

Module Three

Public Health in Emergency

Total hours needed – 08 hours

Total days needed - 01

Table of Content

Each session Comprises of

1. The Topic
2. Objectives of the session
3. Session Plan (includes time, sub topic and methodology)
4. Tools and Resources required
5. Actual Content

The Topic and the content elaboration

1. Introduction to Emergency Health
2. Communicable diseases in emergencies/epidemic control
 - a. Vector borne diseases
 - b. Water borne diseases
 - c. Air borne diseases
 - d. STI including HIV and other sexual and reproductive health issues
3. Emergency health assessment – What it is, data collection
4. Food security and nutrition in emergencies
5. Health in recovery programming

Introduction to Emergency Health

Objectives of this session:

The participants would understand and be able to explain the key concepts and principles of public health in emergency and its relationships with other emergency/disaster preparedness and response actions. They will be able to recognise key health issues that public health and humanitarian organisations need to address in emergency situations, and the evidence-based tools and best practices employed to manage these issues. The session would also describe key components of Federation policies related to emergencies, emergency health response tools, mechanisms and services which RC/RC deliver in emergency and post-emergency situations.

Session Plan:

Time	Topic	Methodology
15 minutes	Introduction to Emergency Health	Classroom training and Q&A
15 minutes	Health in the context of disasters	Classroom training, sharing experiences and Q&A
30 minutes	RC/RC policies related to emergencies and contextualization of services	Classroom training, brainstorming/ group work and open session

Tools and Resources required:

Power Point Presentation, Flipcharts; Cut pieces of cards; Markers; Tape and chart stands

Key Messages

1. What is Emergency Health?
2. Many factors combine together to affect the health of individuals and communities
3. Determinants of health reach beyond the boundaries of traditional health care and public health sectors
4. Health impact of different emergencies could manifest as injuries and different diseases.

Content:

Introduction to Emergency Health

Emergency is an event that occurs when significant numbers of people are exposed to extreme events to which they are vulnerable, with resulting injury and loss of life, often combined with damage to property and livelihood.

Emergency health is a discipline that addresses the health needs of victims from rapid and slow onset disasters, (earthquakes, floods, drought, famine, nutritional disasters, high winds), population movements, post conflict recovery, technological disasters; and the aim is to be prepared for the health consequences of climate change, emerging disease epidemics, heat waves, urbanization, overcrowding and the ageing of populations. The approach also keeps focus on public health science on preventing disease, prolonging life and promoting health.

The total number of reported disasters per year has increased constantly. The year 2005 saw the highest number of floods and windstorms. We will face more frequent and new types of disasters such as extreme temperatures, heat waves, climate change, effects from urbanization and ageing.

Disasters and humanitarian crises share common root causes, namely social vulnerability. Development, risk reduction and humanitarian response are intimately bound. Social vulnerability predisposes groups of people to the impact of a wide range of hazards. It also undermines their ability to cope and recover.

The work in Emergency Health response focuses on reducing avoidable deaths and alleviate human suffering that may result from the impact on human health of natural or man-made disasters and disease outbreaks through: basic, standardized and targeted quality service to as many as possible; filling a gap or overload in the health care system caused by a disaster, population movement or health emergency; targeting the most vulnerable in the community, complementary to government and other agencies' capacity.

Public Health and Disasters

Public Health consequences of common disasters are					
Effect	Complex Emergencies	Earthquakes	High Winds without Flooding	Floods	Flash Floods/ Tsunamis
Deaths	Many	Many	Few	Few	Many
Severe Injuries	Varies	Many	Moderate	Few	Few
Food Scarcity	Common	Rare	Rare	Varies	Common
Increase Risk of Communicable diseases	Potential risk following all the major disaster (probability rising with overcrowding and deteriorating sanitation)				
Damage to water system	Severe	Light	Severe	Light/moderate	Severe
Food shortage	Rare (may occur due to economic and logistic factors)		Common	Common	Common

Public Health consequences of common disasters are					
Effect	Complex Emergencies	Earthquakes	High Winds without Flooding	Floods	Flash Floods/ Tsunamis
Major Population Displacement	Common, may occur in highly damaged urban areas	Rare	Rare	Common	Varies

Various factors or determinants contribute to emergency severity such as:

- Human vulnerability due to poverty
- Social inequality
- Environmental degradation
- Rapid population growth especially among the poor
- Increasing population density
- Increased settlement in high-risks areas
- Emerging infectious diseases
- Increased technological hazards and dependency

The health impact of different emergencies could manifest as injuries, disease epidemics (Water-borne, Food-borne and Vector-borne), population specific health issues in emergencies, psychological stress, STIs and HIV/AIDS etc

Many disasters generate large population displacements and can spread outbreaks of infectious diseases. Health dimensions related to disasters [general emergencies] and complex emergencies are disease outbreaks, epidemics and pandemics of emerging and re-emerging diseases. Special health issues in disasters and complex emergencies are some such as HIV/AIDS, Sexually Transmitted Infections, Mother and Child Health issues, nutrition, gender, etc.

The focus is on community health care, supported by basic clinics. Paediatric care, treatment of infectious diseases and mother-and-child health care are particularly important considerations in times of emergency. Referral hospitals (field hospitals) can carry out emergency surgery and deal with gynaecological and obstetric complications.

RC/RC policies related to emergencies and contextualization of services

Health is cornerstone of human dignity and humanitarian assistance within the RC/RC commitment to disaster management and humanitarian assistance. It makes sure that health is an integral part of all humanitarian work, ensures all health services in disasters take long-term sustainability into consideration and are well integrated into community-based primary health care.

The RC/RC applies a Emergency Health approach when responding to health aspects of crises and epidemics. The policy is to be locally prepared and ready to support or complement health systems in their care for the most affected and vulnerable populations and strengthening the resilience of individuals and communities which lies at the core of preparedness to disasters and emergency health care.

This involves:

- 1) Addressing immediate needs among the most affected and vulnerable by filling a temporary gap or overload in the health care system caused by the disaster.
- 2) Complementary to the government and other agencies' capacity, it requires providing basic, standardized and targeted quality service to as many as possible.
- 3) RC/RC also works with community outreach teams to engage in disease prevention and epidemic control through health education and promotion carried out by trained volunteers.
- 4) A consistent effort is on in improving standards of primary care in emergencies through training, and emergency response working groups. In particular, the focus on reducing the impact of the five worst killer diseases in emergencies, address psychosocial support, mother-and-child health in emergencies, reproductive health, contributing to reducing maternal and neonatal morbidity and mortality, HIV and AIDS in emergencies, and chronic diseases.
- 5) Disaster response for Red Cross and Red Crescent Societies means to be first on the scene, to save lives through search and rescue, to provide first aid and early referral by trained volunteers and staff in National Societies, to prevent suffering, and to re-establish and maintain health.
- 6) RC/RC approach to emergency health services is through preventing disease, prolonging life and promoting health by organized community efforts for –
 - Environmental sanitation
 - Control of communicable infections
 - Education of the individual in personal hygiene
 - Organization of medical and nursing services for early diagnosis and preventive treatment of disease
 - Development of social system to ensure everyone a standard adequate for the maintenance of health

Materials available for this session:

1. Emergencies and health.ppt

Communicable diseases in emergencies/epidemic control

Objectives of this session:

This session will build understanding about the context of various transmissible infections (vector borne, water borne, air borne diseases and STI/HIV) and enhance skills of the volunteers to recognise basic symptoms, severity for seeking medical advice, referring individuals to health service for expert evaluation and care. After completion of this module the FMR will be better able to assess, understand and plan for better support to individual and for health promotion within the community.

Session Plan:

Time	Topic	Methodology
30 minutes	Infections and diseases	Classroom training and Q&A
30 minutes	Vector Borne Diseases	Classroom training and Q&A
30 minutes	Water Borne Diseases	Classroom training and Q&A
30 minutes	Air Borne Diseases	Classroom training and Q&A
30 minutes	HIV and STIs	Classroom training and Q&A
30 minutes	Disaster and Health Emergency	Group work and open session

Tools and Resources required:

Power Point Presentation, Flipcharts; Cut pieces of cards; Markers; Tape and chart stands

Key Messages

1. An infection causes a disease that may be transmitted from one person to another.
2. Immunity is the ability to fight off an infection.
3. There is a strong link between disasters and health problems.
4. Surveillance, prevention and health promotion are key to a proper response.

Content:

An infection causes a disease that can be transmitted from one person to another. It is caused by different kinds of germs. It can be transmitted between people. There are many kinds of infections, which cause many different diseases, including diarrhoea, respiratory infections, polio, measles and more. These diseases (caused by infections) can result in epidemics. Infections are caused by germs.

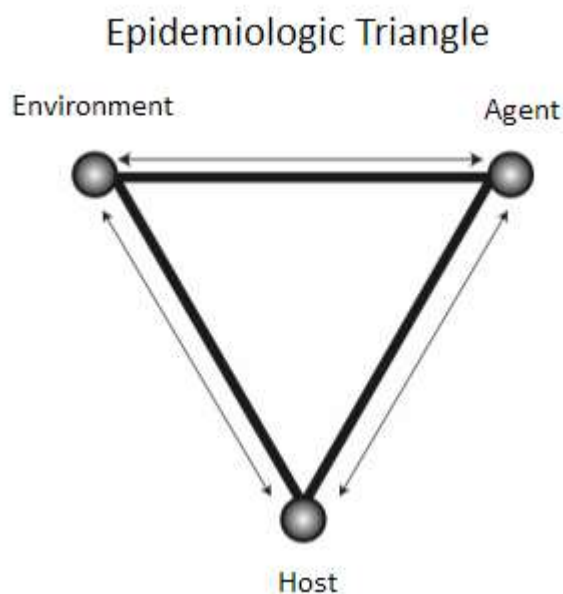
A germ is a very small organism we cannot see with our eyes. Germs affect people and animals and can make them sick by infecting them with diseases. They travel from one person, animal or other vector to another person causing a disease to spread (which may result in an epidemic). They can enter our bodies in different ways (by mouth, from nose,

from hands and by vector bites). A **vector** is an insect or an animal that can carry germs and transmit them to people. A vector can be, for example, a mosquito, a fly, a rat, a bat, a chicken or a monkey.

It is important to note that not all people who get the germs get sick. Some people are able to resist an infection. These people have **immunity**. However, they can sometimes still pass on the germs to other people. **Immunity** is the ability to fight off an infection. Not all people who get the germs that cause a particular disease get sick. When this happens, the person is said to be “immune” to the disease. Immunity can be acquired either if a person has already had the disease, has carried the germs before and become immune, or has been vaccinated against the disease.

A simple yet scientific way of understanding disease transmission is through the Epidemiological Model (Diag. below) has helped people study health problems. The triangle has three corners.

- 1) Agent or germs that cause disease.
- 2) Host or organism that harbours the disease.
- 3) Environment or external factors that allow or cause disease transmission.



An epidemic occurs when the number of people in a community sick with a particular disease increases. More people become infected than in normal situations, exceeding the community’s ability to cope. An epidemic occurs for one of several reasons:

- The germs are stronger than usual (e.g. new kinds of germs).
 - There are more vectors (e.g. an increase in mosquitoes during the rainy season).
 - People are less able to resist the germs (e.g. owing to malnutrition) and very few people have immunity.
- The surrounding environment has deteriorated (e.g. lack of clean water, poor hygiene, etc.).

Who is vulnerable?

Germs and the infectious diseases they cause do not affect everyone the same way. Some people can get sick easily when they come in contact with germs, while others are better able to resist them. This is what we mean by vulnerability. The more vulnerable people are,

the easier it is for them to get sick. For example, it is often because they are poor, sick or disabled. Some vulnerable group of people can be classified into the following categories: Babies, Children, Pregnant women, Elderly, HIV+ people, poor people, the chronic ill etc.

Vector Borne Diseases

A **vector** is an insect or an animal that can carry germs and transmit them to people. A vector can be, for example, a mosquito, a fly, a rat, a bat, a chicken or a monkey.

There are many diseases that are transmitted by vectors. Vectors can be insects that transmit a disease by biting humans. They include mosquitoes, some kinds of flies, and ticks. They can also be animals, such as rats. Two of the main diseases transmitted by vectors are **malaria** and **dengue fever**. These diseases can exist in some regions and countries all the time, but because of changes in the surrounding environment, they can cause epidemics.

How are these diseases transmitted?

This group of diseases is transmitted by vectors. In the case of *malaria* and *dengue fever*, they are transmitted by different kinds of mosquitoes that carry the germs. When those mosquitoes bite someone; they can insert the germs in the blood of that person, causing him or her to get the disease.

What symptoms do vector-transmitted diseases cause?

The diseases in this group are caused by different germs. However, they all cause high fever, acute body pains and tiredness. Malaria causes a fever that goes up and down, with spells of extreme heat and shivering. *Dengue fever* can sometimes cause bleeding of the gums and under the skin, in addition to the fever. Anyone can suffer from diseases transmitted by vectors, especially young children. People who sleep without mosquito nets and beside water surfaces where mosquitoes lay their eggs are more at risk.

How do we prevent the spread of vector-transmitted diseases?

Controlling mosquitoes and preventing them from breeding are the main methods of stopping the spread of diseases such as *malaria* and *dengue fever*. This is done in several simple ways:

- I. Destroying or filling in ponds and small swamps where mosquitoes live and breed.
- II. Spraying houses and tents with substances that kill mosquitoes (insecticides).
- III. Most importantly, preventing mosquitoes from biting people, especially children. This is done mainly by encouraging people to sleep under bed nets (useful in the case of *malaria* but not *dengue fever*) and to wear clothes that cover as much of the body as possible.

How do we deal with cases of a vector-transmitted disease?

When a person is sick with a vector-transmitted disease, it is not possible for volunteers to treat the patient. They need treatment by health professionals in a health centre. The most

important things volunteers can do are: to identify cases of high fever; to suspect *malaria* or *dengue fever*; and to refer these suspected cases to health professionals.

How do we deal with an epidemic of a vector transmitted disease?

If an epidemic of vector-transmitted diseases occurs, there are a few things that should be done:

- **Surveillance:** Detection of suspected cases and their referral to health facilities.
- **Prevention:** Distribution of mosquito nets and education in their use; Clean-up campaigns
- **Health promotion:** Teaching the community how to identify the disease and protect themselves from mosquitoes.
- **Mosquito control:** Spraying houses with insecticides.
- **Medical care:** Mass treatment of cases by health professionals.

Water Borne Diseases

Diarrhoeas

Diarrhoea is when a child or an adult passes three or more loose stools in a day. It can cause the child to lose so much body water and minerals that he or she becomes dried out (dehydrated). This can cause death in some cases if not treated.

How are diarrhoeas transmitted?

All kinds of diarrhoeas are transmitted by germs that come out with the stools of sick people and usually spread to other people through contaminated water. Diarrhoea can be transmitted in other ways besides water. An easy way to remember these is through the 3Fs: Food, Fingers, Flies.

Diarrhoea epidemics happen more often in places and communities with a bad water supply or poor sanitation facilities. Diarrhoea epidemics are more likely to occur at times when water is less available and/or there is no clean drinking water or water for washing/bathing.

Exposure of water (or food or other things) to stools because of poor sanitation causes diarrhoeas. Germs go into the water from the stools and can cause diarrhoea in people who then drink the water. When the whole community's water sources are contaminated, this can cause an epidemic.

What symptoms do diarrhoeas cause?

It is mainly children who get diarrhoea. When children get diarrhoea, they start having frequent loose stools. This causes them to lose water and minerals from their bodies. Other symptoms of diarrhoeas include stomach pains, fever, cramps, nausea and vomiting. When a child loses a lot of water, he/she can become dehydrated.

Dehydration happens when a person, mainly a child, loses a lot of water and minerals in his or her stools through diarrhoea. Dehydration is like “drying out”. It is very dangerous and can cause death.

There are two particularly severe kinds of diarrhoea:

- I. **Dysentery** – in which blood comes out with the stools.
- II. **Cholera** – which causes more severe symptoms and very watery stools that look like “rice water”

How do we prevent a diarrhoea epidemic?

Diarrhoea epidemics can be prevented by several simple things:

- Hygiene – This includes washing hands with soap at critical times, especially after going to the toilet, after cleaning children’s bottoms and before preparing food.
- Drinking only clean and safe water – This means boiling, filtering or treating water with chlorine and storing it in clean containers.
- Eating safe food – This means washing vegetables and fruits, storing food in clean conditions and reheating food before eating it.
- Appropriate sanitation facilities (latrines) – This will help decrease the likelihood of stools contaminating water or food. Special care needs to be taken with children’s stools, which should be properly disposed of or buried.

How do we deal with cases of diarrhoea?

The most important point to remember when dealing with diarrhoea cases is to replace the water and minerals that are being lost. In other words, it is vital to correct dehydration. This is done by detecting diarrhoea early and giving the affected person water and salts: these can be in the form of an oral rehydration solution (ORS), which is made from packets, or home-made fluids such as rice water or soup.

How do we deal with a diarrhoea epidemic?

- If an epidemic of diarrhoea occurs, there are a few things that should be done:
- Find out the source and cause (unsafe water, inappropriate latrines, unsafe hygiene practices).
- Ensure water is clean (by boiling, filtering or treating it with chlorine) and provide safe water storage.
- Identify cases of diarrhoea and treat with ORS or home-made fluids such as rice water or soup and show mothers and caregivers how to prepare ORS for dehydrated children.
- Refer very sick and dehydrated children to health facilities.
- Promote proper hygiene in local communities and among families.
- Use the International Federation’s cholera kit when available.
- In a major epidemic, put up posters and distribute leaflets with dos and don’ts.
- Alert the health authorities.

Air Borne Diseases

Respiratory infections occur when germs affect the lungs of a person and cause an infection. These infections can also cause epidemics and may result in death for children, especially if they are very sick and not treated. Respiratory infections are diseases that affect the chest (lungs). They can be mild, causing only some pain or coughing, but can also be very severe, causing fever, difficulty in breathing, and coughing, and may even lead to death if not treated properly or quickly. These diseases cause epidemics, mainly when living conditions (overcrowded houses and tents) allow them to spread easily.

How are respiratory infections transmitted?

Respiratory infections are transmitted by droplets released into the air by coughing or sneezing. These droplets carry germs and can be breathed in by other people, causing them to become sick too.

What symptoms do respiratory infections cause?

Respiratory infections can be mild or very severe and can result in death for children if they are not treated. Usually, they cause fever with a bad dry or wet cough (with sputum). This can make it very difficult for those infected (usually children) to breathe. Children with respiratory infections also appear exhausted and pale. Respiratory infections can happen at any time of the year. They are more likely to occur when it is cold because people close windows and there is less fresh air inside buildings. When there is a situation that leads to overcrowding, such as a lot of people moving away from their homes because of a natural disaster or war and having to live in temporary shelters, respiratory infections spread more easily and can result in epidemics.

How do we prevent the spread of respiratory infections?

The spread of respiratory infections can be prevented by several simple things:

- Having good habits, such as respiratory etiquette. This will reduce the spread of respiratory infections and can prevent epidemics and reduce their impact when they occur.
- Improving the shelter situation and reducing overcrowding in the community.
- Identifying those in the community who are sick with respiratory infections before they spread the infection to others.
- Quickly treating or referring children who have a cough or difficulty breathing.
- Improving the nutritional situation.
- Educating the community in the diseases and how to prevent and manage them.

How do we deal with cases of respiratory infections?

Respiratory infections are hard to treat, and sick individuals will need to be cared for by health professionals. The role of volunteers is mainly to identify cases and refer them to health facilities. However, some other things can be done. Children sick with respiratory infections benefit greatly from eating good, nutritious food and drinking plenty of fluids such as water, juices and soups.

How do we detect an epidemic of a respiratory infection?

An epidemic of respiratory infections is suspected when many people (especially if they live in crowded conditions) have fever, a cough and difficulty breathing.

How do we deal with an epidemic of a respiratory infection?

- Early detection of sick people with fever, a cough and difficulty breathing and referral to health facilities through good surveillance.
- Improving shelter, if possible, and reducing overcrowding.
- Improving nutrition and providing children with good food.
- Proper and prompt treatment of sick people in clinics and other health facilities
- Health promotion to tell people about good habits such as covering the mouth and nose when coughing or sneezing (respiratory etiquette)

Tuberculosis

Tuberculosis (TB) is a disease that affects mainly the lungs, but can also affect other organs. It is, in a way, very similar to the respiratory infections mentioned above but it is transmitted and heals much more slowly. TB is a serious disease, but curable. Small drops of saliva or spit carrying TB germs are coughed into the air by people who have TB and then breathed in by other people who may then contract TB themselves. People who are in close contact with a person who has TB are more at risk. A person infected with TB should cover his/her mouth and nose with a handkerchief when coughing or sneezing to avoid spreading the germs. TB develops easily and becomes serious when the body is weak. For example, people who are malnourished, infected with HIV, smoke, or have an alcohol or drug abuse problem are more vulnerable to TB infection. People living with HIV are at greater risk of contracting TB. TB is particularly dangerous for HIV-positive people.

How do we detect infection?

TB is suspected when someone has a cough for more than three weeks, a mild fever, night sweats, loss of appetite and weight, and tiredness. Anyone who has these symptoms should go to the local health facility or TB clinic for further examination.

How do we deal with cases of TB infections?

- TB germs die very slowly. Each person with TB has to take a combination of several drugs for no less than six months. Most TB cases can be cured with the right treatment, but it is very important to take the medication regularly and to complete the full course of treatment. However, some kinds of TB germs are resistant to the medications and are much harder or sometimes impossible to cure.
- Improving the nutritional situation.

HIV/AIDS and STIs

These infections do not cause the same kind of emergency or epidemics that happen so rapidly and in a certain period of time as, for example, diarrhoeas and respiratory infections. But these infections do affect many millions of people around the world and cause a lot of sickness and death. This is why we need to know something about them.

HIV and AIDS: Human immunodeficiency virus (HIV) is the germ that causes acquired immune deficiency syndrome (AIDS). It attacks the immune system (the body's defence against diseases). HIV is present in blood, breast milk, semen and vaginal fluids. When people are infected with HIV, they are known as being HIV positive. AIDS is the name given to a group of serious illnesses that affect HIV positive people. These illnesses arise when people with HIV are no longer able to resist infection because of lowered immunity.

It is important to know about HIV and AIDS because people living with HIV are more likely to get sick and may die during an epidemic. These people are more vulnerable and may be in particular need of our help in epidemic situations.

STI: Sexually Transmitted Infections are either bacterial or viral and that spread through sexual contact or due to exchange of body fluids during sexual intercourse. These infections could be either symptomatic or some people may just be carriers without any symptoms. STIs could lead to significant health complications such as infertility, pelvic inflammatory diseases, and if left untreated/ ignored may consequently involve other internal organs and death.

Ways in which HIV and STI is transmitted

- Unprotected sexual contact – Having unprotected sex is the most common way that people contract STI and HIV.
- Blood contact – Blood transfusions or sharing needles or other sharp objects contaminated with infected blood can transmit HIV and some other infections such as Hepatitis B, C and D.
- Mother-to-child transmission – If infected mothers can pass HIV and some STI to their babies through pregnancy, childbirth or breastfeeding.
- People who have STI are more susceptible to HIV.

HIV: Ways in which HIV is NOT transmitted

- Social contact, such as hugging, kissing, shaking hands, breathing the same air, coughing, sneezing, sweat, tears or contact through sport.
- Sharing such things as toilet seats, food utensils or drinking cups, clothes, public baths or swimming pools.
- Insect bites, such as from mosquitoes or bedbugs.

Methods of preventing HIV transmission

- Engaging in safer sex (using condoms every time, abstinence, being faithful to your partner, avoiding casual sex or having non-penetrative sex).
- Preventing mother-to-child transmission during pregnancy, childbirth or breastfeeding.
- Preventing or reducing the health consequences of certain behaviours (harm reduction). This includes helping people whose behaviours might put them at risk of HIV.
- Taking precautions against infection (often called “universal precautions”), which means taking steps to ensure that you have no contact with blood or bodily fluids during caring activities.

Methods of preventing STI transmission

- Engaging in safer sex (using condoms every time, abstinence, being faithful to your partner, avoiding casual sex or having non-penetrative sex).
- Clinical management of STIs that can be treated with medicines.
- Preventing mother-to-child transmission during pregnancy, childbirth or breastfeeding.
- Preventing or reducing the health consequences of certain behaviours (harm reduction). This includes helping people whose behaviours might put them at risk of STI.
- It is important to know about STI and HIV/AIDS because people living with STIs are more likely to get HIV.

Disasters and Health Emergency

Natural disasters happen all the time in all parts of the world and can have a devastating effect on people and their property. They cause a lot of deaths, injuries and sickness in the community. While some, such as earthquakes, will cause a lot of deaths and injuries and cause many people to move, others, such as floods or droughts, will generally cause fewer deaths and injuries but will affect other issues such as the availability of food and local crops.

In order to understand how infections as health emergencies occur and develop after natural disasters, we need to understand the link between what such disasters do and what kinds of epidemics are more easily able to develop in such conditions. We will begin by looking at the effects of natural disasters on communities.

Participate

Name some of the kinds of natural disasters that you know about and say what effects they can have on people and communities.

DISASTERS	EFFECTS
<i>Earthquake</i>	
<i>Flood</i>	

Group work

In small groups, remember what helps spread epidemics. Discuss and come up with a sentence that describes the link between natural disasters, their effects and epidemics. Follow the example below:

Earthquakes cause people to leave their homes and live in tents and temporary shelters in crowded conditions. This helps spread epidemics of respiratory infections.

Each group will work on one of the following kinds of disasters:

- Earthquakes
- Floods
- Landslides
- Storms
- Tsunamis
- Refugee crises
- Droughts and famine

Write all the sentences the groups come up with on the flip chart or board and discuss them.

Materials available for this session:

2. Communicable diseases ppt.

Emergency health assessment

Objectives of this session:

By the end of this session the participants would know the major aspects of health emergency and their importance. They will be able to know how to ask the right questions to investigate and assess a health crisis. In this session participants will do and learn some basics of doing an assessment.

Session Plan:

Time	Topic	Methodology
15 minutes	What it is?	Classroom training and Q&A
15 minutes	Data collection	Classroom training and Q&A

Tools and Resources required:

Power Point Presentation, Flipcharts, Markers and chart stands

Key Messages:

1. Health status risks and existing resources/ services form important part of investigation and analysis.
2. In data collection secondary data information, interviews and observation must complement each other.
3. Analysis should identify priority health problems/risks, gaps in services and possible response options

Content:

In order to understand the epidemic, we will need to ask some big questions:

What?

- What disease is causing the health hazard?
- What size is the issue?
- What way is the health crisis spreading?
- What preventive and management measures exist for this kind of health problem?
- What are the ways to reduce the spread of the disease?

Who?

- Who is being affected and how many people are sick or dead?
- Who in the community is most vulnerable?
- Who is responding to the crisis?
- Who can we work with?

Where?

- Where is this happening?
- Where are other places under threat?
- Where are our resources?
- Where are the best places to work from?

When?

- When did the crisis start?
- When was the crisis confirmed?
- When can we start working on the ground?

Asking these questions and reporting the answers is called an **assessment**. It is a very important step in the response.

How do we find the answers?

The questions in the above list are asked and answered at several levels. They will be asked and answered at the national level, in the Ministry of Health and in the headquarters of your National Society; they will also be asked and answered in your local Red Cross or Red Crescent branch. You will be asking and answering them in your community too. Together, the answers will help everyone to understand the epidemic best. The answers to the questions are obtained from different sources, but mainly from members of the affected community. People in the community know about their environment, their lives and their situation probably better than anyone else. Community leaders, health workers and families are some of the best sources of the information you will need.

For an assessment to be most effective, you need to be in the affected community and ask questions and get the answers from the members of that community. Use the communication skills you have already learned in order to get accurate answers that will help you and others to respond to the epidemic properly. Some important data collection methods applied is:

- Observation
- Interviews and group discussions
- Review of secondary data before and during the crisis

A proper triangulation of data/ information, and a thorough review helps to resolve inconsistencies and analyse information before summarising it for reporting purpose.

Participate

Your facilitator has prepared a scenario involving an epidemic. Think of yourself as part of an assessment team for the epidemic. Ask your facilitator the questions we listed above in the beginning of this chapter as if you are doing the assessment and tell him or her to whom you would be addressing that question. That person can be anyone, such as: a health post worker, village leader, mother, or anyone you can talk to and think can provide answers to your questions. Discuss different options with your colleagues. You can ask the same questions to several people.

When you have finished asking the questions, on the basis of the answers think of what the epidemic could be and what would be the next steps for dealing with it. Discuss these with your facilitator and colleagues.

Materials available for this session:

3. EHA Data collection, analysis ppt.

Food security and nutrition in emergencies

Objectives of this session:

This session will build understanding about the context of Nutrition and its relation to food intake and right eating practices. This session will also develop understanding on local food models and different symptoms of nutrition related complications including under and over nutrition. The session will bring about clarities on assessing the Nutrition scenario, understanding the people at risk and providing contextual solution.

Session Plan:

Time	Topic	Methodology
15 minutes	Basics of Nutrition, Under Nutrition and Over Nutrition	Classroom training and Q&A
15 minutes	Measuring Nutrition level and Prioritizing people at maximum risk of falling ill due to malnutrition and its effect on overall health	Classroom training and Q&A
15 minutes	Local Food Model and concept of FADU (Frequency, Amount, Density and Utilization) in an emergency situation	Classroom training and Q&A

Tools and Resources required:

Power Point Presentation, Flipcharts; Cut pieces of cards; Markers; Tape and chart stands

Key messages:

1. There are six categories of nutrients that the body needs to acquire from food.
2. The four basic food groups are grains, Dairy products, Egg plus meat and fruits with green vegetables.
3. Body Mass Index can measure insufficient food intake and excessive intake causing different health problems.
4. It is essential to promote local easily available balanced food in a community.

Content:

Different types of natural disasters affect communities differently. While some, such as earthquakes, will cause a lot of deaths and injuries and cause many people to move, others, such as floods or droughts, will generally cause fewer deaths and injuries but will affect other issues such as the availability of food and local crops.

Nutrition:

Definition

Good nutrition can help prevent disease and promote health. There are six categories of nutrients that the body needs to acquire from food: protein, carbohydrates, fat, fibers, vitamins and minerals, and water.

Proteins

Protein supplies amino acids to build and maintain healthy body tissue. There are 20 amino acids considered essential because the body must have all of them in the right amounts to function properly. Twelve of these are manufactured in the body but the other eight amino acids must be provided by the diet. Foods from animal sources such as milk or eggs often contain all these essential amino acids while a variety of plant products must be taken together to provide all these necessary protein components.

Fat

Fat supplies energy and transports nutrients. There are two families of fatty acids considered essential for the body: the omega-3 and omega-6 fatty acids. Essential fatty acids are required by the body to function normally. They can be obtained from canola oil, flaxseed oil, cold-water fish, or fish oil, all of which contain omega-3 fatty acids, and primrose or black currant seed oil, which contains omega-6 fatty acids. The American diet often contains an excess of omega-6 fatty acids and insufficient amounts of omega-3 fats. Increased consumption of omega-3 oils is recommended to help reduce risk of cardiovascular diseases and cancer and alleviate symptoms of rheumatoid arthritis, premenstrual syndrome, dermatitis, and inflammatory bowel disease.

Carbohydrates

Carbohydrates are the body's main source of energy and should be the major part of total daily intake. There are two types of carbohydrates: simple carbohydrates (such as sugar or honey) or complex carbohydrates (such as grains, beans, peas, or potatoes). Complex carbohydrates are preferred because these foods are more nutritious yet have fewer calories per gram compared to fat and cause fewer problems with overeating than fat or sugar. Complex carbohydrates also are preferred over simple carbohydrates by diabetics because they allow better blood glucose control.

Fiber

Fiber is the material that gives plants texture and support. Although it is primarily made up of carbohydrates, it does not have a lot of calories and is usually not broken down by the body for energy. Dietary fiber is found in plant foods such as fruits, vegetables, legumes, nuts, and whole grains.

There are two types of fiber: soluble and insoluble. Insoluble fiber, as the name implies, does not dissolve in water because it contains high amount of cellulose. Insoluble fiber can be found in the bran of grains, the pulp of fruit and the skin of vegetables. Soluble fiber is the type of fiber that dissolves in water. It can be found in a variety of fruits and vegetables such as apples, oatmeal and oat bran, rye flour, and dried beans.

Although they share some common characteristics such as being partially digested in the stomach and intestines and have few calories, each type of fiber has its own specific health

benefits. Insoluble fiber speeds up the transit of foods through the digestive system and adds bulk to the stools, therefore, it is the type of fiber that helps treat constipation or diarrhea and prevents colon cancer. On the other hand, only soluble fiber can lower blood cholesterol levels. This type of fiber works by attaching itself to the cholesterol so that it can be eliminated from the body. This prevents cholesterol from re-circulating and being reabsorbed into the bloodstream. In 2003, the World Health Organization released a new report specifically outlining the link of a healthy diet rich in high-fiber plant foods to preventing cancer.

Vitamins and minerals

Vitamins are organic substances present in food and required by the body in a small amount for regulation of metabolism and maintenance of normal growth and functioning. The most commonly known vitamins are A, B₁ (thiamine), B₂ (riboflavin), B₃ (niacin), B₅ (pantothenic acid), B₆ (pyridoxine), B₇ (biotin), B₉ (folic acid), B₁₂ (cobalamin), C (ascorbic acid), D, E, and K. The B and C vitamins are water soluble, excess amounts of which are excreted in the urine. The A, D, E, and K vitamins are fat-soluble and will be stored in the body fat.

Minerals are vital to our existence because they are the building blocks that make up muscles, tissues, and bones. They also are important components of many life-supporting systems, such as hormones, oxygen transport, and enzyme systems.

There are two kinds of minerals: the major (or macro) minerals and the trace minerals.

Major minerals are the minerals that the body needs in large amounts. The following minerals are classified as major: calcium, phosphorus, magnesium, sodium, potassium, sulfur, and chloride. They are needed to build muscles, blood, nerve cells, teeth, and bones. They also are essential electrolytes that the body requires to regulate blood volume and acid-base balance.

Unlike the major minerals, trace minerals are needed only in tiny amounts. Even though they can be found in the body in exceedingly small amounts, they are also very important to the human body. These minerals participate in most chemical reactions in the body. They also are needed to manufacture important hormones. The following are classified as trace minerals: iron, zinc, iodine, copper, manganese, fluoride, chromium, selenium, molybdenum, and boron.

Many vitamins (such as vitamins A, C, and E) and minerals (such as zinc, copper, selenium, or manganese) act as antioxidants. They protect the body against the damaging effects of free radicals. They scavenge or mop up these highly reactive radicals and change them into inactive, less harmful compounds. In so doing, these essential nutrients help prevent cancer and many other degenerative diseases, such as premature aging, heart disease, autoimmune diseases, arthritis, cataracts, Alzheimer's disease, and diabetes mellitus.

Water

Water helps to regulate body temperature, transports nutrients to cells, and rids the body of waste materials.

Origins

Unlike plants, human beings cannot manufacture most of the nutrients that they need to function. They must eat plants and/or other animals. Although nutritional therapy came to the forefront of the public's awareness in the late twentieth century, the notion that food affects health is not new. John Harvey Kellogg was an early health-food pioneer and an

advocate of a high-fiber diet. An avowed vegetarian, he believed that meat products were particularly detrimental to the colon. In the 1870s, Kellogg founded the Battle Creek Sanitarium, where he developed a diet based on nut and vegetable products.

Purpose

Good nutrition helps individuals achieve general health and well-being. In addition, dietary modifications might be prescribed for a variety of complaints including allergies, anemia, arthritis, colds, depressions, fatigue, gastrointestinal disorders, high or low blood pressure, insomnia, headaches, obesity, pregnancy, premenstrual syndrome (PMS), respiratory conditions, and stress.

Nutritional therapy may also be involved as a complement to the allopathic treatments of cancer, diabetes, and Parkinson's disease. Other specific dietary measures include the elimination of food additives for attention deficit hyperactivity disorder (ADHD), gluten-free diets for schizophrenia, and dairy-free for chronic respiratory diseases.

A diet low in fat also promotes good health and prevents many diseases. Low-fat diets can help treat or control the following conditions:

- Obesity. High fat consumption often leads to excess caloric and fat intake, which increases body fat.
- Coronary artery disease. High consumption of saturated fats is associated with coronary artery disease.
- Diabetes. People who are overweight tend to develop or worsen existing diabetic conditions due to decreased insulin sensitivity.
- Breast cancer. A high dietary consumption of fat is associated with an increased risk of breast cancer.

Description

The four basic food groups, as outlined by the United States Department of Agriculture (USDA) are:

- dairy products (such as milk and cheese)
- meat and eggs (such as fish, poultry, pork, beef, and eggs)
- grains (such as bread cereals, rice, and pasta)
- fruits and vegetables

The USDA recommendation for adults is that consumption of meat, eggs, and dairy products should not exceed 20% of total daily caloric intake. The rest (80%) should be devoted to vegetables, fruits, and grains. Allergenic and highly processed foods should be avoided. Highly processed foods do not contain significant amounts of essential trace minerals. Furthermore, they contain lots of fat and sugar as well as preservatives, artificial sweeteners and other additives. High consumption of these foods causes build up of unwanted chemicals in the body and should be avoided. Food allergies cause a variety of symptoms including food cravings, weight gain, bloating, and water retention. They also may worsen chronic inflammatory conditions such as arthritis.

The concept of Tricolour food and FADU:

The food should have Orange (Red), White and Green colours in it just to ensure that the beneficiaries receive all the different elements of the food especially Protein, Carbohydrate and Fat

Orange (Red)	Meat, Pulses, Soya Beans etc
White	Rice, Bread, Milk etc
Green	Vegetables and Fruits

While dealing with the children in an emergency Nutrition situation the CFMR must ensure that the children (especially under nourished and new born children) are served keeping the principles of FADU in mind) –

Frequency	Every time the child demand for food
Amount	A fixed amount of food for all the regular meals
Density	It should not be very liquid or watery which can fill the stomach for the time being but do not provide nutrition
Utilization	The hands and utensils should be clean that the child should not fall prey to infections

Malnutrition

Malnutrition is not an infection. It is a condition that occurs when people, especially children, do not have enough food for their needs. Children who suffer malnutrition become weak and are unable to resist infections. This makes them more likely to get sick and die in the event of an epidemic. Malnourished children are very obvious to spot. They are usually thin, tired, lacking in energy (*marasmus*) and sometimes have swollen bellies caused by fluids in their abdomens (*kwashiorkor*). Malnourished children should be treated with care. It is important to refer them to health centres or therapeutic feeding centres, where available, because when malnutrition is severe it is important to give special food to children under medical supervision.

Under-nutrition

Under-nutrition is defined as the outcome of insufficient food intake and repeated infectious diseases. It includes being underweight for one's age, too short for one's age (stunted), dangerously thin for one's height (wasted) and deficient in vitamins and minerals (micronutrient malnutrition).

Over-nutrition

Over-nutrition is a state of nutrition in which one or more of the components of a healthy diet are consumed to excess such that adverse medical effects of that excessive intake are apparent and measureable. As also applies to under-nutrition, over-nutrition can be general or specific (i.e. due to over-consumption of just one vitamin or mineral, e.g. due to a "fad diet")

Measuring Nutrition level

- The international standard for measuring body size among adults is Body Mass Index (BMI)
- BMI is computed using the following formula: $BMI = \text{Weight (kg)} / \text{Height (m}^2\text{)}$
- Example 68 kg. and Height 165 cm (1.65m); $BMI = 68 / (1.65)^2 = 24.98 \text{kg/ m}^2$

BMI	Weight Status
<18.5	Under weight
18.5 – 24.9	Normal
25 – 29.9	Overweight
30 and above	Obese

BMI for Children and Teens

BMI for Age percentile	Status
< 5 percentile	Under weight
5 th percentile to less than 85 th percentile	Normal
85 th percentile to less than 95 th percentile	Overweight
95 th percentile and above	Obese

Please note that there are other measures of understanding the nutrition status of children and adults with more accuracy like the abdominal measurement, Hip measurement, upper limb circumference and the head circumference however in an emergency situation it is good to go for the BMI measurement to provide more contextual support.

Prioritizing people in need of services

People with poor nutrition status are more susceptible to infection and thus diseases. In an emergency situation the environmental factors can be more impacting to a person with lower nutrition level. The FMR hence, will have to prioritize people based on their nutrition status and ensure that they are closer to services and food products in the emergency situation. Other people who, should be given priority (in terms of nutrition security) in an emergency situation, should be –

- Under nourished Children (wasted and stunted)
- Pregnant women
- Lactating women
- New born children
- Adolescent girls

- People with special needs

Local food model

In a crisis situation the community is in need of food and the CFMR, before the outside assistance comes, should be able to tell them about the locally available foods which can keep them nourished for days and years. This model will address the below challenges –

- Chronic delays in food distribution;
- Relatively high percentage of feeding interruptions due to emergency;
- Food loss through damage during transportation (especially in emergency) and, and improper storage;
- High cost and time of transportation;
- High overhead cost; and
- Inappropriateness of food recipe to the local context and culture.

In its efforts to address these issues, the CFMR should work with the local community and government to promote the local food model. This will in a way ensure speedy supply of good and fresh food and more community ownership and sustainability of the model even after the relief phase is over. Please note that in a flood situation or situations where the natural resources are completely destroyed, though local food model is not a very feasible option.

Materials available for this session:

4. Nutrition ppt.

Health in early recovery programming

Objectives of this session:

The session would introduce the participants to some post-disaster early recovery/long-term recovery concepts, principles and processes and IFRC approaches, tools and processes in recovery programming. The participants will be able to discuss and share from their experience and knowledge – considerations, practices and lessons in recent programming.

Session Plan:

Time	Topic	Methodology
45 minutes	What is Health in recovery programming?	Classroom training, Q&A and Case scenario discussions.

Tools and Resources required:

Power Point Presentation, Flipcharts, Markers and Chart Stands

Key Messages:

1. A key principle in post-emergency health recovery is to strengthen communities.
2. Recovery is carried out in such a way so as to rebuild more inclusive societies and reduce vulnerabilities to future health crisis.
3. Ensure early recovery interventions integrated with health are started quickly and provide continuity.

Content:

A key principle in post-emergency health recovery is to strengthen communities to mitigate, prepare for, respond to and recover from the impacts of a disaster, in a way which leaves communities less at risk than before. Based on the definition of resilience being the human capacity to face, overcome, and even be strengthened by the adversities of life, post-disaster recovery and rehabilitation is closely linked to building such self-reliance and that health has to be at the centre of these efforts.

Clear mandate from Strategy 2020 mentions:

“Our recovery assistance aims to prevent further damage and loss, repair essential services, protect health, provide PSP, restore livelihoods, and enhance food security.

Recovery is carried out in such a way so as to rebuild more inclusive societies and reduce vulnerabilities to future disasters. Thus, recovering communities are made safer than before. Capacity building of volunteers through training in Public Health in Emergencies, International Federation disaster response systems, and operational strategies and tools, are key to addressing the needs of victims of disasters and health emergencies and to being

better prepared. Increased Public Health in Emergencies capacity at local level achieves timely, gendered and well-targeted health response.

Donors expect recovery to be more efficient, more effective, more participatory, more integrated, than just relief efforts as other stakeholders have an opportunity to play a greater role, is more transparent and accountable.

RC/RC federation recognizes Health as an inalienable right of all people, cornerstone of human dignity and humanitarian assistance. In its commitment to disaster management and humanitarian assistance IFRC places health as an integral part of all humanitarian work and programs, ensure all health services in disasters take long-term sustainability into consideration, integrate into community-based primary health care.

Some critical areas to focus in Health during early recovery:

- Short term provision of basic health services including hygiene promotion and psychosocial support
- Re-establish access to integrated reproductive health services
- Support food & nutrition assessments and help stabilise nutrition through household food security
- Re-establish sustainable & community based water and sanitation systems and maintenance
- Advocate for rehabilitation of health facilities

Some common challenges:

- National society early recovery programs supported by RCRC partners increasingly include shelter and livelihoods as key components alongside health and WATSAN.
- Emergency appeals and POA describe integrated delivery of early recovery activities. However field delivery often poses a number of challenges.

Group work (form two or three groups and explain the scenario given below)

The purpose of the exercise is to highlight common expectations and challenges of delivering integrated recovery activities in the field. While participants will have a health focus, the exercise looks at the need to carefully join up health programming with other sectors; identifying linkages and overlaps. For instance increased food insecurity will impact on nutrition and overall health. Lack of adequate shelter will worsen a number of health issues, including respiratory tract infections – a chronic ailment.

Overall the exercise should draw out the need for all to think multi sectorally (the reality of most households) to ensure early recovery assistance meets the immediate and prioritized needs of households as quickly and efficiently as possible.

(20 min to review the scenario and prepare their outputs with 25 mins for feedback and Q&A)

Integrating an early recovery post disaster response

Scenario

A cyclone with high winds and heavy rains has caused flash flooding in the north of North of Lesotho, a small mountainous and remote country in southern Africa. The Basotho people lost houses and public amenities including the local health post which provides the only health services in a large area – the closest hospital being over 50 km away. The flash floods struck just before the main maize harvest could be reaped, so much of the community crops were lost effectively prolonging their hungry season. The Lesotho Red Cross has provided some immediate emergency assistance in the days after the disaster, although the remoteness of the area (many communities only reachable by foot or mule) has been a constant challenge.

The national society supported by the Federation is the only humanitarian agency active in this remote area. You have joined the response as an RDRT member for health, but realise that the early recovery activities you have come to support cover a number of sectors, including the urgent need for transitional shelter before the harsh Lesotho winter arrives in two months and the need to re-establish livelihoods (predominantly food production) as food distributions will end shortly. Planting for the winter maize is near and many households no longer have seed. Other needs include the ongoing provision of basic health care with a focus on women and children, and ensuring the availability of clean drinking water as many community water sources were destroyed in the floods. In most cases household latrines remain intact.

Overall, while health issues need attention there are other pressing needs including shelter and food security which also impact on health. As the team leader for planning the early recovery phase you need to;

- Ensure early recovery interventions started quickly and provide continuity with the initial relief activities.
- Interventions meet the varied and immediate needs of the disaster affected communities.
- Make best use of limited resources including trained volunteers, given the remoteness of the areas of operation.

Based on your field experience or expectations;

1. In the scenario above;
 - a. Provide an outline of a broad integrated programme to delivery early recovery activities to the flood affected population. What are the types of interventions proposed, how are they connected and mutually supportive, and how might these best be delivered given the constraints outlined?
 - b. What might be the challenges is delivery these early recovery responses and how could these be best overcome?

2. From this scenario and your own experience of post disaster health interventions;
 - What are the key elements of integrated early recovery programming between health and other sectors (WATSAN, shelter, livelihoods) you see as absolutely necessary to ensure an efficient and effective RC response
3. When looking at all sectors in an early recovery response, based on your own experience;
 - What actions and steps have successfully led to good integrated or joined up planning and delivery of different sector activities in a disaster response?
 - What advice/recommendations would you give to better allow for future integrated post disaster responses?

Materials available for this session:

5. Health in early recovery.pptx