

REVIEW

by Prof. Valentina Christova Madjova, MD

Department of General Medicine, Medical University – Varna

of a dissertation on the topic "Vaccination behavior of Bulgarian general practitioners with a focus on the human papillomavirus vaccine"

with author Dr. Gergana Vaneva Apostolova

full-time doctoral student at the Department of Urology and General Medicine at the Medical University of Plovdiv

for awarding the educational and scientific degree "DOCTOR"

in the scientific specialty "General Medicine"

1. General presentation of the procedure

By Order of the Vice-Rector for Research and Development of the Medical University of Plovdiv No. R 7252/23.12.2025, I was elected to the Scientific Jury and, according to a decision from its first meeting, I was appointed as a reviewer of the scientific work of Dr. Gergana Apostolova.

The set of materials on paper/electronic media, which I received on time, fully complies with the requirements of the Procedure for acquiring the educational and scientific degree "Doctor" according to the Regulations of the Medical University of Plovdiv. Upon my detailed acquaintance with them, I did not find any violations of the procedure for awarding the educational and scientific degree "Doctor".

2. Brief biographical data of the doctoral student

Gergana Vaneva Apostolova completed her secondary education at the Bertolt Brecht Gymnasium - Pazardzhik in 2013 and the Medical University of Plovdiv as a Master of Medicine in 2019.

In 2022, she became a full-time doctoral student in General Medicine, and in 2024, she obtained a specialty in General Medicine at the Medical University of Plovdiv.

In the period 2018-2019, Gergana Apostolova worked as a health assistant at the Medline Clinic Hospital AD - Plovdiv, and in 2019-2020 as a resident physician in the Endocrinology Department at the same hospital.

From December 2020 to May 2024, she worked as a medical resident at AIPPMP "Dr. Gergana Dzhangozova" EOOD - Plovdiv.

Since June 2024, she has been a general practitioner at AIPPMP "Dr. Kiril Elenski" EOOD - Plovdiv, and since October 2024, she has become an assistant professor in General medicine at the Department of Urology and General Medicine, Medical University of Plovdiv.

3. Relevance and general characteristics of the dissertation work

The dissertation work proposed to me in electronic format concerns an important public health problem, aimed at studying the vaccination behavior of general practitioners in Bulgaria, with a special focus on the HPV vaccine. The topic is strategically significant, since a paradox is observed in the country - the presence of an effective preventive measure and at the same time low vaccination coverage and severe oncological epidemiology.

The study fits into the global scientific and health policy agenda related to prevention, health literacy, misinformation and trust in medical professionals. The significance of the work stems from the understanding that GPs are a leading figure in the decision-making process for immunization and largely determine the attitudes of the population. I consider the topic of the dissertation work to be very relevant.

The dissertation is written on 207 pages and is illustrated with 48 tables and 20 figures. In the presentation of the review and in the discussion of the results, information from a total of 267 literary sources was commented on.

4. Knowing the problem

I can confidently state that Dr. Gergana Apostolova knows the problem with the vaccination behavior of GPs in our country not only from literary data, but also as a general practitioner working in primary care.

5. Research methodology

The methodology used is scientifically sound, reasoned and consistent with the objectives of the study. An adapted, psychometrically validated instrument was used, which allows for reliable

measurement of trust, attitudes and behavioral intentions. The sample, inclusion criteria, ethical considerations and statistical approaches are described. The analysis combines descriptive and analytical methods, allowing for both description and interpretation of patterns. A methodological strength is the sensitivity to psychosocial determinants of professional behavior - a rarely discussed topic in Bulgarian medical research. The only recommendation is a future categorization of participants by experience, type of practice and region for a more detailed comparative analysis.

6. Characteristics and evaluation of the dissertation work

The literature review is sufficient to introduce the problem in our country and in other countries.

The objective is clearly formulated: to analyze the factors determining the attitude and behavior of GPs towards vaccination, with a special focus on the attitudes and practices related to recommending the human papillomavirus vaccine, as well as on their role in the process of recommending and communicating with patients. The objective is relevant, measurable and adequately responds to the established scientific and societal context.

The objectives are logically arranged and reflect a strategic approach that demonstrates clear research thinking and consistency.

The results are logically structured, clearly visualized and correctly interpreted. The study shows that the majority of GPs accept vaccination as a basic element of prophylaxis, but uncertainty regarding the HPV vaccine remains evident. The author identifies complex determinants — not only informational, but also emotional, value, institutional and communicational.

The discussion is analytical, balanced and correlated with the available scientific literature. It is impressive that the author does not limit herself to describing the findings, but proposes explanatory mechanisms and interpretative connections, which shows maturity of scientific thinking. The systemic nature of the problem is also emphasized - lack of a unified communication strategy, uneven distribution of responsibilities, lack of formalized support for GPs in dealing with vaccine hesitations.

The contributions of the dissertation are significant, well-founded, and realistically formulated.

7. Contributions and significance of the dissertation work for science and practice

11 conclusions are presented, which are described in detail according to the objectives set. 7 contributions of original scientific nature, 6 of confirmatory and 2 of scientific-applied nature are indicated, which shows the relevance of the topic. I accept all the indicated contributions.

The dissertation has very important practical value.

The abstract is prepared according to the requirements and reflects the main results achieved in the dissertation.

8. Assessment of the doctoral student's publications and personal contribution.

Dr. Apostolova has presented 3 publications as first author, 2 of which are in the Scopus & WoS database, and has participated in 6 scientific forums reporting results from her research.

The dissertation shows that Dr. Gergana Apostolova possesses in-depth theoretical knowledge and professional skills in the scientific specialty of General Medicine, demonstrating qualities and skills for independently conducting scientific research.

9. Critical notes and recommendations

The suggestions are constructive and aimed at future development, not at correcting the current work:

- the analysis could be expanded through regional comparisons and stratification by professional experience;
- the qualitative approaches used could be further developed into a broader, in-depth qualitative module (e.g. an extended series of interviews), which would allow for an even finer contextual understanding of motivation and barriers;
- the achieved results provide a good basis for developing and testing an intervention model aimed at improving recommended practices and communication with patients;
- it is possible to include other health professionals (pediatricians, obstetricians-gynecologists) in future studies to outline a broader professional perspective.

These notes do not diminish the scientific value of the work, but rather outline a natural trajectory for its development.

Recommendations for the conducted research – to continue and expand the research on the objectives of the dissertation.

10. Conclusion:

The dissertation work of Dr. Gergana Vaneva Apostolova is a scientific study with a clearly defined goal, methodological correctness, analyticality, practical orientation and a significant contribution to the development of general medicine, public health and immunization policy in Bulgaria. It contains scientific, practice-oriented and applied results that represent an original contribution to science and meet the requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria, the Regulations for the Implementation of Law and the Regulations of the Medical University - Plovdiv. The presented materials and dissertation results fully comply with the specific requirements adopted in connection with the Regulations.

The author demonstrates excellent scientific competences, independence, critical thinking and understanding of the role of primary care in public health. The requirements set out in the Academic Development Regulations of the Medical University of Plovdiv have been met.

All of the above gives me the right to confidently give my positive assessment of the conducted research, the presented dissertation, abstract, achieved results and contributions, and I propose to the esteemed scientific jury to vote positively and award the educational and scientific degree "Doctor" to Gergana Vaneva Apostolova in the doctoral program "General Medicine".

06.01.2026

Varna

Reviewed by:

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Заличено на основание
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