

# STATEMENT

by **Prof. Albena Kerekovska, MD, PhD**

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member of the Scientific Jury according to Order № P-109-284/11.07.2022 of the Rector  
of the Medical University of Varna

**Regarding:** Dissertation for the awarding of the scientific degree "Doctor of Science" on the **Scientific speciality:** „**Social medicine and the organization of healthcare and pharmacy**“, professional domain: 7.1 „Medicine“, higher educational field: 7. Healthcare and Sport, on topic „*Integrative medicine – a holistic conceptual model, scientific and educational approaches*“ of Assoc. prof. Desislava Ivanova Vankova, MD, PhD from the Department of "Social Medicine and Organization of Health Care", Faculty of "Public Health" at the Medical University of Varna.

## **Procedure of announcing the public dissertation defence**

The dissertation is discussed and approved for public defense by the Department "Social Medicine and Organization of Health Care" at the Medical University of Varna on a Department Council on 24 of June 2022. Upon Order № P-109-284/11.07.2022 of the Rector of the Medical University of Varna, on the bases of a decision of the Faculty Council of the Faculty of Public Health (Protocol № 189/05.07.2022) I am an internal member of the Scientific Jury for the public defence of the dissertation. According the Protocol №1/14.07.2022 from the first meeting of the Scientific Jury, I have been appointed to prepare an opinion statement on the procedure and the dissertation.

The candidate has submitted all necessary documents for the procedure, corresponding to the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Rules for its Application and the Rules for the Development of the Academic Staff of the Medical University of Varna.

## **Biography in brief about the author of the work**

Assoc. Dr. Desislava Vankova obtained an educational and qualification degree "Master" in the specialty "Medicine" at the Medical University of Varna in 1993. In 1999 she graduated from an international master's program in public health at Maastricht University, the Netherlands. In 2000 acquired the specialty "Social Medicine and Health Care Organization". In 2013 Dr. Vankova successfully defended her dissertation at the Medical University of Varna on the topic "Health-related quality of life related to health in the community" and obtained the educational and scientific degree "doctor" in the scientific specialty "Social medicine and organization of health care and pharmacy".

She began her work experience in 1994 as a resident physician in the Internal Department of the Municipal Hospital in the town of Malko Tarnovo. In the period 1995-1996, she worked as a therapist in the Municipal Hospital - Malko Tarnovo and the Health Service of the Municipality of Avren. In 1996 - 2001 works as an epidemiologist at HEI - Varna. From 2001 to 2015, Dr. Vankova worked in the field of pharmaceutical business at GlaxoSmithKline - Bulgaria, where she reached the position of "manager of key clients".

Her academic career started in 2000 as a part-time teacher at the Department of "Social Medicine and Organization of Health Care" at the Medical University of Varna. In 2015 started working as a part-time assistant-professor, and after winning competitions, successively held the academic positions of "chief assistant" (in 2016) and "associate professor" (in 2018) at the same department.

Since 2015 and until now she is also the head of the "Academic Organization for Clinical Studies" Department at the Medical University - Varna.

Assoc. prof. Dr. Desislava Vankova has a very intensive teaching activity - she leads lectures and practical classes for students of medicine (Bulgarian and English language training), dentistry (Bulgarian and English language training), pharmacy, nurses, midwives, optometrists, speech therapists, management of Health Care, Health Management and Pharmacist Assistant. She is the supervisor of specialist and doctoral students.

The held qualification courses for continuing education and specializations, both in the country and abroad, further contribute to the professional development and interdisciplinary training of Assoc. prof. Vankova and form her as a well-prepared and modern-thinking professional, expert, teacher and researcher. The main areas of her postgraduate studies and qualifications are in the fields of pharmacy and pharmaceutical management, modern epidemiology and clinical research, quantitative and qualitative research methods in medicine and public health, history of medicine, health technology assessment, alternative and complementary teaching methods. and treatment. Prof. Vankova has a European Diploma in Homeopathy and is a certified teacher at the German Academy of Homeopathy and Naturopathy.

Assoc. prof. Vankova is the leader and participant in several international and research projects.

She is a member of international and national scientific, non-governmental and professional organizations, including: European Public Health Association, European Society of Integrative Medicine; Bulgarian Public Health Association; The Bulgarian Scientific Society for Public Health; NGO "Public Health - 99" and the Bulgarian Medical Union. She has been a member of the Ethics Committee at Saint Marina Hospital - Varna in the period 2018-2022, and since 2018 has been a member of the Ethics Committee at the Medical University of Varna.

Assoc. prof. Vankova is a member of the editorial boards of the scientific journals "Asclepius" and Public Health Policy as Review Editor for Frontiers in Public Health. She is a reviewer of publications in BMC Public Health, Value in Health Regional Issues, Scripta Scientifica Salutis Publicae, ZdrowiePubliczne i Zarzadzanie, Social Medicine, Bulgarian Journal of Public Health, Journal of IMAB, Asklepius, etc.

She has excellent foreign language training - she speaks and uses English and Russian fluently in her professional activities.

### **Scientometric analysis of the dissertation**

The 10 publications submitted for participation in the procedure and required by the Regulations for the Development of the Academic Staff at the Medical University of Varna are actually published, full-text and related to the topic of the dissertation.

The academic report prepared by the Library of the Medical University of Varna in relation with the defense proves the high scientific productivity of Assoc. prof. Vankova. For participation in this procedure, the following works and documents are attached:

- Dissertation work, for obtaining the educational and scientific degree "Doctor- PhD";
- Dissertation work for obtaining the scientific degree "Doctor of Sciences" - 263 pages.
- Dissertation in brief for obtaining the scientific degree "Doctor of Sciences" - 99 pages;
- Full-text scientific publications - a total of 10 articles, of which 1 - published and indexed in web of science; the remaining 9 publications were published in prestigious peer-reviewed

journals, such as: Asclepius (referred to in CEEOL); Izvestia of the Union of Scientists, Varna branch; journal of Social Medicine, Scripta Scientifica Salutis Publicae, Varna Medical Forum and others.

A total of the required 10 citations are presented, of which 3 – in scientific publications, referenced and indexed in world-famous databases with scientific information; 4 – in peer-reviewed monographs and 3 – in non-refereed peer-reviewed journals. The presented citations, reflecting the scientific activity of the candidate, fully cover the requirements for obtaining the scientific degree "Doctor of Sciences".

All publications are correctly described and attached in full to the competition materials. A high personal contribution to the scientific publications of the candidate is proven, who is independent or first author in 60% of all publications.

The scientometric analysis shows that the requirements of the Medical University of Varna for the acquisition of the scientific degree "Doctor of Sciences" have been met in all indicators.

### **Relevance and significance of the dissertation**

The thematic focus of Assoc. Prof. Dr. Vankova's dissertation work is in the field of the scientific specialty "Social Medicine and Organization of Health Care and Pharmacy". The topic is aimed at a new and increasingly relevant European and global direction in modern health care - integrative medicine. The scientific work fully explores and presents the holistic concept of "integrative medicine", which is increasingly giving way to the idea of integrative healthcare. Emphasis is placed on the need to develop science and education in this direction throughout the world and in Bulgaria.

The study was conducted in the context of a growing societal and individual need for holistic, clinical, scientific and educational approaches to health.

The need for education in the field of integrative medicine has already been proven in a number of countries around the world. The topic is even more relevant for our country, since in Bulgaria, unlike a number of European countries and the USA, there is no tradition of academic education in the field of integrative medicine. We lack similar studies.

The presented generalized scientific information (research, world and European experience, results of own studies, ideas for innovative initiatives) is aimed at the policymakers and at the experts who shape the standards in health care and higher medical and health education in our country. The dissertation follows the national priorities reflected in the "Strategy for the development of scientific research - 2017-2030". The topic fully corresponds to the institutional scientific priorities of the Medical University of Varna, which include "innovative integrative approaches in the management of the diseases and the health systems".

### **Structure and content of the dissertation**

The dissertation is presented in a total volume of 263 standard pages. Its structure is logically constructed and balanced, and includes: Introduction; First chapter - Literature review; Second chapter – aim, objectives, design, methodology and organization of the study; Third chapter – Holistic conceptual model, KAP and Delphi studies; Fourth chapter – conclusions, recommendations and contributions; bibliography and appendices.

The work is illustrated by 9 tables, 38 figures and 5 appendices. The literature used is precisely described in the bibliographical reference. The number of sources used is impressive – 714, and 85% of which are in Latin alphabet.

The **literature review** covers **Chapter One** of the dissertation work. It is purposeful, thorough and well structured. A broad and up-to-date awareness of the DoSc candidate is demonstrated, as well as an ability to critically evaluate, generalize, systematize, bring out

significant issues, thoroughly analyze and comparatively interpret the scientific literature in the research field.

Key terms and definitions in integrative medicine are outlined. The modern history and current state of integrative medicine around the world and in Europe is presented through a consistent presentation of: analysis of strategic documents, events, normative acts related to its development; review of scientific research, modern approaches, facts, specific examples and case studies; review of global and North American experiences with educational approaches in the field of integrative medicine.

In **Chapter Two**, the aim, objectives, design, methodology and organization of the study are precisely presented. The aim of the scientific work is clearly and precisely defined - "Research of the concept of "integrative medicine" and its place in science and education in Bulgaria". There are five main objectives aimed at achieving the aim. They are logically consistent and fully cover the research problem at stake. The formulated working hypotheses correspond to the set objectives. The application of an innovative design is justified - an integrative exploratory sequential mixed-method design, uniting the application of qualitative and quantitative sociological tools with methods of the humanities, natural and engineering sciences. The research protocol and the four phases of the study are presented precisely and in detail: first phase - Research of the contemporary historical and institutional development of integrative medicine and conceptual modeling; second phase - Quantitative and qualitative survey of educational needs among students and primary care professionals; third phase - Dynamic Delphi survey; fourth phase - Development of a conceptual educational model for achieving competencies related to integrative medicine and complementary and alternative medicine (CAM). The materials and methods used are described: documentary historiographical method; systematic literature analysis; quantitative sociological methods (four online direct individual questionnaires); statistical methods; graphic methods and qualitative Delphi survey.

The original quantitative and qualitative studies are presented in **Chapter Three** – “Holistic Conceptual Model. Results of own studies”, and these become the basis for the discussions at the final. **The results** of the original studies are comprehensively presented and can be synthesized in four main directions, which overlap and influence each other. The initial terminological clarification of the concept/idea/field "integrative medicine", including the Brief Terminological Guide to Integrative Medicine, enable the construction of the original holistic conceptual model, including: the five building elements - education, CAM, conventional medicine, scientific research and promotion of health. The model is also presented in Figure 5 in the dissertation, which illustrates the expanded definition and understanding of integrative medicine. This process of holistic definition found its successful synthesis in the Dynamic Delphi study, resulting in a comprehensive and consensus definition of integrative medicine. The set task of researching the needs for education was carried out through the prepared and conducted own sociological survey with a direct individual survey among general practitioners and pharmacists, mainly in the Varna region and among students of the Medical University of Varna (indicated protocols of ethical permission to conduct and an accepted report from the university ethics committee for completion). The survey of knowledge, attitudes, behaviors and practices related to CAM and awareness of integrative medicine through the four well-structured (five-part) instruments was conducted precisely following the research protocol. The analysis of the results shows an increased interest in CAM, both among the group of professionals and among students. The need for more scientific evidence in order for CAM to be accepted, taught and practiced is undeniable. The results show that "integrative medicine" is a relatively unknown term or is understood one-sidedly, which brings to the fore again the need for more awareness. The author's claimed position of academic neutrality is evident in the interpretation of the results and added value to the dissertation.

Last but not least, interesting, important and original in its nature is the study of the historical roots and current state of integrative medicine and CAM in Bulgaria, as part of the European scientific and educational space. Ten archetypes of educational and scientific centers are proposed, which are proof of the cultural diversity of the old continent. It is necessary to conclude that: the increasing use of non-conventional methods for treatment and health promotion is an inevitable democratic process; importing foreign educational models is insufficient, and preserving traditional folk medicine and following national educational traditions is a guarantee of success and sustainability.

**Chapter four** is devoted to the conclusions, recommendations and contributions of the dissertation work.

### **Conclusions, recommendations and contributions of the dissertation work**

**The conclusions** are clearly formulated and logically follow from the obtained results. They are grouped according to the predefined research objectives: the holistic conceptual model of integrative medicine, the European diversity of models of educational and research centers in integrative medicine and CAM, and findings from the conducted quantitative and qualitative sociological research among students, health professionals and experts.

Of practical importance are the conclusions confirming the interest and need for education and additional qualification related to integrative medicine and CAM, both as part of higher education at the university (such as free electives) and in the form of post-graduate education and lifelong learning - through certified courses in an academic environment, practically oriented and dictated by the interests of the professionals.

Based on the research results, ideas and strategies for necessary actions have been generated, synthesized as practical **recommendations** in three overlapping and complementary areas/levels: national health policy and educational level; development of science in the field of integrative medicine, CAM and health promotion, and institutional educational level. Particularly valuable are the specific recommendations for including the study of the methods and approaches of integrative medicine in modern medical education in our country.

**The contributions** are predominantly original in nature - with theoretical, methodological and practical-applied significance at the national and international level.

Assoc. prof. Dr. Desislava Vankova successfully introduced the main terms in the field of the concept of "integrative medicine". The scientific work presents the first complex study of its kind in our country on the concept of "integrative medicine" as a holistic idea and a medico-social construct. For the first time, a holistic conceptual model has been created that enables a more in-depth study, development and application of integrative medicine and healthcare. An original terminological guide to integrative medicine with research and educational applications has been developed. For the first time in Bulgaria, universal educational models are being developed to be the basis of educational modules in integrative medicine.

Knowledge, attitudes, and practices related to CAM and integrative medicine among students and primary care professionals were explored, which is a necessary first step in exploring educational needs in this area.

Qualitative studies, both those exploring the attitudes of students and professionals in depth, and the original Dynamic Delphi survey conducted among experts in medical education and health care, have made a significant contribution.

An original methodological contribution with significant potential for practical applicability is the applied integrative sequential mix-methods design as an innovative approach in the field of research related to public health and clinical medicine in our country. A model for conducting a

Delphi study (Dynamic Delphi) adapted to the conditions of social isolation was developed and implemented.

As a summarizing characteristic of the scientific work and related publications, I emphasize the broad scope, innovative ideas and topicality of the subject under consideration, the precise innovative methodology, the contributing nature and potential for practical applicability of the scientific results.

Assoc. prof. Dr. Vankova takes an active part in national and international scientific projects, forums in the field of integrative medicine, including as a chief researcher and speaker at scientific events. Her work as a university lecturer, her interests in social medicine, as well as her additional specializations in public health, health technology assessment, complementary and alternative medicine support her research interests in this field and allow for the depth of the analysis.

In relation with the dissertation work, Assoc. prof. Vankova presents the required **10 full text publications** (Г5-9 - 188.75 points, from the required 100 points); **5 participations** in scientific and educational forums; **2 participations in scientific projects** – one international and one national.

### **Dissertation in brief**

The Dissertation in brief is prepared according to the requirements and in a synthesized form fully reflecting the content of the dissertation work. It is developed in a volume of 99 pages, very well illustrated with highly informative figures and tables. A list of publications related to the topic of the dissertation is added to it.

### **Conclusion**

The dissertation of Assoc. prof. Dr. Desislava Ivanova Vankova "Integrative medicine - holistic conceptual model, scientific and educational approaches" covers a modern and significant interdisciplinary field. It is very well structured, with clearly defined aim and objectives. The design of the scientific study is adequately selected and innovative. The methodology is complex and competently applied. The results are presented correctly and comprehensively. The conclusions are clearly formulated and are the basis of the dissertation contributions. The topic of the research paper requires multi-faceted scientific interests and innovative thinking, and the research paper demonstrates the candidate's ability to develop an original design and to apply complex quantitative and qualitative research methods.

The dissertation work and the presented publications fully meet the requirements of the Law on the Development of the Academic Staff of the Republic of Bulgaria, the Regulations for its Application and the Regulations for the Development of the Academic Staff of the Medical University of Varna for the acquisition of the Doctor of Science degree.

The in-depth nature of the conducted research, the relevant topic, the innovative approaches, the obtained results and contributions of a mostly original and applied nature are the reason to give a positive evaluation of the dissertation thesis and to confidently recommend to the respected members of the Scientific Jury Assoc. prof. Dr. Desislava Vankova to be awarded the scientific degree "Doctor of Sciences" in the scientific specialty "Social Medicine and Organization of Health Care and Pharmacy".

01.08.2022

Varna

Member of the Scientific Jury:

/Prof. Dr. Albena Kerekovska, PhD/