

Role of Housekeeping Department and its relationship with Hospital acquired Infections - a Review

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Abstract:

Maintenance of cleanliness and hygiene in hospitals not only effects the hospital environment positively but also improves infection control to a great extent. A clean hospital also enhances the patient perception about the hospital and patient satisfaction. Patient safety aspects are extremely important. So keeping the level of Hospital acquired infections down significantly helps in ensuring patient safety. A dirty and contaminated hospital environment will lead to numerous Hospital acquired Infections. It is here that the housekeeping department of the hospital play a vital role. The maintenance of clean hospital environment is complex compared to other types of cleaning. A well trained, effective and motivated housekeeping personnel equipped with modern cleaning equipments, techniques, chemicals etc are instrumental in reducing Hospital Acquired Infections.

Key Words: Hospital acquired infections, contamination, housekeeping, cleanliness, hygiene, patient safety, patient satisfaction, environment, environment

Introduction:

There is a very popular saying, “Necessity is the mother of invention”. Infection Prevention & control is one of the most important aspects of maintaining patient safety in hospitals but the department or the people who play an instrumental role in maintaining the cleanliness & hygiene of the hospital have been neglected to some extent. The Corona virus global Pandemic has made the entire world aware about the importance of Infection Prevention & control & also the strict adherence of maintaining personal hygiene as well as hygiene of patients .

Keeping the hospital clean is a preventive step to reduce Hospital Acquired infections. However the personnel working in Housekeeping Department are not trained with the modern cleaning technologies & equipments available nor are they adequately paid and mostly they are demoralized.(1)

It is high time now that the hospitals should realize the importance of Housekeeping department & do the needful to get maximum productivity from the housekeeping personnel by first motivating the personnel, ensuring that they are not underpaid & provide the personnel the training of modern sophisticated cleaning technology.(1)

This way the gap between environmental hygiene inside the hospital & the hospital operations management can be reduced.

The first step in this regard will be changing our mindset about Housekeeping personnel. They have to be regarded & respected as Team members of utility services of Hospital without which Hospital operations management will be extremely difficult. For instance, No patient would go to washroom

which is unclean or no patient would like to get admitted and stay in a bed which unkempt & dirty. The diagnostic Labs where every day blood samples, urine stool samples etc are collected & tested every day would come to a standstill if the housekeeping department fail to function.

So considering all these there is an immediate need to lay out standard guidelines for training & mental upliftment of Housekeeping personnel which would be a big step in field of infection prevention & control which in turn would reduce HAI.

Now cleanliness does not mean washing, removing dirt soil etc but total destruction of pathogens making the environment suitable for patient safety.(1)

Bioburden

It is the amount of pathogens mainly Bacteria which are surviving in the environment or any surface as it has not been sterilized ,Sterilised surface or environment means that it is completely devoid of microorganisms & spores as all the microorganisms have been destroyed as a process of sterilization.

Maintenance of Cleanliness in Hospitals

The hospital is a complex structure hence maintaining the cleanliness & hygiene of each & every corner of the hospital i.e complete environment is a complicated procedure. This is mainly because of the presence of different microorganisms most of which are disease-causing in nature.

Five main foundations should be considered for this process which can be known as TECPA

T Team The workforce who are responsible for cleaning,disinfecting & sterilizing the entire hospital		
E	Environment	The specific /general area of hospital to be cleaned
C	Cleaning Material	The detergent or disinfectant required for cleaning & disinfecting
P	Process	The technique which will be utilized to clean & disinfect by the staff
A	Apparatus	The machine or technology which will be used by the staff for cleaning the hospital

Chart 1

If any of the five above mentioned foundations is missing or not being implemented upto the required level, the cleaning & disinfection process of the hospital remains incomplete.

Nowadays with increased use of antibiotics, there has a gradual increase in the number of Hospital Acquired Infections being caused by different resistant strains like Enterococci which is resistant to vancomycin, Staphylococcus aureus resistant to methicillin, Gram negative bacteria which are resistant to multiple antibiotics, Clostridium difficile etc.(2)

But the positive news is these HAI s caused by the above mentioned microbes can be controlled by cleaning & disinfecting using detergents as well as disinfectants. But to what extent the cleaning process is done by the housekeeping staff is the deciding factor (2).The conventional methods which are followed will not be effective to full extent in the present scenario.(2)

So It is now the correct time to implement TECPA which so that new approaches to the entire housekeeping duties of a hospital can implemented.

Cleaning a hospital is no longer a visual comfort for eyesoothing but is an absolute necessity. Hence it should be compulsory for the Houskeeping personnel to be trained in modern & sophisticated cleaning techniques & making them equipped with all necessary modern cleaning chemicals, disinfectants, automatic dispersing machines etc.

Issues faced by Housekeeping Department

- 1) Literacy level is not high so the capacity to absorb training given related modern technology of cleaning
- 2) Language barrier
- 3) Low remuneration
- 4) Risk of contracting diseases from contamination, infected areas/items etc
- 5) Potential danger from injury ,poisoning or scalding from cleaning fluids & equipments

Manual Cleaning & disinfection Process by Housekeeping personnel

In hospitals, all the departments, office areas, surgical units, wards, washrooms, all surfaces etc in short every nook & cranny of the hospital environment is cleaned & disinfected periodically according to regulations followed by housekeeping personnel. These regulations are fixed beforehand and cleaning schedule is generally implemented every hour, every day, on a weekly basis etc. or whenever a patient has left the hospital after discharge or when a room or a specific area has become dirty.

Some of the factors on the basis of which the general cleaning duties of the housekeeping staff depend are number of people, Patient turnover, the type of patients in clinical units & care given to them and the types of surfaces.

The zones /units where highly aseptic conditions are to maintained such as OT, Emergency Department, ICU,CCU,CSSD ,rigorous cleaning & disinfecting has to be done by housekeeping staff to maintain the highest degree of sterility in these areas.

For the units like Laboratory, On duty Staff rooms, Hospital Kitchens etc also require attention from housekeeping staff as these areas need frequent cleaning also.

The areas which do not demand special attention from the housekeeping staff are staircases, Lobbies, office, waiting rooms, storage ,office, general purpose, entrance areas etc

The OPD being one of the areas which is visited by maximum people needs regular cleaning but there is no requirement of stringent & specialized cleaning processes to carried out by the housekeeping staff.

The most common yet basic essentially required for cleaning by the housekeeping staff are Brooms, moppers, buckets & mugs, brushes, Cleaning dusters & wipes ,scrubbers, vacuum cleaners etc.

Approach of Housekeeping staff in cleaning different types of surfaces

In an hospital, there are two types of surfaces: one is the most Repeated handled & most frequently used for giving patient care services & another is the relatively less handle and not so frequently used for

giving direct patient care. They can be termed as Critical Surface & non critical surfaces respectively (2).

Most Repeated handled & most frequently used for giving patient care services in hospital environment (Critical surfaces)

Switches, buttons ,Handles, Bed controls ,Electrical equipments like Cardiac monitors,X-Ray,USG, ECG etc, computers,IV drip stands, Pressure monitoring cuffs used by doctors& nurses ,telephones etc all fall under this category. As these are frequently touched and used, the chances of contamination due to presence of infectious microorganisms is highly prevalent and there high chances of getting transmitted through hands from person to another.

These surfaces required highly specialized cleaning & disinfection and demands top priority to be given by Housekeeping personnel. These areas have to be first identified and cleaning & disinfection process started subsequently.(2)

Non critical surfaces

Area like floors, furniture, curtains, doors, ceilings & walls,Ventillation components, cupboards etc fall under non critical surfaces .

Ideal cleaning practices to be followed by Housekeeping personnel

Preparation

- 1) Gloves ,mask, Apron, caps etc should be worn by all the housekeeping staff while cleaning(3)
- 2) Before entering a room for cleaning, all cleaning materials ,equipments etc should be assembled
- 3) The instructions given on the labels of the cleaning fluid etc should be properly followed so that the appropriate concentration is used for cleaning & disinfecting.
- 4) It should be checked that all the cleaning apparatus etc should be themselves clean (3)
- 5) Any stacks/heap of items must be removed before cleaning]
- 6) The bed & furniture etc should be first shifted as per the instructions of the coordinator and then cleaning should be done(3)

After preparation, the following Cleaning practices should be followed:

- 1) Cleaning should always be started from less dirty areas and then move on to more dirty areas in case like in case of OT from cleanest i.e inner zone to outer zone ,i.e should be unidirectional in nature.
- 2) The High level surfaces should be cleaned first & then proceeded to low level surfaces
- 3) Before starting of actual cleaning & disinfection, any visible lump of dirt should be first removed
- 4) While dusting preferably dust control mops should be used instead of brooms so that dust does not blow off everywhere as it may contain pathogens.
- 5) Before using damp mops first dusting and cleaning should have been done in a dry state
- 6) The mop should always be put under running water and then wet mopping of the hospital should be done (3)

- 7) The mops should be dipped only once in the cleaning liquid concentration prepared otherwise the cleaning liquid might get contaminated.
- 8) Cleaning solution should be changed after cleaning a particular area before proceeding on to the next area.
- 9) The areas which are having chances of high contamination or after cleaning any kind of body fluids ,the cleaning solution & the mops should be changed.
- 10) In case, any sharp object or needle is observed, it should be immediately handled safely and disposed off into a container labelled for sharp biomedical wastes.
- 11) Hands should be washed with soap & water properly .after cleaning.
- 12) The beds & furniture should be cleaned with a separate duster along with sparing of a antimicrobial/sanitizer solution
- 13) It should be checked that thorough cleaning & disinfection of the area as well as the door knobs, handles ,bolts etc has been done
- 14) Finally the housekeeping staff should ensure that all the cleaning tools, apparatus etc should be first themselves cleaned & sanitized using a antimicrobial/sanitizer solution

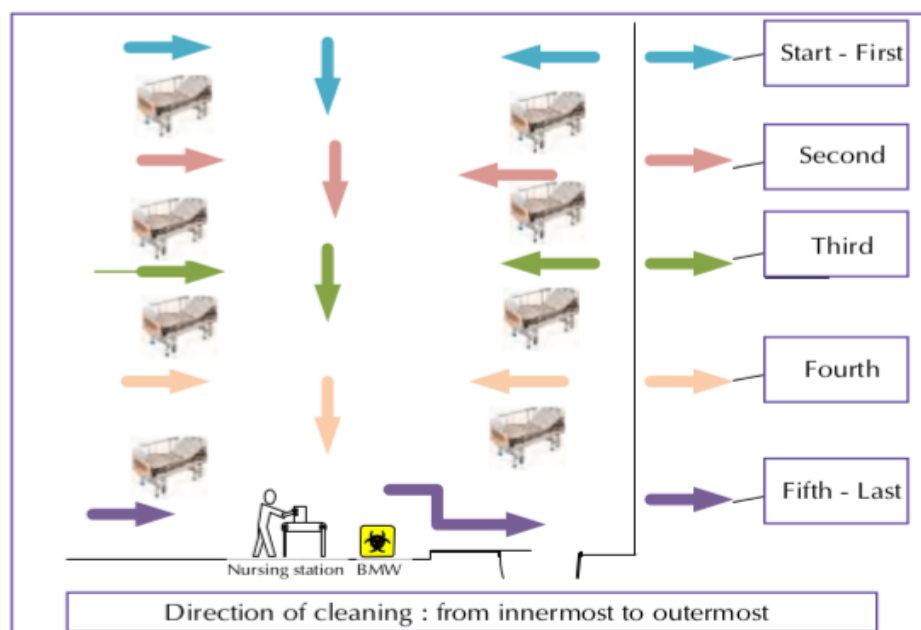


Figure 1: Cleaning techniques to be followed by Housekeeping staff of hospitals Source: Vikaspedia, Swaccha Bharat Abhiyan Guidelines for Public Health facilities, Method of cleaning of hospitals

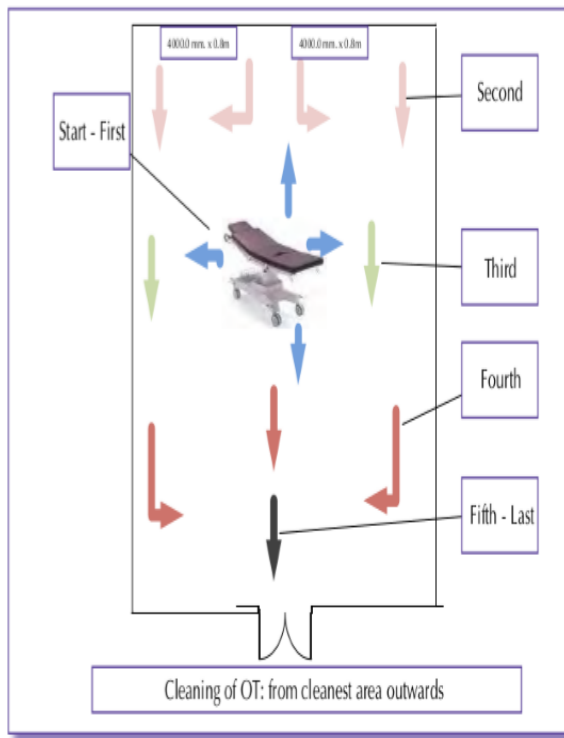


Figure 2: Cleaning of OT Zones in a unidirectional manner, Source: Vikaspedia, Swaccha Bharat Abhiyan Guidelines for Public Health facilities, Method of cleaning of hospitals

Post Cleaning measures

- 1) The housekeeping staff should take off their cleaning gears/gowns and immediately wash them off
- 2) The gloves masks, caps etc all should be washed off.
- 3) It is advisable to have separate bath facilities for the housekeeping staff so that they can wash and take bath and change and leave the hospital to avoid the risk of contracting & transmitting any infectious diseases.



Hospital Housekeeping: Emerging Issues and Future Dimensions

Figure 3: Housekeeping techniques & apparatus in the hospital to reduce Hospital acquired Infection(HAI), Source: Hospital Housekeeping: Emerging Issues and Future Dimensions, ResearchGate

Recommendations

For Manual cleaning

A triple bucket system can be used as having 3 separate mops is not practically feasible. The first bucket can have the water with cleaning detergent/chemical. The mop can be dipped in this bucket. The second bucket can have simple clean water where the mop can be dipped for rinsing and the third bucket may have an antimicrobial disinfectant solution concentrate where the mop after rinsing in the second bucket can be dipped for mopping. This way both cleaning & disinfection can be done simultaneously. The three bucket should be of different colours each so that they can be identified at one glance by the housekeeping personnel. The critical & non critical areas can be separately tagged using different colours immediately giving a clear idea to the housekeeping personnel as to what separate attention is needed.

As the housekeeping staff are generally demotivated, to boost their morale as well as increase their efficiency level, a star badge system can be implemented by the HR Department. The housekeeping staff who perform their duties well can be given a star badge to be pinned on to their uniforms.

For automated cleaning systems

- 1) Systems dispersing Hydrogen Peroxide can be used for disinfection. Using such systems would not require highly sophisticated training like using UV systems so all housekeeping staff can easily use them with just basic training
- 2) TECPA needs to be followed at each step

Conclusion

Hospital being a very complex system is an extremely sensitive place where most vulnerable populations are present. So keeping the hospital clean is extremely essential for ensuring patient safety as well as staff safety. So it is high time that all hospitals should realise the importance of housekeeping staff and not just treat them as “Cleaners” but an essential part of the hospital operations management team. The housekeeping staff should never be degraded and considered as an essential utility team. An efficient supervisor/coordinator of the housekeeping department should be present who will ensure that the duties and responsibilities of the housekeeping department are fully realised. The housekeeping staff also should understand that they play an important role in infection prevention & control in the hospital & do their duties responsibly as per standard rules & procedures. Automatically as a result of this, the level of Hospital Acquired Infections (HAI) will decrease significantly.

The hospital can function smoothly only when all its departments execute their responsibilities properly.

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