

INFECTION AWARENESS OF HOSPITAL STAFF OF DR. B.R. AMBEDKAR TEACHING HOSPITAL, TRIPURA MEDICAL COLLEGE, HAPANIA, AGARTALA, TRIPURA

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ABSTRACT

BACKGROUND

The awareness of the hospital staff was the prime focus of study in this private medical college for a period of five years. As the infection related knowledge, awareness and practice are of great importance for desired result, the study was designed to gather significant related information for necessary applicable suggestions and recommendations.

MATERIALS AND METHODS

The staff, the patients, their relatives and various trainee groups were observed, interrogated and related knowledge were studied by questionnaire method for staff in particular.

RESULTS

The results reveal significant infection-related awareness and practice as evidenced by 0 to 1% of secondary infection and 6% infection as a whole.

CONCLUSION

The achievement is visible by way of patient's satisfactions during departure. Evolving minimum modification during registration and adoption of modified reporting system could further improve scenario.

KEYWORDS

Hospital Staff, Infection Awareness, Practice, Nosocomial Infection.

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BACKGROUND

The study was intended to assess the quality of hospital services in relation to awareness of staff. It included the practice of universal precautions to sterilisation, disinfection and disposal including the role of microbiology laboratory in the maintenance of agent and environment under control.

The hospital is a curing center, but can be spreading centre too. The components of infection awareness start from the entry of patients, relatives and the staff on duty at any point of time on everyday basis. The distance between beds, the handling and segregation of reusable and the solid disposed off items, their knowledge and application, play crucial role every hour in the awareness control on spread in the hospital.

The various procedures like collection, cannulisation, catheterisation, extraction, etc. constitute a major bulk of services. These invasive procedures need meticulous care by the knowledge and skill of the concerned staff. Otherwise, it shall certainly spread infection to other patients.

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MATERIALS AND METHODS

Observation, interrogation, questionnaire and time-to-time study of documentation were undertaken on fortnightly basis from 2011-2015 in Dr. BRAM Teaching Hospital of Tripura Medical College.

ANALYSIS AND INTERPRETATION

Various monthly studies on hospital entry showed that 40 to 50% of OPD attendees came with complaints of various infections particularly when acute. Among these, 12 to 18% OPD attendees have tried with self-medication and the rest attended private practitioners, but achieved no result on improvement or cure. The OPD attendees in relation to URI were about 22% and 9% were suffering from lower respiratory complaints. The coughing, sneezing in the registration counter itself is the primary source on spreading infection. Hardly, 2% of attendees used handkerchief, the aware, conscious few out of around 500 entries. Everyday, 25 to 30% were admitted in different wards.

Questionnaire supplied reveal that 85 to 90% answered correctly and few made mistakes in answering. This success was significant as many questions needed in depth knowledge, which they possessed. The language factor was also responsible for many mistakes too.

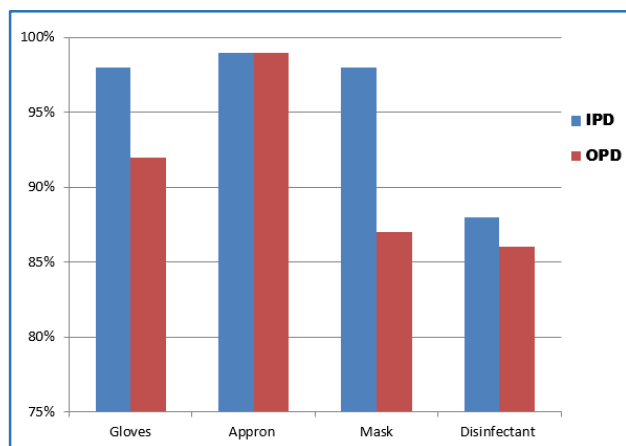
The lacunae in the entire system probably lie in the supply of various safety devices and disinfectants. This insignificant lacuna is not limited to this hospital only.



There has been under-indenting or over-indenting of too many types of materials. The verification and scrutiny confirm that 80% to 85% of each item was supplied by the store department.

The disposed off items were not full proof disinfected. 4% of such items carried risk as was not disposed in proper bag and bucket. At times, even plastic materials like gloves were found near the disposal site, which raise question on hurry during disposal. Liquid wastes were disinfected before disposal.

The projection highlights the use of gloves, apron, mask and disinfectant, which are as below:



INFECTION CONTROL CHECKS

Regularly, on weekly basis, samples were collected from ISSD, IPDs, OTs, ICU, MICU, Labour room and Blood bank. Pre-fumigation and post-fumigation samples of floor, wall, instruments, beds, headlight and dresses were sent in sterile container to the infection control unit of the microbiology department. The pre-fumigation samples of OTs, Dialysis unit, ICUs and Neonatal unit revealed 10 to 15% of contamination. Post-fumigation samples revealed no growth of microbe on every microbial sterility tests. The air sample was collected by the author on monthly basis from different sites, which revealed growth within permissible limit as per microbial growth parameters.

DISCUSSION

Isolation, correct hygiene, gloves and other standard precaution in relation to nosocomial general and special problem group vividly highlighted by Michael B. Edmond and Richard P. Wenzel and there is no substitute to certain basics. The infectiousness of few serious blood borne viral pathogens like HIV, HBV and HBC has been tabled in the NACO's Manual of Hospital Associated Infections.^{1,2,3,4,5}

The importance of lack of awareness in regular day-to-day hospital activities has been stressed by the author.⁶

The invasive procedures of various catheterisation by percutaneous, urinary and intravascular devices demand the skill of the attending staff on catheter management.^{7,8}

The practice of universal precautions for ESKAPE pathogens and related activities have been duly highlighted by Dr. Usha. K. Baveja and Apurba Sastry and Sandhya Bhat K.^{9,10}

An estimated more than 20% of Klebsiella infections were resistance to virtually all modern antibiotics in Brooklyn Hospitals. Acinetobacter is far worse than MRSA as it is evolving and becoming immune to existing antibiotics. Dr. Brad Spellberg, an infectious disease specialist at Harbor-UCLA Medical Center, the author of rising plague, a book on drug-resistant pathogen are serious concern on infection control. So, it is the hour to decide whether safe practice should be the choice.¹¹

According to William A. Rutala and David J. Weber, only two types of medical wastes would require special handling treatment and these are sharps and microbiologic waste. A study, as mentioned in Mendell, demonstrated after comparison between household waste and medical waste that the former contains on average 100 times as many organisms with pathogenic potential.⁸

The skin is unique in the primary defence. Most times, the non-intact skin is taken care of but in extremes of age, diabetes and other metabolic diseases, operative interventions, in certain anatomical abnormalities, the flora of the intact skin can be intruder and may cause profound damage and aggravation of the already existing condition. The flora demand more importance in such situation. The flora of the intestine if unhygienically allowed to enter into the adjacent normal passages can cause serious infection for which the patient had not come to the hospital.

That normal flora bears the potentiality to cause damage is a matter of knowledge towards its realisation. The importance of normal care for infection awareness and control cannot be overlooked and undermined as the flora has been waiting silently in its house for an opportunity to cause attack.

Regular swabs from the hospital for sterility checks by microbiology department can ensure infection control. There seems no substitute to general and disinfectant cleanliness whether it is home or hospital. The staff need to follow few prescribed procedures without imposition of too many restrictions, which might hinder normal functioning of human mind. Agents need to be curbed and environment need to be clean. The host factor, its age and vulnerability is not in the hand of the hospital alone. The areas need to be thoroughly friendly not to spread infection.

Night, as such is a minimum movement and it takes care by its own character except the mosquito menace for which the mosquito net may be the only reachable solution.

CONCLUSION

The infection awareness of staff from the view point of knowledge, attitude and practice are therefore seen as satisfactory in the study. It is equally true that infection of nosocomial nature can be brought down by the concerted team effort, both technical as well as administrative. Still, gaps may remain to some extent in the best of facilities in any healthcare setup, as many categories of staff are engaged. All are not equally involved at any point of time.

Suggestion

The following suggestions may have effect in relation to staff awareness in the hospital.

1. Directive from the administration is important particularly from the Hospital Infection Control Committee (HICC).
2. Administration may ensure supply.
3. Chronic non-follower maybe observed and persuaded.
4. The staff maybe convinced that they buy gloves, masks by themselves for safety if supply is inadequate.
5. The OPD registration should be separate for URI, suspected TB patients in a separate corner.
6. TB OPD should be at a distance.
7. Staff maybe placed on duty for observing, guiding the patients sanding for registration.
8. Preventive steps need to be implemented and monitored. Otherwise, patients, relatives, staff and students group instead of caring and curing paints would facilitate spread of infection as well as be infected.
9. Preaching and practicing should narrow down. Normally and naturally existing gap shall always widen if narrowing formulas are neglected and ignored.
10. Callous attitude and approach should narrow down irrespective of post and position.
11. Non-use behaviour of protective devices is highly contagious to others. Aim of staff should be self-safety, cross safety from entry on-words.
12. A reporting system may be introduced.

Reporting System for the Hospital**Weekly**

Active surveillance - by the assigned supervisory staff - asking the staff whether they possess the devices and seeing them utilise.

Fortnightly

Passive surveillance - by the assigned staff who report after observation on whether the staff adopt the devices regularly.

Monthly

Special surveillance by designated HICC staff - sudden visit for inspection to special selected sites only and to report on quality assurance.

Daily

1. Any history of needle stick injury or any other injury and its follow-up.
2. B.M. W.D. - followed/not followed as per guidelines.

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Questionnaire (Put tick or write wherever necessary,

Time: 30 mts.

Name:.....

Designation:

Department:

Employed Since:

In service Training:

1) Whether puncture proof container used - Yes / No

2) Whether container 3/4th | full - Yes / No

3) Whether sharps protruding out from container - Yes / No

4) Whether recapping of needle syringe done - Yes / No

5) Whether sterilizer available in the department - Yes / No

6) What type of sterilizer -

7) Whether equipment cleaned after use

8) Whether cupboards available for clean instruments - Yes / No

9) Whether soap and water regularly available - Yes / No

10) Whether towels available - Yes / No

11) Whether gloves washed after use - Yes / No

12) Whether gloves, masks, aprons available - Yes , Yes, Yes / No, No, No

13) Whether disinfectant available - Yes / No

14) What type of disinfectant -

15) Whether swabs are collected, sent to Microbiology Deptt. - Yes / No

16) Whether segregation of wastes done - Yes / No

17) Whether wastes sent for deep burial - Yes / No

18) What type of gloves used - Disposable / Auto clavable

19) Where do you dispose gloves - Yes / No

20) Do you disinfect before disposal - Yes / No

21) Is the needle destroyer available - Yes / No

22) Do you report injury in writing - Yes / No

23) Are you vaccinated against Hepatitis B - Yes / No

24) Do you face problem on implementation - Yes / No

25) What type of problem

26) Was the problem solved - Yes / No

Timely supply

Water

Electricity

Lack of staff