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Disaster Management and Emergency Preparedness

Community Health Nursing

Types of disasters, disaster management cycle, preparedness, mitigation, response, recovery, triage, emergency nursing, community participation and rehabilitation.

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CHAPTER 22 / COMMUNITY HEALTH NURSING 22. Disaster Management and Emergency Preparedness

1. Definitions and classification

A disaster is a serious disruption that causes widespread losses or impacts exceeding affected communities' capacity to cope using their own resources. Hazard is a potentially harmful event or condition; vulnerability increases susceptibility; capacity refers to resources and abilities to reduce risk. Disaster risk arises from interaction of hazards, exposure, vulnerability and capacity.

Type	Examples
Natural hazards	Earthquakes, floods, cyclones, landslides, heatwaves
Biological	Epidemics, emerging infections
Technological/human-induced	Industrial accidents, fires, chemical releases, transport accidents
Complex emergencies	Conflict-related displacement and service disruption

2. Disaster management cycle

Phase	Main actions
Mitigation/prevention	Hazard mapping, safer buildings, drainage, risk reduction
Preparedness	Emergency plans, drills, stockpiles, warning systems and training
Response	Search/rescue by trained teams, triage, emergency care, shelter and surveillance
Recovery	Restore services, rehabilitation, psychosocial care and safer reconstruction

Phases overlap. Build-back-better principles aim to reduce future vulnerability during recovery.

3. Community emergency preparedness

Prepare hazard maps, vulnerable-person lists with protected access, evacuation routes, shelter plans, emergency contact lists and equipment inventories. Conduct drills and train staff in incident coordination, first aid and communication. Plans should include people with disabilities, pregnant women, children, older adults and patients dependent on essential medicines or equipment.

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4. Triage and emergency care

Triage prioritizes patients based on urgency and available resources. Common mass-casualty systems use colour categories, but algorithms differ by agency and age group.

Category	Common meaning
Red	Immediate life-threatening condition requiring priority care
Yellow	Delayed but significant injury/illness
Green	Minor injury; can often wait
Black/grey	Deceased or expectant according to the specific adopted system

Use the locally adopted triage method (e.g., START or SALT when applicable), reassess regularly and do not use colour alone to determine definitive care. Scene safety is first. Assess airway, breathing, circulation, severe bleeding and neurological status; provide authorized lifesaving actions and arrange

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transfer. Do not enter collapsed buildings, floodwater or contaminated zones without trained rescue support.

5. Public health measures in relief settings

Ensure safe water, sanitation, shelter, food safety, waste disposal, infection prevention and continuity of essential drugs and maternal/child care. Establish syndromic surveillance, rapid referral and vector control. Protect vulnerable residents from violence and exploitation; provide clear accessible risk messages and reunification support. Avoid inappropriate mass vaccination unless a public health assessment indicates it.

6. Indian disaster management structure

National Disaster Management Authority (NDMA) provides national direction; state and district authorities coordinate implementation. National Disaster Response Force (NDRF) undertakes specialized response. Health facilities maintain emergency plans and surge arrangements; nurses work under incident command and authorized roles. Follow current disaster management law and state plans. [13]

7. Nursing responsibilities

Participate in preparedness drills, inventory supplies, conduct assigned triage, provide first aid and safe transfer, maintain records, support infection prevention and family communication, assess psychosocial needs, monitor recovery and review lessons learned.

8. Community disaster risk assessment

Disaster risk depends on the hazard, exposure, vulnerability and capacity to respond. A flood-prone locality may have greater risk when homes are near rivers, evacuation routes are limited and residents need mobility assistance. Map vulnerable households, available shelters, safe routes, communication systems, health facilities and transport resources with local authorities.

Preparedness activity	Practical purpose

Hazard map	Identify exposed locations and safe evacuation routes.
Emergency contact tree	Communicate warnings and coordinate response.
Stock and equipment plan	Ensure appropriate essential supplies and monitoring.
Training and drills	Practise safe evacuation, triage and communication.
Continuity plan	Maintain access to essential medicines, maternal care and referral.

9. Relief camp nursing example

Following a flood, assess the safety of the site and immediate medical needs, support triage under the incident command system, identify people requiring urgent referral and establish a confidential registration and follow-up system. Coordinate safe water, sanitation, food hygiene, disease surveillance, maternal and child services, continuity of chronic treatment and psychosocial support. Monitor for clusters of diarrhoea and other relevant health threats and notify the public health team.

Triage principles

Triage prioritizes care according to urgency, available resources and applicable disaster protocol. Reassess patients as conditions and resources change. Do not rely solely on a single colour label; use the designated system and document changes. Protect responders from unsafe environments.

10. Important Examination Questions

Long Answer Questions

1. 1. Explain disaster types, disaster cycle, triage and nursing responsibilities.
2. 2. Explain disaster risk assessment, mitigation and preparedness at community level.

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1. 3. Describe nursing activities in a relief camp, including surveillance and triage.

Short Answer Questions

1. 1. Mitigation vs preparedness
2. 2. colour-coded triage
3. 3. relief camp sanitation
4. 4. recovery
5. 5. Hazard versus vulnerability.
6. 6. Disaster drills.
7. 7. Reassessment during triage.
8. 8. Continuity of essential health services.

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Very Short Answer Questions (with answers)

1. 1. Red triage? Immediate.
2. 2. NDMA? National Disaster Management Authority.
3. 3. NDRF? National Disaster Response Force.
4. 4. What does mitigation aim to do? - Reduce disaster risk and potential harm.
5. 5. Why reassess triage status? - Clinical condition and resources may change.

11. Quick Revision

- Preparedness begins before disaster occurrence.
- Responder and scene safety come first.
- Triage is dynamic and protocol-based.
- Recovery includes rehabilitation and restoration of essential services.

Conclusion

Preparedness, organized response, public health protection and equitable recovery reduce disaster-related harm.

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Practice questions

Choose one best answer. The answer key and explanations follow the questions.

1. Stockpiling supplies, conducting drills and developing warning systems belong to which disaster phase?

A. Response
B. Recovery
C. Mitigation
D. Preparedness

2. In common mass-casualty triage categories, what does red indicate?

A. An immediate life-threatening condition needing priority care
B. Minor injury that can usually wait
C. Delayed but significant injury
D. A person confirmed deceased

3. What should guide a nurse's first action at a disaster scene?

A. Collecting all patient details before checking hazards
B. Scene safety
C. Completing triage tags before assessing hazards
D. Entering damaged structures to locate patients

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Answer key and explanations

1. D - Preparedness

Preparedness builds plans and readiness before an emergency.

2. A - An immediate life-threatening condition needing priority care

Red commonly indicates immediate priority; the adopted triage system still guides decisions.

3. B - Scene safety

Scene safety precedes assessment and authorized lifesaving actions.

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