

REVIEW

by Prof. Radost Spiridonova Asenova, MD, DSc

Medical University - Plovdiv

external member of the scientific jury appointed by Order No. R-109-245/09.07.2026 of the
Rector of Medical University "Prof. Dr. Paraskev Stoyanov" - Varna

REGARDING: a dissertation entitled "Homeopathy in General Practice", submitted for the award of the educational and scientific degree "Doctor" in the field of higher education 7. Health Care and Sports, professional field 7.1. Medicine, doctoral programme "General Medicine"

Author: Dr Eva Hristova Ivanova

Scientific supervisor: Prof. Valentina Madzhova, MD, PhD

General presentation of the procedure and the doctoral candidate

The set of materials was submitted within the required time limit and contains all documents necessary for the procedure. The documentation provided permits a comprehensive assessment of the research, the doctoral candidate's personal contribution, and her professional qualifications. The procedure was conducted in accordance with the requirements for the award of the educational and scientific degree "Doctor".

Dr Eva Hristova Ivanova graduated in medicine from the Medical University of Varna in 1997, obtained her specialty in General Medicine in 2007, and has extensive clinical and teaching experience. Her professional career includes work in primary care, additional qualifications and practical experience in homeopathy, as well as academic work at the Department of General Medicine at the Medical University of Varna. Her biographical record demonstrates a sustained interest in the topic and a clear alignment between her professional competence and the chosen field of research.

Relevance and significance of the topic

The topic is relevant to general practice because complementary and alternative methods, including homeopathy, form part of the actual health behaviour of a substantial group of patients. General practitioners are often the first point of contact with the health system and need to be aware not only of prescribed conventional treatment but also of any other products and approaches used by the patient. From this perspective, studying attitudes, patterns of use, and doctor-patient communication has direct implications for safety, informed choice, and the therapeutic approach.

The scientific debate on homeopathy is polarised. Systematic reviews and the positions adopted by a number of scientific and regulatory organisations have not established convincing evidence of a specific clinical efficacy of homeopathic products beyond the placebo effect. At the same time, their use remains widespread. The dissertation correctly identifies this contradiction and directs the research not towards proving therapeutic efficacy, but towards an empirical examination of attitudes, behaviour, educational needs, and communication in general medical practice. This distinction is essential to a fair assessment of the work.

The relevance of the topic is further supported by the limited number of Bulgarian comparative studies that simultaneously include general practitioners, future doctors, and patients. Comparing these three perspectives makes it possible to identify both differences in attitudes towards homeopathy and shared areas in which communication and clinical safety could be improved.

Structure and characteristics of the dissertation

The dissertation comprises 231 pages and is illustrated with 30 tables, 8 figures, and 3 appendices. The bibliography includes 269 sources, of which 9 are in Cyrillic and 260 in Latin script. The structure is logical and follows academic requirements: introduction, literature review, aim, objectives and working hypotheses, material and methods, results and analysis, discussion, conclusions, recommendations, final conclusion, contributions, appendices, publications, and bibliography.

The literature review examines the historical development and nature of homeopathy, its place among traditional and complementary approaches, its scientific evaluation, regulation and prevalence, the opportunities and limitations associated with its integration into general medical practice, and issues relating to medical education. An effort has been made to present the different positions within the scientific debate. The inclusion of critical sources and the explicit acknowledgement that convincing evidence of a specific therapeutic effect is lacking should be viewed positively.

The review is extensive and demonstrates thorough knowledge of the field. In places, the historical and theoretical discussion is more detailed than necessary in relation to the dissertation's actual empirical focus. Clearer prioritisation of the literature on attitudes, health behaviour, communication, therapeutic collaboration, and education in complementary methods would further strengthen the link between the review and the analytical section. This observation does not detract from the merits of the work; rather, it identifies an opportunity for future refinement when the results are prepared for publication.

Aim, objectives, and working hypotheses

The aim is clearly formulated: to study, analyse, and evaluate the attitudes of GPs, medical students, trainee doctors, and patients towards the use of homeopathy as a therapeutic and preventive method in general practice. The five objectives cover interest in and attitudes towards the method, the extent of its use by GPs, reasons for its use or rejection, knowledge and willingness to undertake training, and trust within the doctor-patient relationship.

The objectives are logically ordered and consistent with the aim. Null and alternative hypotheses are formulated for each objective, providing analytical clarity. A particular strength is the effort to operationalise and test attitudes using predefined statistical approaches. The phrase "use of homeopathy as a therapeutic and preventive method" should consistently be understood as the object of the attitudes under study, rather than as prior acceptance of evidence of clinical effectiveness.

Material and methods

An observational, cross-sectional questionnaire survey was conducted among three target groups. The analysis included 756 correctly completed questionnaires: 54 from general practitioners, 147 from fourth-year medical students and trainee doctors, and 555 from patients. Data were collected between April 2022 and March 2023 through online questionnaires, with voluntary participation and informed consent. Ethical approval by the Research Ethics Committee of the Medical University of Varna is reported.

An original questionnaire was developed for each group and tailored to its role within the health system. The questionnaire for GPs contains 39 questions, that for students and trainee doctors also contains 39 questions, and the patient questionnaire contains 34 questions. A common section comprises 13 statements rated on a five-point Likert scale and organised into three conceptual subscales: scepticism towards homeopathic medicines, belief in the efficacy of homeopathic treatment, and integration and communication. The use of an identical section across the three groups provides a sound basis for comparative analysis.

The statistical methods are appropriate to the ordinal and categorical nature of the data. They include descriptive statistics, Cronbach's alpha, Spearman's correlation, the Kruskal-Wallis test, Conover-Iman post-hoc comparisons with Bonferroni correction, Pearson's chi-square test, Fisher's exact test, and regression models. Reporting effect sizes alongside statistical significance is a positive methodological choice.

The methodology also has limitations, which the author discusses appropriately. Online recruitment, voluntary participation, and snowball sampling entail self-selection and selection

bias. The small number of GPs, their geographical restriction to Varna, Burgas, and Dobrich, the predominance of participants from large cities, and the overrepresentation of women limit external validity. The absence of a known denominator in online distribution precludes calculation of a response rate and assessment of non-response bias. The cross-sectional design does not permit causal inference.

The validation of the original instrument also requires further attention. The analyses of internal consistency and correlations between the subscales are a useful first step, but they do not replace full psychometric validation. Some statements measure different constructs, including perceived efficacy, safety, responsibility for communication, and general principles of patient-centred care. The overall index should therefore be interpreted cautiously, while the subscales should preferably be considered separately.

Results and discussion

The results are presented systematically, with appropriate tables and figures. The dissertation describes sociodemographic and professional characteristics, sources of information, personal experience, attitudes and beliefs, the extent of use by GPs, motivations and barriers, clinical conditions, attitudes towards education, and doctor-patient communication.

The comparison between the groups reveals a consistent pattern: patients demonstrate the most positive attitudes, GPs occupy a more pragmatic intermediate position, and students are the most critical. From the perspective of general medicine, the most important finding is the convergence of all three groups on matters of communication: the value of a strong doctor-patient relationship, the need for doctors to be prepared to answer questions about complementary methods competently, and the patient's responsibility to disclose their use.

The study identifies a significant asymmetry between GPs' stated willingness to communicate and patients' perceived opportunity to engage in an open discussion. Approximately half of the patients do not disclose their use of alternative methods to their doctor. This finding has practical significance irrespective of one's position on homeopathy, because an incomplete medication and treatment history may lead to risks, delay evidence-based treatment, or result in parallel and uncoordinated therapeutic pathways.

The finding concerning students' dual position, as current users and future doctors, is also important. It supports the need for medical education to develop not skills for the uncritical recommendation of unproven methods, but knowledge of the evidence base, risk communication, recognition of delayed treatment, and respectful dialogue with patients who use complementary approaches.

The discussion is comprehensive, compares the findings with international and Bulgarian data, and demonstrates the author's capacity for independent analysis. The author does not conceal the methodological limitations and correctly emphasises that the study does not assess the efficacy of homeopathic medicines. In some passages, interpretations concerning "integration" and "application" could be phrased even more cautiously to avoid being understood as recommendations based on therapeutic effectiveness. The most substantiated practical message of the dissertation concerns the competent management of actual use, informed decision-making, clinical safety, and open communication.

Conclusions, recommendations, and contributions

The conclusions are derived from the presented results and address the stated objectives. They summarise the differences between the groups, the role of education, the communication barrier, and the need for an institutional framework for discussing the topic. The recommendations address clinical practice, medical education, continuing professional development, health policy, and future research.

The recommendation to include a routine, non-judgemental question about the use of complementary and alternative methods in the medical history is particularly appropriate. Educational modules should be critical and evidence-based, with an emphasis on scientific literacy, risk assessment, interactions, the timely use of evidence-based treatment, and communication skills. Institutional recognition of training should not be conflated with recognition of clinical efficacy in the absence of a sufficient evidence base.

The stated contributions are grouped as original, confirmatory, and scientific-applied contributions. I consider the comparative study of the three groups, the analysis of the relationship between attitudes, behaviour, and communication, the identification of convergence in communication, and the empirical delineation of educational needs to be the most significant. Claims such as "the first in Bulgaria" and, in particular, "the first in the international literature" are strong and should be supported by a comprehensive and reproducible bibliographic search. Given the nature of the sample, the contribution concerning the establishment of the "extent of use in Bulgaria" would be more accurately limited to the sample and regions studied.

Publications and personal contribution

Four publications and two scientific presentations related to the dissertation are reported. Dr Eva Hristova is the first author of all four publications, supporting the conclusion that she has made a substantial personal contribution. Her publication record demonstrates sustained work on the topic.

The doctoral candidate's personal contribution comprises the development of the research instruments, the organisation and conduct of the questionnaire survey, the statistical processing and interpretation of the data, and the formulation of practical recommendations. The submitted work demonstrates her ability to plan and conduct scientific research independently.

Author's abstract

The author's abstract comprises 64 pages and reflects the principal elements of the dissertation: aim, objectives, methodology, results, discussion, conclusions, recommendations, publications, and contributions. Its content corresponds to the dissertation and provides a sufficiently comprehensive account of the research conducted.

Critical comments and recommendations

The comments made above are primarily intended to refine the interpretation of the findings and their future development in publications. They do not call into question the overall scientific value of the work.

Conclusion

Dr Eva Hristova Ivanova's dissertation is an independent, relevant, and large-scale empirical study of attitudes towards homeopathy and the associated issues of communication and education in general practice. The work contains scientific-theoretical and scientific-applied results; the methodology is appropriate to the stated aims, and the limitations are recognised and discussed. The findings are relevant to patient-centred communication, clinical safety, and medical education.

The submitted dissertation, author's abstract, publications, and contributions meet the requirements of the Development of Academic Staff in the Republic of Bulgaria Act, its Implementing Regulations, and the relevant internal regulations of the Medical University of Varna.

In view of the above, I give a positive assessment of the dissertation and confidently recommend that the esteemed Scientific Jury award Dr Eva Hristova Ivanova the educational and scientific degree "Doctor" in the field of higher education 7. Health Care and Sports, professional field 7.1. Medicine, doctoral programme "General Medicine".

20 August 2026

Review prepared by:

Prof. Radost Spiridonova Asenova, MD, DSc

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