

Awareness And Compliance Of Hand Hygiene Among Lab Personnel In A Tertiary Care Hospital In South India

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Abstract

Introduction: Health care personnel's hands act as a means for transmission of health care associated infection. The present study aims to assess regarding the awareness and compliance of the lab personnel towards Hand hygiene.

Materials and Methods: A total of 36 Lab personnel were included in the study. Knowledge regarding awareness and attitude regarding hand hygiene was assessed by a questionnaire. The Hygeine practices were observed for one week. The lab personnel were emphasized regarding the importance of hand Hygeine by demonstrations and Audio visual aids (intervention) followed by assessment of the compliance of hand hygiene for missed moments was observed .The data was analyzed for statistical significance before and after demonstrations.

Results: A total of 36 lab technicians were included in the study. All the 36 (100%) of the participant said that they will perform hand wash before leaving lab, 24 (66.66 %) of them always performed hand washing after removing apron. The most frequently observed moment of hand hygiene was before leaving the lab and missed moment was before touching a clean surface. Before intervention hand hygiene compliance was 64.86%. Post intervention compliance rate was 73.9% during the first week and 82.14% during second week. The compliance of hand Hygeine before and after intervention was not statistically significant.

Conclusion: Health care facility must ensure that hand hygiene to protect the patients and indirectly minimize cross infections. Repeated training programs and can bring about changes in the attitude and practices in turn leading onto decrease in nosocomial infections.

Key words: Hand hygiene, laboratory staff, compliance

INTRODUCTION

Hospital acquired infections due to improper hand hygiene procedures are an important cause of morbidity and mortality. The highest prevalence of such infections as high as 19% is observed in developing countries.^[1]This possesses a challenge to health care provider. Health care personnel's hands act as a means for transmission of health care associated infection. Regular hand hygiene will reduce the transient flora on hands. Use of Personnel protective equipment, hand hygiene practices and safe waste disposal can keep the Health care worker from blood borne infections. There are studies assessing the practice of hand hygiene among various health care workers like doctors, nurses, medical student.^[2]The present study aims to assess regarding the awareness, attitude and compliance of Hand hygiene among the lab personnel

MATERIALS AND METHODS

The prospective study was conducted involving the technicians from Central Clinical lab and Blood Bank for a period of three weeks (Oct-Nov 2018). The study was approved by the institutional ethical committee. A total of 36 Lab personnel were included in the study. Verbal consent was obtained from the participants. The study was divided into various components like

1. Assessment of Awareness and Attitude about hand hygiene using a questionnaire
2. Assessment of Compliances with hand hygiene following demonstrations using lectures and AV aids

Knowledge regarding awareness and attitude regarding hand hygiene was assessed by the following questionnaire,the questionnaire also included demographic data of the participants.

1. Choose the moments where you will follow hand hygiene

- A) After removing Apron
 - b) Hands are visibly soiled
 - c) Before entering clean area
 - d) Before touching clean surface
 - e) Before leaving Lab
 - f) All the above.
2. Have you received education about hand hygiene during last 6 Month? Yes/No
 3. Do you use hand rub / wash always regularly? Yes/No
 4. What is the minimal time needed for alcohol based hand rub to kill microorganism on your hands?
 5. Which of the following Hand wash actions will prevent transmission of microorganism to Patient?
 - A. Before touching patient Y/N
 - b. Immediately after mask of body fluid exposure Y /N
 - C. After Removing Apron Y/N
 - D. Before Leaving Lab Y/N
 - E. Before leaving cleaning area Y/N
 - F. Hands visibility soiled Y/N
 6. Health care workers hands are the main route of transmission of potentially harmful microorganism – Agree / Disagree
 7. Wearing Jewelry is associated with increased contamination of hands with harmful germs – Agree / Disagree
 8. Do you agree that properly practicing effective hand hygiene practices help in preventing healthcare associated infections - Agree / Disagree?
 9. Do you think that posters with clear / simple instructions/illustrations at every hand wash station is required to motivate Health care workers for effective hand hygiene – Agree / Disagree
 10. Do you think properly following hand hygiene will set as good example for your colleague – Agree / Disagree?

The lab personnel were asked to fill up the questionnaire. Initially they were observed for a period of one week regarding their hand hygiene practices (hand washing with soap & water/Alcohol based hand rub) (2 hours per day). They were given a short lecture on hand washing emphasizing on its importance which was taken with the help of demonstration and Audiovisual aids (Videos of steps of hand washing and 5 moments of hand Hygiene) the following week by the faculties of the department of microbiology. The activity focused on increasing the level of awareness among the lab technicians of proper hand hygiene as an important factor in transmitting microorganism as they come in contact with during their activities. The lab personnel were observed for a period of one week after the demonstration, 2 weeks after demonstration and the compliance with hand hygiene (5 moments) was assessed for 2 hours per day randomly by faculties of department of microbiology with help of check list for 5 moments of hand hygiene (WHO guidelines) and the results were analyzed and interpreted. The compliance of hand Hygiene before and after demonstration and Audio visual aids was analyzed for statistical significance by chi square test and p value less than 0.05 was considered significant (GraphPad- Quick calcs)

RESULTS

A total of 36 lab technicians were included in the study. Analysis revealed that majority of the participants have received education about hand hygiene and universal precaution in the last one year 26(72.22%) Only 19 (52.77%) of the participants were able to correctly say the minimum contact time for the alcohol based hand rub. All the 36 (100%) of the participants said that they will perform hand wash before leaving lab, 24 (66.66 %) of them always performed hand washing after removing apron. All 36(100%) participants agreed that they performed hand washing after the hands were visibly soiled and 28 (77.7 %) agreed that health care workers hands are the major route of transfer of microorganism. About 29 (80.5 %) agreed that properly performed hand hygiene is essential for preventing health care associated infection. All the 36(100%) of them agreed that posters with clear and simple instructions at every hand wash station is essential to motivate them to perform hand hygiene. Out of the 36 participants 18(50%) were of the opinion that wearing jewelry was not associated with colonization of hands with microorganism. Majority of the lab personnel had good awareness regarding Hand washing and its significance.

Before intervention hand hygiene compliance was assessed for a week, a total of 185 moments were observed and 65 moments were missed with compliance rate of 64.86%. Post intervention observational stage at the first week: A total of 215 moments were observed and 56 moments were missed with compliance rate of 73.9%. Post intervention observational stage at 2 weeks: A total of 196 moments were observed with 35 missed moments with compliance rate of 82.14%. The compliance rates increased after training sessions like demonstration and repeated motivations compared to the week before the training session. (Table 1). Compliance to hand washing before training Vs. After training sessions was analysed for statistical significance by Chi square test and was found to be statistically not significant. (Table 2)

Table 1: Compliance to hand washing before training Vs. After training sessions

| S.N | Training session | Total moments observed | Moments missed | Compliance % |
|-----|----------------------------------|------------------------|----------------|--------------|
| 1 | Before training session | 185 | 65 | 64.86% |
| 2 | One week after training session | 215 | 56 | 73.9% |
| 3 | Two weeks after training session | 196 | 35 | 82.14% |

Table 2: Compliance to hand washing before training Vs After training sessions statistical significance by Chi square test

| s.no | Training session | Total moments of hand hygiene observed | Moments of hand hygiene performed correctly | P value* |
|------|---|--|---|----------|
| 1 | Before demonstration/AV aids | 185 | 120 | 0.433 |
| | After demonstration/AV aids First week | 215 | 159 | |
| 2 | Before demonstration/AV aids | 185 | 120 | 0.1556 |
| | After demonstration/AV aids First week | 196 | 161 | |

* p value < 0.05 is considered significant(Quick calcs – Graph pad)

DISCUSSION

Hand hygiene has a fundamental role in the prevention of one of the most challenging problems in the management of nosocomial infections. Good education and training for health care workers will motivate them to perform hand hygiene properly. Good hand hygiene procedure and disinfection can decrease the bio burden of drug resistant bacteria in the health care facilities.^[3] The present study demonstrates the importance of education and implementation of hand hygiene protocols among the lab personnel.

Improved training and system for monitoring the hand Hygeine is the need of the hour. Though there are many studies regarding the practice of standard precautions among health care workers, there is a lack of information among the lab personnel

In the present study the most frequently observed moment of hand hygiene was before leaving the lab and the most frequently missed moment was before touching a clean surface. Out of the 36 lab personnel 26(72.22%) have already received training regarding hand hygiene.

In a study conducted at Pune and New Delhi the hand hygiene compliance rate was 80% among health care workers comparable to the present study.^[4,5] A study conducted at Rajasthan by Meghwal SC et al revealed that the compliance was as low as 43.33%.^[6] In a study from Ghana by Akagbo SE et al the compliance rate ranged from 9 to 57% among health care workers.^[7] Various other studies across the world have showed a compliance rate of 68% and 82.4%.^[8,9,10] In a study by Gitanjali B et al though there was a significant awareness among the lab technicians it was not the same with their attitude and 81% of lab technicians were of the opinion that hand hygiene should be followed as professional practice.^[11]

After two weeks of the session the compliance was increased (82.14%) compared to 64.86% in the first week indicating the need for Educational programmes on the benefits of Hand hygiene to be organized frequently.

CONCLUSION

Health care facility must ensure that hand hygiene and proper use of gloves must be optimized to protect the patients and indirectly minimize cross infections. Repeated training programs and can bring about changes in the attitude and practices in turn leading onto decrease in nosocomial infections.

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