

Role of Infection control Nurse in the Surveillance of Nosocomial Infections

Infection control Surveillant - Mrs. Shweta Ghag

Introduction

Hospitals in the developing world lack an awareness of infection control programmes and also proper documentation methods of various infections, making it very difficult to investigate the spread of infections (epidemics). Therefore, establishment of an infection control team comprising infection control doctor and infection control Nurse, is essential.

One of the most important responsibilities of the infection control team is to establish a system for case finding and to initiate the maintenance of baseline infection rate for entire hospital to control nosocomial infections.

Infection control Nurse plays an important role in assessment of the hospital infection rate with the help of surveillance. She collaborates with medical and nursing staff to investigate the spread of infection. She carries out surveillance of nosocomial infections and provides relevant information. She identifies problems related to infection and reports to infection control committee and management. In order to do so, she needs to know about surveillance and its methods. She has to develop appropriate methods of surveillance for her institute so that errors can be minimised and accurate data collection and calculation of infection rates can be done.

DEFINITION:

1. Surveillance is defined as the continuing scrutiny of all aspects

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[at the time of writing this article].

of occurrence and spread of a disease that are pertinent to effective control.

2. Surveillance is defined as "the ongoing systematic, collection, analysis and interpretation of health data essential to planning, implementation and evaluation of public health practice closely integrated with timely dissemination of this data to those who need to know".

Surveillance means to watch over with great attention, authority and often with suspicion.

The main objectives of surveillance are:

1. To recognize any unusual level of incidence or outbreak
2. To judge the desirability of introducing special control measures
3. To assess the efficiency of regular preventive measures.
4. To provide feedback.
5. To reduce the level of avoidable infection.
6. To establish endemic baseline data.
7. To identify high- risk patients.

Methods of Surveillance

1. Lab record scrutiny - This can be done daily by any lab technician or infection control surveillance or Nurse. This involves analysis of lab reports of culture and sensitivity. In this way outbreaks and cross infections can be identified.

Advantage : Simple method.

Additional personnel not needed.

Additional recording method not

needed.

Disadvantage: Incidence of clinical infection cannot be calculated.

Depends upon bacteriological samples from all suspected cases of infection.

2. Assessment of laboratory records and routine visit to the wards

– Infection control Nurse examines lab reports daily and, discusses it with microbiology lab technician or infection control doctor, then she visits infected patients and gathers necessary information. She determines hospital acquired infection and community acquired infection. She encourages the ward staff to report to her or to send samples from all patients with suspected infection.

3. Other methods of Surveillance:

- a. **Daily visit to all wards and units-** Infection control Nurse has to visit all the wards daily or several times a week and examine all records of all clinical infection.

Disadvantage: Continuous clinical surveillance of all patients is not possible in a big hospital.

- b. Prevalence survey and incidence survey. Not ideally used method since high chances of errors.

For the selection of the most appropriate surveillance method, three important factors have to be considered.

1. The time effectiveness of the methods.
2. The accuracy of data.
3. Cooperation with the personnel.

Following Nosocomial Infection Rates are necessary for records.



1. Surgical wound infection - In this Rates of clean as well as clean contaminated wounds are considered.
2. Intravascular catheter infection. This is assessed by checking bacterial colony count of intravascular catheters sent for culture. Catheters showing more than 15 colonies are to be considered and related clinically.
3. Urinary catheter infection.
4. Respiratory tract infection.
5. Secondary bacteremia.

The following surveillance is done regularly by Infection Control Surveillant. 1 Central line 2. Foleys Catheter. 3. Peripheral line 4. Waste segregation.

-Incidence of various nosocomial infections in the year 1999 in P.D. Hinduja National Hospital, Mahim Mumbai.

1. Post-operative wound infection rate - 1% -3%
2. Central line infection rate -2% -5%
3. Urinary catheter infection rate -1% -4%

Due to high post operative wound infection rate.

Some of the protocols for skin preparation prior to surgery were

suggested:

1. Prior to surgery and on the day of surgery, patient should bathe twice with 4 % chlorhexadine solution.
2. Chlorhexadine solution should be allowed to remain on the skin for atleast ten minutes and then washed off.
3. Hair removal with clippers.
4. MRSA screening of the patient prior to surgery.

The use of these protocols shows decline in infection rate.

Due to high central line infection rate

1. Close supervision while inserting central venous catheter.
2. Skin preparation with chlorhexadine solution.
3. Bacterial filter (Bionectar) to be put on each lumen of central venous catheter.
4. Colony count of each central line tip which is coming for culture/ sensitivity to microbiology laboratory.

The use of these protocols shows decline in the infection rate.

Foleys catheter

Following activities were closely observed by ICN and spot surveillance was carried out.

1. Foleys catheter to be dated and changed after every 14 days.
2. Urosac to be dated and changed every 7 days.
3. To prevent urosac touching the ground.
4. To check for the presence of Spigott.
5. To prevent Urosac spigott touching unsterile area.
6. To prevent backflow while mobilising the patient

REFERENCES:

1. Alyiffe G.A J. (1993), Control of Hospital Infection (3rd edition) Chapman and Hall Publication, Ch-3; pp. 32—34.
2. Bannet J. (1998). Hospital infections (4th edition); Lippincott-Raven Publications, Ch-1; PP 65-83
3. Barbara m.s. (1995) Infection and Nursing Practice (1st edition); Mosby Publication, Ch-2; pp 193-195.

Articles:

1. Eveline L.P.E. (MAY 2000). An operating surveillance system of surgical site infection' Journal of Infection control and hospital epidemiology, Vol-21, NO, 5 pp 311-317.
2. Petra G., Sohr. D. (2000). How to survey nosocomial infection Journal of Infection control and Hospital epidemiology, vol-21, NO. 6 pp 366-370.



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