ORIGINAL ARTICLE

KAP Survey of Hand Hygiene Practices in Doctors of Jinnah Hospital, Lahore

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ABSTRACT

Background: Hand washing has been one of the most important infection control strategies in health care system.
Aim: To study and review the baseline knowledge, attitude about hand hygiene and that how it is practiced. Moreover the study aimed to find reasons for failure of this practice.
Methods: This was a cross sectional study, which was carried out among medical staff of different departments of Jinnah Hospital, Lahore. 116 participants were surveyed by using a pre-designed questionnaire. The questionnaire consisted of general profile of the participant and specific leading questions to determine the knowledge, attitude & practice of different methods of hand hygiene and the reasons for its failure. The data was then analyzed by using SPSS version 21.
Results: We found that 100% knew about all methods for hygiene (hand washing, scrubbing and use of gloves), but just 42.2% of participants considered hand washing to be most important hand hygiene method and surprisingly 41.4% did not know the recommended hand washing steps. The actual compliance for hand washing was less i.e., 40.5% before contact with patients and 59.5% after contact with patients, as compared to their knowledge. The most common reason was inaccessible location and shortage of wash basins/ water in 81% of cases.
Conclusion: Concerning hand hygiene, there are 'overall' inadequate practices and attitudes. This study emphasize the importance of further improvement in the existing health care training program to address these gaps as regards to hand hygiene.
Keywords: Hand hygiene, doctors, knowledge, attitude and practice survey (KAP) survey, reasons

INTRODUCTION

Many hospital acquired infections (HAI) are transmitted from one patient to another patient through the route of the hands of health care workers due to poor hand hygiene[1]. These infections are a big threat and its' prevalence differs from nation to nation and institute to institute. Worldwide the data supports that almost 1% of health care associated infections (HCAI) are observed in admitted patients[2]. The situation is more worse in developing countries, where the prevalence can become as high as 30-50%[3]. The contaminated, dirty hands of health care provider, relatives/ friends are the most important etiological mechanism for these health care associated infections[4].

So proper and good hand hygiene is the simplest proven method which has an undisputed role in reduction of health care associated infections among hundreds of millions of patients. In present situation of rising infection rate and growing antibiotic resistance, there is dire need to reduce the high levels of infections and therefore it is necessary to emphasize the importance of hand hygiene[5].
Everyone agrees that proper hand washing is of vital importance but many studies shows, that health care providers don't follow the hand hygiene recommendations and that improvement efforts frequently lack sustainability[6]. The reasons behind is frequently the heavy workload, high number of clinical procedures and skin conditions of health workers[7].

In Asia, there is paucity of studies[8] exploring this subject, although the prevalence of health care associated infections is high in this region. Most of these studies have explored the KAP of doctors as well as of nurses[9].
So far, to the best of our knowledge, there are very scarce systematic studies to promote and evaluate hand hygiene in health care facilities in Pakistan. We should conduct more research on finding gaps in knowledge and practice of hand washing so that effective health education programs can be designed. This information will be helpful for public health authorities to design effective education programs for infection prevention.

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METH ODS

A total of 116 participants were recruited in the current study. All participants were female doctors from different medical fields in Jinnah Hospital, Lahore. The sample size was calculated using sample size calculator. Keeping in view 19% prevalence of hand washing practice with soap[10], margin of error 6%, confidence level 90% and estimated population size 20,000 our sample size came out to be 116.

All participants were interviewed according to a predesigned questionnaire regarding their demographic and professional characteristics, awareness, attitude and practice of hand hygiene and reasons for not regularly doing it. Knowledge questions included their knowledge of different hand hygiene techniques, effectiveness of different techniques, whether wearing gloves eliminates the need to wash hands and WHO steps of hand washing. Attitude was assessed by asking which hand hygiene method they preferred. Practice was assessed by asking whether they actually practice hand hygiene before and after touching patient, after touching patient surroundings

or his fluids, and before doing invasive procedure. They were also asked for reasons for not practicing it regularly and whether they have hygiene facilities available at institution. All the doctors and paramedics participated in this study on voluntary basis. Confidentiality was maintained at all levels. The data was then entered and statistically analyzed by using SPSS version 21.

RESULTS

Majority of the doctors (86.2%) belonged to age group of 23-30 years and having clinical experience duration of 1-5 years in 85.4%. The common specialties interviewed were obstetrics & gynecology (45.7%), medicine (24.1%), surgery (18.1%), dermatology (3.5%) and anesthesia (1.7%). Only 1 doctor each from ophthalmology, cardiology and radiology was surveyed.

Regarding knowledge of hand hygiene, 100% knew about different techniques of hand hygiene (hand washing, alcohol based rubs, gloves). According to second question the most frequent method of hand hygiene was observed to be hand washing by 42.2% of respondents (table-1). They were asked, whether wearing gloves eliminates the need to wash hands and 94% doctors said “no” to it. Regarding WHO guidelines for hand washing steps, the participants were not very confident to answer question and they answered just by assumptions (Table 2).

Participants were asked about their attitude towards hand hygiene by asking about preference for different methods before and after contact with patients. Almost 86.6% preferred to wear gloves before touching the patient (Table 3).

Regarding practice, or question about washing hands in routine, variable response was observed, illustrated in table 4. Maximum compliance was 88.8% for contact with patient secretions. Response to question about reasons for not practicing hand hygiene is depicted in Table 5. Most participants reported shortage of sinks/ water. According to results, the different hand hygiene facilities were available in almost half of set ups (Table 6).

Table 1: Knowledge of most effective hand hygiene method to prevent infection transmission (n=116)

Method	No	%age
Hand washing	49	42.2
Alcohol based agents	28	24.1
Wearing gloves	39	33.7
None of above	0	0

Table 2: Knowledge about WHO guidelines for hand washing steps

Hand washing Steps	No	%age
Five	39	33.6
Six	22	19
Eight	7	6
Eleven	0	0
Don’t Know	48	41.4

Table 3: Hand Hygiene Methods preference (attitude) before and after touching patient (n-116)

Method	before	After
Use of gloves	104(89.6%)	12(10.4%)
Soap and water	47(40.5%)	69(59.5%)
Alcohol based agents (sanitizers)	23(19.8%)	93(80.2%)
None	0	0

Table 4: Routine habit of washing hands (practice) (n=116)

Habits	Yes	No
Before touching patients	53(45.7%)	63(54.3%)
After touching patients	99(85.3%)	17(14.7%)
On contact with secretions of patient	103(88.8%)	13(11.2%)
Before any invasive procedure	91(78.5%)	25(21.5%)
After handling the things surrounding patients	61(52.5%)	55(47.5%)

Table 5: Reasons for not practicing hand hygiene and washing regularly

Reason	Yes	No
Lack of time	63(54.3%)	53(45.7%)
Location and shortage of sinks/ water	94(81%)	22(19%)
Lack of knowledge	33(28.4%)	83(71.5%)
Irritation and dryness of hands	30(25.9%)	86(74.1%)
Low risk of acquiring infection from patient	18(15.5%)	98(84.5%)

Table 6: Available hand washing facilities at patient care site

Facilities	Yes	No
Soap	52(44.8%)	64(55.1%)
Alcohol based agents	53(45.7%)	63(54.3%)
Water Sink and water supply	59(50.9%)	57(49.1%)
Hand drier or towels	18(15.5%)	98(84.5%)
Sterile gloves	68(58.6%)	48(41.3%)

DISCUSSION

Despite the fact that hand washing is a basic and simple procedure and has long been considered to be one of the most important infection control measures, but the adherence and compliance rates by health care workers are generally reported to be low.[1,9] Infection control strategies and practices are of immense significance in any health care set-up for prevention of HCAI. Hand hygiene is the first basic step for effective and successful infection control in all health care systems[11].

We found that among the medical staff, knowledge regarding different methods of hand hygiene (hand washing, scrubbing and use of gloves) was almost 100% (as we expect it to be) but just 42.2% of participants considered hand washing to be most important hand hygiene method and surprisingly 41.4% did not know the recommended hand washing steps. The actual compliance for hand washing was less i.e. 40.5% before contact with patients and 59.5% after contact with patients, as compared to their knowledge. This may be due to a shortage of hand hygiene resources in our hospitals and due to inadequate knowledge and training at same time. This was an alarming situation that even the medical personnel don’t care much about the simple infection prevention strategies like hand hygiene, so what to talk about the general population. Though hand washing guidelines are simple and easy to learn, but their practice at work place is suboptimal and a big challenge.

Other studies have also reviewed and observed the low compliance of health care professionals for hand washing. In a meta-analysis the hand hygiene compliance was 52% (range 27-86%)[12].

Many authors have evaluated and identified the reasons for this non-compliance and the frequent reasons being lack of time, lack of means to clean hands, patients

not at risk or forgetfulness. In our study we observed almost the similar reasons for low hand washing practices. The most common reason was inaccessible location and shortage of sinks/ water in 81% of cases.

According to CDC recommendations, every patient should be considered as potentially infectious and all precautions must be taken as many of these patients might be having a hidden infection. Therefore it is imperative that special precautions should be taken as a rule and not as an exception.

As doctors have the key role in the health care team, it is very important to train the doctors and other paramedical staff optimally to update their knowledge as regards to the standard preventive measures against infectious diseases. It is needed that they all should be educated via a multifaceted approach in hospital so as to enhance their knowledge, attitude and practices regarding infection control in hospital setting and other health care facilities. Hand hygiene training workshops should be conducted more frequently with continuous monitoring and performance feedback. The health care providers should be encouraged to observe correct hand hygiene practices. As observed in this study, the situation in health care centers of other developing countries is even more un-acceptable, so there is need to specifically target hand washing and hygiene training programs in all health care facilities.

CONCLUSION

Knowledge and compliance with hand hygiene among health care workers is quite suboptimal to date, so it should be enhanced significantly through regular hand hygiene campaigns and training sessions.

REFERENCES

1. Allegranzi B, Bagheri Nejad S, Combescure C, Graafmans W, Attar H, Donald Soul et al. Burden of endemic health care associated infection in developing countries: Systematic review and metaanalysis. Lancet. 2011; 377 (9761): 228-41.
2. Humphreys H, Newcombe RG, Enstone J, Smyth ET, McIlvenny G, Fitzpatrick F et al. Four country HCAI prevalence survey 2006: Risk factor analysis. Hosp Infect. 2008 Jul; B.9 Suppl 3: 249-57.
3. Lodha R, Pandey RM, et al. Epidemiology of nosocomial infections in medicine intensive care and at a tertiary care hospital in Northern India. Trop Doc 2008; 38: 233-5.
4. Mayank D, Anshuman M, Singh RK, Afzal A, Baronia AK, Prasad KN. Nosocomial cross transmission of pseudomonas aeruginosa between patients in a tertiary care intensive care unit. Indian J Pathol Microbiol 2009; 52: 509-13.
5. Mathai E, Allegranzi B, Kilpatrick C, Pittet D. Prevention and control of health care associated infections through improved hand hygiene. Indian J Med Microbiol. 2010; 28(2): 100-6.
6. Erasmus V, Brouwer W, VanBeek EF, Oenema A, Daha TJ, Richardus JH, et al. A qualitative exploration of reasons for poor hand hygiene among hospital workers: Lack of positive role models and of convincing evidence that hand hygiene prevents cross infection. Infect Control Hosp Epidemiol. 2009; 30 (5): 415-9.
7. Jang JH, WUS, Kirzner D, Moore C, Youssef G, Tong A, et al. Focus Group study of hand hygiene practice among health care workers in a teaching hospital in Toronto, Canada. Infect Control Hosp Epidemiol, 2010; 31 (2): 144-50.
8. Patarakul K, Tan-Khum A, Kanha S, Padungpean D, Jaichaiyapum OO. 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. J Med Assoc Thai. 2005; 88 suppl 4: S287-93.
9. Chan MF, Ho A, Day MC. Investigating the knowledge, Attitudes and practice patterns of operating room staff towards standard and transmission- based precautions. Results of a cluster analysis. J Clin Nurs. 2008; 17(8): 1051-62
10. Freeman MC et al. Hygiene and health: Systematic review of hand washing practices worldwide and update of health effects. Trop Med Int Health. 2014.
11. Boyce JM, Pittet D. Guidelines for hand hygiene in health care settings: Recommendations of the health care infection control practices advisory committee and the HICPAC/ SHEA/ APIC/ IDSA hand hygiene task force. Infect control Hosp Epidemiol 2002; 23 (12 suppl): S3-40.
12. Gammon J, Morgan-Samuel H, Gould D. A review of the evidence for suboptimal compliance of health care practitioners to standard/ universal infection control precautions. J Clin Nurs 2008; 17: 157-67