

OPINION

Of

Mila Tonieva Dragomirova's dissertation

on the subject:

"VISION SCREENING IN SCHOOL-AGE CHILDREN."

For awarding the scientific and research degree "DOCTOR",

in the scientific specialty "Optometry"

Research supervisor: Assoc. Dr. Snezhana Yordanova, MD,

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Mila Tonieva Dragomirova's dissertation is dedicated to a topic of great social importance - the screening of children's vision and the timely detection and treatment of children with eye problems. According to the recommendations of the World Health Organization (WHO) [1], screening programs should include effective, inexpensive and reliable tests to detect conditions that can lead to serious health problems. In Bulgaria, the screening of children's vision remains a serious problem, due to the lack of personnel, a uniform methodology for screening and resources for its implementation. That is why the topic is actual, socially significant and highly practically oriented. In addition to the important topic, the doctoral candidate offers her own methodology for conducting screening in children, based on many years of experience, as a Consultant of the National Campaign for the Prevention of Children's Vision "Kvyat", for 2014, 2015, 2016, 2017, and 2018. It is this own, innovative screening methodology that gives a special value to the dissertation work.

Mila Dragomirova's dissertation contains 124 pages, 14 tables, 22 figures and 115 cited sources, presented in 6 Chapters. It is noticeable that there is a lack of interconnection between the individual chapters, which is to some extent related to the long period of development of the dissertation, 6 years - 2016-2022.

The literary review covers 26 pages and uses 115 foreign and 11 Bulgarian authors. I consider it a mistake to include the literature review as part of the dissertation tasks, as it should be separated as an independent chapter. In the literature review, Mila Dragomirova introduces us in detail to the development of the vision in children, its specific features and the need for timely screening. The analysis of the literature ends with the conclusions that there are no large-scale epidemiological studies on visual disorders in Bulgaria, there is no accepted validated screening methodology and there is a need for more screening programs and specialists for them.

Quite logically, after these conclusions, the literature review commences into goals and objectives. The goals are well and precisely formulated:

Based on initiated screenings to ensure timely prevention and detection of visual abnormalities in children.

In addition to the main goal 6 main tasks are assigned. The first one, I think, should be dropped because it is the literature review of the dissertation work. The rest are well chosen, some – 4 , 5 were added additionally after conducting the screenings and analyzing some of the results, which explains to some extent the slight chaos in the structure of the dissertation work.

The dissertation was prepared over the course of 6 years, 2016-2022, at the Department of Optics and Spectroscopy, Faculty of Physics, Saint Kliment Ohridski University. 1,604 children from 4 schools in Bulgaria were screened and another 1,225 under the program of KUIAT Bulgaria. This is a fairly large sample, giving good statistical credibility to the results obtained. In chapter 2, describing the methods used in the dissertation, Mila Dragomirova introduces us in detail not only with the tests that have been used, but also with her own protocol for vision screening, questionnaire for detecting risk factors for eye pathology, as well as her own scheme for the organization of the screening, with an example distribution of the test bases. Until now, we do not have such screening schemes in Bulgaria and I think that they are one of the greatest merits of the dissertation, with a real practical application in the organization of children's eye screening in Bulgaria.

The eye screening organized according to this methodology shows a high efficiency and gives sufficiently accurate and clear results. The doctoral student also develops a methodology for the preparation and participation in the screenings of optometry students, again through her own protocols for practical exercises in clinical refraction and protocols reporting the work of the students during the screening. I consider this to be particularly valuable in the preparation of optometry students, as well as making it possible for them to be regularly included in preventive screening programs for children.

The results of the performed screenings are analyzed in detail in chapters 4, 5 and 6. In chapter 4, Mila Dragomirova presents the results of the screenings related to the distribution, risk factors and health coverage of children with myopia. The doctoral student found myopia in 19% of the studied children. Like other researchers, the family burden, the small amount of sports, the hours spent on the computer are proven to be risk factors here. Somewhat surprising are the results that there is no connection between hours in front of the computer and myopia. This is probably due to the subjective nature of the answers to the questionnaire. Of particular importance are the results that 53% of children with myopia do not wear glasses even though they should. This is a disturbing fact with important social significance.

Chapter 5 discusses the interesting results related to a high prevalence of anomalies in color vision in a small Bulgarian town of Separeva Banya. The most likely reason is the possible family burden of the children in this city. The data obtained are extremely interesting and unique. In Chapter 6, specific proposals are given to improve the organization of prevention and screening of visual anomalies in children. This is an important contribution of practical value.

Each of the chapters ends with a conclusion - 6 in number. The contributions are 5 in number, all of which are of a scientific and practice nature.

There are 4 publications related to the dissertation work, of which 3 in English and 1 in Bulgarian refereed journals.

Although there are many inaccuracies in the structure of the dissertation and especially in the layout of the literature review, as well as a lack of description of statistical methods, the dissertation work is up-to-date, innovative, with a very large personal involvement of the author in the development of her own version of screening in a school environment .

That is why, in my capacity as a reviewer, I give a positive assessment of Mila Tonieva Dragomirova's dissertation work on the topic: "VISION SCREENING IN SCHOOL-AGE CHILDREN" and I recommend to the honorable scientific jury to vote positively for her awarding of the scientific and educational degree" DOCTOR" in the scientific specialty "Optometry".

31.08.22

Reviewer:

Assoc.prof. Christina Vidinova