OPINION

on the dissertation work on the topic:

0READYNESS FOR "PROTECTION AND RESPONSE OF MEDICAL INSTITUTIONS IN THE VARNA REGION IN CASE OF RISK OF NATURAL AND ANTHROPOGENIC HAZARDS "

to

DR. YASEN YONKOV GEORGIEV

for awarding the educational and scientific degree "Doctor"

n the field of higher education 7. Health and Sports,

professional field 7.1. Medicine,

scientific specialty "Disaster Medicine"

Assoc. Prof. Dr. Nikolina Koleva Valkanova-Monova, MD, appointed as an external member of the Scientific Jury, with Order for Expulsion with Right of Defense No. R-109-314/21.7.2025 of Prof. Dr. Dimitar Raykov, MD, Rector of MU-Varna

Procedure details

For the competition, Assoc. Prof. Dr. Yasen Yonkov Georgiev has submitted the documents in the procedure in accordance with the requirements of the Law on Academic Staff Development of MU-Varna, drawn up in a proper form. No procedural violations have been identified.

By order of the Rector of MU-Varna, Dr. Yasen Yonkov Georgiev was enrolled No. P109-505 /4.11.2020..as a doctoral student in an independent form of study for the acquisition of an educational and scientific degree "Doctor" in the field of higher education: 7.Health and Sports Professional field: 7.1 Public Health, specialty: "Disaster Medicine". A protocol for successfully passing the doctoral exam is presented.

Biographical data and career development

Dr. Yasen Yonkov Georgiev was born on 09.05.1994 in Varna, ul. "Studentska", bl. 14, ent. V, fl. 3, apt. 66. He received his secondary education in 2001 - 2013 at the "A.S. Pushkin" Secondary Medical School in Varna. He graduated with a Master's degree in Medicine in 2013 - 2019, Medical University - Varna, acquired a specialty in "General Medicine" in 2019. Demonstrator at the Department of "General and Operative Surgery" in 2016 - 2018. Enrolled as a full-time doctoral student 2020 - 2025. at the Department of Disaster Medicine and Marine Medicine, specialty "Disaster Medicine" at the Medical University - Varna and a specialist in "Disaster Medicine and Catastrophes". He has a certificate of proficiency in Russian at the "Moscow State University named after M. V. Lomonosov. Since 2020 he has been an "assistant", specialty "Disaster Medicine" Department of Disaster Medicine and Marine Medicine. He has completed an advanced online course "Working with ArcGIS Online" - 2024. online course "Digital Skills (Intensive Training) under the project BG05M2OP001-2.016-0025. Course and certificate "Training of Instructors" - University Center for Maritime Health, Course "Assessment, Testing and Certification of Seafarers". Executive Agency Maritime Administration".Course„Disaster Response and Consequence Management for Radiological Incident Course, CMDR COE – 2025г Participant in project No:24025 "Application of geographic information systems for assessing health inequalities in Bulgaria. Has diverse interests/ Winner category„Travel" at the world-famous photo contest Sony World Photography Awards 2015 and awards from the

Rector of the Medical University - Varna for active student activity - 2019. Participates in the National Naval Forum "BRIZ" - 2021, 2022, 2023. Member of the Bulgarian Public Health Association, BNDOZ - Bulgarian Society of Public Health.

Descriptive characteristics of the dissertation work

Biographical data and career development

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Descriptive characteristics of the dissertation work

The dissertation work, developed by Dr. Yasen Yonkov Georgiev, is 150 pages long, structured according to standard requirements, including: Introduction 2 pages, Literature review 33 pages. ,
, relevance of the problem summarized in 11 conclusions on 2 pages, Methodology of scientific research, distributed in 10 directions on 7 pages, own research 47 pages, conclusions 13 pages. Contributions 3 pages, Literature 20 pages. Appendices 5 issues, 20 pages. It uses a total of 156 sources, with those from recent years prevailing.

This helps to focus our own research on the most epidemiologically significant problems not yet included in national prevention programs. The title reflects the essence of the work.

The relevance of the topic is high due to the high probability that medical institutions are not prepared for "protection and response to natural and anthropogenic hazards", and they are called upon to be the first to respond. with enormous social significance.

The topic is in the focus not only of the medical community, but also of municipal and state authorities, primarily in a practical aspect. Moreover, no such study has been done so far with a new approach to data collection, face-to-face contact and in-depth interview, formulation of theses and on-site inspection in medical institutions in the Varna region. Along with this, extremely important practical problems in specific areas of preventive and diagnostic activity are proposed for solution. The work is also an expression of the doctor's scientific research in an increasingly dynamically developing world, terrorist threats, incidents, earthquakes, floods, etc. of a natural, anthropogenic nature, in a specific aspect of the peculiarities of disaster management and the provision of medical assistance in conditions of lack of time and limited diagnostic and treatment opportunities for adequate assistance to the victims.

Literature review

The review reflects the chronology and the current state of the problem in our country and on a global scale. Historical data in the world and the Republic of Bulgaria on the readiness to protect and respond to medical institutions natural and anthropogenic hazards are one of the most common causes of disaster situations, serious material damage and human losses, acute stress reactions. Only if we know the essence and specificity of the problem well can we more easily protect ourselves from them or influence them when they occur.

Reflecting the chronology and the current state of medical and environmental problems in Bulgaria helps to derive its goals and objectives. Disaster risks are increasing, and the emerging disaster situations reflect on more and more people on a local, regional, national and international scale. Hospitals and other medical institutions are places considered safe. However, the large number of incidents of an anthropogenic and natural nature shows that there are circumstances in which these institutions are at risk and face serious challenges. Studies in a number of countries give an unambiguous answer to this question - the readiness on a global scale is at a low level. The data from the studies and the experience from the incidents show that the provision of medical assistance to the victims and their evacuation if necessary are strictly specific. Even highly qualified specialists, unfamiliar with the peculiarities of disaster management and the provision of medical assistance in conditions of lack of time and limited diagnostic and treatment options, cannot provide adequate assistance to the victims.

Methodology of the study

The author uses a wide range of methods adequate to achieve the goal

OBJECTIVE with five tasks: To study the readiness for protection and response of medical institutions in the Varna region at risk of natural and anthropogenic hazards and to propose measures to increase their resilience and reduce the risk. A Main Thesis and 5 Research Hypotheses have been formulated

The main thesis of the dissertation is that in order to effectively deal with natural and anthropogenic hazards that impact the activities of medical institutions for hospital care and public health as a whole, it is necessary to increase their resilience by implementing measures regarding infrastructure, critical systems, protection plans, staff training and intersectoral cooperation.

Formulated research hypotheses: include disasters/natural and anthropogenic, due to the lack of preparedness of individual units of the healthcare system., public health problems, their significance as. critical infrastructure and the need to implement special measures to increase the capacity of medical institutions. A Research Approach, Research Methods and Restrictive Conditions for Conducting the Study with Specific Criteria are Described. The applied approach is predetermined by the specificity of the subject of the dissertation work and the studied phenomena. Through the conducted in-depth interviews with responsible persons possessing the necessary knowledge, skills and competencies, it is possible to collect, process and analyze information that will contribute to the achievement of the set scientific goal. The study is based on qualitative research, including the collection, processing and analysis of non-digital data, the aim of which is an in-depth study of the practice, experience and beliefs of responsible persons regarding the preparedness for protection and response to disasters of medical institutions for hospital care

Object of the studytop The object of the study is the medical institutions for hospital care due to their specific role in the overall concept of disaster risk reduction and capacity building for the protection of the population. In a territorial aspect, the study includes experts from the following multidisciplinary hospitals for active treatment from Varna Region:University Hospital "St. Marina" EAD, Varna;University Hospital-Varna "Military Medical Academy", VarnaUniversity Hospital "Tsarina Joanna - Provadia" EOOD, Provadia according to the following criteria: Profile.Geographical location.Experience in disaster management.Features in the infrastructure.Number of beds.Number and qualification of staff. The preparedness for protection and response of medical institutions for hospital care in Varna region at risk of natural and anthropogenic hazards, as the subject of the dissertation work, is considered comprehensively, taking into account the following 7 features: Response: Optimization of resources:.Patient safety:.Public health:.Risk reduction:.Staff training and support Community trust: The research process includes Qualitative data, which are analyzed in a structured and strictly defined manner: Defining the research question Transcribing: Coding: Forming categories Themes and patterns Interpreting the data Reporting. The principle of neutrality was followed throughout the process

Documentary method /information provision/ Analytical method Tabular and graphical method for visualizing the results. line diagrams, planar, figure, volumetric graphic images, cartograms, cartograms and photographs The most important is the METHOD OF IN-DEPTH INTERVIEWS, which are a new, original, previously unapplied method. 3 in-depth interviews were conducted with 22 pre-prepared questions regarding the preparedness for protection and response of the selected medical institutions in Varna region at risk of natural and anthropogenic hazards. The questions are aimed at expressing personal opinions and positions of the interviewees, and were developed based on a document of the World Health Organization. (Hospital emergency response checklist. An all-hazards tool for hospital administrators and emergency managers),), aimed at reducing the risk of disasters for

medical institutions and building effective protection capacity. The study was conducted in person with a duration of 60 min. for each respondent. The principle of impartiality towards a certain type of personality, human qualities or professions was observed. Respondents are predisposed to perceive the questions. The principle of anonymity of the participants was observed

Own research.

Natural and anthropogenic hazards were examined in Varna and Varna region, in the northeastern part of the Republic of Bulgaria on an area of 3819.5 sq. km, which represents 3.45% of the area of the Republic of Bulgaria and as of 31.12.2020. with a population of 470,124 inhabitants. in 12 municipalities, 11 cities and 148 villages, the largest being the territory of Provadia, highly urbanized. The relief, rivers, lakes, dam, the largest dam "Tsonevo", 11 of which represent a potential threat of disaster, were examined. The economic sector is concentrated in the industrial areas of Varna and Devnya, the "Hemus" highway, Asparuhov Bridge, landslides, the port center Varna Airport. etc. There is a risk of major industrial accidents for the population earthquakes In 10 years, 6 earthquakes, with high magnitude, floods, 2014. is one of the largest, in the "Asparuhovo" district, hurricane winds, fires, June 1977. in the port of Varna, the Bulgarian motor tanker "Erma" unloads 721 tons of crude oil, landslides in one of the most built-up cities, the occurrence of infectious diseases and the appearance of epidemics.

Hospitals and health facilities play a critical role during disasters. There are 179 multi-profile hospitals with 38,144 beds, and 140 specialized hospitals with 14,318 beds. St. Marina Hospital EAD is one of the most modern medical and diagnostic structures in Northeastern Bulgaria. Varna Military Medical Academy Hospital "Prof. Dr. Stoyan Kirkovich" - Varna, is one of the leading medical institutions in Bulgaria. is the only medical facility performing diagnostics and treatment of diving diseases, an inter-regional center for Northeastern and Eastern Bulgaria in toxicology, thermal trauma and plastic surgery.

Tsaritsa Ioanna Hospital - Provadia EOOD, Provadia is the main medical facility in the municipality of Provadia, providing hospital care, diagnostics, treatment and rehabilitation of patients with acute and chronic diseases, injuries and conditions.

Combined qualitative analysis, in the field of healthcare, with established specialists who occupy key leadership positions in the system, exceeding 20 years, from in-depth interviews with 22 questions, the content of the answers submitted with the personal opinion and recommendations of the interviewees. The aim is to reduce disaster risk and build a strategy in 7 aspects: equipment and resources, management, staff, planning, practical aspects, etc., for the resilience of medical facilities. The contribution is key to understanding the complex nature of health resource management during disasters and to identifying good practices, as well as the challenges associated with the implementation of strategic decisions. This is the basis of expertise, which aims to provide a deeper understanding of the mechanisms of management in disaster situations, as well as to provide

The 22 findings on the assessment of disaster response capacity of the studied medical facilities are structured to highlight key aspects, recurring themes and individual differences in opinion. This approach aims to ensure clearer analysis, synthesis, summarization and evaluation.

The recommendations are specified in the different areas with detailed instructions and recommendations: Management and control Communications Safety and security Capacity Triage Continuity of medical services Logistics and supply management Human resources,

Contributions:

Scientific and theoretical contributions:

1. Through a detailed classification of risks for medical institutions for hospital care in Varna region, based on current data and international classifications, the theoretical framework regarding natural and anthropogenic hazards has been supplemented.
2. Specific vulnerabilities of infrastructure, logistics, human resources and communication systems have been defined, and the scientific understanding of the vulnerability of medical institutions for ho4. A methodology has been developed for studying the preparedness of hospital care facilities for disaster protection.
3. A new approach has been created for assessing the readiness of medical institutions for hospital care, based on an integrated analysis of capacity, available resources, response procedures and staff training.
4. The new system of risk reduction measures for hospital care facilities included specially adapted structural and organizational changes.
5. Risk analysis, capacity assessment and recovery planning, in accordance with modern guidelines of international organizations, helps to scientifically substantiate the need for integrated and systematically updated plans for the protection of hospital care facilities.

Practical and applied contributions:spital care has been developed.

1. Measures adapted to the conditions of specific pre-hospital medical institutions in Varna and the region have been developed to reduce the consequences of landslides, floods, earthquakes and fires.
2. A model has been proposed for assessing the preparedness of hospital medical institutions in Varna region, with key indicators for structural stability, resource provision and organizational readiness.
3. A checklist has been prepared for self-assessment of the disaster preparedness of hospital medical institutions, to help managers identify critical weaknesses and prioritize improvement measures.
4. Recommendations in three areas for increasing the capacity to respond to natural and anthropogenic hazards of hospital medical institutions: resource optimization, staff training and coordination with external services and contractors.
5. A proposal has been made to establish a hospital command center in medical facilities for hospital assistance in disaster management.

Personal impressions: I met Dr. Georgiev after starting work in the Department of "Disaster Medicine and Marine Medicine". His curiosity, active participation in trainings, courses, diverse interests in and outside medicine - surgery and photography, proficiency in foreign languages - Russian, goodwill, calmness, hard work, thoroughness, but also confidence establish him as a good professional, teacher and colleague.

Conclusion. The presented dissertation work is on an extremely topical topic, in the focus not only of the medical community, but also of the municipal and state authorities, primarily in a practical aspect, it was developed at a very good methodological level, with a complex approach and method of in-depth interviews. The results are discussed in a broad context of international and our studies. The conclusions logically follow from the results. The contributions are scientific-theoretical, as well as those of a scientific-applied nature, which are related to formation of adequate policies. The doctoral student fully meets the requirements for the educational and scientific degree "doctor" of the Act on the Development of the Academic Staff and the Regulations of MU-Varna for its implementation. I confidently give a positive assessment and recommend to the members of the National Council to vote positively for Dr. Yasen Yonkov Georgiev to be awarded the educational and scientific degree "doctor". in the field of higher education 7. Health and sports, professional field 7.1 Medicine, scientific specialty "Medicine of disaster situations".

Date 15.09.2025

Assoc. Prof. Dr. Nikolina Valkanova d.m