

## AN OVERVIEW OF HOSPITAL INFECTION CONTROL PROGRAM

Each hospital needs to develop a program for the implementation of good infection control practices and to ensure the well being of both patients and staff by preventing and controlling Hospital Acquired Infection (HAI). This overview has been abbreviated from WHO guidelines for hospital infection control.

### AIM

Prevention and Control of Hospital Acquired Infections

### OBJECTIVES OF THE INFECTION CONTROL PROGRAM

- Monitoring of hospital-associated infections;
- Training of staff in prevention and control of HAI;
- Investigation of outbreaks;
- Controlling the outbreak by rectification of technical lapses, if any;
- Monitoring of staff health to prevent staff to patient and patient to staff spread of infection;
- Advice on isolation procedures and infection control measures;
- Infection control audit including inspection of waste disposal, laundry and kitchen, and
- Monitoring and advice on the safe use of antibiotics.

### RESPONSIBILITY OF HOSPITAL ADMINISTRATOR / MANAGEMENT

- The hospital administrator/head of hospital should:
- Provide the funds and resources for infection control program;
  - Ensure a safe and clean environment;
  - Ensure the availability of safe food and drinking water;
  - Ensure the availability of sterile supplies and material, and
  - Establish infection control organizations for the hospital.

### INFECTION CONTROL ORGANIZATIONS IN A HOSPITAL

Infection control organizations are essential features of an infection control program. These organizations are:

#### 1. Infection Control Committee (ICC)

Representatives of medical, nursing, engineering, administrative, pharmacy, CSSD and microbiology departments are the members. The committee formulates the policies for the prevention and control of infection. One member of the committee is elected chairperson and has direct access to the head of the hospital administration. The infection control officer is the member secretary. The committee meets regularly and not less than three times a year.

#### 2. Infection Control Team (ICT)

Members are the people who undertake the day to day measures for the control of infection. One team is formed for each location with Clinician, Nursing supervisor and housekeeping staff.

#### 3. Infection Control Officer (ICO)

The Infection Control Officer is usually a medical microbiologist or any other physician with an interest in hospital associated infections.

#### Functions

1. Secretary of Infection Control Committee and responsible for recording minutes and arranging meetings;
2. Consultant member of ICC and leader of ICT;
3. Identification and reporting of pathogens and their antibiotic sensitivity;
4. Regular analysis and dissemination of antibiotic resistance data, emerging pathogens and unusual laboratory findings;
5. Initiating surveillance of hospital infections and detection of outbreaks;
6. Investigation of outbreaks, and
7. Training and education in infection control procedures and practice.

#### 4. Infection Control Nurse (ICN)

A senior nursing sister should be appointed full-time for this position. Adequate full-time or part-time nursing staff should be provided to support the program. The ICNs should be trained in basic microbiologic techniques.

### **Functions**

1. To liaise between microbiology department and clinical departments for detection and control of HAI;
2. To collaborate with the ICO on surveillance of infection and detection of outbreaks;
3. To collect specimens and preliminary processing;
4. Training and education of other health care personal under the supervision of ICO, and
5. To increase awareness among patients and visitors about infection control.
6. To maintain a database of all infections in the hospital.

### **5. Infection Control Manual (ICM)**

It is recommended that each hospital develops its own infection control manual based upon existing documents but modified, for local circumstances and risks.

## **ROLE OF THE MICROBIOLOGY LABORATORY**

The microbiology laboratory has a pivotal role in the control of hospital associated infections. The microbiologist is usually the Infection Control Officer. The role of the department in the HAI control program includes:

I. Identification of pathogens - the laboratory should be capable of identifying the common bacteria to the species level;

II. Provision of advice on antimicrobial therapy;

III. Provision of advice on specimen collection and transport;

IV. Provision of information on antimicrobial susceptibility of common pathogens, and

V. Periodic reporting of hospital infection data and antimicrobial resistance pattern - The periodic reporting of such data is an important service provided by the microbiology department. The frequency of this should be as determined by the ICC.

VI. Identification of sources and mode of transmission of infection - Culture of carriers and environment for identifying the source of the organism causing infection (outbreak organism). The selection of sites for culture depends upon the known epidemiology and survival characteristics of the organism;

VII. Epidemiological typing of the isolates from cases, carriers and environment;

VIII. Microbiological testing of hospital personnel and / or environment - Testing for potential carriers of epidemiologically significant organisms. As a part of the infection control program, the microbiology laboratory at times may need to culture potential environmental and personnel sources of nosocomial infections. Usually this is limited to outbreak situation when the source and method of transmission needs to be identified. Routine microbiological sampling and testing is not recommended;

IX. Provide support for sterilization and disinfection in the hospital including biological monitoring of sterilization.

X. Provide facilities for microbiological testing of hospital materials when considered necessary. These may include: sampling of infant feeds; monitoring of blood products and dialysis fluids; quality control sampling of disinfected equipment; additional sterility testing of commercially sterilized equipment is not recommended;

## **INFECTION CONTROL TRAINING PROGRAM**

Provide training for personnel involved in infection control -This forms an important part of the Infection Control Program. Each hospital should develop an employee training program.

Different categories of staff should be targeted through this program training relevant to their functions.

The Infection Control Nurse plays a major part in training and education.

The aim of the training program is to thoroughly orient all hospital personnel to the nature of HAI and to ways of prevention and treatment.

As the various hospital employees have different functions and their level of education is different, the training program needs to be altered to suit the functional requirements of each category of staff and should be adapted accordingly.

Training should be preceded by a needs assessment survey. The training program should include the following:

- Basic concepts of infection;
- Hazards associated with their particular category of work.;
- Acceptance of their personal responsibility and role in the control of hospital infection;
- Methods to prevent the transmission of infection in the hospital, and
- Safe work practice.

Training should provide the information needed to modify staff behaviour. Innovative techniques such as role-play, problem solving, quiz competitions and poster making etc should be employed.

The ICC should agree to the level and frequency of training.