

BASICS OF DISASTER PREPAREDNESS / PRINCIPLES OF EMERGENCY MEDICAL SERVICES

A LECTURE DELIVERED

***DELIVERED TO MEDICAL TEAM OF
SAINT CROST HOSPITAL***

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ROAD MAP / OUTLINE

- ✖ Images on effect of disaster
- ✖ Introduction
- ✖ Disaster: Types, Phases
- ✖ Disaster Preparedness
- ✖ Disaster Management
- ✖ Planning of emergencies
- ✖ Emergency Medical Service (EMS)
- ✖ Principles of Emergency Medical Services (EMS)
- ✖ Basic requirement of EMS

EFFECTS OF DISASTER









SEA DISASTER



CHEMICAL DISASTER



DISPLACED PERSONS



photo source: <http://www.thewritingnut.com/ramblings/plea-victims-philippine-typhoon-sendong>

DEATH



Real Effect of Global Warming
In Bangladesh

Introduction

- ✘ Disasters have a major and long-lasting impact on people long after the immediate effect has been mitigated.
- ✘ Poorly planned relief activities can have a significant negative impact not only on the disaster victims but also on donors and relief agencies.
- ✘ More than 200 million people are affected by disasters each year (Ferris, 2013).
- ✘ Protection of yourself, your family and your community and the world is necessary by taking steps to be prepared.

Definition of Disaster

Disaster is a serious disruption of the functioning of a community or a society which causes widespread human, material, economic or environmental impacts that exceed the ability of the affected community or society to cope using its own resources.

NATURAL DISASTERS

Natural disasters cannot be prevented, but measures can be taken to eliminate or reduce the possibility of trouble. Examples are:

CLIMATE:

- ✗ Rain and wind storms
- ✗ Floods
- ✗ Cyclones (violent tropical wind in which the air moves very fast in circular direction)
- ✗ Storms

TECTONIC(Sky) AND TELLURIC(Earth)

- ✖ Hurricane
- ✖ Tsunami
- ✖ Tornado
- ✖ Earthquakes
- ✖ Volcanic eruptions
- ✖ Landslides
- ✖ Drought and water shortage

BIOLOGICAL AGENTS

- ✖ Viruses (Ebola outbreak, Lassa fever outbreak, Pandemic influenza)
- ✖ Bacteria (Cholera, meningitis)
- ✖ Insect or vermin infestation (locusts, grasshoppers and army worms (insect larvae)).

MAN-MADE DISASTERS

- ✗ Collapsed building (constructional failure)
- ✗ Fire outbreak (wild fire)
- ✗ Terrorism (premeditated man-made disaster)
- ✗ War outbreak
- ✗ Accident: Road, sea wreck
- ✗ Chemical explosion
- ✗ Domestic accident
- ✗ Radiation exposure
- ✗ Civil disturbance and riot
- ✗ Conventional wars
- ✗ Inter-village clash

TYPES OF DISASTER IN NIGERIA

- Floods
- Destructive storms
- Drought
- Desertification
- Catastrophic gully and coastal erosion
- Disease epidemic
- Civil strife
- Fire disasters
- Building collapse
- Explosions
- Aviation disasters
- Road accidents
- Maritime and inland waterways disasters; and
- Earth tremor/land slide.

Phases of Disaster

Pre-impact phase:

- ✘ Occurs prior to the onset of the disaster
- ✘ Is the period of threat and warning
- ✘ May not occur in all disaster

Impact phase:

Is the period when disaster actually occurs and continues. It involves the inventory and rescue period. It includes:

- ✖ Assessment and extent of losses
- ✖ Identification of remaining resources
- ✖ Planning for use of resources
- ✖ Rescue of victims
- ✖ Minimizing further injuries and property damage

Post-impact phase:

It occurs when majority of rescue operations are completed.

- ✖ Is the remedy and recovery period.

This phase may last for years. It include:

- ✖ **Honeymoon phase:** there is feeling of euphoria, appearance of little effect of disaster
- ✖ **Disillusionment phase:** a stage anger, disappointment and resentment
- ✖ **Reconstruction Phase:** acceptance of loss, coping with stress and rebuilding one's life style.

Disaster Preparedness

Is a Process of ensuring that an individual, family and community:

- ❑ Has complied with the preventive measures
- ❑ Is in a state of readiness to minimize loss of life, injury, and damage to property,
- ❑ Can provide rescue, relief, rehabilitation, and other services after the disaster, and
- ❑ Has the capability and resources to continue to sustain its essential functions without being overwhelmed by the demand placed on them.

Why disaster preparedness is important

- ✖ Prevents a bad situation from becoming worse.
- ✖ Aid in making the family safe.
- ✖ To understand what to do should a disaster strike.
- ✖ To know where to take refuge and how to care for basic medical issues.
- ✖ Reduces the impact of disaster. For example, like the case of overflowing bar beach, rock was placed round for prevention.

Disaster Preparedness Checklist

- ✘ Determine the **best escape routes** in case of an emergency.
- ✘ Set up a **meeting place** in case loved ones are separated.
- ✘ An **emergency contact** and each family member should have a copy of this.
- ✘ Be sure that all family members (however young) understand how to call the rescue team (112, 767).

Preparedness Supplies List

Disaster preparedness supplies that should be on hand include:

- ✗ Blankets
- ✗ Medical supplies
- ✗ Water and
- ✗ Food.
- ✗ Essential tools
- ✗ Clothing
- ✗ Sanitary supplies
- ✗ Medications easily accessible. These items can be packed in a pack that can be quickly grabbed if a disaster strikes.

Disaster Preparedness Kit

Get a disaster preparedness kits that are tailored to specific emergencies. Like the:

- ✖ Hurricane kits
- ✖ Fire kits
- ✖ Earthquake kits
- ✖ Terrorism kits

DISASTER MANAGEMENT

Are those measures which are aimed at
impeding the occurrence of a disaster event
and for preventing such an occurrence from
having harmful effects on communities.

Process of Disaster Management

The process of disaster management involves five phases:

- ❑ Prevention
- ❑ Mitigation
- ❑ Preparedness
- ❑ Response
- ❑ Recovery



Source: National Policy on Disaster Management⁷

Disaster Prevention

Disaster prevention measures are designed to impede the occurrence of a disaster event or to prevent such a disaster event from having a devastating impact on people, infrastructures and the economy. For example, flood prevention include:

- ✘ A forestation
- ✘ The provision and maintenance of drainage ditches or gutters in urban areas.
- ✘ Prevention activities take place **before** emergencies.

Mitigation

Disaster mitigation measures are specifically designed to reduce or minimize the impact of disasters whenever they occur.

- ✖ Building codes;
- ✖ Development control measures;
- ✖ Safety regulations relating to high rise building

Mitigation activities take place before and after emergencies.

Preparedness

Disaster preparedness are activities and measures undertaken in advance to make it easier for all levels of communities and individuals to respond quickly and effectively to disaster events. For instance:

- ✗ First Aid training
- ✗ Disaster management contingency plans
- ✗ Disaster relief stockpiling such as building materials, blankets, buckets, food items etc
- ✗ Training programmes for disaster responders (disaster drills)
- ✗ Installing smoke detectors are all preparedness measures.

Preparedness activities take place before an emergency occurs.

Response

Disaster response are measures to be taken during or immediately after a disaster impact to save lives, care for the victims, protect properties and effect emergency repairs to infrastructures. These Include:

- ✖ Search and rescue;
- ✖ Survey and assessment of disaster impact and needs created;
- ✖ Evacuation of victims; and
- ✖ Mass care.

Response activities take place during an emergency.

Recovery

- ❑ The aim of the recovery phase is to restore the affected area to its previous state.
- ❑ Recovery efforts are concerned with issues and decisions that must be made after immediate needs are addressed.
- ❑ Recovery efforts are primarily concerned with actions that involve rebuilding destroyed property, re-employment, and the repair of other essential infrastructure.

Recovery activities take place **after** an emergency.

PLANNING OF EMERGENCIES

It can be divided into:

- ✕ Pre-disaster planning
- ✕ Post-disaster planning

- **Pre-disaster planning** refers to things put in place in expectation of a disaster aimed at preventing it. It consists mainly of mitigation and preparedness.
- **Post-disaster planning** refers to relief in acute emergency. It involves rehabilitation and reconstruction.

PRINCIPLES OF EMERGENCY MEDICAL SERVICES (EMS)

Definition of Emergency

- ✖ Emergency is defined as any trauma or sudden illness (or any condition) that requires immediate intervention to prevent imminent severe damage or death.
- ✖ Emergency can also be defined as a sudden occurrence that threatens the life of the patient.
- ✖ An emergency is a situation that poses an immediate risk to health, life, property, or environment.

Definition of Emergency Medical Service (EMS)

An Emergency Medical Service (EMS) can be defined as "a comprehensive service which provides the arrangements of personnel, facilities and equipment for the effective, coordinated and timely delivery of health and safety services to victims of sudden illness or injury."(Moore, 2013)

Goals /Aims of EMS

To make arrangement for the patient's prompt transfer to the next level of final care.

To provide timely care to victims of sudden and life-threatening injuries or emergencies in order to prevent needless mortality or long-term morbidity.

Give treatment to people in need of immediate medical attention with the intention of successfully treating the ailment.

Objectives of EMS

- ✗ To respond to distress call promptly
- ✗ To provide immediate rescue of patients from danger at the scene of accident/incident and en-route the hospital.
- ✗ To determine the extent of injury so as to establish priority of care.
- ✗ To resuscitate the acutely ill or injured person at the scene of accident/incident and enroute the hospital.
- ✗ To transport the acutely ill or injured from the scene of accident/incident.
- ✗ To reduce morbidity and mortality

✖ Principles of Emergency Medical Services (EMS)

EMS is anchored upon 6 general principles:

- ✖ Early detection
- ✖ Early reporting
- ✖ Early response
- ✖ Proper first aid
- ✖ Care in transit
- ✖ Transfer to definitive care

BASIC REQUIREMENT OF EMS

Adequate personel such as:

Pre-hospital Personnel

- ✘ ***First response rescuer:***— Police, Fire Fighters, Wild Life control Officers, Divers, and Local Citizens.
- ✘ ***First response medical officer:-*** Emergency Medical Technician Intermediate(EMTI), e.g Red Cross, St. John Ambulance e.t.c.
- ✘ ***Mobile intensive-care unit (MICU):-*** Nurses and Doctors.

BASIC REQUIREMENT OF EMS CONTD.

Hospital Personnel

- ✖ ***Nurse specialists:***– A & E, Burns, ICN, Orthopaedic.
- ✖ ***Medical Doctors:***- Anaesthetists, Surgeons, Neurologists, Cardiologists, Paediatrician e.t.c.
- ✖ ***Administrators***
- ✖ ***Radiologist, Radiographers, Haematologists, Pharmacists***

Adequate Equipment

- **Airway equipments** e.g suction machine, airway tubes (oro & naso pharyngeal airways) mouth gag, spatula, tracheostomy, endotracheal tubes e.t.c.
- **Breathing** – oxygen, face mask, nasal prongs or catheters, oxygen tent, mechanical ventilators.
- **Circulation** – IV fluids [colloids, crystalloids] infusion set, cannulars, stethoscope, sphygmomanometer, defibrillator [AED], monitors.
- **Splintage materials** e.g splints, strapping, bandages
- **Drugs** e.g Analgesic, antibiotics, antihistamines, anticoagulants, bronchodilators diuretics, tranquilizers, sedatives (mild) e.t.c.

Transportation

Well equipped ambulances:-

- Standard road ambulances
- Mobile Intensive Care Unit (MICU)
- Heli – ambulance
- Marine ambulance
- Rail ambulance

Good Communication System / Network

- ❑ Telephone cellular / mobile phones
- ❑ Radio link
- ❑ Walkie – talkie
- ❑ Internet e.t.c.

Adequate Fund

Education / Enlightenment

Adequate Hospital Policy

SUMMARY

A secure and resilient nation with capabilities required across the whole community to prevent , protect against, mitigate, respond to and recover from the threats and hazards that poses risk to life and properties

Conclusion

Disaster is an occurrence that happens on a day to day basis in the different parts of the world. It is of importance to get prepared to prevent its effect in your vicinity.

- ✘ The government should invest in early warning system, monitoring and building national and local capacities for preparedness and response.

THANK YOU FOR
LISTENING