developing recommendations for improving screening programs and preventive ophthalmological care for children.

The methods section (1 page) provides detailed information on the study design, characteristics of the sample population, inclusion and exclusion criteria, and the analytical methods used. This retrospective epidemiological study is based on an analysis of primary outpatient ophthalmological examinations of children aged 0 to 17, conducted between January 1, 2019, and December 31, 2022, by six eye disease specialists across three healthcare institutions in Shumen. A total of 2,579 primary ophthalmological examinations of children aged 0 to 17 were registered during this period. Inclusion and exclusion criteria were clearly defined.

Results and Discussion (63 pages): this epidemiological study outlines the structure of childhood eye morbidity in the city of Shumen for the period 2019–2022. The analysis includes distribution by age, gender, and type of pathology. The COVID-19 pandemic is associated with an increase in myopia and visual fatigue, as well as a decline in infectious eye diseases. Rare conditions such as amblyopia, tumors, and congenital disorders were recorded sporadically.

The data emphasize the need for targeted prevention strategies tailored to the local characteristics of morbidity and modern risk factors such as digitalization.

The conclusions (1 page) summarize the key scientific findings, their significance, and their applicability in clinical practice. This retrospective study outlines the epidemiological landscape of childhood eye morbidity in Shumen, with statistically significant results that are comparable to national and international data. The analysis shows that the structure of eye pathology in the region is similar to that in other Bulgarian and European cities, but is distinguished by a high frequency of accommodative disorders and asthenopic complaints - especially in the context of digitalization and pandemic-related restrictions.

The study highlights the negative impact of COVID-19 on children's vision, with a marked increase in cases of myopia, accommodative dysfunctions, and visual fatigue. At the same time, the reduction in infectious conjunctivitis during 2020–2021 is noted as a positive effect of anti-epidemic measures, demonstrating the potential of hygiene and social interventions on eye health.

The findings confirm the need to establish a national program for the prevention of childhood eye diseases - one that is accessible, regular, and adapted to regional morbidity patterns. Such a program would enable early detection of visual impairments, improve children's educational and social prospects, and reduce the risk of chronic eye conditions in adulthood.

The study also offers specific recommendations for limiting external risk factors associated with the development of myopia—such as increasing outdoor time, reducing screen exposure, and introducing visual hygiene practices in both school and home environments. These approaches are easily applicable, non-invasive, and cost-effective, making them especially valuable in today's digitalized world.

The work has direct relevance to both clinical and public health practice, providing a foundation for developing educational and preventive strategies aimed at protecting and enhancing children's eye health.

Contributions (1 page) highlight the main theoretical, scientific, and practical contributions of the research. This dissertation provides new data on the structure and dynamics of childhood eye morbidity in a regional context, emphasizing the impact of the COVID-19 pandemic and the need for targeted prevention.

From a theoretical perspective, the study enriches knowledge about the prevalence of ophthalmological pathology in childhood, both in Bulgaria and internationally. The literature review on the pandemic's impact on children's vision contributes to a deeper understanding of modern risk factors.

The scientific and practical contribution lies in the statistical analysis of eye morbidity in Shumen for the period 2019–2022, as well as in tracking changes before, during, and after the pandemic. The formulated recommendations for improving screening programs offer concrete solutions for enhancing pediatric eye care.

The confirmatory contribution of the study consists of evidence of the pandemic's negative impact on children's vision—including increased rates of myopia, accommodative disorders, and asthenopic complaints, as well as a decrease in infectious conjunctivitis.

These findings underscore the importance of early diagnosis, tailored preventive strategies, and increased awareness among parents and professionals as a foundation for preserving childhood vision in a digitalized environment and amid evolving health challenges.

The bibliography (9 pages) includes a list of 255 sources, 14 of which are in Cyrillic. 180 sources (approximately 70%) were published in the last 10 years, highlighting the high relevance of the literature used. The average publication year is 2019, with the most recent sources from 2024 and the oldest from 1885, demonstrating historical depth and continuity in the topic's development.

The dissertation is supplemented by two publications in GP News journal.

The abstract presents the dissertation's content in a concise yet comprehensive manner, formatted according to the required standards.

Conclusion and Recommendation

Dr. Slavyana Malcheva-Marinova's research is innovative for Bulgaria, presenting

the epidemiological profile of childhood eye morbidity in the city of Shumen. Based on the results obtained, conclusions and recommendations can be made for improving pediatric eye health in the studied region.

Dr. Marinova's dissertation meets the requirements for obtaining the educational and scientific degree of "Doctor."

Based on the presented results and the doctoral candidate's individual contributions, I recommend that the Scientific Committee award the educational and scientific degree of "Doctor" to Dr. Slavyana Dimitrova Malcheva-Marinova.

Reviewer:
Assoc. Prof. Dr. Stanislava Kostova Ivanova, PhD

Date: 15.09.2025
Sofia