

To Assess the Hand Hygiene Practices Among Healthcare Workers in Critical Care Unit

By

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*Dissertation submitted for the partial fulfillment of the
MBA Hospital and Health Management*

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This is to certify that Dr.Nidhi Balodhi student of MBA Hospital and Health Management (MBA) from The IIHMR University, Jaipur has undergone internship training at PRIME Hospital, Hyderabad from 08.02.2016 to 08.04.2016.

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 her future endeavors.



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critical care unit**

Date: 8 February 2016 to 8 May 2016

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During this period she comes across as a committed, sincere & diligent person who has a
Strong drive and zeal for learning

We wish her all the best for future endeavors


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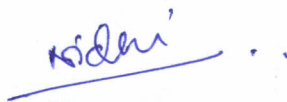

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This is to certify that the dissertation titled **“To assess hand hygiene practices among healthcare workers in critical care unit ”** and submitted by **Dr. Nidhi Balodhi** Enrollment No.: IIHMR-U/01/2014-16/0180 under the supervision of **Dr. Mohan Bairwa** for award of MBA in Hospital and Health of the University carried out during the period from 08/02/2016 to 08/05/2016 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

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Sincerely,

Dr. Nidhi Balodhi

MBA-HM (2014-2016)

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Assessment of hand hygiene practices among healthcare workers in Critical Care Unit, PRIME Hospital, and Hyderabad.

Abstract

Background:

Health care associated infections persist as a major problem in most Critical Care Units. Hand hygiene is the most simple and effective method for the prevention of these. So assess the reported hand hygiene practices and observing is very much important to find out gaps, plan remedial measure to reduce HAIs.

Objectives:

1. To assess the hand hygiene practices among Health care workers.
2. To assess the reasons for non-compliance in hand hygiene practices.

Methodology:

Study setting: The study was undertaken at 250 bedded multispecialty, hospital Ameerpet, Hyderabad

Study Design: Cross -sectional study

Target sample: All Staff working in selected CCU, engaged in giving Care to Patients. Staff includes (Nurses, Duty medical doctors & Technicians & unit helpers).

Sample Size: 70 health care workers for observation and 25 for questionnaire.

Tools: Observational tool & Questionnaire was made referring WHO observational tools & questionnaire for hand hygiene assessment.

Data collection: Observations on activities around individual patient carried out in random 10- minute interval during day time, in the busiest shifts in the CCU. All Health care personnel those who have been contacted during this period (e.g.: duty medical officers, nurses, technicians & unit helpers), were observed unobtrusively.

Data analysis: It was done using MS-EXCEL Tools

Result:

The study revealed disparity between reported and observed hand hygiene practices among health care workers of total, 68% of respondents reported to use soap and water; and 76% alcohol based hand rub for hand hygiene while on observation only 42% of respondents were actually found using soap & water; & 43% alcohol based hand rub for hand hygiene. After observation following situations were found less compliant: After handling of soiled linen etc (49.19%), Before patients equipment contact (40.45%), Before putting on gloves for sterile procedures (64%) & Before patients contact (69%). Compliance in hand hygiene practices was differed among the different categories of HCWs. The main reasons of non-compliance of hand hygiene practices were inconvenient location of sinks/ basins (42%); lack of awareness of need of hand hygiene (32%) and too busy due to work pressure for hand washing (21%).

Conclusion:

There was significant disparity between reported and observed hand hygiene practices among health care workers in the present study. The main reasons of non-compliance of hand hygiene practices were inconvenient location of sinks/ basins, lack of awareness of need of hand hygiene, and work pressure.

INTRODUCTION

Most nosocomial infections are thought to be transmitted by the hands of health care workers. It has long been known that hand hygiene among health care workers plays a central role in preventing the transmission of infectious agent. Hand washing is the most effective way of preventing the spread of infectious diseases. But despite a Joint Commission requirement that Centers for Disease Control and Prevention hand hygiene guidelines be implemented in hospitals, compliance among health care workers remains low.

The reasons of lack of compliance to hand washing include: lack of appropriate equipment, low staff to patient ratios, allergies to hand washing products, insufficient knowledge among staff about risks and procedures, the time required and casual attitudes among HCWs towards bio-safety. (1)

Hand hygiene is a core element of patient safety for the prevention of Health Care Associated Infection (HAIs) and spread of anti microbial resistance. Its promotion represents a challenge that requires a multimodal strategy. Hand hygiene prevents cross infection in hospitals, but Health Care Workers (HCWs) adherence to hand hygiene guidelines is poor. Easy, timely access to both hand hygiene and skin protection is necessary for satisfactory hand hygiene behavior.

Average compliance with hand hygiene recommendations varies among hospital wards, professional categories of HCWs, groups according to working condition and groups according to the definitions used in different studies.

The use of alcohol-based hand rub solutions (ABHRSs) in health care settings has been associated with increased hand hygiene compliance and reduced rates of nosocomial infection (2)

Nosocomial infections are a leading complication in ICUs. Although hand hygiene is the single most efficient preventive measure, compliance with simple action remains low.

Nosocomial infection can be transmitted from microorganisms on the hand of HCWs to patients. Hand Washing is has a proven benefit in preventing transmission of infection, yet compliance with hand washing, especially in intensive care unit is very important(3)

LITERATURE REVIEW

Systematic qualitative literature review of health care workers' compliance with hand hygiene guidelines by Maura P. smiddy , Rhona O'Connell & Sile A. creedon in march 2015, found acquisition of a health care–associated infection is a substantial risk to patient safety. When health care workers comply with hand hygiene guidelines, it reduces this risk. Despite a growing body of qualitative research in this area, a review of the qualitative literature has not been published. A systematic review of the qualitative literature was done. The results were themed by the factors that health care workers identified as contributing to their compliance with hand hygiene guidelines. Contributing factors were conceptualized using a theoretical background. This review of the qualitative literature enabled the researchers to take an inductive approach allowing for all factors affecting the phenomenon of interest to be explored. Two core concepts seem to influence health care workers' compliance with hand hygiene guidelines. These are motivational factors and perceptions of the work environment. Motivational factors are grounded in behaviorism, and the way in which employees perceive their work environment relates to structural empowerment. Conclusion was noncompliance with hand hygiene guidelines remains a collective challenge that requires researchers to adopt a consistent and standardized approach. Theoretical models should be used intentionally to better explain the complexities of hand hygiene (4)

Improving compliance with hand hygiene in hospitals by Pittet D June 2000

Hand hygiene prevents cross-infection in hospitals, but compliance with recommended instructions often is poor among healthcare workers. Although some previous interventions to improve compliance have been successful, none has achieved lasting improvement. This article reviews reported barriers to appropriate hand hygiene and factors associated with poor compliance. Easy access to hand hygiene in a timely fashion and the availability of skin-care lotion both appear to be necessary prerequisites for appropriate hand-hygiene behavior. In particular, in high-demand situations, hand rub with an alcohol-based solution appears to be the only alternative that allows a decent compliance. The hand-hygiene compliance level does not rely on individual factors alone, and the same can be said for its promotion. Because of the complexity of the process of change, it is not surprising that solo interventions often fail, and

multimodal, multidisciplinary strategies are necessary. A framework that includes parameters to be considered for hand-hygiene promotion is proposed, based on epidemiologically driven evidence and review of the current knowledge. Strategies for promotion in hospitals should include reasons for noncompliance with recommendations at individual, group, and institutional levels. Potential tools for change should address each of these elements and consider their interactivity. (5)

Suchitra J B et al (2007) conducted a study to assess the to identify predictors of noncompliance with hand washing during routine patient care.

The participants in the study were Health Care Workers (HCWs). Doctors, nurses and ward aides working in different wards of the hospital who were observed for compliance with hand washing. The result of the study was that in 270 observed opportunities for hand washing, average compliance was 63.3%. Noncompliance was highest among doctors followed by nurses. Ward aides were most compliant. Finally the authors concluded that compliance with hand washing was moderate. Variation across the hospital ward and type of HCW suggests that targeted educational programs may be useful. Noncompliance suggests that understaffing may decrease quality of patient care.(6)

Kanitha Patarakul et al conducted cross sectional survey of hand-hygiene compliance and attitudes of health care workers and visitors in the Intensive Care Units at King Chulalongkorn Memorial Hospital

Hand hygiene is the most important and effective measure to prevent cross-infection in hospitals. Hand-hygiene campaign must be implemented as a part of infection control program at King Chulalongkorn Memorial Hospital (KCMH). The behavior, attitudes, and beliefs of health care workers (HCWs) and visitors regarding hand-hygiene practices have never been studied in KCMH.

Objectives where to determine the baseline compliance and assess the attitudes and beliefs regarding hand hygiene of HCWs and visitors in intensive care units (ICUs) at KCMH. Material and method: they observed hand-hygiene compliance of HCWs and visitors in ICUs before patient contact for eight hours. A self-administered questionnaire was employed to measure attitudes and beliefs about hand hygiene for two-week period. Results: Overall hand-hygiene compliance obtained from this Observational study

was less than 50% and differed markedly among various professional categories of HCWs and visitors. In questionnaire-based study, patient needs perceived as a priority (51.2%) was the most common reason for non-compliance, followed by forgetfulness (35.7%), and skin irritation by hand-hygiene agents (15.5%). Subjects believed to improve their compliance by multiple strategies including available low irritating hand-hygiene agents (53.4%), information of current nosocomial infection rate (49.1%), and easily accessed hand-hygiene supplies (46.3%). Almost all subjects (99.7%) claimed to know correct hand-hygiene techniques.

Hand washing with medicated soap was perceived to be the best mean of hand decontamination (37.8%). Conclusion: Hand-hygiene compliance of HCWs and visitors is unacceptably low. Their knowledge, behavior, attitudes, and beliefs toward hand hygiene need to be improved by the multimodal and multidisciplinary approach. Keywords: Hand hygiene, Hand washing, Compliance, Attitudes, Nosocomial infection (7).

RATIONALE:

Hospital acquired infections affect 1.4 million patients at any time worldwide, as estimated by the World Health Organization (WHO). In Critical Care Units, the burden of HAIs is greatly increased, causing additional morbidity and mortality.

Multidrug – Resistant pathogens are commonly involved in such infections and render effective treatment challenge. Proper hand hygiene is the single most important, simplest and least expensive means of preventing HAIs. A large proportion of the infection acquired attributed to cross contamination and transmission of microbes from hands of HCWs to patients.

Most of nosocomial infections are thought to be transmitted by the hands of HCWs. So assessing the knowledge, attitude and practice of hand washing among HCWs are important. Hospital acquired infections poses a very real and serious threat to all who are admitted to hospital. Pathogens are readily transmitted through HCWs hands, and hand hygiene practice substantially reduce the transmission. So study to assess HCWs hand hygiene practices is important.

Transmission of microorganisms from the hands of HCWs is the main sources of cross – infection in hospitals and can be prevented by hand washing. So identifying predictors of non-compliance with hand washing during routine patient care is important.

Health care associated infections persist as a major problem in most Critical Care Units. Hand hygiene is the most simple and effective method for prevention of these. So assessing the reported hand hygiene practices and observing is very much important to find out gaps, plan remedial measure to reduce HAIs. From this point of view it was decided to assess the hand hygiene practices among HCWs in critical care unit of Prime hospital.

METHODOLOGY

Area of study: The Study Was Undertaken at 250 bedded multispecialty hospital, Hyderabad

Study design: Cross –sectional study

Target sample: All Staff in selected CCU, engaged in giving Care to Patients.

Staff includes (Nurses, Duty medical doctors & Technicians & unit helpers).

Sample Size: 70 healthcare workers for observation. 25 for questionnaire (unit helpers were excluded so as to avoid any biases.)

Tools : Observational tool& Questionnaire was made referring WHO observational tools & questionnaire for hand hygiene assessment.

Data collection tools and techniques: An extensive study and review of literature helped in preparation of the tool. A validated tool and an observational scale are used as the tool for this study.

Description of tool:

Part I: - This part contains items such as demographic data which include: age, sex, profession, total years of experience, CCU experience.

Part II: - An observation total was used to assess the hand hygiene practices of HCWs.

Part III: - A questionnaire was distributed to HCWs in order to assess the opinion about hand hygiene practices.

Data was collected for 4 weeks period at Prime hospital hyderabad.4weeks of observational study, 1 days of questionnaire based study. The period of observation of hand hygiene compliance was conducted over a period of 4weeks. Here, observations on activities around individual patient carried out in random 10-minute's period interval during day time, which are the busiest shifts in the ICU.

Target ICU patients were selected randomly, at the start of each observation period and was observed continuously for the entire 10- minute period. All Health care personnel who contacted the target patient during this period, including doctors, nurses, and paramedical personnel (e.g.: physiotherapist, technicians, unit helpers, etc), were observed unobtrusively by the observer. In observation the observer give situations to the samples according to their jobs.

RESULT:

Distribution according to participants in study

- Age
- Sex
- Profession: Duty medical officer; Nurses; Technicians
- Experience

Table 1. Distribution of Healthcare workers by age n=25

Age group	HCWS	Percentage
<25 yrs	14	56
26-29 yrs	8	32
>30 yrs	3	12
Total	25	100

Distribution of sample according to age

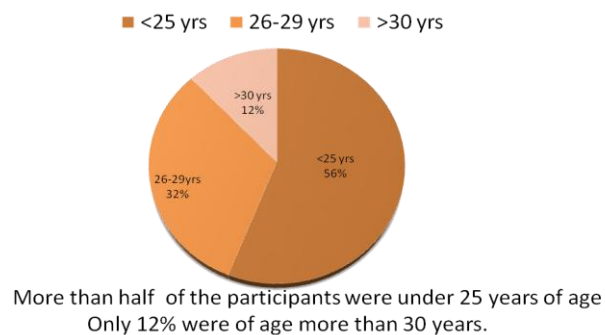


Fig1: Distribution of sample according to age

Table 2. Distribution of healthcare workers according to sex n=25

	HCWS	Percentage
Female	15	60
Male	10	40
Total	25	100

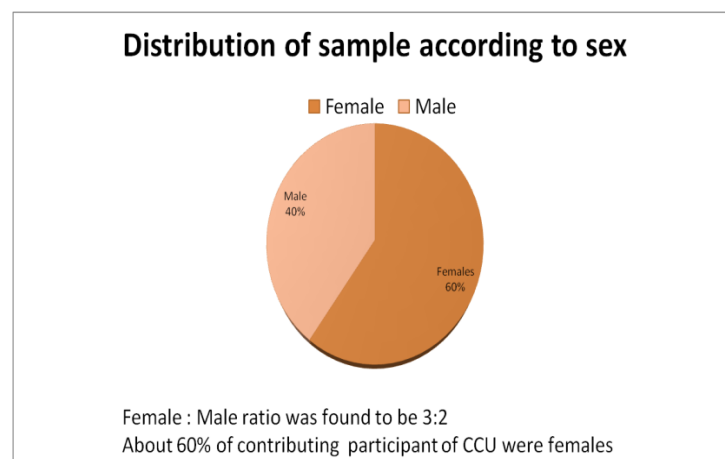
**Fig:2 Distribution of sample according to sex**

Table 3. Distribution of healthcare workers according to profession

Profession	HCWS	Percentage
Duty medical officers	5	20
Nurses	13	52
Technicians	7	28
Total	25	100

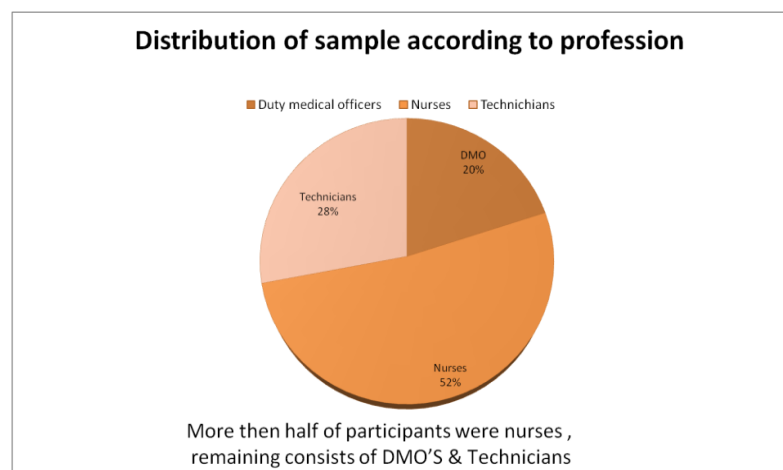
**Fig3: Distribution of sample according to profession**

Table 4. Distribution of healthcare workers according to total experience

Total experience	HCWS	Percentage
<1 yrs	5	20
1-2 yrs	8	32
3-4 yrs	6	24
>4 yrs	6	24
Total	25	100

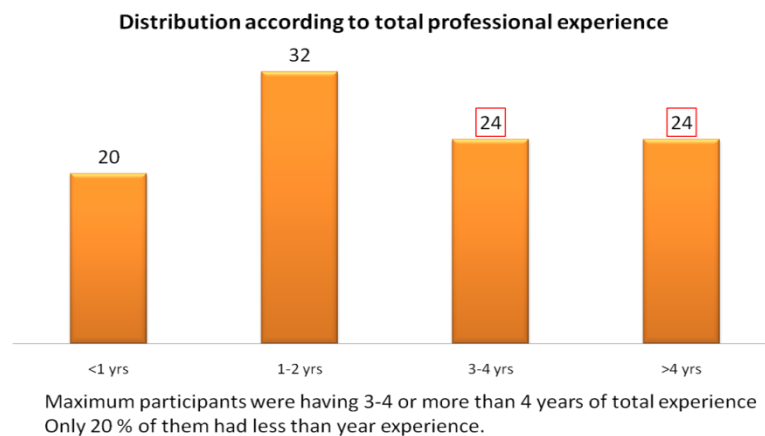
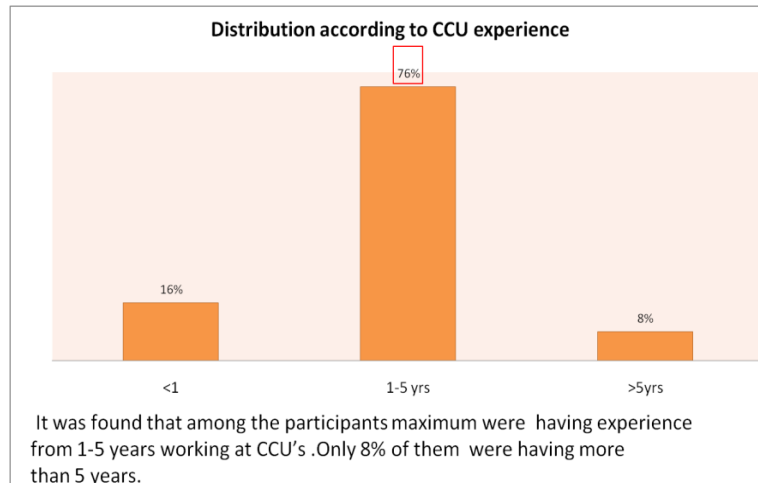
**Fig 4: Distribution according to total professional experience**

Table5.Distribution of healthcare workers according to CCU Experience

Total experience	HCWS	Percentage
<1	4	16
1-5 yrs	19	76
>5yrs	2	8
Total	25	100

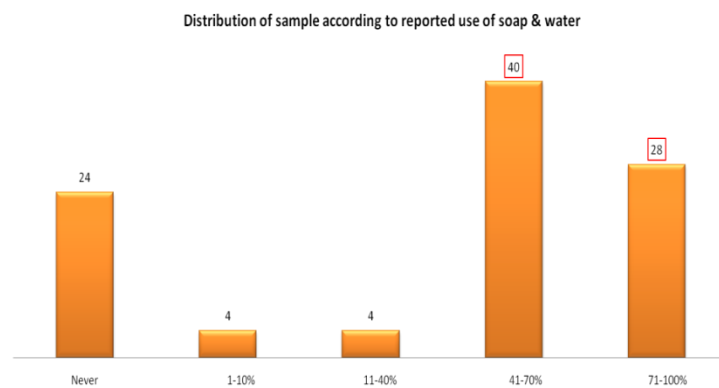
**Fig 5: Distribution according to CCU experience**

Findings from Questionnaire

- Reported use of soap & water
- Use of alcohol based hand rub
- Use of both soap & water & alcohol based hand rub
- Reason for lack of hand hygiene
- Satisfaction level from current hand hygiene practices in hospital
- Satisfaction from the hand hygiene material in use in hospital
- Relationship between good hand hygiene practices &HAI'S.

Table 6: Distribution of healthcare workers according to reported use of soap & water

Reported soap & water	HCWS	Percentage
Never	6	24
1-10%	1	4
11-40%	1	4
41-70%	10	40
71-100%	7	28
Total	25	100

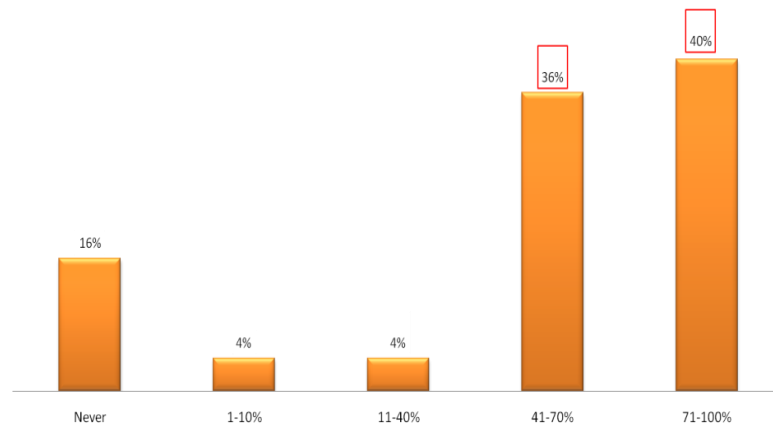


While more than 60% of participants uses soap & water for hand washing regularly, only 28% were those who uses soap & water every time. 24% were those who never use soap & water for hand washing.

Fig 6: Distribution of sample according to reported use of soap & water

Table 7. Distribution of healthcare workers according to use of alcohol based hand rub

Reported use of alcohol based hand rub	HCWS	Percentage
Never	4	16
1-10%	1	4
11-40%	1	4
41-70%	9	36
71-100%	10	40
Total	25	100

Distribution of sample according to use of alcohol based hand rub

More than 70% of participant uses alcohol based hand rub for hand hygiene , among them 40% uses alcohol based hand rubs every time after every procedure.

Fig 7: Distribution of sample according to use of alcohol based hand rub

Table 8: Distribution of healthcare workers according to use of both soap & water & alcohol based hand rub

Both soap & water & alcohol based hand rub	HCWS	Percentage
Never	2	8
1-10%	0	0
11-40%	1	4
41-70%	5	20
71-100%	17	68
Total	25	100

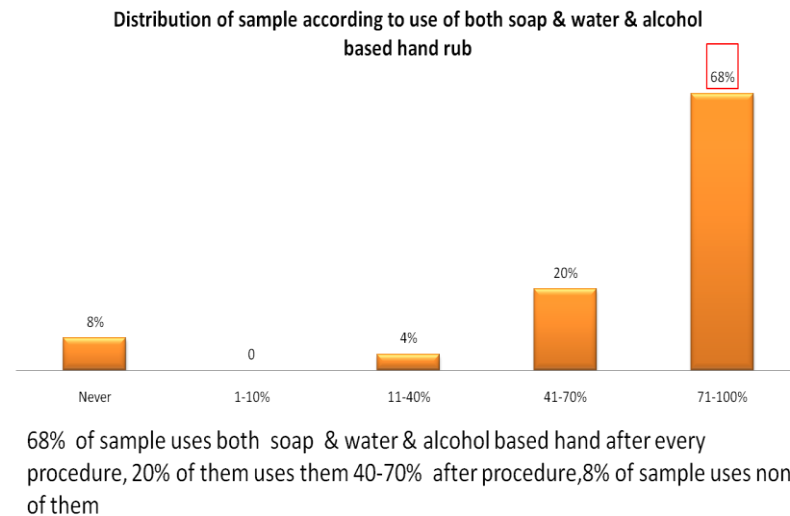
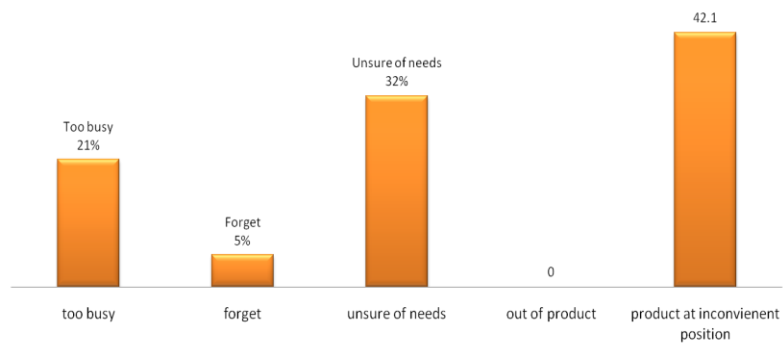


Fig 8: Distribution of sample according to use of both soap & water & alcohol based hand rub

Table 9: Distribution of healthcare workers according to reason for lack of hand hygiene

Reason for lack of hand hygiene	Frequency	Percentage
too busy	4	21
Forget	1	5.2
unsure of needs	6	31.5
out of product	0	0
product at inconvenient position	8	42.1
Total	19	100

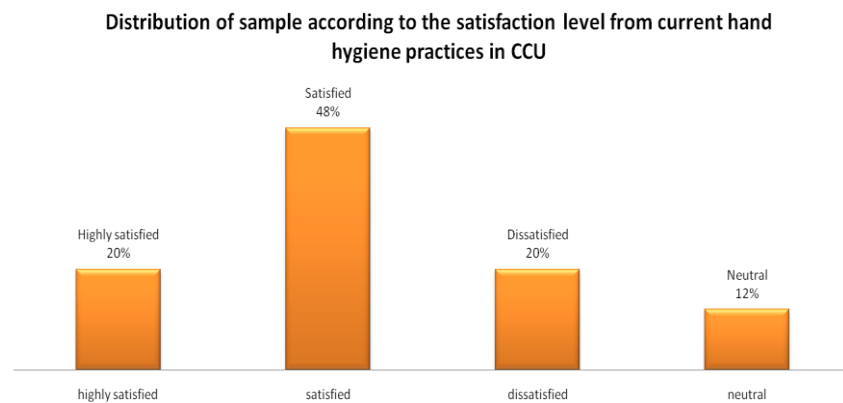
Distribution of sample according to reason for lack of hand hygiene

More than 40% gave reason of lack of hand hygiene as they found product at inconvenient position ,
 32% were unsure of needs, 21% among them gave reason that they are sometimes too busy so lack hand hygiene. 5% of sample actually forgets so they lack hand hygiene

Fig 9: Distribution of sample according to reason for lack of hand hygiene

Table 10: Distribution of healthcare workers according to the Satisfaction with Hand Hygiene practice in the unit

Satisfaction level	HCWS	Percentage
highly satisfied	5	20
Satisfied	12	48
Dissatisfied	5	20
Neutral	3	12
Total	25	100

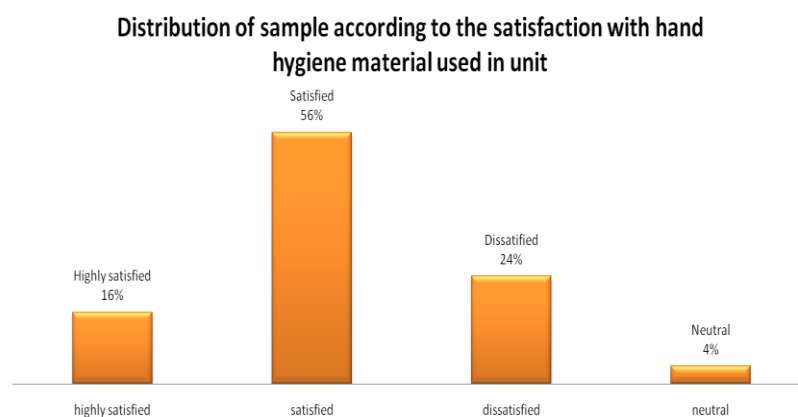


Most of the participants were satisfied from current hand hygiene practices , only 20% of them were highly satisfied.
Out of these 20% were dissatisfied from hand hygiene practices in CCU

Fig 10: Distribution of sample according to satisfaction level from current hand hygiene practices in CCU

Table 11: Distribution of healthcare workers according to the satisfaction with hand hygiene materials used in the unit

satisfaction level	HCWS	Percentage
highly satisfied	4	16
Satisfied	14	56
Dissatisfied	6	24
Neutral	1	4
Total	25	100



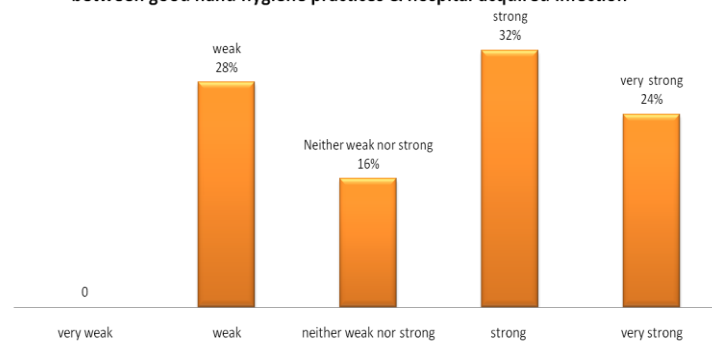
According to the satisfaction with hand hygiene material used in the unit 56% of sample were satisfied, only 16% of them were highly satisfied. 24% of sample was dissatisfied from material used in unit.

Fig11: Distribution of sample according to the satisfaction with hand hygiene material used in unit

Table 12: Distribution of healthcare workers according to the opinion about the relationship between good hand hygiene practices and hospital acquired Infection

Opinion	Frequency	Percentage
very weak	0	0
Weak	7	28
neither weak nor strong	4	16
strong	8	32
very strong	6	24
Total	25	100

Distribution of samples according to the opinion about the relation between good hand hygiene practices & hospital acquired infection



56% of sample have opinion that there is relationship between good hand hygiene practices & hospital acquired infection ,among them 32% strongly feels relation & only 24 % thinks for strong relationship between hand hygiene & HAI .
16% Of sample Finds no relationship between hand hygiene & HAI

Fig 12: Distribution of sample according to the opinion about relation between good hand hygiene practices & hospital acquired infections

Table 13. Distribution of healthcare workers according to observation of hand hygiene practices

Overall hand hygiene was least among unit helpers, among nurses only 71% of compliance was seen, out of 874 opportunities only 621 were actually performed by nurses.

HCW	No of opportunities	Hand hygiene performed	overall compliance(%age)
Nurse	874	621	71.1
DMO	328	263	80.2
Unit helper	166	112	67.5
Technicians	14	11	78.6

1382

1007

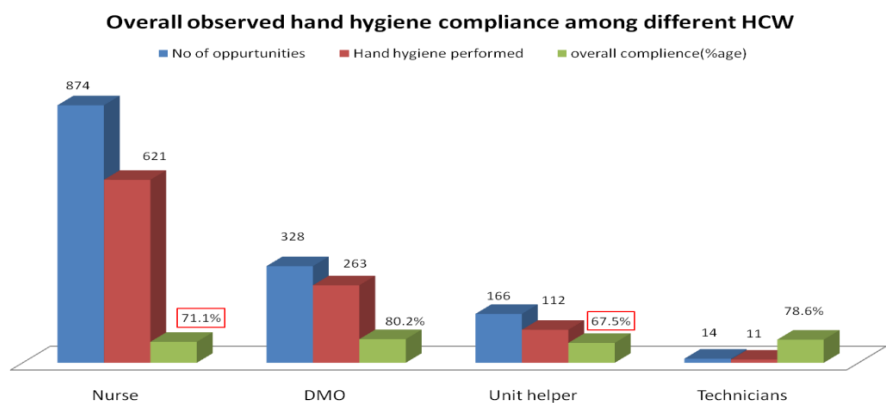
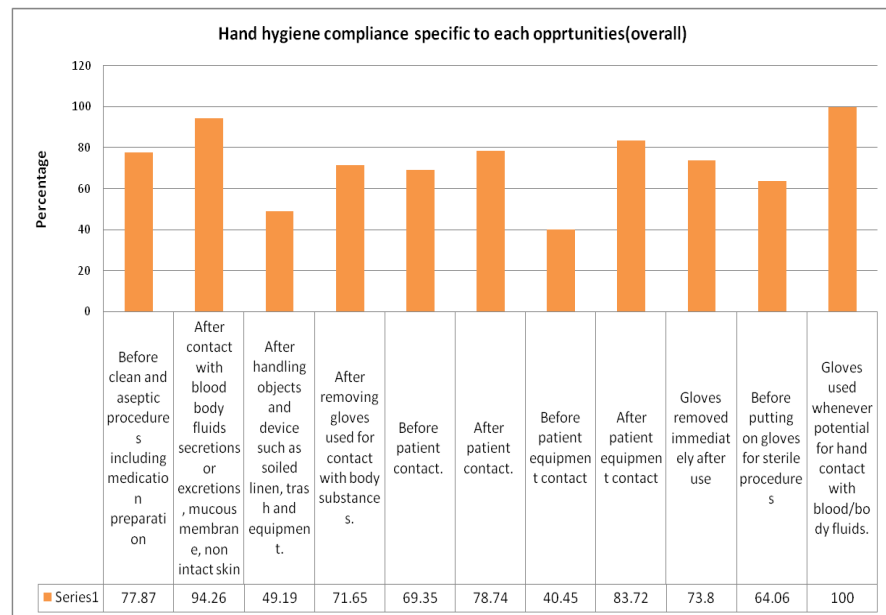
**Fig 13: Overall observed hand hygiene compliance among different HCW**

Table 14: Observed Hand hygiene compliance specific to each opportunity (Overall)

		Hand hygiene performed	
Situations	no. of opportunities observed	Number	%age
Before clean and aseptic procedures including medication preparation	113	88	77.87
After contact with blood body fluids secretions or excretions, mucous membrane, non intact skin	122	115	94.26
After handling objects and device such as soiled linen, trash and equipment.	124	61	49.19
After removing gloves used for contact with body substances.	127	91	71.65
Before patient contact.	124	86	69.35
After patient contact.	127	100	78.74
Before patient equipment contact	131	53	40.45
After patient equipment contact	130	109	83.84
Gloves removed immediately after use	130	95	73.07
Before putting on gloves for sterile procedures	126	81	64.28
Gloves used whenever potential for hand contact with blood/body fluids.	128	128	100
	1382	1007	

Fig: 14 Observed Hand hygiene compliance specific to each opportunity

Observation specific to each opportunity showed:

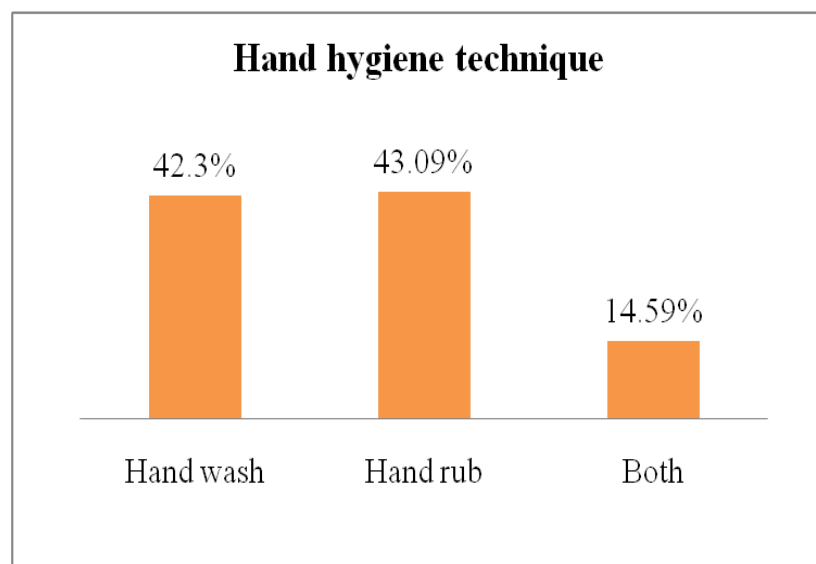
- Almost all participants' uses gloves whenever potential for hand contact with blood /body fluid.
- Majority of sample maintains hand hygiene after contact with body fluids, secretions etc, almost 80% maintains hand hygiene after patients &equipment contact.

Least compliance was found in opportunities like:

- After handling of soiled linen etc (49.19%)
- Before patients equipment contact (40.45%)
- Before putting on gloves for sterile procedures (64%)
- Before patients contact (69%).

Table 15 : Hand hygiene technique

Hand wash	Hand rub	both
233	300	88
100	118	45
90	11	11
3	5	3
426	434	147
42.30387	43.09831	14.59782

**Fig 15:Hand hygiene technique**

DISCUSSION

A large proportion of the infection acquired in the ICU have been attributed to cross contamination and transmission of microbes from hand of health care workers to patients. Many studies have consistently shown that improved hand hygiene practice reduced nosocomial infections and cross transmission of multidrug resistant infections in hospital. Despite this, present-day data suggest that hand hygiene compliance among health care personnel in most hospital are at best, less than 50% working in ICUs, Doctors under staffing, overcrowding, high intensity patient care insufficient time, lack of institutional priority etc were some of the risk factors for poor hand hygiene compliance.

Many attempts have been made in the past to improve hand hygiene compliance such as educational intervention, motivational programmers etc. However, most of these met with little or temporary success. Hence several multi faceted interventions, which include behavioral, environmental and social changes, have been suggested and tried to sustain improvement in hand hygiene compliance in assessing the hand hygiene practices among HCWs in CCU. On analysis it was found that 68% of respondents use soap and water and 76% used alcohol based hand rub for hand hygiene.

Compliance in hand hygiene was differed among the different categories of HCWs. They reported the most reported reason for non compliance was that they found products at inconvenient position (42%) especially location of sinks & soaps for hand washing. Questionnaire –based study, patient were unsure of needs (32%) this was the Most common reason for non compliance, with perception of having low risk of any infection from patients. 21% of HCW'S gave the reason that they are too busy as patients need takes priority & have insufficient time.

Though 68% of respondents were highly satisfied / satisfied with the hand hygiene practices presently used in CCU and 56% were satisfied with the hand hygiene materials used in the unit. 58% respondents agreed that there was very strong/strong relation between good hand hygiene practices and HAIs. The reported opinion of different HCWs was varying.

Majority of HCWs identified and reported situations / patient care activities Require hand hygiene. All HCWs except unit helpers & technicians identified and reported that maximum of situations require hand hygiene.

The data describe the individual difference of HCWs related to hand hygiene in ways that can be used to create targeted intervention and products to improve hand hygiene. During the observation period the opportunities for hand hygiene were most in the areas of “after equipment contact” after patients contact, after exposure to any blood etc, & also there was 100% compliance on when to use gloves

Limitations

There were disparity in the result from observational study and questionnaire – based study because the number of samples are varying, the samples involved in observational study may or may not be included in the questionnaire – based study. And the samples taken for observation are 70 and questionnaire distributed to 25 samples only, Questionnaire was available only in English. The study was limited to participants who can understand English and who were given time in translating the forms in their regional language.

CONCLUSION AND RECOMMENDATIONS:

The study revealed disparity between reported and observed hand hygiene practices among health care workers of total, 68% of respondents reported to use soap and water; and 76% alcohol based hand rub for hand hygiene while on observation only 42% of respondents were actually found using soap & water; & 43% alcohol based hand rub for hand hygiene. After observation following situations were found less compliant: After handling of soiled linen etc (49.19%), Before patients equipment contact (40.45%), Before putting on gloves for sterile procedures (64%) & Before patients contact (69%). Compliance in hand hygiene practices was differed among the different categories of HCWs. The main reasons of non-compliance of hand hygiene practices were inconvenient location of sinks/ basins (42%); lack of awareness of need of hand hygiene (32%) and too busy due to work pressure for hand washing (21%).

Recommendations:

This study reveal only the hand hygiene compliance rate .There is an option for conduct further studies on hand hygiene to demonstrate reduction in HAIs, as well as reduced mortality and morbidity in our critical care units, and there is another option for doing an interventional study. Apart from this few recommendations made after assessing & analyzing critical care unit of hospital were as follows:

Increase visibility & place dispensers in workflow:

When healthcare workers were asked reason for lacking hand hygiene or missing hand hygiene they told that maximum times the product like soap dispensers are not at right place, in case of hurry even though they want to clean hands the material or dispensers are not located aptly. So it is good that the visibility of the alcohol based hand rubs & soap dispensers should be focused on, so they can be easily located at time of hurry or busy shifts.

Use quality coach or champions for data collection:

There was delay & difficulty in collecting data on time, this made the management difficult to trace & find remedial for hand hygiene & infection control. So it was

recommended to make few quality champions & coaches who can reinforce the hand hygiene practices among healthcare workers regularly, also can keep the data update weekly & month wise.

Visual reminders & involving patients & families. Few of the healthcare workers actually forget to hand wash due to fatigue or busy shifts, so it was recommended to put some motivating & eye catching reminders for hand washing & hygiene. This was asked to be done near every basin of critical care, wall behind the patients bed. Also it was asked to involve patients & family, so that whenever anyone of them encounters negligence they can remind the healthcare worker or can report to administrator.

Well designed & planned training & evaluation of the CCU staff.

Some of the healthcare workers were having 1 or less than 1 year of experience in critical care unit, few of them joined organization recently, so it was recommended to design & plan training programmed for CCU staff, emphasizing specially on importance of hand hygiene in critical care unit of hospital, also the experienced staff should be involved to motivate others .Time to time evaluations should be done & also should be shared with the staff, so they can improve & work on deficit areas.

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INFORMED CONSENT

I hereby agree that to participate the research study “ To assess the hand hygiene practices of Health Care Workers” conducted by Dr.Nidhi Balodhi in critical care unit .

I understand that the data given by me will be kept confidential and be used only for research purpose.

Place Signature of staff

Date

HAND HYGIENE QUESTIONNAIRE

Fill or tick mark appropriately

Demographic information

1. Name:

2. Age: _____ Years

3. Sex: _____ M/F

4. Profession: Duty Medical Officer/Nurse/ Technician

5. Qualification: MBBS/MS/MD/GNM (N)/B. Sc (N)/M. Sc (N)/Others

6. Total professional experience: _____ years

7. Total years of critical care unit experience _____ years _____ months

1. Did you receive formal training for hand hygiene?

(a) Yes (b) No

2. Do you routinely use alcohol – based hand rub?

(a) Yes (b) No

3. How often (%) do you use these products to disinfect your hands (Should add up to 100%)?

(a) Soap and water alone _____% (b) Alcohol – based hand rub _____%

(c) Both _____% (d) Neither _____%

4. Is there is any hand hygiene protocol in the critical care unit or hospital that you are aware of?

(a) Yes

(b) No

5. If there is any protocol, what do you estimate your compliance rate?

(a) Never (b) 1-10% (c) 11-40% (d) 41-70% (e) 71-100%

6. When you do not disinfect your hands using an alcohol based rub when you should, what is the reason?

(a) Too busy (b) Forgot (c) Unsure of need

(d) Out of products (e) Products not in convenient location (f) Other_____

(7) To what degree you think there is a relationship between good hand hygiene practice and hospital acquired infections?

(a) Very Weak (b) Weak (c) neither weak nor strong (d) Strong (e) Very strong

(8) When working with another care giver and you forgot to disinfect your hands before touching the patient, what percent of time does YOUR colleague remind you?

(a) Never (b) 1-10% (c) 11-40% (d) 41-70% (e) 71-100%

(9) When working with another care giver and him / her forgot to disinfect their hands before touching the patient, what percent of time does YOU remind your colleague?

(a) Never (b) 1-10% (c) 11-40% (d) 41-70% (f) 71-100%

(10) Rate your satisfaction with hand hygiene practice (including glove Practice) currently used in your hospital

(a) Highly satisfied (b) Satisfied (c) Neutral (d) Dissatisfied (e) Highly dissatisfied

(11) Please rate your satisfaction with hand hygiene material currently used in your hospital

(a) Highly satisfied (b) Satisfied (c) Neutral (d) Dissatisfied (e) Highly dissatisfied

Hand Hygiene Observation Tool

Date:

Yes (✓)

No (□)

N/A (0)

Date	Oppertunities	yes/No/n	yes/No/n	yes/No/n	yes/No/n	yes/No/n	yes/No/n	yes/No/n/a
Indications	number	1=nurse	2=nurse	3=nurse	4=nurse	5=doctor	6=doctor	7=unit helper
Before clean and aseptic procedures including medication preparation								
After contact with blood body fluids secretions or								
and device such as soiled linen, trash and equipment.								
After removing gloves used for contact with body substances.								
Before patient contact.								
After patient contact.								
Before patient equipment contact								
After patient equipment contact								
Gloves removed immediately after use								
Before putting on gloves for sterile procedures								
Gloves used whenever potential for hand contact with blood/body fluids.								