

OPINION

by Colonel Assoc. Prof. Dimo Iliev Dimov, MD, PhD

Chief of the Department of Disaster Medicine – Military Medical Academy – Sofia

Member of the Scientific Jury by order of the Rector of the Medical University “Prof. Dr.Paraskev Stoyanov” – Varna No:R - 109-429/20.12.2019.

Re: Scientific work for awarding educational and scientific degree “Doctor of medical sciences” in the field 7. Healthcare and Sport, professional field 7.1. Medicine, scientific speciality “Disaster Medicine” on the topic “Protection of the population in flood risk in Varna region”.

The author of the dissertation entitled "Protection of the population at flood risk in Varna region" is Prof. Hristianna Angelova Romanova-Radeva, MD, PhD, Head of the Department of Disaster Medicine and Maritime Medicine, Faculty of Public Healthcare at the Medical University "Prof. Dr. Paraskev Stoyanov"- Varna.

Prof. Romanova graduated in 1979 from the Medical Institute Varna. In 1985 she acquired the specialty "Organization of medical sanitary protection" (equivalent now to "Disaster Medicine"). In 2006 she acquired PhD degree in Disaster Medicine. In 2008, she acquired the Associate Professor position in the specialty "Disaster Medicine". Since November 2018 she is a professor in the Department of Disaster Medicine and Maritime Medicine at the Medical University of Varna.

She is a member of the Expert Council on the Medical Specialty “Disaster Medicine” to the Minister of Health and a member of the National Council for Quality of Training and Qualification in the Emergency Medical Assistance System. Prof. Romanova is a consultant sought by the Civil Defense, Regional Health Inspectorate, BRC, Naval Academy "N. J. Vaptsarov", University of Rousse "Angel Kanchev", Varna Free University, Society of the Disabled in Varna and other organizations on issues related to the protection of the population and medical provision in emergencies.

The dissertation submitted has a total of 225 pages and consists of 10 sections/chapters - introduction (2), literature review (28), purpose, tasks and hypotheses (2), materials and methods (9), original studies (115), conclusion (2), general conclusions (2), contributions (3), literature (22) and applications (28).

The results of the study are presented correctly. The attached 9 tables, 82 figures and 5 pictures facilitate the perception of the processed data.

On the basis of the analysis of the data from the literature review, Prof. Romanova summarizes:

- Floods are the most common in frequency and economic losses, followed by fires and other disasters.
- The great floods in the world, Europe, the Balkan Peninsula and the Republic of Bulgaria are of rainy - river type.
- In the Varna region the floods are also of the rainy - river type (floods of the Kamchia River and the Provadia River), while in Varna, the causes are torrential rainfall and insufficient sewerage system.
- The victims in the floodprone zone are most commonly suffering from injuries to the musculoskeletal system due to impact of solid objects or dragging by the water, also drowning and development of intestinal infectious diseases and viral hepatitis type A.
- In the event of floods, the medical service has to arrange quickly first aid to the victims in the disaster area, hospital admissions, etc.

The scientific objective is to study the risk of floods as a major problem for the population in Bulgaria (and in particular in Varna region), the awareness and training of the population for proper behavior during and after the flood, and to propose prevention measures for reducing the adverse effects on the population, their health and material provision.

The tasks are:

1. To study and determine flood risks in the Republic of Bulgaria (and in particular in Varna region) and to develop a Model for determining the risk of floods.
2. To analyze and summarize the different institutions' tasks and activities for protection of the population at national, regional and municipal level.
3. Research and systematize the health risks in floods.
4. Summarize and analyze flood medical care.
5. To study the awareness and evaluate the preparedness of flood protection for foreigners and Bulgarians over 18 years of age.
6. Develop a strategy for prevention and protection of the population in floods.
7. Make recommendations, on the basis of studies, analyzes and evaluations, important for providing effective assistance and support to the population in floods.

The materials and methods are up-to-date. The research objectives were achieved using qualitative and quantitative methods in the social sciences and health sciences.

In the original studies, Prof. Romanova first focuses on determining the risk of flooding in the Republic of Bulgaria (and in particular Varna District). She has developed a Model for determining the risk of floods.

For the second task - Analyzing and summarizing the tasks and activities of the institutions for flood protection, well-formulated and up-to-date conclusions are made by the author.

The third task - Research and systematization of health risks in floods, is also very well developed by Prof. Romanova.

The conclusions drawn from the developed fourth task correspond to the necessary and timely organization and management of medical care in floods.

The Study of the awareness and assessment of the preparation for floods of foreign nationals and Bulgarian population over 18 years is most significant and comprehensive.

The survey includes 230 English speakers (AEs) from 12 countries in Europe and Asia - England, Wales, Germany, Ireland, Sweden, Spain, Norway, India, Japan, United Arab Emirates, Scotland and Portugal and 230 Bulgarian nationals living in Varna region.

The method chosen for the study is an anonymous survey using a questionnaire with 32 questions, filled in personally by the respondents.

The analysis of the information thus obtained shows very interesting results:

- A large percentage of respondents have experienced floods (42.00%).
- Most of the respondents (64.60%) were not informed whether they were living in a flood-prone zone.
- The results show that both study groups have low training for evacuation - only 5.30% of foreigners and 8.90% of the Bulgarians.
- Insufficient knowledge of emergency situations in case of epidemic risk is the reason for 54.60% of foreigners and 45.50% of Bulgarians to chose to leave the area and thus worsen the epidemic situation.
- The self-assessment of the Bulgarian participants in the disaster preparedness study is quite low, which also corresponds to the verification questions - 75.00% think that they do not have enough knowledge.
- The assessment of the respondents shows that the awareness and readiness of the surveyed group of 230 foreigners temporarily residing in Varna is better than that of 230 Bulgarian citizens living in Varna region.
- Almost all the respondents in the two surveyed groups want to get more knowledge and prefer (61.00% BG and 79.40% AE) to participate in a training course.

In a separate assignment, Prof. Romanova has prepared a Training Strategy for the Prevention and Reduction of Disaster Risk in Floods and presents many basic recommendations to ministries and institutions for flood risk reduction.

The contributions are up-to-date and divided into two areas: scientific-theoretical and scientific-applied, with the following having significant practical value:

- Five leaflets have been developed to raise awareness and knowledge of the population on flood issues. 1000 copies of the leaflets were distributed among the participants in the sociological

surveys, to their relatives, to employees of Varna Municipality, Basin Directorate, members of NGOs and citizens.

- There has been active participation in the organized training seminar by the MoEW on the flood related problems from the Flood Risk Management Plan for the Black Sea basin water management 2016-2021 on 18th and 19th September 2018. Flood Health Risk Lectures have been developed and presented to train the competent authorities attending the seminar.

- The conceptual model created for assessing population preparation for disaster risk is with emphasis on floods.

- A Flood Training Strategy has been developed to raise awareness and knowledge of population on protection and first aid.

- The summarized results of the surveys, including the leaflets, have been provided and are practically implemented in the Ministry of Education, Youth and Science, Ministry of Healthcare, Varna Municipality, CEMA, the "Fire Safety and Protection of the Population" Directorate of the police, BRC, NGOs and the Black Sea Region Basin Directorate.

- Scientific guidance of doctoral student in 2019 with thesis "Floods - Health and Environmental Issues for the Danube Region"

- Advising on the preparation of the Disaster Protection Plans of the Medical University "Prof. Dr. P. Stoyanov" Varna (plans for actions in case of severe earthquakes, floods, snowstorms, black ice on roads and freezing, industrial accidents, fires and transboundary radioactive contamination.

- Participation in the Expert Council of Republican Consultants in the Health Care System in the Medical Specialty Disaster Medicine, etc.

The literature used is rich and up-to-date. There are 289 sources cited, 116 of them in Cyrillic and 173 in Latin.

The abstract of the thesis reflects the content of the dissertation in its main points. The main parts of the dissertation are presented in publications in the form of articles and reports in national and international scientific journals.

I have the following recommendation regarding the dissertation: Due to the great social and social importance of the researched problem, I recommend presenting the data from the scientific work to a wider range of specialists, with a critical approach to the data, with a large publicity and should be used to consult the specialists interested in the field.

Conclusion

The dissertation: "Protecting the Population at Risk of Floods in Varna Region", presented by Prof. Hristianna Romanova, MD, PhD, is an up-to-date and large-scale study, carried out correctly and with appropriate tools, in a significant area of medical knowledge. The conclusions drawn are accurate and meet the stated purpose. The contributions are of high scientific value and practical nature.

This paper meets all the criteria and complies with the requirements for acquire the scientific degree "Doctor of Medical Sciences" according to the Law for the Development of the Academic Staff in Republic of Bulgaria, the Regulations for its implementation and the Regulations for the Development of the Academic Staff at the Medical University - Varna.

On the basis of this analysis, I vote positively and recommend to the members of the Honorable Scientific Jury to award Prof. Hristianna Angelova Romanova - Radeva, MD, PhD, the educational and scientific degree "Doctor of medical sciences" in the field 7. Healthcare and Sport, professional field 7.1. Medicine, scientific speciality "Disaster Medicine".

Member of the Scientific Jury:



Col. Assoc. Prof. Dimo Dimov, MD, PhD

27.01.2020r.