

REVIEW

by

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of a dissertation for the award of the educational and scientific degree "Doctor"

Professional Field: 7.4. "Public Health"**Doctoral Program:** "Health Care Management"**Author:** Zlatina Ivanova Nikolova-Rancheva**Form of Doctoral Study:** Independent preparation**Department:** "Midwifery Care", Faculty of Public Health, Medical University – Plovdiv**Topic:** "Medico-social aspects and expected effects of elective Caesarean section"**Academic Supervisors:** Assoc. Prof. Milena Sandeva, PhD

Assoc. Prof. Dr. Nikoleta Parakhuleva-Rogacheva, MD, PhD

This review has been prepared pursuant to Order No. R-4494/06.08.2026 issued by the Vice-Rector for Research at the Medical University of Plovdiv, appointing the members of the scientific jury for the procedure.

1. General Overview of the Procedure and the Doctoral Candidate

Zlatina Nikolova-Rancheva was enrolled in a doctoral program via independent study at the Department of Midwifery Care within the Faculty of Public Health at the Medical University of Plovdiv, pursuant to Order No. R-2125 dated December 23, 2024, issued by the Rector of the Medical University of Plovdiv. In accordance with an order from the Vice-Rector for Research, she successfully passed the doctoral qualifying examination on July 9, 2025. Following a preliminary review by the expanded Department Council (Minutes No. 7/June 24, 2026) and approval by the Faculty Council of the Faculty of Public Health (Minutes No. 8/July 14, 2026), she was removed from the doctoral registry with the right to defend her dissertation. The submitted set of documents and materials, which substantiate the procedural validity of the process, has been prepared with precision and diligence. It fully complies with the requirements of the „Act on the Development of the Academic Staff in the Republic of Bulgaria“ and its implementing regulations, and aligns with Article 70, Paragraph 1 of Section I ("Acquisition of the Educational and Scientific Degree 'Doctor' and the Scientific Degree 'Doctor of Sciences' at the Medical University of Plovdiv") of the Regulations on Academic Development at the Medical University of Plovdiv.

I declare that I have no conflict of interest with the author of the dissertation.

2. Brief biographical details about the PhD candidate

PhD candidate Zlatina Nikolova-Rancheva obtained a Bachelor's degree with the professional qualification of "Midwife" in 2010 from the Medical University of Plovdiv, followed by a Master's degree in "Health Care Management" from the Faculty of Public Health at the same university in 2012.

Between 2012 and 2014, she pursued studies at Plovdiv University "Paisii Hilendarski," completing a Master's program in "Preventive Pedagogy."

She began her teaching career in 2021 as an assistant at the Department of Midwifery Care within the Faculty of Public Health at the Medical University of Plovdiv, where she continues to work.

PhD student Zl. Nikolova continuously enhances her knowledge and skills. In 2023, she completed a one-year specialization program under Ordinance No. 1 and qualified in "Hospital Hygiene, Prevention, and Infection Control."

She has a very good command of English and possesses strong computer skills.

The submitted documents demonstrate the doctoral candidate's sustained efforts to enhance her competence in her chosen professional field. She has participated in the research project "Assessment of Stress Levels During Obstetric Emergencies in Real Clinical and Simulation Environments: Effectiveness of Simulation-Based Training and Stress Management in Obstetric Emergencies" (2023–2025) and in the development of three educational manuals.

Zlatina Nikolova-Rancheva is actively involved in the training of students in the Midwifery program, conducting practical training sessions and clinical placements. She also actively participates in the administration of semester and state examinations as a member of examination boards.

She is a member of the Bulgarian Association of Health Care Professionals (BAHCP) and the Association of Bulgarian Midwives (ABM).

Assistant Zlatina Nikolova's professional experience, qualifications, and research interests are directly linked—both conceptually and substantively—to the subject matter of the dissertation, thereby enhancing the practical significance of the study conducted.

3. Relevance of the topic and appropriateness of the set goals and objectives

The presented dissertation addresses a significant issue in modern healthcare, one that acquires new theoretical and practical dimensions through this specific study. It focuses on the medico-social aspects and effects of performing elective Caesarean sections.

Cesarean section is a commonly used method of delivery involving the birth of the baby through a surgical incision in the pregnant woman's abdomen and uterus. It can save the life of the mother or the baby in situations where vaginal delivery is impossible or dangerous. A significant global increase in the use of Cesarean sections has been observed, with a trend suggesting this rise will continue. Like any surgical procedure, a Cesarean section carries a certain risk of complications affecting both the mother and the newborn. These risks can be either short-term or long-term. It is concerning that, alongside medically necessary Cesarean sections, many countries are seeing an increase in the number of women requesting the procedure in the absence of medical indications.

This is precisely what underscores the relevance and significance of the presented dissertation. Relatively few studies focus on the mechanisms and factors leading to Caesarean section upon maternal request. The work fits into the broader context of the need to re-evaluate personal experience and obtain comprehensive information regarding risks and benefits. Patients must be assured of a clear understanding and optimal preparation for making a decision.

In this regard, the dissertation by Assistant Zlatina Nikolova-Rancheva is exceptionally timely and holds significant clinical, practical, and scientific value.

4. Understanding of the Problem

The doctoral candidate's scientific insight stems from her in-depth knowledge and extensive professional experience in the field of obstetric care.

The author demonstrates a thorough command of the relevant literature, evaluating the material appropriately and utilizing it creatively. Her theoretical analysis is the result of examining a large number of carefully selected sources and authors. Consequently, the focus of the theoretical study enables the empirical research to be grounded in a solid, scientifically substantiated theoretical framework.

The literature review indicates that 242 sources were consulted for the proposed topic—12 in Cyrillic and 230 in Latin script. The majority of these date from the last ten years, thereby meeting the requirements for currency and relevance.

The content of the study demonstrates PhD candidate Zlatina Nikolova's capacity to conduct research and to formulate conclusions and well-substantiated proposals of both scientific and practical value.

5. Research Methodology

The study methodology is comprehensively developed, enabling an examination of all facets and aspects of the problem.

The material and methodology are accurately described, covering the object, subject, and design of the study. The timing, location, and stages of the research are presented in detail.

The study design is accurately described. The instruments used—developed specifically for this study—incorporate sociological methods (document analysis, surveys, and interviews) as well as statistical methods.

The study was conducted in two stages. The first stage involved a retrospective analysis of a sample of cesarean section cases (both elective and emergency) over a three-year period (January 1, 2021 – December 31, 2023). To determine the medical and social factors associated with cesarean sections with greater precision and accuracy, a representative sample of cases from the same period was examined. A documentary method—specifically, an archival review—was employed. Data were collected from "Pregnancy and Childbirth Records," "Newborn Medical Records" (pertaining to the same delivery), and the corresponding "Maternal Discharge Summaries" and "Newborn Discharge Summaries" (or "Newborn Interim Discharge Summaries," as applicable). The study covered 609 women who underwent a cesarean section and their newborns over the three-year period (2021–2023). The cases were categorized into two groups: Group I—women who underwent an elective cesarean section (n=342); and Group II—women who underwent an emergency cesarean section (n=267). The overall incidence of cesarean sections at the clinic during the 2019–2023 period was also analyzed.

The second stage employs a survey method or, alternatively, a semi-structured interview. To establish "case" and "control" groups, a retrospective case-control study was conducted during this stage involving women who had given birth between December 2023 and March 2025, divided into two groups:

- Group I ("cases") – 210 patients who underwent a Caesarean section;
- Group II ("controls") – 210 patients who delivered vaginally.

The inclusion and exclusion criteria for both stages of the study are clearly described.

The systematization, processing, and analysis of the raw data were carried out using the SPSS v.23 software package. A statistical significance level of $p < 0.05$ was adopted. The following

statistical methods were applied: Kolmogorov-Smirnov and Shapiro-Wilk tests; parametric analysis (t-test); chi-square (χ^2) test; Mann-Whitney U-test and Kruskal-Wallis test; logistic regression analysis (including binary logistic regression); analysis of variance; and graphical analysis. Microsoft Office Excel was used for tabular and graphical data processing.

The proposed comprehensive methodology enables the achievement of the study's objective, ensures the representativeness of the results, and provides a foundation for robust research data and conclusions.

The study was approved by the Scientific Ethics Committee of the Medical University of Plovdiv (Protocol No. 1/05.02.2025).

6. Characteristics and assessment of the dissertation

The dissertation is the result of a detailed study of the research problem and an analysis of its various theoretical and practical dimensions. It is structured according to accepted standards and comprises an introduction, seven chapters, conclusions, a bibliography, and appendices. The dissertation spans 164 pages, consisting of 132 pages of main text, a 23-page bibliography, and three appendices covering 9 pages.

In the introduction, the doctoral candidate establishes the significance of the subject matter with exceptional persuasiveness, justifies her choice of topic, and outlines the issues addressed in the various sections. The first chapter, "Literature Review" (pp. 3–49), presents the theoretical foundations of the dissertation research across 46 pages. The literature review is written in a profound and analytical manner, demonstrating the excellent and systematic knowledge possessed by doctoral candidate Zlatina Nikolova.

A comprehensive analysis of the Caesarean section has been conducted, covering its nature, indications, and contraindications. Particular attention is paid to the benefits and potential complications associated with the procedure. The factors contributing to the rising rate of Caesarean sections have been thoroughly investigated and analyzed. The literature review concludes with clearly formulated findings that demonstrate the practical significance of the dissertation.

Zlatina Nikolova-Rancheva has consulted authoritative sources relevant to the research topic, citing them objectively and accurately.

Chapters 2 and 3—"Aim and Objectives" and "Materials and Methods" (pp. 51–59)—present the conceptual framework of the empirical study. The aim, the specific objectives to be addressed, the object and subject of observation, the logical and technical units, and the observation variables are logically derived.

The aim of the dissertation is clearly formulated: "To investigate and analyze the frequency of, and the medico-social factors influencing, elective Caesarean sections (performed upon maternal request), as well as the expected outcomes, in the Plovdiv region."

Six objectives have been outlined to achieve this aim, covering all aspects of the research work conducted by the doctoral candidate.

An original study was conducted. The collection of primary statistical data and the survey were carried out personally by the doctoral candidate. The volume of collected data is sufficient to yield reliable results. These have been skillfully analyzed and interpreted by the doctoral candidate in Chapter Four, "Results and Discussion" (pp. 61–126). This chapter constitutes the core of the dissertation. The candidate demonstrates strong skills in analyzing and providing

well-reasoned interpretations of the empirical data. The results are presented systematically and with sound argumentation across 65 pages, in relation to the established objectives.

An analysis of trends and regional variations in Caesarean sections in Bulgaria for the period 2019–2023 was conducted. The study concludes that the reasons for performing Caesarean sections are multifactorial, with a prior Caesarean section being the leading factor. In most cases, there is more than one indication for the procedure. The data reveal a persistently high rate of Caesarean sections in Bulgaria against a backdrop of declining birth rates, with the Plovdiv region recording some of the highest figures. The results from the first stage of the study underscore the need to develop strategies aimed at limiting non-medically indicated Caesarean sections and promoting informed choice regarding childbirth.

The analysis of the results from the second stage indicates that personal childbirth experience significantly influences women's future preferences and their willingness to recommend a specific method of delivery. Medical professionals are the primary factor in shaping opinions regarding different modes of delivery, whereas the influence of one's immediate social circle is limited.

The findings support the need to develop an intervention algorithm for women with tokophobia, aimed at reducing fear, improving awareness, and facilitating an informed choice regarding the mode of delivery—which is also one of the primary objectives of this dissertation research.

The study data are richly illustrated with 44 figures and 12 tables, establishing an accessible and readable foundation for the dissertation.

A separate chapter presents an algorithm for addressing unnecessary Caesarean sections.

The dissertation concludes with summarized findings and recommendations that naturally follow from the study conducted, the results obtained, and their interpretation. The formulated recommendations are specific and addressed to relevant institutions in the country, aiming to curb rates of unnecessary Caesarean sections and facilitate the early identification of women at risk.

These recommendations could mitigate the negative consequences for pregnant women, women who have recently given birth, their families, and society.

I would like to emphasize that the dissertation has been prepared with great diligence by Assistant Zlatina Nikolova. It is noteworthy that at every stage—following the presentation and analysis of the results—a comprehensive discussion, summary, and conclusion are provided.

The work is stylistically polished, written in excellent language, and meets contemporary scientific standards.

7. Contributions and significance of the study for science and practice

The following key scientific contributions of this dissertation—which are of a scientific-theoretical, scientific-applied, and confirmatory nature—deserve to be highlighted:

Scientific-theoretical contributions:

- A retrospective, combined epidemiological and medico-social study was conducted regarding the factors influencing Caesarean section (CS) and the expected outcomes associated with it in the Plovdiv region.
- For the first time in the country, the opinions of women who have recently given birth regarding the mode of delivery were investigated using a case-control approach via an anonymous group survey.

Confirmatory findings:

- The study confirms the multifactorial etiology behind the rising rates of operative deliveries.
- A comprehensive, in-depth analysis of risk factors for Caesarean section was conducted, with a detailed examination of the procedure's expected effects.

Practical contributions:

- A questionnaire was developed to survey the opinions of women who have given birth regarding the advantages and disadvantages of different modes of delivery.

An indisputable contribution of the dissertation is the developed algorithm for early screening and risk stratification regarding unnecessary Caesarean sections, the shifting of attitudes, and the fostering of a positive emotional birth experience. These are issues that have not been sufficiently investigated or resolved to date, which demonstrates the significant contribution of the dissertation.

8. Assessment of publications related to the dissertation

Zlatina Nikolova presents three scientific publications on the topic of the dissertation, two of which appear in journals refereed and indexed in global databases. She is the lead author on two of the publications, which attests to her contribution. Results from the dissertation research have also been presented at national conferences.

The number and quality of the publications fully meet the requirements of MU-Plovdiv for a public defense and largely reflect the results achieved and the essence of the dissertation research.

9. Personal contribution of the doctoral candidate

The dissertation demonstrates that doctoral candidate Zl. Nikolova has successfully advanced in her research development, gaining experience in conducting scientific research and interpreting the obtained results. In this regard, I highly value the doctoral candidate's personal contribution to the dissertation research and consider the formulated scientific contributions and obtained results to be significant and accurate.

No plagiarism has been detected.

10. Abstract

The abstract of the dissertation spans 49 pages. It is formatted in accordance with the requirements and concisely presents the objectives, tasks, methods employed, results achieved, and the conclusions and recommendations drawn. It is my conclusion that the abstract meets all standard requirements for a synthesized and adequate presentation of the primary document—the scientific text—as well as for an objective reflection of the dissertation research's content.

11. Critical remarks and recommendations

I have no critical remarks regarding the conducted research or the submitted materials. With a view to disseminating the study's results, I would recommend that Assistant Zlatina Nikolova-Rancheva publish a practical guide addressing the subject matter in question.

12. Personal impressions

I have known PhD candidate Zlatina Nikolova-Rancheva in her capacities as a student, a doctoral candidate, and a member of the academic staff at the Faculty of Public Health, and I hold her personal and professional qualities in high regard. She is exceptionally responsible, diligent, tolerant, and helpful in her interactions with others. She possesses excellent communication and teamwork skills.

CONCLUSION

Zlatina Nikolova's dissertation is distinguished by a number of merits in both theoretical and practical terms: it is well-structured, with a clearly defined objective, appropriately selected methods, critically evaluated results, and precisely formulated conclusions. The author achieves her objective and presents convincing results that substantiate the research premise.

I consider that the work fully complies with all requirements of the Act on the Development of the Academic Staff in the Republic of Bulgaria (ADASRB), the Regulations for the Application of the ADASRB, and the Regulations of the Medical University of Plovdiv.

The dissertation demonstrates that doctoral candidate Zlatina Nikolova-Rancheva possesses in-depth theoretical knowledge and professional skills in the scientific specialty of "Health Care Management," while also demonstrating the qualities and abilities required to conduct independent scientific research.

The merits and qualities of the dissertation highlighted in the review provide grounds for me to cast a positive vote and to propose to the esteemed members of the Scientific Jury that the educational and **scientific degree of "Doctor" be awarded to Zlatina Ivanova Nikolova-Rancheva** in the scientific specialty of "Health Care Management," within Higher Education Area 7. Healthcare and Sports and **Professional Field 7.4 Public Health/**

September 29, 2026
Plovdiv

Reviewer:



Заличено на основание
Чл.5 §1, 6."В" Регламент (ЕС)2016/679

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