

REVIEW

by Prof. Rumen Petrov Konstantinov, MD, PhD

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Appointed as a member of the Scientific Jury for evaluation of the dissertation of Prof. Hristianna Romanova, MD, PhD, for acquiring the scientific degree "Doctor of Science" by an Executive Order of the Rector of Medical University of Varna No. R-109-429/20.12.2019

On: Thesis for obtaining a scientific degree "Doctor of Science" for Higher Education in the field 7. Healthcare and Sport, professional field 7.1. Medicine, speciality "Disaster Medicine" on the topic "Protection of the population in flood risk in Varna region"

Candidate: Prof. Dr. Hristianna Angelova Romanova MD, PhD, Head of Department of Disaster Medicine and Maritime Medicine, according Order of the Rector of Medical University of Varna No. R-109-35 / 17 January 2018.

The review is based on The Law on Academic Staff Development in the Republic of Bulgaria and the Regulations of the Ministry of Education and Science and the Regulations on the Terms and Procedure for Acquiring Scientific Degree in Medical University - Varna. I declare that I have no conflict of interest with the doctoral student in the meaning of subparagraph 1, points 3 and 5 of the Additional Provisions of The Law on Academic Staff Development in the Republic of Bulgaria.

Biographical Information on Prof. Hristianna Romanova, MD, PhD

Prof. Romanova is a long-time member (since 1980) of the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna Academic staff. She has trained students, citizens, members of different Bulgarian organizations as well as foreign ones on the problems of medical provision in case of emergency and disaster situations, as well as for protection, self-help, mutual assistance and first aid at the scene of the accident.

She was born on 1st June 1955 in Popovo. In 1979 after graduating from the Medical University in Varna, she worked as a general practitioner in Dobrich. Since 1980 works as an assistant professor with the Medical University – Varna, initially at the Medical sanitary sector. In 1985 she acquired the specialty "Organization of medical sanitary protection". In 2005, Prof. Romanova successfully defended her dissertation on: "Emergency situations in Varna region and possible hygienic and epidemiological problems". In 2008 she was awarded the Academic Position "Associated professor" and appointed Head of the Disaster Medicine Sector. From

January 2017 until now she has been the Head of the Department of Disaster Medicine and Marine Medicine.

In the beginning of 2017 Prof. Romanova is appointed by an order of the Minister of Health as a national consultant on Disaster Medicine (catastrophe), and since March 1, 2018 she is a member of the National Council for Quality of Training and Qualification in the System of Emergency Medical Assistance.

She is a member of the following scientific societies and organizations: Bulgarian Medical Association, the Bulgarian Society for Disaster Medicine, the Society for Medical Geography, the Union of Scientists in Bulgaria - Varna Branch.

From the required and mandatory documents submitted, it is established that the procedure for referral to public defense of the dissertation by an Order of the Rector of the MU-Varna: P-109-429 / 20.12.2019, complies with the legal provisions and regulations for the Regulations and Procedure for Acquiring Scientific Degree in Medical University - Varna.

Characteristics and evaluation of the thesis.

Structure of the dissertation

The dissertation submitted for review is written in 225 pages. The results are illustrated with 9 tables, 82 figures, 5 photos and 10 applications. The references include 289 literary sources, 116 of which are in Cyrillic and 173 in Latin. The structural sections of the dissertation are arranged in the following order: list of abbreviations used - 2 pages, content of illustrated materials - 5 pages, list of applications - 1 page, introduction - 2 pages, literature review - 29 pages, purpose and tasks - 2 pages, materials and methods - 9 pages, original studies - 116 pages, conclusion - 2 pages, general conclusions - 2 pages, contributions - 3 pages.

The relevance of the dissertation

The significant socio - economic and health risks arising from the tendency for the continuous increase of floods as part of the raised natural and anthropogenic catastrophes, poses principally new and complex tasks for the public health system. Disaster medicine is intended to integrate and coordinate research into the area of catastrophic phenomena and to present a scientifically justified system of action to prevent and eliminate potential health impacts on the population of the affected areas.

The significant scientific topic selected for the dissertation of Prof. Hr. Romanova MD, PhD aiming to study the risk of floods as a major problem for the population in the Republic of Bulgaria (and in particular in Varna region), the awareness and preparedness of the population for proper behavior during and after the flood and offering prevention strategy for reducing the adverse effects on their health and material provision is a thorough and multifaceted study, analyzing and outlining of the most important problems that are constantly being addressed by the defense authorities, the health care system and the population at risk, which need systematic and health training as well as timely information.

The literature review consistently and systematically presents the terminological part, historical and contemporary characteristics of the floods throughout the world and in our country. Based on the derived features of floods as a phenomena with the nature of environmental and social disaster, the medical consequences for public health have been considered. In particular, the epidemiological consequences are of an epidemic emergent nature and require urgent epidemiological surveillance and control. The exploratory nature of the literature review is of a contributing nature and underlines the need for a comprehensive scientific study of the flood problem.

The goal is clearly defined and the resulting 7 main research objectives are formulated, supported by a basic thesis and 6 research hypotheses, presenting the complex nature of the dissertation covering ecological, health and organizational aspects.

The methodology of the dissertation covers a variety of research materials that meet the purpose and objectives. People living in flood-prone areas, not individuals or inhomogeneous groups, individuals from the population of Varna region in the flood risk areas and foreign citizens temporarily residing in Varna municipality were surveyed. Information sources include data from Bulgarian and international empirical studies, statistical information from Bulgarian and international databases and statistical directories, data from Bulgarian and international organizations and institutions, primary data from original sociological surveys. The sociological survey is limited territorially within the Varna region because of the specificity of the possible flood risks.

Appropriately selected and properly used methodological system includes methods of theoretical analysis, comparative analysis, methods of flood risk assessment, grouped in a system of documentary, analytical and sociological methods. In order to collect the necessary primary information, sociological methods are also applied - a sociological survey through a questionnaire method of the population in the risky areas. Data processing and statistical analysis uses Excel 2013 software, spreadsheets and graphical methods.

The factual material and the systematic methodological approach allow the design of the study to be formulated, representing logically the stages and the course of the research, concluding the results, conclusions and recommendations.

Characterization and evaluation of the dissertation work and contributions

The structure of the results of the thesis "Protection of the population at flood risk in Varna region", "corresponds to the set goal and tasks, and is presented in 7 major areas:

- Model for determining the risk of floods in the Republic of Bulgaria (and in particular in Varna region)
- Analysis and summary of the tasks and activities of the institutions for the protection of the population at national, regional and municipal level
- Research and systematization of the health risks of floods
- Study and analysis of the medical care in floods

- Awareness-raising and evaluation of flood protection measures for foreigners and Bulgarians over 18 years of age.

- Developing a strategy for flood prevention and protection of the population

- Based on research, analysis and evaluation, recommendations are made to provide effective assistance and support to the population in floods.

In the style of a systematic scientific analysis, the situation of possible and emergent disasters with the nature of floods and the necessary organizational, medical and preventive actions are set out. In particular, the epidemic consequences of emergent nature related to infectious diseases with faecal-oral and airborne transmission mechanism have been investigated. The epidemiological facts presented, resulting from the floods registered in the Varna region for a long period of observation, require the need for different preventive and epidemic actions. These results should be reflected in the system of epidemiological surveillance and control. A certain epidemiological interest is caused by the results of the survey, on the awareness and the prevention of possible contamination during natural disasters (floods) of our and foreign citizens. Each of the thematic sections is separated in principle directions and ends with conclusions. The modules presented are of scientific and practical value. They include the necessary organizational, applied and preventative actions during and after the floods.

The general conclusions are thematically presented and grouped, covering the basic directions of the research - the risk of floods in the country and Varna region with a description of water bodies and rivers, as well as the areas of risk of damage in Varna and the region; the organization of the protection of the population in case of floods with the structures charged with carrying out the organization, coordination and management of flood actions; health units performing rescue medical, medical and hygienic-anti-epidemic activities in the health care system; the need for comprehensive information and training activities of the public in the Republic of Bulgaria on the risk of floods and compulsory annual training of the population for proper actions and first medical (pre-medical) assistance.

The contributions are divided into two areas: scientific-theoretical and scientific-applied. I accept the contributions thus presented, which are specifically and accurately expressing the essence of the dissertation.

The abstract is prepared as required and fully reflects the results of the dissertation. It presents the structure, methodology, results and conclusions of the doctoral student's work.

Scientometric Indicators: Prof. Dr. Romanova presents 12 full-text articles related to the topic of the dissertation, in accordance with the requirements of the procedure for obtaining the degree of Doctor of Science.

Conclusion:

The dissertation submitted for defense entitled "Protection of the population at flood risk in Varna region" in the field 7. Healthcare and Sport, professional field 7.1. Medicine, speciality "Disaster Medicine", complies with the statutory Regulations and Procedure for

Acquiring Scientific Degree in Medical University – Varna, is distinguished by its relevance and originality, and the contributions present the complex scientific and applied character of the dissertation.

Hereby I give my positive vote to award Prof. Dr. Christian Angelova Romanova, MD, PhD, the “Doctor of Science” degree in the field 7. Healthcare and Sport, professional field 7.1. Medicine, speciality “Disaster Medicine”, and I recommend that the members of the Scientific Jury would also support it with a positive vote.

Varna,

23rd January 2020



/ Prof. Rumen Petrov Konstantinov, MD, PhD /