

STATEMENT
by Assoc. Prof. Natalya Usheva, MD, PhD

For the doctoral thesis of
Nadezhda Bozhidarova Mihaylova-Georvieva
on
Child mortality in Bulgaria - health policy and
cultural and historical aspects

Scientific supervisor:
Prof. Dr. Klara Georgieva Dokova, PhD

for the award of PhD in the field of higher education: "7. Health and Sport", professional field "7.1 Public Health", Doctoral Programme "Public Health Management" by Order No. P-109-23/29.01.2024 of the Rector of MU - Varna, Prof. Dr. Svetoslav Georgiev, PhD, according to Protocol No. 1 of the Scientific Jury from 08.02.2024 and to submit a statement on the dissertation entitled "*Child Mortality in Bulgaria - health policy and cultural and historical aspects*" for the award of the degree of PhD in the scientific specialty "Public Health Management", professional field "7.4. Public Health" and field of higher education "7. Public Health and Sport".

Brief biographical data and career development of the PhD student

Nadezhda Mihaylova was born in Varna, where she graduated in 2000 from the IV Language School "Frederic Joliot-Curie" with a foreign language profile - French. She graduated from the College of Tourism, Varna Free University "Chernorizets Hrabar" (BA in International Relations and MA in International Negotiations), and in 2018 she graduated from the Medical University "Prof. Dr. Paraskev Stoyanov - Varna with a degree in "Public Health" with excellent grade and with defence of her diploma thesis "Child mortality in Bulgaria and Varna region for the period 1950-2010". The candidate is currently studying in the Master's program "Artificial Intelligence in Biomedicine" at MU-Varna.

In 2018 Nadezhda Mihaylova was enrolled for full-time PhD studies at the Department of Social Medicine and Healthcare Organisation in the PhD program "Public Health Management".

Nadezhda Mihaylova's work experience began in 2008 as a teacher and has been mainly in educational institutions - high schools, where she teaches foreign language; at MU Varna as an organizer at the Department of Healthcare (2018 and currently). Going through additional courses for working with digital technologies, Nadezhda Mihaylova assists or independently carries out the prepress preparation of the materials of scientific conferences organized by the Department of Healthcare, as well as the issues of scientific journals of MU Varna.

From the academic year 2023/2024, the PhD student has been involved in teaching the Health Management students as a part-time lecturer at the Department of Social Medicine and Healthcare Organisation.

Nadezhda Mihaylova actively participates or supervises 4 projects, two of which are international: Cost of Inaction Pilot Bulgaria Discussion (UNICEF; 2021) DAFNE - (EK, 2010-2011), one by the Municipality of Varna (2004) and one by the Science Fund of MU Varna (2021) "Child Mortality in Bulgaria - Source of New Approaches for Optimising Child Healthcare" the results of which are the basis of the dissertation.

The PhD student has participated in numerous and various courses, trainings and conferences, which shows her aspiration for continuous improvement and acquisition of new qualities and skills.

Nadezhda Mihaylova is a member of Bulgarian Society for the History of Medicine, Bulgarian Public Health Association, European Public Health Association, and the NGO Public Health-99. She has an excellent command of English and a very good command of French, Russian and Spanish.

General characteristics of the thesis

The thesis presented by Nadezhda Mihaylova is a logical continuation and upgrade of her scientific pursuits after the excellent defence of her thesis with a topic in the field of child mortality. It contains 154 pages and is illustrated with 10 tables, 19 figures and 6 appendices.

The bibliographic list includes 218 sources, 139 in Latin and 79 in Cyrillic, the citation of which is presented in Chicago style. Literature data used, is dated from the late 19th century up to and including 2024. The material is structured in the following well-balanced main sections: I. Literature review – 46 pp; Chapter II. Material, methods, purpose and objectives – 8 pp, Chapter III. Results – 50 pp; Chapter IV. Discussion – 9pp, Findings, Contributions and Conclusions – 5pp, Publications related to the thesis. Bibliography. Appendices.

Relevance of the dissertation

Notwithstanding the very significant and impressive rates of reduction in child mortality rates in recent decades, research on this phenomenon remains highly relevant and important for public health, especially in the context of a changing demographic profile with negative trends in Bulgaria. Specific to our country, there are many questions remaining open about the causes of the highest new deaths in children under 1 year of age and the PhD student, trying to find the answers, focuses on this topic and applies a thorough and comprehensive health policy, demographic, socio-economic and ethno-cultural analysis over a longer historical period. In searching for the causes, the doctoral student very

precisely aims to establish the inequalities in infant mortality on regional basis (general and by age), ethnic origin, social and organizational-health characteristics.

Dissertation evaluation

The literature review provides an in-depth look at the historical development and changes in social and scientific attitudes toward childhood deaths, the establishment of medical specialties for the care of children, and changes in the organization of healthcare with a focus on children's health and health problems. An in-depth historical analysis and literature review of the severe struggle to reduce child mortality during the period 1920-1944 is provided. Separate attention is given to contemporary international and national studies of child mortality.

The aim of the dissertation is clearly and concisely stated; it is aimed at studying the dynamics of infant mortality in Bulgaria in a health policy context for the period 1950-2020 and to assess the role of cultural and organizational factors in achieving favourable trends.

In pursuit of the stated objective, five *research tasks* are adequately set, expanding on the activities carried out through own research. Six hypotheses are clearly, logically and well formulated.

Material and methodology of the study

The applied methodology consists of 4 properly selected studies reflecting the PhD student's knowledge and the supervisor's guidelines for an in-depth and comprehensive approach in the study of the problem. The design of the surveys, the choice of instruments, the formulas for calculating the indicators are described in a justified and detailed manner; questionnaires are duly designed and structured. A wide range of methods is used: 1) a *theoretical and historical study* of scientific approaches to the study of child mortality; 2) a *comparative analysis of trends in child mortality* between Bulgaria and selected European countries for the period 1950-2020 and an analysis of regional disparities in child mortality and all age-specific indicators at the regional level in Bulgaria, for the period 2000-2019, revealing in greater depth the processes and factors in the community; 3) a *structured e-based survey* among pregnant women to reveal the role of different units of the health system in preparing mothers to provide meaningful care for children, leading to improved health and reduced child mortality rates; 4) a *qualitative study* of the importance of ethno-cultural factors on prenatal and first year postnatal child care using in-depth interview among mothers from Roma background. The statistical methods used and the statistical software product are accurately and adequately described.

Characteristics and evaluation of the results and contributions of the thesis

Nadezhda Mihaylova presents and analyses the results of her own research in a highly systematic and analytical way, supported by data presented in multidimensional tables and informative charts. The theoretical and historical study and the comparative

analysis of the trends in child mortality between some countries of the European region and Bulgaria highlight the widening differences in the indicator (overall and by age) between individual countries and Bulgaria, the specific factors for the reduction of child mortality and the reasons for the slowdown in the rate of decline of the indicator. The results of the above analyses could be applied in the training of students and postgraduates in the relevant fields, as well as in the process of health-policy decision-making at national and regional level.

The study of the role of the organisation of the health system in the country through an electronic survey of 249 mothers reflects the work of the so-called antenatal and child health services in providing prenatal care for pregnant women and care for children during the first year of childbirth (including patronage care). In spite of the known and correctly stated methodological limitations related to the method of data collection and sample selection, the results of the structured survey are informative about the state and quality of care for women with higher education and access to digital technologies; about the outlined differences in care between public and private health facilities, about the main sources of information on breastfeeding and feeding, child raising. The results of this study reinforce the findings of earlier studies over 10 years old from the Varna region on the important, yet unmet as a need, role of GPs, obstetrics and gynaecology specialists, paediatrics as a primary and reliable source of information for mothers in pre- and postnatal care.

By conducting and analysing the qualitative research, the PhD student Nadezhda Mihaylova demonstrated in practice the knowledge and skills acquired during the Master's degree in Public Health and the relevant courses on qualitative research conducted by foreign lecturers. The right choice of the type of research in this case predetermines the depth and high informativeness achieved about the state of the problem in a vulnerable group of Roma mothers, characterized by the most unfavourable values of indicators of early birth, stillbirth, total and age-specific child mortality. New findings are emerging, but also reinforce known and worrying facts about meeting the healthcare, preventive and medical needs of mothers and children from this minority ethnic group. The shared practices of unethical treatment by medical staff in inpatient and outpatient care are also alarming, pointing to the need to pay more attention in the course of training these professionals to intercultural communication (especially in larger population areas), ethical and humane treatment of every patient, regardless of ethnicity and social status.

In the corresponding chapter, an in-depth discussion of the own results is made with published analyses and trends in other scientific works. I endorse the very well formulated 12 conclusions of the dissertation as well as the very important five theoretical-cognitive and three practical-applied and methodological contributions of the PhD student's research.

Abstract and publications on the thesis

The abstract to the thesis is written on 86 pages, reflects the structure of the study correctly and contains a detailed description of the methodology and the most important results and conclusions of the study.

In relation to the dissertation, the PhD student submitted three full-text publications, in one of which he was the independent and in the other two - the lead author.

Conclusion

The dissertation on the subject " Child mortality in Bulgaria - health policy and cultural and historical aspects " is a thorough, extensive and complete scientific work, studying a very important and topical problem, executed with precision, with significant contributions and providing a rationale for further health-policy and organizational actions to prevent deaths in children under 1 year of age and reduce the values of this indicator in Bulgaria.

The dissertation fully meets and exceeds the requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria and the Rules of MU - Varna for its implementation.

In connection with all the above, I give my excellent and *positive assessment* and recommend the Honourable Scientific Jury to award the PhD degree in the scientific specialty "Public Health Management", professional field "7.4. Public Health" and field of higher education "7.4 Health and Sport" to Nadezhda Bozhidarova Mihaylova-Georgieva.

Заличено на основание чл. 5,
§1, б. „В“ от Регламент (ЕС)
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18.05.2024 г.
Varna

Member of the Scientific Jury:
Assoc. Prof. Natalya Usheva, MD, PhD