

Analysis of Emergency Situations in the Russian Federation

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Introduction: Emergency situations (ES) are situations within a certain territory, which have arisen because of an accident, a dangerous natural phenomenon, natural disaster, or other that may cause or have caused human casualties, damage to human health or the environment, significant material losses, and unbalance of living conditions of people. Important characteristics of ES are suddenness and involvement of a significant number of victims who need first aid and emergency medical care. These characteristics determined the organization of the Unified State System for Emergency Prevention and Elimination of the Russian Federation.

Aim: To study the structure of ES in Russia. By the scale of spread and damage caused, ES can be local, municipal, inter-municipal, regional, interregional, or federal, by the source of origin – technogenic, natural, biological, or social. The terrorist acts are usually allocated in a separate group of ES. The structure of ES, according to the EMERCOM of Russia in 2005–2017, is as follows:

1. Technogenic (59.61%)
2. Natural (29.42%)
3. Biological and social (9.91%)
4. Major terrorist acts (1.06%)

Methods: Statistical analysis was conducted. According to the EMERCOM of Russia, every year in 2005–2017 there were 422.5 ± 46.5 ES, resulting in the death of 796 ± 56 people. Polynomial trends in the number of ES and deaths, according to the EMERCOM of Russia, (with significant coefficients of determination $R^2 = 0.85$ and $R^2 = 0.64$, respectively) show a decrease in the number of ES and deaths.

Discussion: The resulting analysis of the structure and number of ES, the number of deaths, the risk of being in an emergency, and the individual risk of death in an emergency can predict the forces and means necessary for the elimination of the consequences of ES.

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Application of Game-Based Learning in the Teaching Process of Disaster Medicine for Medical Students

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Introduction: Classroom instruction of disaster medicine for medical students is complicated and lacks attraction. Nowadays a novel method, which is named Game-Based Learning (GBL), has been used in other fields and received good feedback.

Aim: To apply GBL to the teaching process of disaster medicine and discuss the effect of its application.

Methods: A computer game was devised based on a syllabus of disaster medicine and employed it in classes of disaster medicine for medical students. Then a questionnaire about the

application of GBL in education was used inquiring the demands of medical students for the designing of GBL in disaster medicine, including their platform and game mode preferences. Feedback was collected and data was analyzed after the class.

Results: 201 questionnaires were issued, and the valid rate was 100%. From the responses, 77% of medical students considered the application of GBL in education on disaster medicine was necessary, and 73% of the respondents thought it was practical. Furthermore, over 90% of medical students expressed their expectation for the adoption of GBL. According to another survey of 51 medical students we conducted, after attending a class about knowledge of injury classification with one board game adopted, most of the students believed GBL was better than traditional methods of teaching.

Discussion: There is a high approbation degree among medical students to the adoption of GBL in the teaching process of disaster medicine, which suggests a great possibility for the application of GBL in medical education. It is concluded that GBL can be used in the teaching process of disaster medicine.

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Are Australian Pharmacists Willing to Work in a Disaster?

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Introduction: Current literature suggests that a large percentage of the health workforce may be unwilling to work during a disaster. The willingness of pharmacists to work during a disaster is under-researched internationally and non-existent in Australia.

Aim: To determine if Australian pharmacists are willing to work in a disaster and the factors that affect the willingness to work.

Methods: A 13-question survey was developed from the current literature and released nationally through professional organizations and social media.

Results: Sixty Australian pharmacists completed the survey. Most participants believed their pharmacy was an essential service for their community. Pharmacists reported they would be likely to report to work during a pandemic or biological disaster (73%) or natural disaster (78%). The two major factors likely to prevent pharmacists from working in a disaster are family and safety concerns. Pharmacists perceived that their duty of care to their patients would make them likely to work during a disaster. Most pharmacists noted they would work even if they were expected to work outside their scope of practice, or if their place of work lacked electricity or was damaged.

Discussion: Depending on the disaster, up to 27% of the pharmacy workforce may be unwilling to work in a disaster. Family and safety concerns were the primary barriers to pharmacists reporting to work in the aftermath of a disaster. Providing guidelines on how pharmacists can prepare their family for a disaster may assist in ensuring pharmacists are willing to work. The pharmacists surveyed demonstrated a strong commitment to their duty of care with the majority stating they would be