



Hand hygiene amongst health workers in a teaching hospital - A kap study

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Abstract

Though relatively simple procedure, Hand Hygiene compliance rates tend to be highly variable and poor.

Material & Methods: cross-sectional KAP study was conducted at SMHS Hospital, a teaching hospital in Srinagar, India. Study subjects were the nursing staff working in different departments of the Hospital. Self-structured one plus WHO, s hand hygiene questionnaire for health care workers was administered. Almost 80% respondents skipped hand washing when in hurry. Only small percentage of 12 and 28 used to hand wash before touching a patient and before doing simple procedure respectively.

Conclusion: This study depicts the poor compliance of health workers regarding hand hygiene.

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Introduction

Every 1 in 20 hospitalised patients is affected by Health Care Associated Infections (HAI) [1]. Most of the infections are spread via health care worker's hands and Hand Hygiene is the single most effective measure to prevent this spread. Though relatively simple procedure, Hand Hygiene compliance rates tend to be highly variable and poor [2]. Hand Hygiene is a general term referring to any action of hand cleansing by using water & detergent and/or the use of alcohol-based hand sanitization for the removal of transient micro-organisms from hands [3]. Annually, approximately 2.4 M deaths can be prevented by good hygiene practices, reliable sanitation & drinking water [4]. A Meta-analysis showed that improvements in hand washing reduced incidence of URTI and gastrointestinal illnesses by 21% and 31% respectively [5]. Though preventable with simple hand wash-

ing, Health Care Workers are reluctant to adopt recommended practices to curb the infection [6]. Lack of appropriate facilities, high staff to patient ratio, insufficient knowledge and attitude of staff may be the reasons responsible for lack of compliance to hand washing [7].

In India, especially in J&K there is paucity of studies exploring this subject, although the prevalence of HAI is high in whole Asia [8], JK being no exception. To improve Health Care Workers compliance with health Hygiene, it is therefore necessary to consider the hindering factors and attempt to improve them. With this background, this study was conducted to assess the level of knowledge, attitude and practices among healthcare workers of SMHS hospital and then to identify gaps and enhance good practices.



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Material and methods

This cross-sectional KAP study was conducted at SMHS Hospital, a teaching hospital in Srinagar, India. Srinagar is the summer capital of Jammu & Kashmir state and SMHS hospital provides tertiary health care for residents of Srinagar as well as patients referred from other districts.

Study subjects were the nursing staff working in different departments. Convenience sampling was used to select the 100 subjects. Participant selection was purely voluntary. The purpose of study was fully explained to the participants and verbal consent was obtained. Confidentiality was ensured by avoiding use of names of participants.

The study was approved by the Institutional ethical committee. The investigator visited the participants in the hospital wards and explained the nature of the study. Thereafter questionnaire was administered. It was a self-structured one plus WHO, s hand hygiene questionnaire for health care workers. Knowledge and attitude were assessed using 11 and 8 questions respectively. For the assessment of practices there were 15 questions to assess practical activities performed by respondents. Demographic information was also collected.

Data analysis was done using SPSS version software. Descriptive statistics was used to calculate percentages for each of the responses given.

Results

A total of 106 Health workers participated in the study. Males were 20 in number with 16 above 30 years of age while females were 86 and 50 among those were more than 30 year old. 65% participants claimed to have received training in hand hygiene.

About half of respondents believed unclean hands of Health workers as main route of cross-transmission of infection between patients in a health facility while none believed that using same apparatus for different patients is a main route of cross transmission. 91% of respondents had knowledge that hand hygiene before touching a patient and immediately before aseptic procedure prevents transmission of germs to patient while all believed that hand hygiene after touching a patient prevents transmission of germs to health worker. 78% respondents believed that hand washing and hand rub are to be performed in sequence while 61 respondents believed that hand rub is more effective and rapid than hand wash. 43% participants believed that 20 seconds is the minimum time required for Alcohol based hand rub to kill more germs on hand. 60% believed that hand rub should be used before abdominal palpation. Around 20% had knowledge that no hand hygiene method is to be used before abdominal palpation. 72% participants believed in washing hands after emptying bed pan & after making patient's bed. Likewise 68 believed in washing hands with soap and water after visible exposure to blood. Only 60% had knowledge that damaged skin increases likelihood of colonization of hands with germs. 42% respondents were of opinion that steps of hand washing are 4 and equal percentage believed it to be 5. Only 7% tick marked all the dirty areas of hand mentioned in questionnaire.

Attitude: 64% of respondents had a perception that they have sufficient knowledge about hand hygiene while 52% believed that they practice correct hand hygiene all times. Almost 80% respondents skipped hand washing when in hurry while 41% reused gloves after removal.

Practices: Only small percentage of 12 and 28 respectively used to hand wash before touching a patient and before doing simple procedure. 94% participants had facility for hand wash at their workplace and 80% had gloves available. Motivation to hand washing in majority was fear of contracting infection while major barrier to hand washing was "forget to wash"

Discussion

Our study group had relatively good knowledge and attitude but poor practice of hand hygiene. Though majority recognised the importance of hand hygiene but practically compliance regarding the same was poor. Study results show that most of respondents maintained hand hygiene but inadequately. Main reason for skipping hand hygiene was 'forget to wash'. Similar findings were seen in other studies as well [9,10]. Other barriers were lack of soap & water, and lack of time. Similar findings were seen in other studies as well [9,10]. 'Forgetfulness' factor can be removed by regular sensitising of the hospital staff via displaying posters on walls., CME,s and trainings and retraining. Hospital authorities should ensure availability of facilities including water, soap, tissue papers sanitizers etc.

Main motivation factor for hand hygiene among workers was fear of contracting infection. This is consistent with other studies [11,12]. Our study showed that 57% of respondents washed hands before meals while 61% washed hands after going to wash room. In an earlier study it was 46.5% and 61% respectively [13]. Only 34% respondents had availability of towel/paper for drying hands. This is despite the fact that hands drying are as important as hand washing in maintenance of hand hygiene. Our results regarding rates of hand washing with soap and water before interacting with patients was consistent with yet another study [13].

Conclusion

This study depicts the poor compliance of health workers regarding hand hygiene, emphasising the need for immediate adopting of such measures so that knowledge, attitude and practices of Health workers improve. A multi-pronged approach ,including keeping facilities available, regular trainings, reinforcement, education especially motivational programs need to be adopted and implemented in order to ensure strict hand hygiene compliance. Also more research is advocated so as to design interventions for improving compliance.

Tables

Table 1: Age & sex distribution of Health workers.

Age	Males	Females	Total
<30	4	36	40(37.7)
>30	16	50	66 (62.26)
Total (%)	20(18.86)	86(81.13)	106 (100)

Table 2: Training received in hand hygiene.

Yes	69(65.09)
No	37(34.90)
Total	106 (100)

Table 3: Knowledge regarding Hand Hygiene.

Question	Variable	No. (%)	
Main route of cross-transmission of infection between patients in a health care facility	a) Unclean –Hands of Health Care Workers	53 (50)	
	b) Germs in the air within the hospital	32 (30.18)	
	c) Patient's exposure to pathogens on beds, linen, floor etc.	21 (19.81)	
	d) Using same apparatus for different patients like BP cuffs thermometers etc.	Nil	
Hand Hygiene Actions prevent transmission of germs to the patient	a) Hand hygiene before touching a patient	97 (91.5)	
	b) Hand hygiene immediately after a risk of body fluid exposure	94 (88.67)	
	c) Hand Hygiene after exposure to immediate surroundings of patient	77 (72.64)	
	d) Hand hygiene immediately before a aseptic procedure	97 (91.5)	
Hand Hygiene Actions which prevent transmission of germs to the Health care worker	a) Hand Hygiene after touching a patient.	106 (100)	
	b) Hand hygiene immediately after a risk of body fluid exposure	100 (94.33)	
	c) Hand Hygiene after exposure to immediate surroundings of patient.	80 (75.47)	
	d) Hand Hygiene immediately before a clean/aseptic procedure.	80 (75.47)	
Following statements on Alcohol-based hand rub are true?	a) Hand –rub is more rapid than Hand washing.	89 (83.96)	
	b) Hand –rub causes more skin dryness.	70 (66.03)	
	c) Hand-rub is more effective against germs.	61 (57.54)	
	d) Hand-washing and Hand –rub are recommended to be performed in sequence.	78 (73.58)	
Minimum time needed for Alcohol-based Hand rub to kill most germs on your hand?	a) 3 seconds	13 (12.26)	
	b) 10 sec.	13 (12.26)	
	c) 20 sec.	46 (43.39)	
	d) 1 minute	34 (32.07)	
Which type of hand hygiene method is required in following situations?		HandWash	Hand Rub
	a) Before Abdominal Palpation.	20 (18)	64 (60.37)
	b) Before giving an injection	53 (50)	49 (46.22)
	c) After emptying a bed pan	77 (72.64)	25 (23.58)
	d) After removing gloves	56 (52.83)	45 (42.45)
	e) After making patient's bed	77 (72.64)	28 (26.41)
Following are associated with increased likelihood of colonization of hands with germs?	f) After visible exposure to blood	68 (64.15)	36 (33.96)
	a) Wearing Jewellery (rings, bangles)	85 (80)	
	b) Using artificial Finger nails	97 (91.50)	
	c) Damaged skin	64 (60.37)	
Number of steps of hand washing	d) Regular use of hand cream	36 (33.96)	
	a) 2	3 (2.83)	
	b) 3	13 (12.25)	
	c) 4	45 (42.30)	
Dirty areas of hand are Palm, Fingers, Finger tips, Dorsum of hands, nails, web spaces (Tick mark your choice)	d) 5	45 (42.30)	
	All	8 (7.54)	
Hand Hygiene recommended	a) Before Medical Examination	84 (79.24)	
	b) Before taking blood sample with gloved hands	73 (68.86)	
	c) After wound Dressing with gloved hands	84 (79.24)	
	d) After shaking hands	89 (83.96)	
	e) After touching linen/bedding of Patient	93 (87.73)	

Table 4: Attitude towards hand washing.

Variable	No. (%)
have sufficient knowledge about hand hygiene	68 (64.15)
think you practice correct hand hygiene all times	56 (52.83)
skip hand washing often when you are in hurry or over burdened with work	84 (79.24)
think wearing sterile gloves reduces the need for hand washing	93 (87.73)
stress on hand washing , if someone skips it	68 (64.15)
feel bad if and when you skip hand washing	77 (72.64)
use same pair of gloves for care of more than 1 patient	48 (45.28)
re-use your gloves after removal	44 (41.50)

Table 5: Practices of health workers.

Practice	Always	Sometimes	Never
Frequency of Hand washing before touching the patient	12 (11.32)	82 (77.35)	12 (11.32)
Frequency of Hand washing before simple procedures	28 (26.41)	57 (53.77)	21 (19.81)
Frequency of Hand washing after touching the patient	40 (37.73)	57 (53.77)	9 (8.49)
Frequency of Hand washing after simple procedures	32 (30.18)	62 (58.49)	12 (11.32)
Frequency of Hand washing in a day's work	53 (50)	53 (50)	----
Frequency of Hand washing before meals or snacks	61 (57.54)	40 (37.73)	1(0.94)
Frequency of Hand washing after going to washroom	65 (61.32)	28 (26.41)	13 (12.26)

Table 6: Facilities available & Practices of health workers.

Facility for hand wash available at work place	94 (88.67)		
Water & soap/ sanitizers available	85 (80.18)		
Towel/ paper available for drying hands	37 (34.61)		
Gloves available	85 (80.18)		
Routinely use for hand hygiene	Soap and water 61 (57.54)	Water alone 21 (19.81)	Alcohol based hand rub 24 (22.64)
Hand washing technique before meals and snacks	Soap and water 49 (46.22)	Water alone 57 (53.77)	Any other —
Motivation to hand wash	Fear of contracting Infection 69 (55.09)	Habitual 28 (26.41)	Dislike for filth 9 (8.49)
Barriers to hand washing	Forget to wash 48 (45.28)	Lack of time 28 (26.41)	Lack of soap & Water 30 (28.30)

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