COMPLIANCE WITH INFECTION CONTROL PRACTICES IN OPERATION THEATRE COMPLEX OF MSSH, SAKET

INTRODUCTION

Healthcare- Associated infection (HCAI) is one of the most common complications of health care management. It is a serious health hazard threatening the health and safety of patients and medical staff worldwide. These infections affect the quality of care as it leads to increased patients morbidity and mortality, length of hospital stay and the cost associated with hospital stay. Effective infection prevention and control is central to providing high quality health care to patients and a safe working environment for staff. This can be achieved by implementing good infection control programme. The centre for disease prevention and control recommended that educating health personnel regarding infection control is the highest priority to prevent and control HAI in OT.

OT is one of the "hot zones "of hospital for the emergence and spread of microbial infection. Good infection prevention and control is essential to ensure that patients who undergo any surgical procedure within the operation theatre receive safe and effective care. Zoning of OT essential as it helps in maintain varying degree of cleanliness, in which bacteriological count diminishes from outer to inner zone of OT. The flow of patients, staff & materials should be considered during all the stages of design.

A study revealed that the operation theatre should provide a place in which surgical procedure can be undertaken with maximal safety to the patient. Safe working practices must be followed for all patients regardless of known or suspected infection. The principle upon which this practice is based is that of

- Standard precautions :

1. Hand hygiene
2. Personal protective equipment
3. Aseptic technique
4. Environment cleaning and spill management
5. Prevention of needle stick/sharp injuries
6. Engineering Control
7. Waste management

- Universal Precautions:

Spill management of blood and body fluids Blood and body fluids of all patients must be considered potentially hazardous for blood borne viruses Every procedure carried out in the operating department should be assessed in terms of blood/body fluid loss and precautions taken accordingly.

- CDC Recommendations for Surgical Site Infection

OBJECTIVE OF THE STUDY

- To measure the present practices
- To compare it against standards
- To identify the potential gaps by analyzing the current practices with the desired hospital OT infection control guidelines

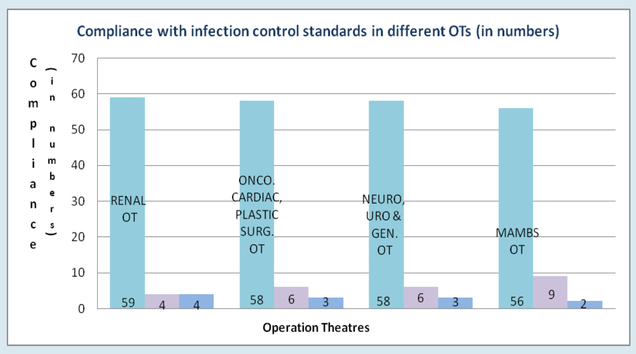
METHODS

The tool used for the assessment is checklist which recorded response in the form of 'Yes' or 'No' format. The checklist includes Standard Precautions, Universal precautions and CDC recommendations. Observations were carried out during working hours, randomly 3-4 staff were selected and observed. At the end of the surgical procedure housekeeping procedure were observed. To avoid study bias healthcare personnel were not informed that they were being monitored. Adhere to the Hospital Infection Control Guidelines in OT were assessed through the evaluation of quantitative data obtained from checklist. The greater the number of 'Yes', higher the compliance with (adherence to) OT infection control Guidelines. Although 100% adherence to the OT hospital infection control guidelines would be idealistic that would not be possible in real.

- **Research Design:** The research design adopted for study will be Descriptive study design.
- **Setting:** Setting of study will be in MSSH, Saket
- **Duration of study:** The project timeline consists of 1 month period.
- **Data Collection Tool:** Primary Data: Checklist
  Secondary Data: Publications, Journals, Guidelines, Literatures, Previous Records

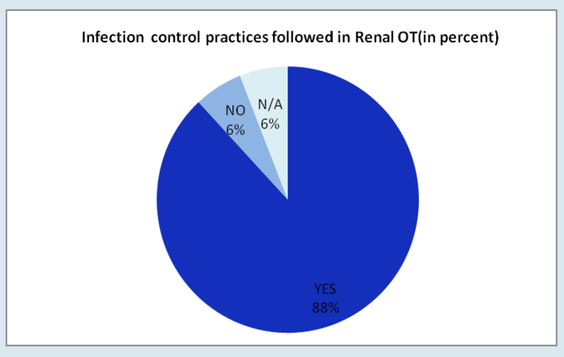
RESULT AND ANALYSIS

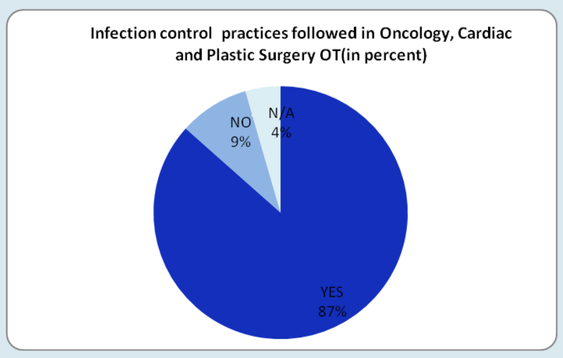
INTERFERENCE: Graph 1 shows that all the OTs have more than 80% compliance with OT infection control guidelines, but among them Renal OT (Minor) has the highest and the MAMBS OT has the lowest compliance with OT infection control guidelines.



INTERFERENCE: Graph 2 shows that 88% (59/67) practices compliance with hospital infection control guidelines, 6 %(4/67) of the practices are not followed upto the mark as per the standard of hospital infection control policies, rest 6 %(4/67) is not applicable to Minor OT (Renal OT).

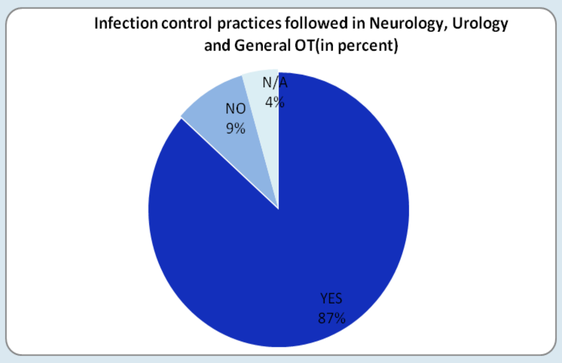
INTERFERENCE: Graph 3 shows that 87% (58/67) of the practices compliance with hospital infection control guidelines, 9 %(6/67) of the practices are not followed up to the mark as per the standard of hospital infection control policies, rest 4 %(3/67) is not applicable to
Oncology, Cardiac and Plastic Surgery OT.



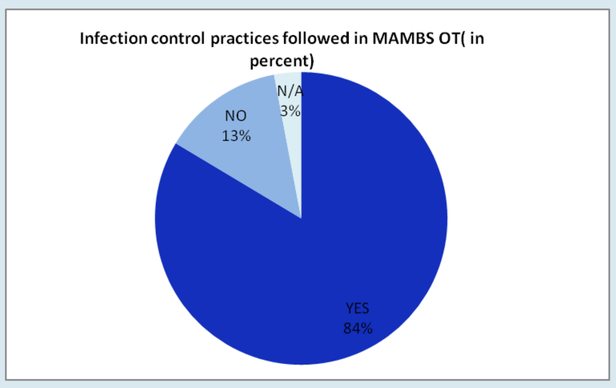


RESULT AND ANALYSIS

INTERFERENCE: Graph 4 shows that 87% (58/67) of the practices compliance with hospital infection control guidelines, 9 %(6/67) of the practices are not followed up to the mark as per the standard of hospital infection control policies, rest 4 %(3/67) is not applicable to Neurology, Urology and General OT.



INTERFERENCE: Graph 5 shows that 84% (56/67) of the practices compliance with hospital infection control guidelines, 13 %(9/67) of the practices are not followed up to the mark, as per the standard of hospital infection control policies, rest 3 %(2/67) is not applicable to MAMBS OT.



OBSERVATION

Few gaps were found between desired and existing standards in operation theatre which are enlisted below.

- Pre and post- operative area are not located separately.
- Except for Neurology, Urology and General surgery OTs rest OTs don't have TSSU.
- It has been observed that in one of the Oncology operating room, nurse was not wearing surgical gloves while opening the sterile equipment
- Biomedical waste is not handled properly. The surgical mask and caps in changing room of west block OT are not discarded according to BMW handling policy of hospital. They were discarding in black bins due to small size of red bin, available in changing room of Neurology, Urology and General Surgery OT.
- Presence of washroom inside the clean zone of MAMBS OT.
- Dirt utility area is inside the clean zone- It is in front of the pre and post- operative area of MAMBS OT.
- The trolley containing soiled linen bag is overfilled.
- Soiled (dirty) linen bags carried openly from front of pre- post operative area (clean zone) of OT.
- The staff is moving outside the OT complex wearing scrub suit and scrub shoes.

RECOMMENDATIONS

In view of vital gaps there is an essential requirement to take remedial steps for streamlining the processes as under-

- TSSU inside the theatre gives an add on advantage. Sterile drapes, gloves, gown and other ready to use item are stored in TSSU.
- While handling the sterile equipments aseptic conditions need to be maintained (wearing of gloves by OT staff).
- The waste generated has to be discarded according to hospital biomedical waste handling policy at the point of generation only. Large red color bins has to be provided in spite of small so as to avoid discarding surgical caps and masks into black bins.
- On interviewing staff it has been seen that reason for constructing it inside is, there is a need for patients, who are under observation for a day or night before or after the surgery in pre or post operative area. If there is such need then it has to be constructed in the protective zone. Because construction of it inside the clean zone makes the environment favorable for the colonization of bacteria by increasing humidity and hence increase in the infection rate.
- To decrease the incidence of infection in OT, dirt utility has to be located outside the clean zone of OT, away from the patient care area.
- To avoid the overfilling of bins and trolley (soiled linen), waste has to be removed from OT at frequent intervals.
- The trolley containing waste should be removed from separate corridor and too with covered lids, so that it does not have access to patient care area; otherwise this will lead to increase in the bacteriological count in clean zone.
- While moving out of the OT, it has to be mandatory to change the attire (scrub suit and scrub shoes); else this will carry the dirt and leads to increase the bacteriological count of clean and sterile zone environment of OT.

CONCLUSION

Despite the proven efficacy of infection control practices for preventing and controlling healthcare associated infections inside OT, it has been found that 80% of the practices compliance with the hospital standards. There were some vital gaps identified through study that needs to be filled, so as to maintain the low incidence rate of infection inside the OT complex. The gaps have been seen in compliance with standard precautions like double gloving practiced by staff, use of surgical attire (surgical gloves by nursing staff), management of biomedical waste etc. The relevant authorities and hospital infection control team should pay more attention to compliance with standard precautions. There is a need to strengthen the training for staff regarding the standard precautions.

GUIDED BY: Dr. SEEMA MEHTA
PREPARED BY: AMARJOT KAUR