

STATEMENT

FROM PROF. TEODORA DIMITROVA, MD, PhD.

member of the Scientific Jury according to Order № P-109-346 of 19.08.2021 of the Rector of the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna

Subject: Defense of a dissertation on "Medical aspects of water injuries at sea" by **Assoc. Prof. Dimitar Georgiev Stavrev, MD, PhD** for obtaining the degree "Doctor of Science" in the field of higher education "7. Healthcare and Sports", professional field "7.1. Medicine", **in the scientific specialty " Disaster Medicine "**

The candidate - **Assoc. Prof. Dimitar Georgiev Stavrev, MD, Ph.D.** - has submitted all necessary documents for the competition procedure, according to the requirements of the Regulations for development of the academic staff of the Medical University - Varna.

Brief biographical data

Dimitar Stavrev was born in Varna, where he graduated in medicine in 1987. He practices as a district pediatrician at the Municipal Hospital in the town of General Toshevo. Since 1990 he has been an assistant, and then successively senior assistant and chief assistant at the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna. In 1993 he acquired a medical specialty in "Anatomy, Histology and Cytology". He defended his doctorate in medicine before the Higher Attestation Commission in 2011. In 2015 was elected associate professor at the University of Ruse "Angel Kanchev" in Anatomy, Histology and Cytology, and in 2016. for Associate Professor of Emergency Medicine - Marine Medicine at the Medical University - Varna.

Assoc. Prof. Stavrev was awarded the honorary badge "BULGARIAN DOCTOR" by the Bulgarian Medical Association, and in 2009 he was awarded the Medal and the title "**DESERVED ACTIVIST OF THE Bulgarian Red Cross**" by the National Council of the Bulgarian Red Cross.

Relevance and significance of the dissertation work

The topic of the dissertation covers an extremely topical and important for the country medical-organizational and public-health problem. The topicality is determined by the sustainable climatic trends for global warming of the Earth's atmosphere and the related challenges to the system of organization of medical care in case of water disasters and catastrophes. There is potential for real practical applicability of the results.

Structure and content of the dissertation

The dissertation is presented in a total volume of 227 standard pages, and the content is structured as follows:

Chapter One: Literary Review

Chapter Two: Purpose, Tasks and Methods

Chapter Three: Own research: Study of extreme situations at sea leading to water injuries on a global scale and their manifestation in Bulgaria (Natural maritime disasters and anthropogenic accidents); Study of the medical needs in a marine experiment and development of a model for medical provision of such; Creating a model for research in marine physiology, organizing a

marine medical research laboratory and results of own research in a marine research program; Study of the readiness of the population to provide assistance in case of water injuries. Identifying measures to increase the competence of the population to act in case of maritime accidents and catastrophes; Creating a model for inter-institutional interaction in the event of incidents, accidents and catastrophes along the coast related to water injuries in territorial waters and areas of responsibility in the Black Sea.

Chapter Four: Conclusion; general conclusions; contributions

The work is illustrated with 14 tables, 17 figures and 56 appendices. The bibliography includes 363 literary sources, of which 162 in Cyrillic and 201 in Latin.

Purpose, tasks, hypotheses

The purpose of this paper is clearly and precisely stated: "to analyze the marine accidents and catastrophes related to marine accidents and the health of those affected and on the basis of the conclusions to identify measures to reduce and overcome water injuries at sea."

Five main tasks are presented, logical followers and fully covering the complex problem. Five working hypotheses were studied, which are clearly formulated and correspond to the set tasks.

Material, methods, tools

Corresponding to the goal are several conducted own studies, applying documentary, bibliographic, survey method and methods for assessment of anthropometric and physiological parameters.

Results from own research

The results of our own research are comprehensively presented in several parts and are well structured according to the set tasks. It is valuable to analyze and summarize the various aspects of marine water injuries (causes, mechanisms, medical damage) and to overcome the medical damage at different stages (prevention of injuries, actions during an accident, overcoming injuries in subsequent periods).

The historical study of experiments in the field of marine extreme medicine identifies and analyzes their advantages and disadvantages to create a model for marine experimental medicine.

A significant part of the results is aimed at developing a model of functional assessment of marine professionals. Dynamically optimized and upgraded, it claims to be established as an example of good practice in the promising direction of marine research. The strategic institutional ambition of the multidisciplinary academic team with the participation of Assoc. Prof. Stavrev is to overcome the negative experience of unsuccessful medical research in marine experiments.

The dignity of the scientific development is the comprehensive research and disclosure of the readiness of the population to provide assistance in case of water injuries, as well as the subsequent comparative analysis.

An original contribution is the program of measures to increase the competence of the population to act in case of maritime accidents and catastrophes.

Conclusions and contributions of the dissertation

The conclusions are clearly formulated, summarize the complex nature of the researched problem, following the set research tasks and logically follow from the obtained results.

The results of the complex study of the problem, covered in depth and in full, give grounds for the dissertation to propose a training strategy for the search for new forms of interaction of different structures and institutions in counteracting water injuries expands the response to accidents at sea.

Assoc. Prof. Stavrev synthesizes the recommendations and proposals arising from the results, the most valuable of which are:

The main potential victims of water injuries at sea on the Bulgarian coast are the people who use the sea goods for recreation, sports and entertainment. Next in line are those living in the coastal areas, those who are on business and passing through them. All activity should be directed towards them for the prevention of water trauma at sea as well as to increase the skills of assistance and self-help in maritime accidents.

Marine experiments in their medical part contribute significantly to understanding the mechanisms of physiological and mental adaptation of man in the unfamiliar marine environment. Every research opportunity should be used to improve the safety of those living in the marine environment.

I fully accept all the contributions mentioned by the author.

Publications on the topic of the dissertation

In connection with the dissertation, 37 full-text publications are presented, one of which is in English. Assoc. Prof. Stavrev is an independent or first author of 12 of the publications related to the dissertation, which is additional evidence of the candidate's commitment to the researched problem.

Evaluation of the abstract

The abstract is prepared according to the requirements, very well structured and fully reflects the content of the dissertation. It is well illustrated with 28 figures and 10 tables.

I have no critical remarks on the work presented.

My recommendation is aimed at encouraging the author to use his expertise, experience, and potential to take the necessary steps and actions to implement the recommendations proposed in the dissertation, related to the need for wider information and preparation of the public in Bulgaria for proper action and rendering first medical aid through the assistance of the Ministry of Education and Science, Ministry of Labour and Social Policy, Ministry of Environment and Water, Bulgarian Red Cross, the Municipal leadership and Fire safety and protection of the population.

Conclusion

The presented dissertation is the first in-depth and comprehensive study of medical and organizational problems of water injury in emergency medicine. The dissertation fully covers the requirements of The Law on the Development of the Academic Staff in the Republic of

Bulgaria and the Regulations for the development of the academic staff of the Medical University - Varna.

The high evaluation of all the merits of the dissertation gives me grounds to give a positive opinion and convincingly propose to the Scientific Jury to vote positively and award **Assoc. Prof. Dimitar Georgiev Stavrev, MD, PhD** the scientific degree "**Doctor of Science**" in the field of higher education "7. Healthcare and sports", professional field, "7.1. Medicine", in the scientific specialty "Disaster Medicine"

20. 10. 2021 r.

Varna



Member of the Scientific Jury:

/ prof. Dr. Teodora Dimitrova, MD /