Compliance of Outsourced Housekeeping Workers with the SOP's of Cleaning Processes and their Awareness about the Various Infection Prevention Measures in ICU

Internship Training
at
Medanta- The Medicity

By
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TO WHOMSOEVER MAY CONCERN

This is to certify that Dr. Ramandeep Kaur student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from Institute of Health Management Research, Jaipur has undergone internship training at Medanta-The Medicity from February 1, 2014 to April 30, 2014.

The Candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish her all success in all his future endeavors.

Dr. Ashok Kaushik
Dean, Academics and Student Affairs
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Prof. Alok Mathur
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Global Health
Private Ltd.

Date: 20th May 2014

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This is to certify that **Dr. Ramandeep Kaur** student of **IIHMR, Jaipur** has done her 3 months internship in the department of **Medical Administration** and has successfully completed her project on **"Compliance of Outsourced Housekeeping Workers with the SOPs of Cleaning Processes and Their Awareness About The Various Infection Prevention Measures in ICU"** from **1st February 2014** to **30th April 2014** with **Global Health Private Limited (GHPL), Medanta The Medicity Hospital, Gurgaon (Haryana).**

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CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled COMPLIANCE OF OUTSOURCED HOUSEKEEPING WORKERS WITH THE SOP'S OF CLEANING PROCESSES AND THEIR AWARENESS ABOUT VARIOUS INFECTION PREVENTION MEASURES IN ICU and submitted by Dr. Ramandeep Kaur Enrollment No IIHMR/PGDHM/2012-14/17-1362 under the supervision of Prof. Alok Mathur for award of Postgraduate Diploma in Hospital and Health Management of the Institute carried out during the period from February 1, 2014 to April 30, 2014 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Signature: Ramandeep Kaur

Date: 26/5/14

CHAPTERS:

ABSTRACT:

Introduction

Hospital is a place, which renders medical service to the patients. The role of housekeeping in hospitals is to create a peaceful, infection free and pleasant atmosphere required for the speedy recovery of the patients. The control of hospital infections requires team work. Housekeeping services includes activities aimed to maintain a healthy, clean, orderly, safe and pleasant environment by making the maximum use of the facilities of hospitals.

Methodology

The research design used was descriptive type in nature. The compliance and the knowledge of the housekeeping workers was assessed and matched with the current SOPs of cleaning processes. Current SOP's was assessed for any improvement required. This was assessed in a self made excel sheet.

Result

The main issues found were communication and coordination gap, awareness of the housekeeping staff. The housekeeping staff was not found to be compliant with the SOP's as proved by data analysis which indicates different response to same questions asked. There was a mixed response to the questions asked which indicate their non compliance and unawareness of the work they are doing.

Conclusion

The Housekeeping Department in a hospital helps in prevention and minimizing of the effect of the microorganisms in the environment by training its staff on regular basis, along with regular controls of cleanliness and applying the programs declared by the Infection Control Committee. Regular training of the housekeeping staff is must to make them aware of the importance and criticality of work they are doing.

Acknowledgement

“Nothing stops a man who desires to achieve, every obstacles is simply a course to develop his achieve muscle it’s strengthening of his powers accomplishment” Eric Butterworth.

My internship started off with a mission in my mind to be accomplished. And my mentors and guides incorporated this motivation into me. Our long and extended thank you note would start with thanking few but most important people during my three months of internship.

I would also like to acknowledge with much appreciation the crucial role of Dr. Dubey and Dr. Sumana Arora, who gave the permission to do this project in Medanta- The Medicity and trusting my capabilities and inspiring me towards a meaningful learning and directing my thoughts goals and objectives towards the attitude that drives to achieve, exploring profundity and other aspects that one as a novice needs to be acquainted with.

My sincere thanks towards my guide Prof. Alok Mathur for his helpful attitude and valuable suggestions.

I am highly grateful to the staff of the hospital for giving me time in spite of their hectic schedule. Without their active cooperation and participation it would not have been possible to accomplish this task.

Tables and Graphs

Tables and graphs:

Abbreviations:

CDC: Centers for Disease Control and Prevention

GDA: General Duty Assistant

ICU: Intensive care unit

MSRA: methicillin-resistant Staphylococcus aureus

OSHA: Occupational Safety and Health Administration

SARS: Severe acute respiratory syndrome

SOP: Standard operating procedures

List of annexure

Annexure 1: Weekly Schedule for housekeeping staff

Annexure 2: Frequency of Cleaning

Annexure 3: Method of Cleaning and Material used

INTRODUCTION

Nosocomial infections, also known as hospital acquired infections, are a serious and growing problem in hospitals worldwide. Not only are the number of nosocomial infections growing, but also the infections themselves are becoming increasingly more resistant to the antibiotics traditionally used to treat them.

As a result, hospitals and medical facilities are searching all avenues, looking for ways to slow or minimize the spread of infection. One area that has received a considerable amount of attention is hand washing, which has long been recognized as one of the most important factors in reducing the transmission of nosocomial infections. Nevertheless, even where extensive hand-washing procedures have been implemented and followed, nosocomial infections continue to spread.

In a healthcare setting, housekeeping is probably second to hand hygiene in infection control," says David Frank, a cleaning consultant and President of the American Institute of Cleaning Sciences, an organization that establishes standards to improve the cleaning industry's professional performance.

According to Frank, a hospital that pays close attention to the cleanliness of all surfaces—from the floor, up— is a hospital that can reduce nosocomial infections. "Housekeeping, when performed effectively, creates a healthy environment for the patient, visitor, and healthcare worker," he says.

Most hospitals are aware of the impact of nosocomial infections; however some hospital workers are unaware of just how easily germs and bacteria, which spread infectivity, can be transmitted.

For instance, in many hospitals, string mops and buckets are still the most common tools used to clean floors. One problem with this method is that during the cleaning process, the soiled mop is reinserted into the cleaning solution—contaminating the solution. The tainted mop is then used to clean other areas in the hospital, while the user is unaware that they are spreading contamination.

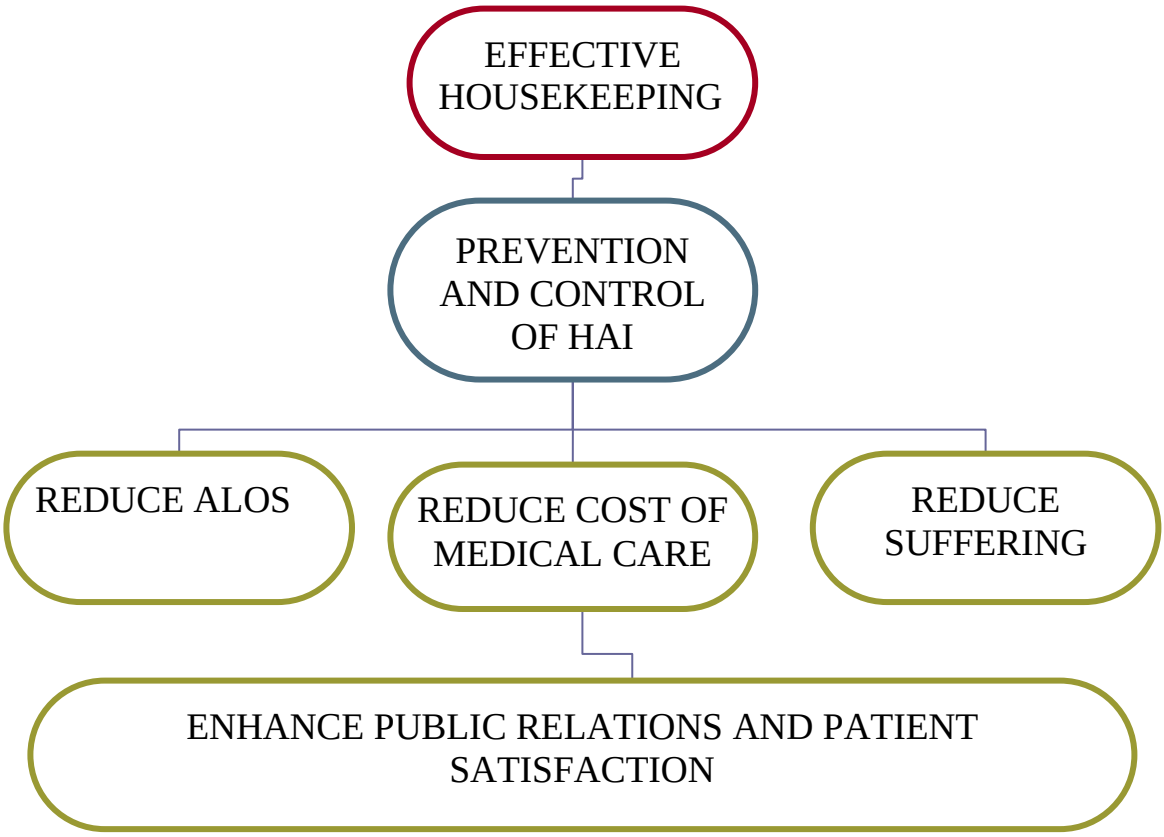
Some medical facilities have started using dual-bucket systems. Dual-buckets have two compartments, one for the cleaning solution, and one for the rinse water. Unfortunately, many users have found that some dual-bucket systems slowly leak, thus contaminating the cleaning solution.

Additionally, just as with a traditional bucket, as soon as the contaminated mop head is placed in the cleaning solution it becomes contaminated—unless the housekeeper allows for adequate dwell time—usually 3 to 10 minutes—which is unlikely in a busy hospital setting. And, the mop head and bucket still might be touched in the changing process, just as with traditional buckets, potentially spreading infection.

Bacteria are able to survive in dust and on bedrails, phones, nurse call buttons, curtains and other surfaces for long periods. Hand hygiene is important for all hospital workers but

without a clean environment, hands will quickly become re-contaminated. Prevention of healthcare associated infections depends on a clean and properly disinfected patient room.

Housekeeping work ultimately related to patient satisfaction as:



In order to reduce the number of infections in the hospital, it is extremely important that housekeepers understand their role, proper cleaning procedures and the soaps or chemical solutions they use for cleaning.

With the advent of privatization of medical care and availability of consumer protection act to hospitals, it becomes legal, moral and economic obligation of hospital to react positively to the demand of consumers. The endeavor should be to

achieve optimal quality in healthcare both in terms of professional competence and expectations of consumers. A good housekeeping is an asset which no hospital can afford to neglect. In a free market economy, the attractivity of the hospital depends to a large extent on the services provided in terms of good physical environment and facilities of personal comfort.

Good housekeeping is an asset and a powerful patient and public relations tool which has a direct bearing on the prestige and reputation of the hospital. Every patient has a right to be protected from the hospital-acquired infections and from germs brought into the environment by other patients, visitors and the hospital staff. The hospital may have the best doctors on its staff 'and the most modern equipment, but if its housekeeping is of poor quality it will overshadow the effect of all other things.

Disinfectant

A disinfectant is a substance that kills microorganisms on inanimate objects.[1] Effectiveness of Disinfectants depends on four factors. [2, 3]

1. Temperature of water: Most effective when the environmental temperature rises. The same can be achieved by mixing it in hot water.
2. Strength of solution: The stronger the solution, the effectiveness of a disinfectant increases in a shorter period.
3. Duration of exposure: The longer a disinfectant remains on the surface the more effective it will be.
4. Cleanliness of surface: The most important thing to remember is that the disinfectant works the best on clean surface.

Although there are wide range of chemical disinfectants in use for hospital purposes for hand washing, part-preparation, etc. this article restricts to four main types of disinfectant used for housekeeping purposes[3,4,5]

- Iodophors: They have iodine bases. They are best germ killers with a low pH. However, they are poor detergents as they act in low pH and stain the surface and they are very costly, so hardly used for disinfecting entire hospital. They are only used as antiseptics for skin.
- Phenolics[4, 5]: They are disinfectants with carbolic acid base. They have better cleaning properties than iodophors. They are irritant and corrosive to skin and mucosa and produce odour.

  Various phenolic disinfectants for environmental use are Stericol, Hycolin, Clearsol, Izal.
- Chlorine releasing agents[4, 5]: They are cheap and effective disinfectants, at low concentration and act by release of available chlorine. They are rapidly effective against viruses, fungi, bacteria and spores. However, since the solution is unstable so has to be prepared daily. It is readily inactivated by organic matters (e.g. pus, dirt, blood, etc.) and damages plastics, rubber, some metals and fabrics. They are not compatible with some detergents and acidic fluids including urine and liberate free chlorine which is harmful in a confined space. It is best for water treatment, toilets, basin, and swampy floors in powder form.
- Quats: They are Quarternary Ammonium Compounds (QACs) e.g. ROCCAL, Zephiran, Marinol, Cetrimide. They are non irritating to skin, non toxic and bacteriostatic in nature[1] It is almost no odourless, rather it is a

deodorant. They work best with pH 9-10 and thus effective disinfectant in combination with detergents. Active ingredients in an Quat Compound includes Alkyl Diethyl Benzyl Ammonium Chloride. Effective against Mycobacterium Tuberculosis[14,15]

In addition to these, there are other types of disinfecting agents viz. alcohols, halogens, peroxides, chlorhexidine (HIBITANT), Chloroxylenols (Dettol) etc. but they are not usually considered for general use in environmental services/housekeeping[3, 6, 7]

2. **Alcohols:** Ethyl alcohol 70 percent and Isopropyl Alcohol 60-70 per cent are effective and rapidly acting disinfectants with antiseptic properties. The additional advantage with alcohol is that they evaporate leaving the surface dry. However, they have poor penetrative powers and should be used only on clean surfaces. They are active against Mycobacterium but not against spores and non-enveloped viruses e.g. poliovirus (which tends to be resistant particularly to isopropanol)[3,8] Alcohol impregnated wipes, may be used for rapid disinfection of smooth clear surfaces, e.g. trolley tops, thermometer, probes, steel tables tops, etc.

   Hydrogen Peroxides

3. **Hydrogen peroxide** 3 per cent or 6 per cent (Virkon) is increasingly assuming a vital role in disinfecting equipment and environmental surfaces in UK because of its Virucidal nature and reduced corrosiveness.
4. **Detergents** are surface-active chemical preparation; capable of emulsifying dirts.[9] Soaps, alkalis and synthetic agents are detergents. They primarily

contain sulfated fatty alcohol and are equally effective in both soft and hard water[9, 10].

Choosing the Right Disinfectant for a Hospital:

A well-chosen disinfectant should have the following properties[11].

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- Perform effectively in hard water
- Be compatible with detergent/soap.
- Remain unaffected by the material in bucket.
- Should be compatible with mop, scrubbing brushes and floor.
- Should not be readily in activated.
- One should prefer bactericidal rather than bacteriostatic disinfectant.

The most important aspect of good cleaning is that things not only look clean afterwards, but that they are clean. All users of and visitors to a healthcare premises have a right to assume that the environment is one where infection hazards are controlled.

There are many publications to support the application of infection prevention and control practices within housekeeping teams who are essential in ensuring that the environment is appropriate for the provision of clean, safe care. Infection prevention and control is a key requirement of the Care Quality Commission hygiene and cleanliness assessments and is also recognized as an essential component of clean, safe care. Within the Trust ensuring staff know what to do to minimize the risks of infection and actually do this every time are both crucial components in the delivery of safe, clean care.

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Housekeeping surfaces can be further divided into those with minimal hand contact (referred to as "low-touch" surfaces) and those with frequent hand contact ("high-touch" surfaces).

Some examples of low-touch housekeeping surfaces include:

Window sills

Hard-surface flooring

Walls

Window blinds

Examples of high-touch housekeeping surfaces in patient care areas – those that can be considered germ hot spots – include:

Doorknobs

Bedrails

Light switches

Wall areas around the toilet

Restroom surfaces such as faucets, toilet handles, sinks or dispensers

Edges of privacy curtains

While these lists offer some initial guidance, it’s important to note that several factors influence the amount of germs that may be found on individual housekeeping surfaces. The number and types of microorganisms present on environmental surfaces are influenced by:

- The number of people in the environment.
- Amount of activity in the environment.

- Amount of moisture (microorganisms are present in great numbers in moist organic environments, but some can also persist under dry conditions).
- Presence of material capable of supporting microbial growth.
- Rate at which organisms suspended in air are removed.
- Type of surface and orientation (horizontal or vertical).

According to CDC guidelines, hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV) have never been known to be transmitted from a housekeeping surface such as floors, walls or countertops. However, prompt removal and surface disinfection of an area contaminated by either blood or body substances is a sound infection-control practice and an OSHA requirement, according to the CDC.

Most, if not all, housekeeping surfaces require regular cleaning with soap and water or a detergent/disinfectant and removal of soil and dust, according to guidelines from the CDC. High-touch housekeeping surfaces in patient-care areas should be cleaned and/or disinfected more frequently than surfaces with minimal hand contact. Horizontal surfaces with infrequent hand contact require cleaning on a regular basis, when soiling or spills occur, and when a patient is discharged from the facility.[12]

Even in the absence of visible soiling with blood and/or body fluids, housekeeping surfaces may serve as germ reservoirs in the chain of infection. In fact, methicillin-resistant Staphylococcus aureus (MRSA) can survive for weeks to several months on almost all surfaces, and may cause skin and surgical infections. Clostridium difficile bacteria can live for years on environmental surfaces. Vancomycin-resistant enterococci (VRE) bacteria are

very hardy and can live for several days on surfaces. And noroviruses can survive on virtually any hard surface for up to 12 hours.

Infection Prevention: Infection prevention is identifying and reducing the risks of infections from developing or spreading (infection control). Because of diseases such as cholera, typhoid and Hepatitis B, the risk of acquiring infection in healthcare facilities has increased in recent years for both the patient and the staff.

Hospitals and health centers have special requirements for sanitation as they may have to treat patients who are infected with diseases. Medical staffs caring for these patients are exposed to a higher risk of infection than the general public, as are other patients who may be weak and unable to fight infection.

As a healthcare worker, you must recognize and understand that these threats are a reality and that universal precautions should always be implemented in all patient care. This is considered one of your biggest job responsibilities.

Sanitizer

Sanitizers are a type of antimicrobial that kills or irreversibly inactivates at least 99.9 percent of all bacteria, fungi and viruses (called microbials, microbiologicals, and microorganisms) present on a surface. Most sanitizers are based on chlorine, iodine, phenol, or quaternary ammonium compounds, and (unlike some antiseptics) may never be taken internally. Sanitizers are mainly used in food preparation areas such as kitchen counters where food-borne pathogens need to be kept to a safe level.

LITERATURE REVIEW

The role of the housekeeper or environmental cleaning personnel is critical to the control and prevention of infections in the hospital. It is a team effort to which all hospital workers play a part – doctors, nurses at the bedside, respiratory therapists, pharmacists, physical therapists, surgery technicians in the Operating Rooms, cooks in the kitchen and housekeepers who work throughout the busy hospital to maintain a clean environment.

Bacteria are able to survive in dust and on bedrails, phones, nurse call buttons, curtains and other surfaces for long periods. Hand hygiene is important for all hospital workers but without a clean environment, hands will quickly become decontaminated. In fact, one U.S. study found that 42 percent of nurse's hands were contaminated with MRSA even though those nurses had no direct contact with a patient's wound or urine.

Prevention of healthcare associated infections depends on a clean and properly disinfected patient room and hospital environment. In order to reduce the number of infections in the hospital, it is extremely important that housekeepers understand their role, proper cleaning procedures and the soaps or chemical solutions they use for cleaning.

One U.S. study found that 42 percent of nurse's hands were contaminated with MRSA even though those nurses had no direct contact with a patient's wound or urine.[13]

Nurses, physicians, and other healthcare employees work under extremely stressful physical conditions. Several studies deal with healthcare employees' risk of contracting infectious diseases from patients due to airborne and surface contamination[14]. A recent

study conducted in the wake of the SARS epidemic in China found that isolating SARS cases in wards with good ventilation could reduce the viral load of the ward and might be the key to preventing outbreaks of SARS among healthcare workers, along with strict personal protection measures in isolation units[15.] Another study in Norway found correlations between environmental factors and nasal symptoms of 115 females who worked at 36 geriatric nursing departments. They found significant decrease in nasal inflammation in relation to presence of Aspergillus fumigatus in ventilation supply and elevated room temperatures[16]. An evaluation of 17 acute-care or university hospitals in Canada shows that tuberculosis (TB) infection among healthcare workers was associated with ventilation of general or nonisolation patient rooms of less than two air exchanges per hour. The evaluation included all personnel who worked at least two days per week in the respiratory and physiotherapy departments[17]. This study, like the others, supports the importance of adequate ventilation with good maintenance for ensuring both staff and patient safety in hospitals.

Roemer and Anguilar[18] have classified the level of cleaning into the following three categories:

Level - I All the floors are washed once a day with soap and detergent. Dry sweeping is prohibited except in special cases as outpatient public areas.

Level -II It has an individual responsible for the cleaning and the procedures are standardized including instructions for the use of disinfectants. There are standards for the specific treatment of potentially polluting elements or excreta.

Level-III The committee on infections and/or a nurse epidemiologist participate actively in the preparation and supervision of the cleaning standards.

Controls to address situational and organizational issues, and promote compliance with SOPs, were found to be wide ranging.

An organizational culture where staff feels able to challenge management pressure was reported to be an important factor in compliance with SOPs. Management should be mindful that short-term productivity gains could compromise health and safety. Local leadership could set the tone within the work environment where non-compliance with SOPs may become the accepted way of working.

Vignettes have been described as “short stories about hypothetical characters in specified circumstances, to whose situation the interviewee is invited to respond”. Vignettes were chosen for use at the focus groups because they facilitate swift participant understanding of the topic of interest and allow information to be elicited without participants having to admit that they have not followed the SOPs themselves.

Local auditors, together with domestic services managers acting as peer reviewers, visited 74 hospitals throughout Scotland between March and May 2002. They reviewed the level of cleanliness in a sample of wards and public areas against a number of specified criteria. Each area reviewed was rated as one of four categories: very good, acceptable, need for improvement or concern. This provided a snapshot of the levels of cleanliness in hospitals in Scotland. We found a very good or acceptable level of cleanliness in over 70% of wards and 80% of public areas reviewed. Almost half of the hospitals had a very good or acceptable level of cleanliness in all areas reviewed. However, over 20% of hospitals show a clear need for improvement, with the remainder in need of some minor improvement. We

recommend that a rolling programme of peer review visits is introduced to assess and improve the level of cleanliness in hospitals.[19]

Epidemiologic studies have shown that patients admitted to rooms previously occupied by individuals infected or colonized with MRSA, VRE or Acinetobacter baumanii are at significant risk of acquiring these organisms from previously contaminated environmental sites.[20]

It was found that Enterococci can survive for seven days on countertops, for 24 hours on bedrails and telephone handpieces, for 60 minutes on stethoscope diaphragms, and for at least 60 minutes on gloved and ungloved hands[21.]These microorganisms have been isolated from blood pressure cuffs, dietary trays, intravenous pumps, stethoscope bells, utility room sinks, bathroom doors and sink drains in patient rooms[22.] Contamination of the inanimate environment—especially bedrails, bed sheets and patient gowns has been most closely associated with methicillin-resistant Staphylococcus aureus (MRSA), C. difficile and vancomycin-resistant Enterococcus (VRE).

In its 2003 guideline the CDC outlines the interventions relating to proper surface decontamination, and urge healthcare professionals to consider that the number and types of microorganisms present on environmental surfaces are influenced by the following factors: number of people in the environment, amount of activity, amount of moisture, presence of material capable of supporting microbial growth, rate at which organisms suspended in the air are removed, and type of surface and orientation [i.e., horizontal or vertical]. The guidelines further reminds practitioners that strategies for cleaning and

disinfecting surfaces in patient-care areas take into account the following factors: potential for direct patient contact, degree and frequency of hand contact, and the potential contamination of the surface with body substances or environmental sources of microorganisms (such as soil, dust, and water).

Medanta the medicity SOPS of Housekeeping department

Areas to be cleaned within a health care service (for example, an operating theatre, a general ward, or an out patients clinic) have been identified and are known as functional areas. The functional areas have been grouped according to risk.

Functional areas have been grouped into four risk categories reflecting the level of cleaning frequency and intensity needed based on the risks associated with inadequate cleaning in each risk level. The denotations of categories are from **A to C or 1 to 3**.

Category	**Status**
A / 1	High Risk
B / 2	Moderate Risk
C / 3	Low Risk

High Risk: Category - A / 1.

<u>Required standard of cleanliness - critically important</u>

The standard of cleanliness for functional areas in the very high risk category is of critical importance. Within these functional areas there is a very high risk of transmission of infection because patients are very susceptible and / or undergo PROCESS that can be highly invasive.

1. Cleaning outcomes must be achieved through the highest level of intensity and frequency of cleaning.

Processes and protocols for cleaning should be clearly defined and strictly adhered to.

Functional areas included in this risk category:

Control of Infection Wards & areas with infectious patients

Intensive Care Unit (ICU)

Operating Theatres / Endoscopy

Renal Dialysis Unit

Barrier Nursing rooms

Immuno - Compromised patients

Additional internal areas

Where bathrooms, corridors, storerooms, lecture / meeting rooms, offices, pan rooms and staff lounges provide direct access to very high risk functional areas it is essential that they are also weighted accordingly and receive the most intensive and frequent level of cleaning. However, if direct access does not occur then the adjoining areas listed above do not need to be weighted in the same way.

Moderate Risk: Category - B / 2.

Required standard of cleanliness - highly important

The standard of cleanliness for functional areas in the high risk category is of high importance. Within these functional areas there is a high risk of transmission of infection because patients are very susceptible and/or undergo process that can be highly invasive, or

because surgical equipment and other supplies must be processed and/or stored to the highest of standards.

Cleaning outcomes must be maintained by frequent scheduled cleaning and a capacity to spot clean as required.

Functional areas included in this category:

CSSD

Triage & Emergency

Isolation Rooms

Day Hospital / Day Services (includes Chemo Day Ward) / OPD, including Treatment Rooms & Clinical Consult Rooms / Radiology Suites where invasive process are carried out,

Pharmacy

Treatment / Clinical Consulting Rooms

Wards - C.C.U. & Surgical

Laboratories, including Pathology

Radiology & Medical Imaging

Wards - All other ward types

Day Activity Area (non-invasive)

Rehabilitation Areas

Low Risk: Category - C / 3.

Required standard of cleanliness - very important

The standard of cleanliness for functional areas in the moderate risk category is very important. Functional areas in this category represent areas where the risk of transmission of infection must be minimized.

Cleaning outcomes should be maintained through regular cleaning on a scheduled basis, with the capacity to spot clean in between.

Functional areas included in this category:

General Pharmacy

Mortuary

Night Lounges

Physiotherapy

Occupational Therapy

Staircases

Administrative areas

Non-sterile supply areas

Record storage and archives

External surrounds

Central Stores

Library

Staff Change Facilities

METHODOLOGY

Research Question

How well does the house keeping staff comply with the hospital's SOPS towards the cleaning of the ICUs?

Objectives

- To study the SOP of housekeeping cleaning processes and provides necessary improvements.
- To find the compliance of house keeping with the standard operating procedure of cleaning process.
- To analyze the main cause of non-compliance with the SOP.
- To provide necessary recommendation for increasing the compliance

Research design

This project was a preliminary data collection that identified key problems and future avenues for action. Environmental scan of ICU department in Medanta-The Medicity was conducted. The research design used was descriptive type in nature. The compliance and the knowledge of the housekeeping workers was assessed and matched with the current SOPs of cleaning processes. Current SOP's was assessed for any improvement required. This was assessed in a self made excel sheet.

Population target

The study was performed in Medanta-The Medicity Hospital, Gurgaon. The targeted population for this research was the house keeping staff posted in the ICU's.

Sample size

19 housekeeping staff working in the ICU

Research Instrument

The instrument used was a self developed performa to collect the necessary data.

Data collection procedure

Te data was collected during the working hours of the hospital i.e. between 8AM to 6PM. The data collection period was from April 1, 2014 to April 20, 2014.

Data Analysis Plan

The information retrieved from direct observation and interviewing the housekeeping staff was transported to the Statistical Package for Social Sciences (SPSS) for analysis. Descriptive analysis was performed to describe data for frequency.

RESULT

TABLE 1.4.1

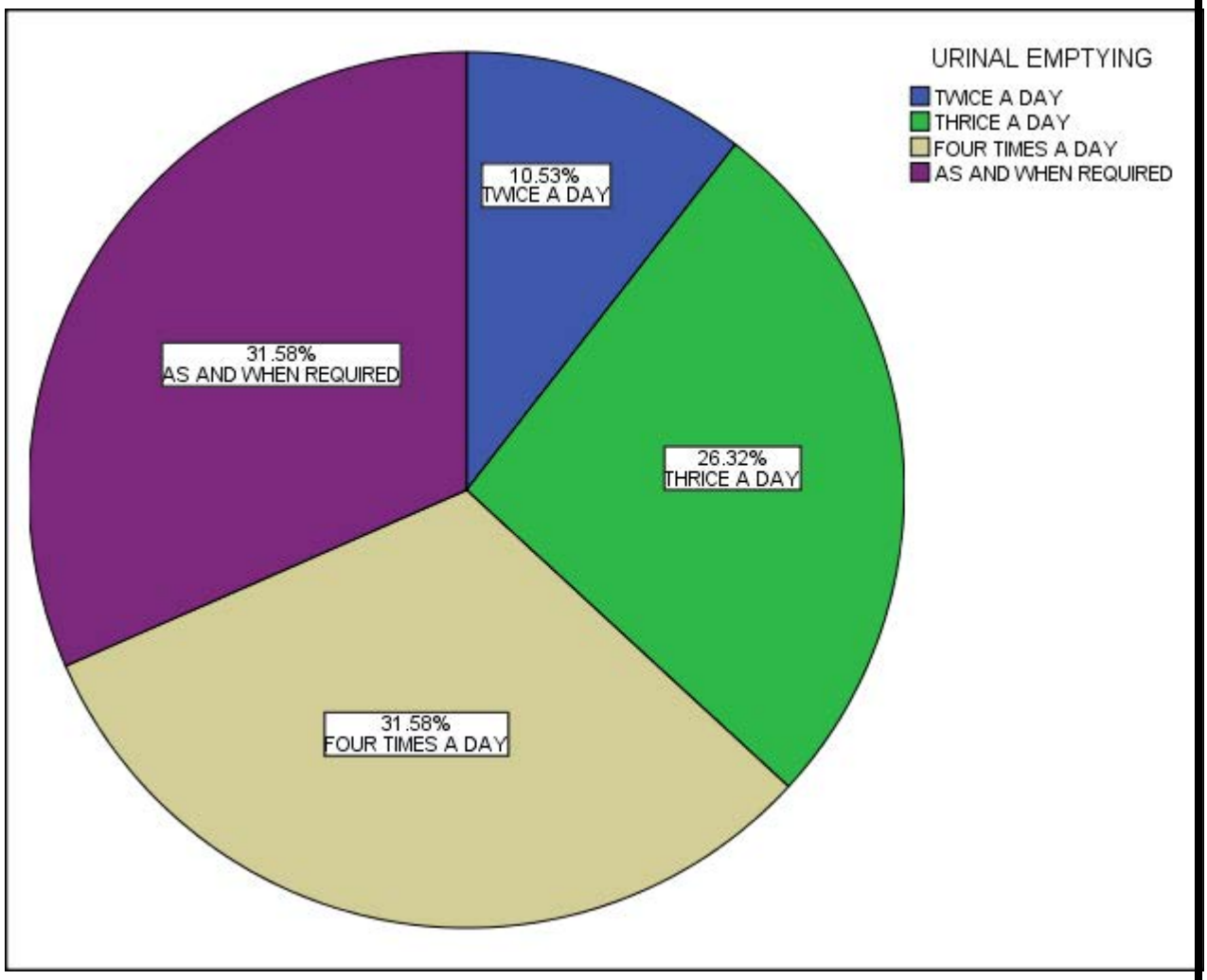
Bedside cleaning

	Frequency	Percent
ONCE A WEEK	14	73.7
ONCE A DAY	4	21.1
TWICE A DAY	1	5.3
Total	19	100.0

Out of the total staff interviewed 73.7% said that they used to clean bedside once a week which is the ideal situation also but rest gave a different reply which was not true as per observation. There was a specific day for cleaning of the bedside lockers which most of them knew and followed. It was also observed them doing on a day other than the day mentioned in their table (annexure 3).

GRAPH 1.4.1

URINAL EMPTYING (n=19)



It was observed from the graph that 31.58% of the total housekeeping staff cleared the urinal bag either four times a day or when the nursing staff asked them to do so. This also gives a view that they were not aware of the standard to clean the urinary bags of the patients once they are 75% full. This also shows their reluctance to go and check every patient side for the bags.

TABLE 1.4.2

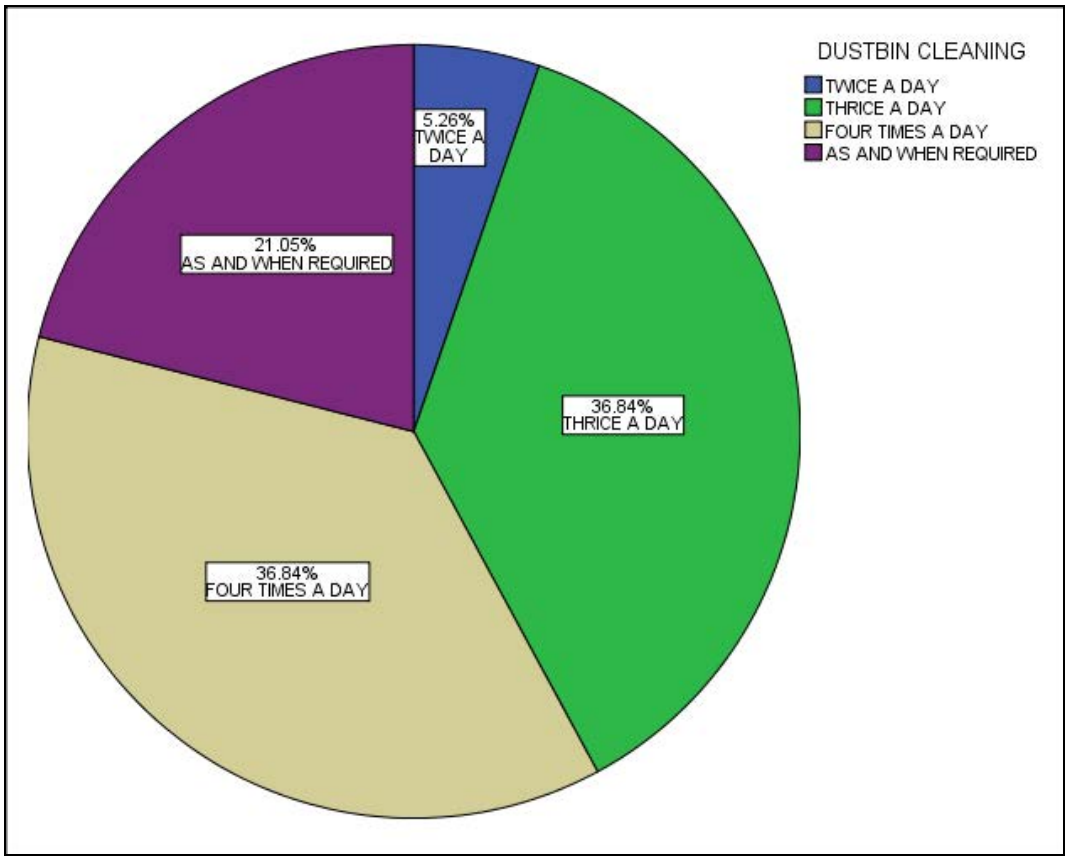
Patient Room floor cleaning

	Frequency	Percent
TWICE A DAY	5	26.3
THRICE A DAY	11	57.9
FOUR TIMES A DAY	3	15.8
Total	19	100.0

More than 50%of the housekeeping staff cleans the patient room floor thrice a day that is in morning, evening and night shift. They were also supposed to clean the patient room walls once a week which on observing them was found to be non compliant to. They only did that once the walls were found visibly dirty.

GRAPH 1.4.2

DUSTBIN CLEANING (n=19)



Dustbin cleaning by the housekeeping staff was found to be done three to four times a day. They were also supposed to scrub the dustbins every Wednesday according to the manual but it was observed that they usually scrubbed the dustbins when the patient was shifted and the room was vacant. It was also observed in few ICUs that the scrubbing if done on the specific day was not done in all the rooms.

TABLE 1.4.3

Lobby Cleaning

	Frequency	Percent
ONCE A DAY	4	21.1
TWICE A DAY	7	36.8
THRICE A DAY	5	26.3
FOUR TIMES A DAY	2	10.5
AS AND WHEN REQUIRED	1	5.3
Total	19	100.0

Mainly they did the wet sweeping twice a day but they also did dry lobby cleaning as and when required. They also washed the lobby every night and all the rooms and lobby together were washed on Sunday. Buffing of the lobby with the machine was supposed to be done once a week which was observed that the whole lobby was not done in one day and was done in parts on different days.

TABLE: 1.4.4

Sink Cleaning

	Frequency	Percent
ONCE A DAY	2	10.5
TWICE A DAY	5	26.3
THRICE A DAY	7	36.8
AS AND WHEN REQUIRED	5	26.3
Total	19	100.0

The table shows that the housekeeping staff had mixed views as to how many times they were supposed to clean the sink where 36.8% agreed to do it three times a day and 26.3% agreed to do it two times a day. 26.3% of the total housekeeping staff were also of the view of cleaning the washbasin as many times as it required which could mean from one to three-four times. But this could also give them reluctance to doing the cleaning of the sinks as then it would stand on their perception as to when to clean.

TABLE 1.4.5

Bedside sink cleaning

	Frequency	Percent
ONCE A DAY	7	36.8
TWICE A DAY	6	31.6
THRICE A DAY	6	31.6
Total	19	100.0

Here again the table shows mixed response of the housekeeping staff towards the cleaning of the bedside sinks. The sinks were still observed to be dirty in the day. This can also be due to the continuous use of the sinks by the bedside nurse which also implies that the maximum bacteria are present in that sink which even further makes it more important to be cleaned as many times as possible. But from the table we come to know that 36.8% of the total housekeeping staff only did the cleaning once a day and that also mainly in the morning leaving the rest of the day bacteria in the sink to grow because the next cleaning would be done the next morning.

TABLE 1.4.6

Toilet Cleaning

	Frequency	Percent
ONCE A DAY	1	5.3
TWICE A DAY	9	47.4
THRICE A DAY	7	36.8
FOUR TIMES A DAY	1	5.3
AS AND WHEN REQUIRED	1	5.3
Total	19	100.0

Mainly the toilets were cleaned two to three times a day whereas in the manual it was mentioned that the commode contact points are to be cleaned after each use, between patient use and once a day full cleaning is required. They cleaned the floor twice and commode only when they found it to be dirty. They did not comply to the standard which was given in the manual.

TABLE: 1.4.7

Cleaning of Curtains

	Frequency	Percent
ONCE A WEEK	11	57.9
WHEN ROOM IS VACANT	7	36.8
EVERY 15 DAYS	1	5.3
Total	19	100.0

57.9% of the staff agreed to changing curtains once a week. Curtain is one of the major places were bacteria can grow and if the curtains are being changed once a week that also implies that these set of housekeeping staff do not change the curtains when the patients change in a room which can lead to infection of one patient being transferred to the other.

TABLE: 1.4.8

Patient Room Cleaning

	Frequency	Percent
5MIN	2	10.5
10MIN	11	57.9
15MIN	5	26.3
20MIN	1	5.3
Total	19	100.0

It is evident from the table that more that 50%of the housekeeping staff took 10 minutes to clean a patient room in the ICU. Whereas the earlier studies have shown that for proper cleaning of the room it takes 20 minutes. According to the table it shows that a few housekeeping staff took only 5 minutes to clean the room.

DISCUSSION

Cleaning plays an important role in saving lives

The hospital's Housekeeping Department is responsible for the regular and routine cleaning of all surfaces and maintaining a high level of hygiene in the facility in collaboration with the Infection Control Committee. The employment conditions of contracted workers are another factor. Privatized support services jobs are characterized by low wages, insecure hours of work, and few benefits. These working conditions are known to produce low morale and high turnover, neither of which are conducive to a knowledgeable and self-assured approach to infection control.

The literature points to links between appropriate housekeeping practices and lower infection rates. Responsibility for orienting and training cleaners is no longer under the hospital's control, which opens up questions about skill development and training standards. Contracting out adds layers of administration that make service flexibility more elusive and less likely. Evidence also points to the fact that privatizing hospital cleaning contributes to falling standards of cleanliness. The Housekeeping Department's charge is:

1. Classifying the different hospital areas by varying need for cleaning.
2. Developing policies for appropriate cleaning techniques, procedures, frequency,
    a. agents used, etc. for each type of room, from highly contaminated to the most clean and ensuring that these practices are followed;

3. Providing appropriate training for all departmental staff, both initially and periodically to assess competencies are maintained or when a new technique, product.
4. Establishing methods for the cleaning and disinfection of the patient's bed, mattress and pillow.
5. Determining the frequency for the washing/disinfection of privacy curtains, walls, floors and furniture.

As per the manual of housekeeping in the hospital they have also divided the areas in three major divisions- High Risk, Medium Risk and Low Risk depending on the need of cleaning. ICUs come in the High Risk category as there is a high risk of transmission of infection because patients are very susceptible and / or undergo PROCESS that can be highly invasive.

As Table 1.1 tells us that bedside cleaning is done mainly once a week but this bedside cleaning only meant medicine lockers and tables whereas earlier studies showed that the bacteria is more on the bedrails which are touched by the GDAs and nursing staff during shifting the patients and should be cleaned regularly. Whereas in the areas to be cleaned by the housekeeping nowhere was the bedrails mentioned.

As per the manual for Commodes Clean contact points each use, one full clean daily & between patient use whereas the housekeeping staff stresses of cleaning the area twice to thrice daily and commodes whenever found dirty but the results showed that it was being cleaned as a whole only twice a day and not after each use.

According to the manual lobby cleaning should be done first with dry mob then with wet mob. As per the study it was done twice a day. And buffing of the lobby was also done to bring shine on the floor. Buffing was done once a week.

Patient room sinks were cleaned twice to thrice but mostly when seen they were dirty maybe because they were used frequently by the nursing staff.

The toilets are cleaned twice mainly according to the Table 1.6 but it was observed that it should be more frequently done.

There should be a continuing program for staff training. This program should stress personal hygiene, the importance of frequent and careful washing of hands, and cleaning methods (e.g., sequence of rooms, correct use of equipment, dilution of cleaning chemicals and disinfectants, etc.)

Staff should also understand some basic microbiology including the transmission of disease, as well as understanding the causes of surface contamination and how to limit the cross-transmission of organisms.

When they go in the room, they're not actually focusing on the patient; they're focusing on all the stuff around the patient: the bedrails, the counters, and the call buttons."

Recently, some medical facilities have started using dual-bucket systems. Dual-buckets have two compartments, one for the cleaning solution, and one for the rinse water. Unfortunately, many users have found that some dual-bucket systems slowly leak, thus contaminating the cleaning solution.

Additionally, just as with a traditional bucket, as soon as the contaminated mop head is placed in the cleaning solution it becomes contaminated—unless the housekeeper allows for adequate dwell time—usually 3 to 10 minutes—which is unlikely in a busy hospital setting. And, the mop head and bucket still might be touched in the changing process, just as with traditional buckets, potentially spreading infection.

On observation it was found that housekeeping staff was not aware of the importance of the protocols that they were asked to follow as the housekeeping staff is not changing the water after every use in different rooms in the second shift of cleaning the patient room. On inquiring their reply was that the change on water after every room was done during the 1st morning cleaning of the rooms and now it doesn't matter.

CONCLUSION

FALLING STANDARDS; RISNG RISKS

Hospitals, being one of the most important organizations of the society, have a distinct role both in the life of the individual and of the society. Housekeeping one of whose responsibilities is the control of infection and sanitation is one of the professional groups which takes part in this team. In hospitals cleaning services carried out in accordance with certain provisions not only has a positive effect on the morale, welfare and safety of the patients but also prevents a lot of areas from becoming a source of infection. The Housekeeping Department has a distinctive role, in a modern hospital administration, as regards with its functions of cleaning of hospitals, infection control, sanitation, and decoration as well as the administration of the housekeeping staff. There are various factors playing in the development of hospital infections. Controlling of microorganisms, hence of the infections, in hospitals is a multidisciplinary issue. Therefore, an Infection Control Committee ought to be formed in every hospital. This committee should include wide representation from relevant departments: e.g. Management, Nursing, Physicians, Microbiology, Pharmacy, Infection control practitioners and Housekeeping, personnel etc.

ROLES OF THE DEPARTMENT

The Housekeeping Department in hospitals helps in prevention and minimizing of the effect of the microorganisms in the environment by training its staff on regular basis, along with regular controls of cleanliness and applying the programs declared by the Infection Control Committee.

According to study they were found not showing compliance to the SOPs by the fact that they gave different answers to the same questions asked. The reasons for the different answers could be that either that they were doing it that many times or they thought that saying something more in number increases the effectiveness of the work. The housekeeping staff is paid Rs6000-7000 as salary therefore they prefer doing double shifts i.e. the work of 4 is done by 2, further decreasing the effectiveness of the work.

EDUCATION

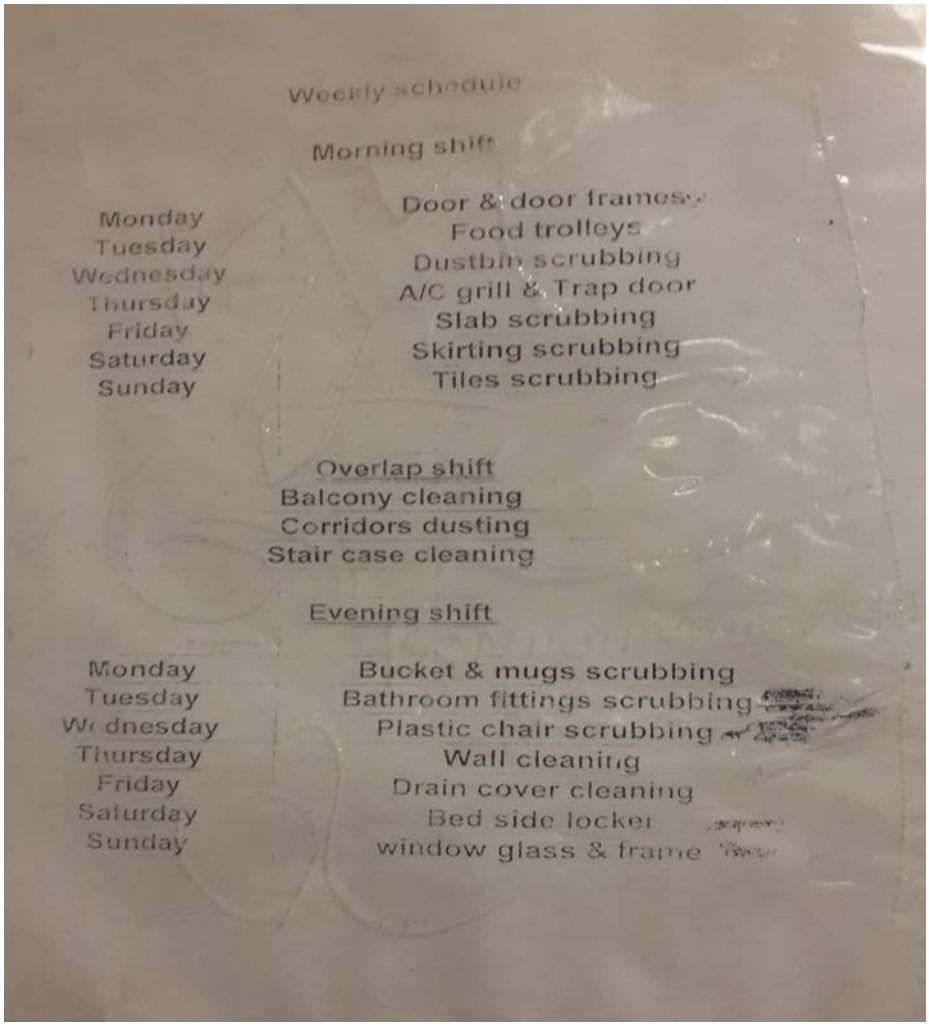
In the earlier studies it was said that the cleaning mob should be dipped in detergent water for at least 3 min to get enough disinfectant in the mob but nothing like that is mentioned anywhere in the manual or even known to the staff. So educating the staff about the importance of doing the right thing the right way was needed.

And the process of training has to be made a continuous process. It was important that they should be made aware of the material they are using Copy of manual should be made available to them in the language they understand. Communication and coordination between the contractor/cleaners and the hospital (RNs, Unit Coordinators, and Bed Booking staff; the infection control team; health and safety committee; and other relevant relationships) has to be increased.

Annexure

Annexure 1

Weekly Schedule of the Housekeeping staff



Weekly schedule

Morning shift

Monday	Door & door frames
Tuesday	Food trolleys
Wednesday	Dustbin scrubbing
Thursday	A/C grill & Trap door
Friday	Slab scrubbing
Saturday	Skirting scrubbing
Sunday	Tiles scrubbing

Overlap shift

Balcony cleaning
Corridors dusting
Stair case cleaning

Evening shift

Monday	Bucket & mugs scrubbing
Tuesday	Bathroom fittings scrubbing
Wednesday	Plastic chair scrubbing
Thursday	Wall cleaning
Friday	Drain cover cleaning
Saturday	Bed side locker
Sunday	window glass & frame

Annexure 2

Frequency of Cleaning											
		ICU 1	ICU 2	ICU 3	ICU 4	ICU 5	ICU 7	ICU 8	Barrier nursing	Dialysis room	
Areas Cleaned with time											
Bedside cleaning											
Urinals cleaning											
Patient Floor clean											
Bins cleaning											
Lobby											
Wash basin cleanig											
Trolleys											
Bedside											

sinks											
Refilling of tissue papers											
Toilet Cleaning											
Curtain cleaning											
Staff per shift											
Knowledge											
Hand hygiene											
Gloves											
Needle stick injury											
Bucket cleanig											
Cleaning of mob											

Annexure 3

Method of Cleaning and Material used									
	ICU 1	ICU 2	ICU 3	ICU 4	ICU 5	ICU 7	ICU 8	Dialysis room	Barrier nursing
Areas Cleaned with time									
Bedside cleaning									
Urinals cleaning									
Patient Floor clean									
Bins cleaning									
Lobby									
Wash basin cleanig									
Trolleys									
Bedside sinks									
Refilling of tissue papers									
Toilet Cleaning									
Curtain cleaning									
Staff per shift									
Knowledge									

Hand hygiene									
Gloves									
Needle stick injury									
Bucket cleanig									
Cleaning of mob									

Annexure 4

Checklist for observation			
	yes	no	Remarks
Bedside cleaning once a week			
Urinal bag emptying on 75%			
Floor Cleaning (Dry mobbing) 2 times			
Floor Cleaning (wet mobbing) 2 times			
Buffing of floor (Once a week)			
Bin cleaning (after shift of patient)			
Bin Scrubbing once a week			
Refilling of tissue paper before getting refilled			
Cleaning of toilets as per the manual			
Removal of curtains after ever patient			
Six steps of hand hygiene			
Wearing of right colour gloves for the procedure			
Changing of water in the bucket after everyroom cleaning			
Cleaning of mob after everyuse			
Dipping of mob in the Disinfectant for 3 minutes before use			
Keeping of infected mob in separate area			
Use of different bucket for infected area			
Cleaning of patient room wall once a week			

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