

Management in Disasters: An Overview

Afetlerde Yönetim: Genel Bir Bakış

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ABSTRACT

In this article, current knowledge on the management of natural and man-made disasters is briefly reviewed.

Key Words: Earthquake, Disaster, Management, Emergency health

ÖZ

Bu yazıda, doğal ve insan kaynaklı afetlerin yönetimiyle ilgili mevcut bilgiler kısaca gözden geçirilmiştir.

Anahtar Kelimeler: Deprem, Afet, Yönetim, Acil sağlık

Disaster is a term that refers to large-scale disasters usually caused by natural events. However, it may also occur due to human-induced problems. Disaster is defined by the World Health Organization (WHO, 2002) as "an event that disrupts normal conditions of existence and causes suffering at a level that exceeds the adaptive capacity of the affected society".¹ Disasters can be caused by natural events such as earthquakes, floods, fires, tsunamis, hurricanes and volcanic eruptions. These events can often cause serious damage and loss to human-inhabited areas.²

Disasters can occur due to a combination of various factors. For example, earthquakes occur as a result of the movement of tectonic plates in the earth's crust. Floods caused by high water levels are usually due to meteorological factors such as excessive rainfall, snowmelt or tropical cyclones. Volcanic eruptions occur as a result of underground magma rising to the surface. The impacts of disasters can be large in environmental, economic and social dimensions.² Problems such as loss of human life, homelessness, damage to basic infrastructures, and destruction of agricultural lands may arise. Therefore, disaster management and preparedness are important to minimize the effects of disasters and protect society. Disaster management includes various strategies such as

emergency planning, education, early warning systems and post-disaster assistance.³

Natural and man-made disasters can be classified based on various factors. Two basic classifications are made according to the effects caused by disasters and according to their source of occurrence.⁴ These classifications are used to understand the variation among types of disasters. Disaster management takes these classifications into account in order to develop and implement effective measures against disasters of a particular type. Disaster types according to these two basic classifications are listed in Table 1.

Disaster management is a process that includes a set of strategies and measures planned and implemented in order to minimize the effects of disasters and ensure a rapid recovery after the disaster. Disaster management generally includes the stages of preparedness, response, recovery and sustainability.⁵ The basic stages of the disaster management process are shown in Table 2 below.

Health services management in disaster situations includes directing health resources quickly and effectively and planning and implementing emergency medical interventions. This process may vary depending on the type of disaster, its size and the areas it affects.⁶

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Table 1. Classification of Disasters

Classification by Effects			Classification According to Formation Sources	
Natural Disasters	Technological Disasters	Biological Disasters	Natural Disasters	Man-made Disasters
Earthquake	Nuclear Accident	Pandemics	Geological Disasters	Technological Disasters
Flood	Industrial Accidents		Meteorological Disasters	Social Disasters
Fire			Hydrological Disasters	
Hurricane/ Typhoon				
Volcanic Eruption				
Tsunami				

Table 2. Basic stages of the disaster management process:

Risk Assessment and Planning	Risk Analysis	Planning	
Preparation Phase	Education and Awareness	Infrastructure Preparations	
Intervention Phase	Rescue Operations	Logistics and Communication	Public Safety
Improvement Phase	Rehabilitation	Psychosocial Support	Social Healing
Sustainability	Post-Disaster Assessment	Learning and Improvement	

Below is a general framework covering key issues for healthcare management in disasters:

A. Risk Assessment and Planning:

- Conducting pre-disaster risk analysis.
- Needs analysis of health services and determination of resources.
- Developing and updating emergency plans.

B. Preparation Phase:

- Training of medical personnel and other emergency teams.
- Storage and preparation of human resources, medicines, medical equipment and other materials.
- Creating communication plans.

C. Intervention Phase:

- Coordination of units providing health services.
- Planning and implementation of emergency medical intervention and rescue operations.
- Preparation of patient transfer and evacuation plans.

D. Communication and Coordination:

- Ensuring effective communication between health units.

- Coordination with other emergency teams, local government and national health organizations.

E. Logistics and Resource Management:

- Effective distribution of health supplies and resources.
- Storage and replenishment of emergency medical supplies.

F. Raising Community Awareness:

- Education and awareness programs for the society to be prepared before disaster.

Widely known emergency numbers

G. Psychosocial Support:

- Providing psychosocial support services to disaster victims.
- Psychosocial support programs for medical personnel and rescue teams.

H. Healing Phase:

- Assessing the damage and creating recovery plans.
- Managing the process of society's return to normal health services.

Türkiye is a country where many types of disasters occur with significant frequency. In recent years, our country

has faced major disasters such as earthquakes, forest fires, floods and pandemics.⁷ The Kahramanmaraş-centered earthquake disasters we experienced this year unfortunately showed that we are still not sufficiently prepared for disasters.^{8,9} In disaster situations, healthcare management often requires effective engagement of multiple stakeholders (hospitals, healthcare personnel, emergency teams, local and national health authorities). Good coordination, rapid response and effective communication are critical in healthcare management.

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