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Study of Escape Patterns in Crisis Based on Psychological Character

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Introduction: It is difficult to presume the exact response or pattern of victims during disasters. Although every victims reacts to a crisis differently, a disaster response system requires uniform conditions for treating individual victims. Based on the assumption that psychological character can affect the response of victims in times of disasters, researchers studied the escape patterns of victims from dangerous, closed spaces in a disaster simulation.

Methods: A questionnaire was distributed before the escape experiment in order to assign the participants into groups based on patterns of psychological character. The questionnaire was created by an expert group, and was based on psycho-behavioral response classification to stress. Volunteers were assigned into one of three groups (A, B, and C) based on the results of the questionnaire. Volunteers started to escape from a room on the fourth floor simultaneously, and proceeded through corridors and stairs, until finally reaching safety outside of the building. The same experiment was repeated, and all of the procedures were recorded by five video cameras located around the building. A post-experimental questionnaire was distributed, and the results were analyzed.

Results: The number of participants in each group was as follows: (1) Group A: 12; (2) Group B: 11; and (3) Group C: 17. The average escape time was 83 seconds. Group A had a tendency to be competitive and to act excessively for escape. However, no statistically significant factor was shown to decrease escape time. Group C had the highest level of satisfaction after the experiment.

Conclusions: Future disaster plans should consider the individual patterns of psychological character for effective response and education. The next steps of the study, including connecting with emergency medical services and assessing survival benefit are being planned.

New Disaster Database Model: A Project to Collect Data About Terrorism and Man-Made Disasters

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During the last decade, there has been a new resurgence of terrorist-related emergencies and conflicts, reflecting a complex pattern of global changes and imbalances. Across the globe, healthcare providers increasingly are confronted with the challenges of terrorism and the fallout from the use of weapons of mass destruction. The medical and healthcare infrastructure must be prepared to prevent and to treat the illnesses and injuries that might result from chemical, biological, radioactive, nuclear, or explosive terrorism. A good method of preventing and/or responding to a potential terrorist threat may be to develop a program that includes accurate information and a collection of data that will enable the process of correct and immediate decision-making.

The analysis of hazards and vulnerabilities is the key to management and mitigation of a possible terrorist attack or a man-made disaster. The main objective of this study is to create a new, Italian database model, in order to collect all available information about past country terrorist attacks and man-made disasters, and to establish a model for the future, with an analysis of factors that most likely produce hazards. The aim of this project model is to investigate the impact of such events on physical security and public health. The database will be divided into different sections and should be easily sorted and understood, with the main objective of collecting and organizing all of the data on disaster injury epidemiology in a centralized archive. This should happen in real time with the cooperation of all country resources.

Hospital Disaster Plan Simulation Using the "disastermed.ca" Patient Database and Existing, Computerized, Patient Tracking System: A Virtual Live Exercise

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The use of live actors often is considered the gold standard for a disaster response simulation. However, live exercises are expensive, require extensive planning, and often require a disruption of regular emergency services. The use of an existing emergency department computerized patient tracking system in a Virtual Live Exercise (VLE) may be a viable alternative.

The **disastermed.ca** database, a database of history, findings from physical examinations, and laboratory results for 136 simulated patients, was created based on actual patient encounters. The VLE was performed using a training version of the hospital's Emergency Department Information System (HASS/iSOFT). After first completing a Web-based tutorial, 15 physicians and eight nurses participated in the exercise. The simulated patients were registered, triaged, and tracked throughout their visit using the EDIS. Following the simulation, data were abstracted from the patient tracking software including: (1) triage codes; (2) time from patient presentation to assessment by a physician; and (3) patient disposition.

Following the exercise, participants rated their experience on a modified 10-point Likert scale. The overall participant satisfaction with the exercise was high (8.73). Most participants felt that the exercise effectively simulated the emergency environment and the emergency response activities (7.5). In addition, most participants felt that the simulation adequately tested the readiness and capacity to implement the disaster plan (7.6).