

Disaster and Nurse’s Role

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Abstract: India is vulnerable to a large number of disasters. More than 58.6% of the landmass is prone to earthquakes of moderate to high intensity; over 40 million hectares (12%) of its land is prone to floods and river erosion; close to 5.700 km, out of the 7.516 km long coastline is prone to cyclones and tsunamis; 68% of its cultivable area is vulnerable to droughts; and, its hilly areas are at risk from landslides and avalanches. The WHO defines disaster as any occurrence that causes damage, ecological disruption, loss of human life, deterioration of health, and health services, on a scale sufficient to warrant an extraordinary response from outside the affected community or area. Roles of nurse during disaster management include to determine the magnitude of the event, define and understand the health needs of the affected groups, prepare the priorities and objectives, identify actual and potential public health problems at the earliest, and estimate resources needed to respond to the needs identified.

Keywords: disaster; disaster management; nurse’s role; triage

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0 Introduction

The word “désastre” derives from French and that from Old Italian “disastro,” which, in turn, comes from the Greek pejorative prefix dus = “bad” + aster = “star.” The root of the word disaster (“bad star” in Greek) comes from an astrological theme in which the ancients used to refer to the destruction of a star as a disaster. The ancient people believed that the disaster is occurred due to the unfavorable position of the “planets” or “Act of God.”

Gradually, they understand the mysteries of nature. Recent year’s disasters have been more frequent act and integral parts of the human experience, causing premature death, impaired quality of life, and altered health status^[1]. Moreover, India is also vulnerable to chemical, biological, radiological, and nuclear emergencies and other man-made disasters. Disaster risks in India are further compounded by increasing vulnerabilities related to changing demographics and socioeconomic conditions, unplanned urbanization, and development within high-risk zones, environmental degradation, climate change, geological hazards, epidemics, and pandemics. Clearly, all these contribute to a situation where disasters seriously threaten India’s economy, its population, and sustainable development^[2].

1 Definition

The WHO defines disaster as any occurrence that causes damage, ecological disruption, loss of human life, deterioration of health, and health services, on a scale sufficient to warrant an extraordinary response from outside the affected community or area?

Types of disasters: Natural

Agricultural diseases and pests	Hurricanes and tropical storms
Damaging winds	Landslides and debris flow
Drought and water shortage	Thunderstorms and lightning
Earthquakes	Tornadoes
Emergency diseases (pandemic influenza)	Tsunamis
Extreme heat	Wildfire
Floods and flash floods	Winter and ice storms
Hail	Sinkholes

Man-made and technological types of disasters:

Hazardous materials	Chemical threat and biological weapons
Power service disruption and blackout	Cyber attacks
Nuclear power plant and nuclear blast	Explosion
Radiological emergencies	Civil unrest ^[2]

2 Disaster Main Features

1. Unpredictability
2. Unfamiliarity
3. Speed
4. Urgency
5. Uncertainty
6. Threat
7. Unknown
8. Unexpected.

3 Phases of a disaster

There are three phases of disaster.

1. Pre-impact phase: It is the initial phase of disaster, before the actual occurrence. A warning is given at the sign of the first possible danger to a community with the aid of weather networks and satellite many meteorological disasters can be predicted.
2. Impact phase: The impact phase occurs when the disaster actually happens. It is a time of enduring hardship or injury end of trying to survive.

The impact phase may last for several minutes (e.g., after an earthquake, plane crash, or explosion) or for days or weeks^[3].

3. Post-impact phase: Recovery begins during the emergency phase and ends with the return of normal community order and functioning. For persons in the impact area, this phase may last a lifetime (e.g., victims of the atomic bomb of Hiroshima). The victims of disaster experience the stages of emotional response such as

1. Denial
2. Strong emotional response
3. Acceptance
4. Recovery.

3.1 Management of disaster

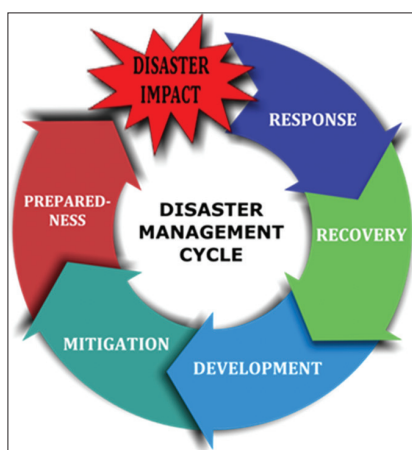


Diagram 1. Disaster management cycle

3.2 Objectives

- The application of triage and tagging procedures.
- Understand the priorities in triage and tagging.

4 Disaster Triage

The word triage is derived from the French word trier, which means, “to sort out or choose.” Triage is the process of prioritizing which patients are to be treated first and is the cornerstone of good disaster management in terms of judicious use of resources (Auf der Heide, 2000).

4.1 Aims of triage

The aims of triage were as follows:

- To provide prioritized care to the injured
- To sort out patients problems based on needs of urgent care.
- To recognize futility
- Medical needs will outstrip the immediately available resources
- To assist the patient.

4.2 Principles of triage

- Every patient should receive and triaged by appropriate skilled health-care professionals.
- Triage is a clinic-managerial decision and must involve collaborative planning.
- The triage process should not cause a delay in the delivery of effective clinical care^[4].

Types of triage

There are two types of triage:

1. Simple triage
2. Advanced triage.

Advanced Triage Categories

CLASS I (EMERGENT)	RED	IMMEDIATE
Victims with serious injuries that are life-threatening but have a high probability of survival if they received immediate care. They require immediate surgery or other lifesaving intervention and have first priority for surgical teams or transport to advanced facilities; they “cannot wait” but are likely to survive with immediate treatment. “Critical; life-threatening - compromised airway, shock, hemorrhage”		
CLASS II (URGENT)	YELLOW	DELAYED
Victims who are seriously injured and whose life is not immediately threatened; and can delay transport and treatment for 2 h.		

<p>Their condition is stable for the moment but requires watching by trained persons and frequent triage, will need hospital care (and would receive immediate priority care under “normal” circumstances). “Major illness or injury; open fracture, chest wound”</p>
<p>CLASS III (NON URGENT) GREEN MINIMAL</p>
<p>“Walking wounded,” the casualty requires medical attention when all higher priority patients have been evacuated and may not require monitoring. Patients/victims whose care and transport may be delayed 2 h or more. “minor injuries; walking wounded - closed fracture, sprain, strain”</p>
<p>CLASS IV (EXPECTANT) BLACK EXPECTANT</p>
<p>They are so severely injured that they will die of their injuries, possibly in hours or days (large body burns, severe trauma, and lethal radiation dose), or in life-threatening medical crisis that they are unlikely to survive given the care available (cardiac arrest, septic shock, and severe head or chest wounds); They should be taken to a holding area and given painkillers as required to reduce suffering. “Dead or expected to die - massive head injury, extensive full-thickness burns”</p>

USING RPM TO CLASSIFY PATIENTS

CATEGORY (COLOR)	RPM INDICATORS
Critical (RED)	R = Respiratory rate > 30; P = Capillary refill > 2 s; M = Does not obey commands
Urgent (YELLOW)	R < 30 P < 2 s M = Obeys commands
Expectant: Dead or dying (BLACK)	R = Not breathing

Role of nurse in disasters

“Disaster preparedness, including risk assessment and multidisciplinary management strategies at all system levels, is critical to the delivery of effective responses to the short, medium, and long-term health needs of a disaster-stricken population.” (International Council of Nurses, 2006)

Major roles of nurse during disaster management

- Determine magnitude of the event.
- Define and understand the health needs of the affected groups
- Prepare the priorities and objectives
- Identify actual and potential public health problems at the earliest.
- Estimate resources needed to respond to the needs identified
- Collaborate with other professional disciplines and governmental and non-governmental agencies

- Maintain a proper chain of command
- Maintain better communication
- Emotional support to the individuals/family
- Assist in providing safe drinking water
- Assist in activities in daily living in case patient got injured.
- Administration of vaccination
- Administration of medications
- Distributing of relief materials if required condition.
- Rapport development
- Gathering the information about diseases, incidents, etc.
- Reporting the details
- Maintain records and reports
- Work like mediator in between peoples and government authority in certain situation
- Collaborate with government and non-government organizations
- Self-care/protection with required precautions
- Keen observer for any diseases which starts to spread
- Assist in safe drinking water arrangement for peoples
- Special care to infants/pregnant women’s
- Health education to the needy
- Identify psychologically affected and counsel them properly.

Few most recent disasters of the world

1. Indian state of Kerala was worst hit by heavy flood, more than 400 deaths occurred, over 3 lakhs homes were destroyed/damaged and approximately 50,000 crores of property loss happened in August 2018.
2. Indian state of Karnataka’s Kodagu district also was worst hit by heavy flood, more than 20 deaths occurred, over 10,000 homes were destroyed/damaged and approximately 5000 crores of property loss happened in August 2018.
3. Flood in China: Lost many lives, property, etc.
4. Carr Fire in Northern California.

The Carr fire began near Highway 299 and Redding, California. The fire has burned over 110,000 acres (45,000 hectares) and killed six people, including two firefighters. It is also resulted in a terrifyingly enormous fire tornado^[5].

Acknowledgment

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