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AWARENESS REGARDING HAND HYGIENE AMONG HEALTH CARE WORKERS OF ASSOCIATED HOSPITAL OF GMC KATHUA: A HOSPITAL BASED STUDY

Community Medicine

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ABSTRACT

The study was conducted with the objective to assess the awareness regarding hand hygiene among health care workers of Associated hospital of GMC Kathua. A cross sectional study was conducted at Associated hospital of GMC Kathua for two months from September to October 2019. Prior permission was taken from Institutional Ethical Committee. Primary data was collected by interviewing health workers of different designation from different sections. 50 % of the staff was selected randomly by lottery method. WHO Standardized questionnaires for hand hygiene was used as Study tools. Questionnaire1 comprised of the knowledge component among health care workers and the second questionnaire comprised of 5 questions from 'My 5 Moments of Hand Hygiene 'by WHO for assessing the knowledge and practice of Health Care workers during working hours. Data was entered in Microsoft excel. Descriptive statistical analysis was expressed in form of number and percentages. Total of 111 participants responded which includes 20 doctors, 40 staff nurses, 21 lab technicians, 10 FMPHWs,8 Sweepers and 12 others. 45% of participants received formal training in hand hygiene.81.18% of respondents used alcohol based hand rub. There was significant difference between knowledge and practice of My 5 moments of Hand Hygiene. Majority of Health Care Worker were knowledgeable but they had poor practice regarding the hand hygiene.

KEYWORDS

Hand Hygiene, Health Care Workers, WHO

INTRODUCTION

Hand Hygiene is the best measure which can prevent cross-transmission of infections by rubbing together of surfaces of hands with soap and water. Studies have found that the infections which are acquired through hands while providing health care are known to be the major source of germ transmitted infections.These infections are difficult to treat and can be life threatening.[1] Health Care workers should have knowledge regarding hand hygiene and be able to accurately perform all the steps of hand washing while providing patient care. WHO has provided all the guidelines of hand hygiene to perform the steps while dealing with the patients and their surrounding environment.[2]Inspite of the guidelines provided by the WHO regarding hand hygiene, the compliance of many health care workers were not even 50%.[3,4,5]

The knowledge about hand hygiene among health care workers remains poor because of lack of awareness about WHO hand hygiene guidelines among hospital workers in developing countries.[6]To address the poor compliance and poor knowledge problem, the WHO introduced a concept known as 'My 5 Moments of Hand Hygiene'. The concept is used to improve the monitoring, understanding and reporting of hand hygiene.

MATERIALAND METHODOLOGY

A cross sectional study was conducted at Associated hospital of GMC Kathua over a period of two month i.e; from 20th September to 20th October,2019. Primary data was collected by interviewing health workers of different designation from different sections. 50 % of the staff was selected randomly by lottery method. Out of 250 health care workers ,125 HCWs were selected randomly by Lottery method from different section. Out of which only 111 HCWs gave consent to participate in the Study. WHO Standardized questionnaires Comprising two questionnaire for hand hygiene was used as Study tools. Questionnaire1- was used to assess the knowledge among health care workers. The second questionnaire comprised of 5 questions from 'My 5 Moments of Hand Hygiene 'by WHO for assessing the knowledge and practice of Health Care workers during working hours. The ethical clearance was obtained from Institutional Ethical Committee, GMC Kathua. Data was entered in Microsoft excel. Descriptive statistical analysis was expressed in the form of number and percentages.

INCLUSION CRITERIA:

1) All Health Care Workers who were available and were randomly selected at the time of data collection.
2) Those willing to participate in the Study.

Exclusion Criteria- Health Care Workers who were not interested.

RESULTS AND DISCUSSION :

Health Care Workers (HCWs) always work in close proximity with patients and may result in getting contaminated frequently during patient care. So, this study focused on the knowledge and Practice of Hand Hygiene among Health care Providers Total of 111 Health care workers participated in the study. The study respondents included 40(36%) staff nurses, 21(18.9%) lab technicians, 20(18%) doctors ,12(10.8%) others like Pharmacist and Therapist followed by 10(9%) FMPHWs and 8(7.2%) Sweepers. There were 43(38.73%) Males and 68(61.26%) Females. Mean age of the participant was 31.6±6.4.

Table 1 depicts the Knowledge pertaining to hand hygiene among Health care workers. Only 41.4% of HCW's received formal training in Hand Hygiene in the last 3 years in our study which is very less as compared to other studies. [1] As per WHO, when Alcohol based hand rub is available in health care facility, the use of antimicrobial soap is not recommended. [2] In the present study, 70.27 % used alcohol based hand rub. This was maily due to easy availability and irregular supply of soap at the health care setting. In contrary, findings by Nair SS, Hanuman Tappa R, Hirenath SG et al found 51.11% of the respondents using Alcohol based hand rub routinely. [3]

Correct response to main route of Cross-transmission of Potentially harmful germs between patients in a health care facility was given by 55.85 % participants in our study. The findings are consistent with the study results of Modi PD, Kumar P et al (50%). [4]

Multiple responses were found on enquiring about the various method to prevent transmission of germs to the patient. It was 69.36 % before touching a patient, 43.24 % after exposure to the immediate surroundings of a patient. 36.93 % after exposure to immediate surrounding of a patient.74.77% immediately before a clean or aseptic procedure .

Multiple Hand hygiene prevents transmission of germs to health care workers after touching a patient by 81.08% , Immediately after a risk of body fluid exposure (80.18 %), Immediately before a clean or aseptic procedure (64.86%) and after exposure to the immediate surroundings of a patient (49.54 %) in our study. However, as per the results of V.Bhumika, B Arvind et al less than 25% doctors responded correctly to question 9c, Less than 25% medical students answered

correctly to 5b, 9c,Less than 25% nurses responded correctly to 5b, 5c7d,9 b, 10 d .[5]

In our study, 41.44% opined that hand rubbing is more rapid for hand cleansing and handwashing.47.74 % hand rubbing cause skin dryness more than handwashing. 71.77 % hand rubbing is more effective against germs than handwashing.72.97% handwashing and hand rubbing are recommended to be performed in sequence. Study conducted by Trick WE et al reveal majority of the participants had false knowledge that hand rubbing causes more skin dryness and irritation with soap and water.[6]

Minimal time needed for alcohol based hand rub to kill most germs on hand was answered correctly by 51.35 % respondents. The minimum time needed for ABHR to kill most germs on hands is 20 seconds (hand hygiene 5) Correct answer to this question was given by 64.35% participants. Correct response to type of hand hygiene method required before palpation of abdomen was given by 35.13%, before giving an injection by 38.73 %, after emptying a bed pan by 44.14 %, after removing examination gloves by 46.84 %, After making patients bed by 39.63 %, After visible exposure to blood by 53.15%.As per the study findings of Imed Harrabi, Saad Al Ghamdi et al.[7] Response to Hand Hygiene method required before palpation (rubbing) before and after intervention 86.1 % to 94.4 % was statistically significant. Before giving an injection (rubbing) before and after intervention 61.6 % to 80.6 % was statistically significant, after making a patients bed was statistically significant from 55.5% to 77.8%.

As per our study, Wearing jewellery by 64.86%, damaged skin by 79.27% , Artificial fingers nails by 50.45 % , regular use of a hand cream by 88.28 % should be avoided to decrease the colonization of hands with harmful germs. Wearing jewellery should be avoided as per the findings of Imed Harrabi et al.[7] The results are consistent with the study conducted by Trick WE wherein wearing rings in the finger is associated with 10 fold increase in the risk of contamination.[7] Study conducted by MD Pramar, Pooja Kumari et al among medical students agreed that wearing jewelry (68.5%; n=358), damaged skin (94.3%; n=493) and artificial fingernails (88.3%; n=462) are associated with increased risk of colonization of hands with harmful germs. And 59.5% (n=311) knew that regular use of a hand cream did not increase the risk of colonization of hands with germs. [8] Similarly Moolenar et al observed the role of artificial finger nail of health care workers in cross transmission in the neonatal ICU.[9]

Response to knowledge regarding five moments in our study to different parameters were 82.88 % before patient contact, before an aseptic task by 80.18%, after body fluid exposure risk by 77.47%, after patient contact by 81.08%, and after contact with patient surroundings by 78.37%.For Practice regarding 5 moments of hand hygiene, the response was 71.17 % for M1, 62.16% for M 2, 65.76 for M3, 63.96% for M4 and 78.37 % for M 5. The study by Asma F AlKheraiji1, Bashayer B Al Malki1 et al showed significant gender differences in all the mean scores where females scored higher than males for knowledge, attitude and practices for hand hygiene practices($p<0.015$). A weak correlation was found between increasing knowledge scores and practice ($r = 0.466$).[10]

Table 1 :Frequency Distribution of Hand Hygiene Knowledge for Health-Care Workers(N=111)

S.No.	Questions	Number	Percentages
1.	Participants who received Formal Training in Hand Hygiene in the last 3 years.	46	41.4%.
2.	Routinely used alcohol based hand rub	78	70.27%
3.	Main route of Cross-transmission of Potentially harmful germs between patients in a health care facility.	62	55.85%
4.	The most frequent source of the germs responsible for health care- associated infections.	69	62.16%
5.	Hand hygiene actions prevent transmission of germs to the patient.		
	a)Before touching a patient*	77	69.36%
	b)Immediately after a risk of body fluid exposure*	48	43.24%
	c)After exposure to the immediate surroundings of a patient*	41	36.93%
	d)Immediately before a clean/aseptic procedure*	83	74.77%
6.	Hand hygiene actions prevents transmission of germs to the health-care worker.		
	a)After touching a patient *	90	81.08%
	b)Immediately after a risk of body fluid exposure*	89	80.18%
	c) Immediately before a clean/aseptic procedure*	72	64.86%
	d) After exposure to the immediate surroundings of a patient*	55	49.54%
7.	Which of the following statements on alcohol-base handrub and hand-washing with soap and water are true? *		
	a) Handrubbing is more rapid for hand cleansing than handwashing *	46	41.44%
	b) Handrubbing causes skin dryness more than handwashing *	53	47.74%
	c) Handrubbing is more effective against germs than handwashing*	79	71.17%
	d) Handwashing and handrubbing are recommended to be performed in sequence *	81	72.97%
8.	What is the minimal time needed for alcohol-based handrub to kill most germs on your hands?	57	51.35%
9.	Which type of hand hygiene method is required in the following situations ? *		
	a) Before palpation of the abdomen	39	35.13%
	b) Before giving an injection	43	38.73%
	c) After emptying a bedpan	49	44.14%
	d) After removing examination gloves	52	46.84%
	e) After making a patient's bed	44	39.63%
	f) After visible exposure to blood	59	53.15%
10.	Which of the following should be avoided, as associated with increased likelihood of colonisation of hands with harmful germs?		
	a) Wearing jewellery	72	64.86%
	b) Damaged skin	88	79.27%
	c) Artificial fingernails	56	50.45%
	d)Regular use of a hand cream	98	88.28%

***Multiple response**

Table 2. Knowledge of WHO's My Five Moments of Hand Hygiene.(N=111)

Moments of Hand Hygiene		n (%)
Moment 1	Before Patient Contact.	92(82.88%)
Moment 2	Before an aseptic task.	89(80.18%)
Moment 3	After Body fluid exposure risk.	86 (77.47%)
Moment 4	After patient contact.	90 (81.08%)
Moment 5	After contact with patient Surroundings.	87 (78.37%)

Table 3 : Practice of WHO's My Five Moments of Hand Hygiene.(N=111)

Moments of Hand Hygiene		n (%)
Moment 1	Before Patient Contact.	79(71.17%)
Moment 2	Before an aseptic task.	69(62.16%)
Moment 3	After Body fluid exposure risk.	73(65.76%)
Moment 4	After patient contact.	71(63.96%)
Moment 5	After contact with patient Surroundings.	87(78.37%)

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