Carrier and Its Type

A carrier is an infected person or animal who does not have apparent clinical disease but is a potential source of infection to others.

- 1.According to the spectrum of infection:
- **a. Healthy or asymptomatic carriers:** These are persons whose infection remains unapparent. For example, in poliovirus, meningococcus and hepatitis virus infections,
- there is a high carrier rate.
- **b. Incubatory or precocious carriers:** These are individuals or persons who excrete the pathogen during the incubation period (i.e. before the onset of symptoms or
- before the characteristic features of the disease are manifested). **E.g.** Measles, mumps, chickenpox and hepatitis.

- **c. Convalescent Carriers:** Are those who continue to harbor the infective agent after recovering from the illness. **E.g.** Diphtheria, Hepatitis B virus.
- **d. Chronic Carriers:** The carrier state persists for a long period of time. **E.g.** Typhoid fever, Hepatitis B virus infection

:According to the infectivity of the carrier.2

- A .**Transient infectivity** :all incubatory carriers are transient except of Hepatitis ,the virus is found in blood excreted in feces..in the last week of incubation period B&C hepatitis..infectious in the last week of I.P.(6 weeks-6 months),B&C up to20 or more months. AIDS ,the infected person is infectious during the long I.P. of latent infection (6 months to 7 .years or more)

:b. Temporary infectivity

- .for few weeks or some months
- Healthy carriers are infectious for around 2- .weeks except HBV
- Contact carriers are infectious for around 2- .weeks
- Convalescent carriers : the majority of enteric- carriers ,all poliomyelitis & diphtheria carriers & .almost all shigellosis carriers

: c. chronic infectivity

- . for years , lifelong
- .Incubatory carriers of AIDS-
- .Healthy carriers of HB-
- convalescent carriers of :minor percentage of-enteric convalescent carriers, Hepatitis B infectious for years or long life 5-10%. ,Eltor .cholera
- **Note:** the person who harbor & excrete the microorganism for his whole life e.g. rare cases of typhoid fever (more than 40 years) called .**permanent infectivity**

According to the site or the habitat of the.3 :microorganism inside the body

- .Nasal carrier :e.g. strept. & staph. Infections-

- .Urinary carrier : schist. heamatobium-
- .Fecal carrier :cholera(intestinal)-
- .Skin carrier :scabies ,staph. aurous-
- **Note:** typhoid carrier is a good example of .both intestinal (fecal)&urinary carrier

Control of Communicable Diseases in Emergencies

?What is needed during an emergency •

Provision of shelter,water,sanitation,food and • basic health care are the most effective means of protecting health of those affected by .emergencies

A systematic approach to control of • communicable diseases is a key component of humanitarian response and crucial for the .protection of the health of the population

Fundamental principles of Control of Communicable Diseases

- Rapid Assessment
- Prevention
- Surveillance
- Outbreak Control
- Disease Management

Rapid Health Assessment

: The objectives should be

To assess the extent of the emergency and the.1 threat of communicable diseases in the population

To define the type and size of interventions and.2 priority activities

To plan the implementation of these activities.3

To provide information to international.4 community,donors and the media to mobilize .resources both human and financial

Prevention

- Communicable diseases can be prevented by appropriate preventive measures which include:
  - Good site planning.1
  - Provision of basic clinical services.2
  - Provision of appropriate shelter.3
  - Clean water supply.4
  - Sanitation.5
  - Mass vaccination against specific diseases.6
  - Regular and sufficient food supply.7
  - Control of vectors.8

Surveillance

- Surveillance is the ongoing systematic collection,analysis and interpretation of data in order to plan, implement and evaluate .public health intervention

- Surveillance system should be simple, flexible,acceptable and situation specific

Objectives of a surveillance system in an emergency

Identify public health priorities.1

Monitor the severity of an emergency by.2 collecting and analyzing mortality and morbidity data

Detect outbreaks and monitor response.3

Monitor trends in incidence and case fatality from.4 major diseases

Provide information to ministry of health,donors.5 to assist in health programme planning, .implementation and resource mobilization

Outbreak Control

- An outbreak is occurrence of a number of cases of a disease that is unusually large or unexpected for a given place and time.
- Outbreaks and epidemics refer to the one and same thing.
- Outbreaks in emergency situations can spread rapidly giving rise to high morbidity and mortality rates.
- Aim should be to detect and control the outbreak as early as possible.

Major diseases with epidemic potential in emergency situation

- Cholera
- Meningococcal disease
- Measles
- Shigellosis

In certain areas the following diseases have to be ,included: malaria, louse borne typhus, yellow fever trypanosomiasis, leishmaniasis,viral hemorrhagic .fever,relapsing fever, typhoid and hepatitis A and E

Preparation for the outbreak

- Health coordination meetings
- Strong surveillance system
- Outbreak response plan for each disease
- Stocks of iv fluids, antibiotics and vaccines
- Plans for isolation wards
- Laboratory support

Detection of outbreak

- Surveillance system with early warning system for epidemic prone diseases.
- Inform ministry of health and WHO in case of outbreaks of specific diseases.
- Take appropriate specimens (stool, CSF or serum) for laboratory confirmation.
- Include case in the weekly report.

Response to the outbreak

- Confirm the outbreak
- Activate the outbreak control team
- Investigate the outbreak
- Control the outbreak

Evaluation

- Assess appropriateness and effectiveness of containment measures.

- Assess timeliness of outbreak detection and response.

- Change public health policy if indicated.

- Write and disseminate outbreak report.