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A Study On Awareness About The Hospital Infection And Its Control Programme With Special Reference To Hand Hygiene Among Nursing Staff In A Tertiary Care Teaching Hospital.

HOSPITAL ADMINISTRATION

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ABSTRACT

Introduction: Effective hand washing is the most important measure for preventing the spread of pathogens. Good hand hygiene is one of the most critical control strategies in outbreak management.

Objective: To assess the knowledge, attitudes and practices (KAP) study on Hand hygiene practices among nursing staff of various departments.

Methodology: A Self-administered questionnaire was given to 764 nursing staff (out of which, 619 responded).1 point was given for each correct response. Results were analysed statistically using number, percentage.

Results: Out of 619 participants, majority 83.4% were females, 50.4% were in the age of 26-35 years, 80.5% were GNM, 96.3% were staff nurses, and 38.3% had 0-5 years of work experience. 64.8% had correctly answered the question regarding hand hygiene. However in practice 100% compliance was not there.

Conclusion: There is a need to give training on hand hygiene for all healthcare workers on timely interval.

KEYWORDS:

Hand Hygiene, Nursing staff, compliance, Knowledge, Attitude, Practise

INTRODUCTION:

Over 1.4 million people worldwide at any given time are suffering from infections acquired in health-care facilities. In developing countries the risk of HCAI is 2–20 times higher than in developed countries.[1] Most healthcare associated infections are thought to be transmitted by the hands of healthcare providers through direct contact, mainly when the hands of HCPs transfer microorganisms between individuals or between individuals and the environmental reservoir. It has long been known that hand hygiene among HCPs plays a central role in preventing the transmission of infectious agents. So hand hygiene is a simple yet effective, low-cost action to prevent and control the spread of microbes that cause health care-associated infections (HCAI).[2,3]

Hand hygiene is defined as any method that removes or destroys microorganisms on hands. It is well-documented that the most important measure for preventing the spread of pathogens is effective hand washing. Good hand hygiene is one of the most critical control strategies in outbreak management.[4]

Handwashing is like a "do-it-yourself vaccine—it involves five simple and effective steps (Wet, Lather, Scrub, Rinse, Dry) you can take to reduce the spread of diarrheal and respiratory illness so you can stay healthy. Regular handwashing, particularly before and after certain activities, is one of the best ways to remove germs, avoid getting sick, and prevent the spread of germs to others. It's quick, it's simple, and it can keep us all from getting sick. Handwashing is a win for everyone, except the germs.[5]

OBJECTIVES:

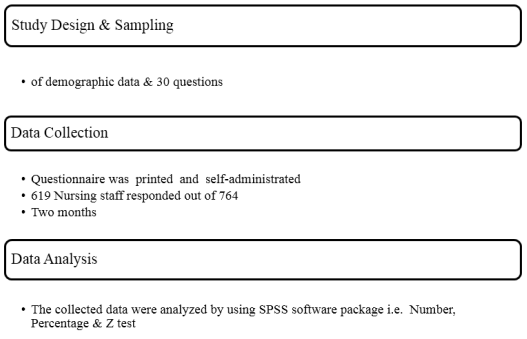
1. To assess the knowledge, attitudes and practices (KAP) study on Hand hygiene practices among nursing staff of various departments in a tertiary care teaching hospital
2. To identify areas of gaps in their Knowledge, attitudes and practices.

METHODOLOGY:

The Methodology of the study consisting of Study design & sampling, Data collection and Analysis is shown in Figure 1.

A Self-administered questionnaire consisting of demographic data and 30 questions which included multiple choice questions; " yes" or "no" questions and "correct" or "wrong" questions was given to 764 nursing staff(out of which,619 responded).1 point was given for each correct response. Results were analysed statistically using percentage, proportion, and z-test.

Figure 1: Methodology of the study.



RESULTS:

Out of 764 nursing staff, 619 had responded to the questionnaire. The response rate is 81%.

Table 1: Demographic characteristics of the study population.

Demographics(n=619)	Number	Percentage
Age		
0-25	175	28.3
26-35	312	50.4
36-45	117	18.9
46-55	15	2.4
>56	0	0.0
Gender		
Male	103	16.6
Female	516	83.4
Qualification		
Bsc	22	3.6
DGNM	99	16.0
GNM	498	80.5

Department		
OPD	5	0.8
Ward	390	63.0
ICU	159	25.7
OT	62	10.0
CSSD	3	0.5
Designation		
Staff Nurse	596	96.3
In charge	13	2.1
Supervisor	10	1.6

Experience		
0-5	237	38.3
6-10	187	30.2
11-15	104	16.8
16-20	75	12.1
>21	16	2.6

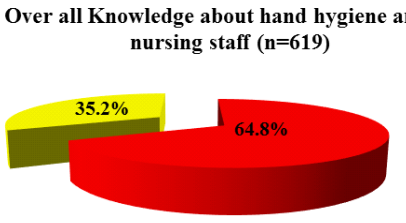
In the above table no.1 shows that, Out of 619 participants, majority 83.4% were females, 50.4% were in the age of 26-35 years, 80.5% were GNM, 96.3% were staff nurses, 38.3% had 0-5 years of work experience.

Table 2: Knowledge about Hand Hygiene amongst the study population (n=619).

SL.No	Questions	Correct(n=619)		Wrong(n=619)	
		No.	%	No.	%
1	Did you receive formal training in hand hygiene in the last three years ?	523	84.5	96	15.5
2	Do you routinely use an alcohol based hand rub for hand hygiene ?	563	91.0	56	9.0
3	Which of the following is the main route of cross transmission of potentially harmful germs between patients in a health care facility?	479	77.4	140	22.6
4	What is the most frequent source of germs responsible for health care associated infections ?	173	27.9	446	72.1
5	Which of the following hand hygiene actions prevents transmission of germs to the patient?				
	a. Before touching a patient	609	98.4	10	1.6
	b. Immediately after a risk of body fluid exposure	138	22.3	481	77.7
	c. After exposure to the immediate surroundings of a patient	541	87.4	78	12.6
	d. Immediately before a clean/aseptic procedure	119	19.2	500	80.8
6	Which of the following hand hygiene actions prevents transmission of germs to the health care workers?				
	a. After touching a patient	586	94.7	33	5.3
	b. Immediately after a risk of body fluid exposure	586	94.7	33	5.3
	c. After exposure to the immediate surroundings of a patient	132	21.3	487	78.7
	d. Immediately before a clean/aseptic procedure	546	88.2	73	11.8
7	Which of the following statements on alcohol based hand rub and hand washing with soap and water are true?				
	a. Hand rubbing is more rapid for hand cleansing than handwashing	506	81.7	113	18.3
	b. Hand rubbing causes skin dryness more than handwashing	209	33.8	410	66.2
	c. Hand rubbing is more effective against germs than handwashing	368	59.5	251	40.5
	d. Handwashing and hand rubbing are recommended to be performed in sequence	170	27.5	449	72.5
8	What is the minimal time needed for alcohol based hand rub to kill most germs on your hands ?	342	55.3	277	44.7
9	Which type of hand hygiene method is required in the following situations?				
	a. Before palpation of the abdomen	495	80.0	124	20.0
	b. Before giving an injection	233	37.6	386	62.4
	c. After emptying a bedpan	89	14.4	530	85.6
	d. After removing examination gloves	131	21.2	488	78.8
	e. After making a patient's bed	112	18.1	507	81.9
	f. After visible exposure to blood	558	90.1	61	9.9
10	Which of the following should be avoided,as associated with increased likelihood of colonization of hands with harmful germs?				
	a. Wearing jewelry	555	89.7	64	10.3
	b. Damaged skin	556	89.8	63	10.2
	c. Artificial fingernails	543	87.7	76	12.3
	d. Regular use of a hand cream	306	49.4	313	50.6
11	Health workers are exposed to germs on their hands by doing the following	560	90.5	59	9.5
12	What reasons do healthcare workers cite as being problematic to wash hands with soap and water:	433	70.0	186	30.0
13	When should you wash your hands with soap and water?	440	71.1	179	28.9
14	How long should you scrub your hands together for when washing with soap and water?	126	20.4	493	79.6
15	When using an alcohol based hand rub,after you've applied the rub,how long should it take of rubbing your hands together before your hands feel dry?	246	39.7	373	60.3
16	The most effective way to break the chain of infection is by	510	82.4	109	17.6
17	You need to wear a gown when working with a patient	442	71.4	177	28.6
18	Identify when the nurse should remove gloves and perform hand hygiene	578	93.4	41	6.6
19	The most likely means of transmitting infection between patients is	345	55.7	274	44.3
20	Your ungloved hands come in contact with the drainage from the patien's wound.To clean your hands you should	497	80.3	122	19.7
21	After coming in contact with a patient on isolation, visitors are encouraged to ?	431	69.6	188	30.4
22	A nurse is preparing a teaching plan for patients about the hepatitis B virus.The nurse informs them that this virus may be transmitted by	498	80.5	121	19.5

23	A nurse working in a unit with a number of patients who have infectious diseases.One of the most important methods for reducing the spread of micro-organisms is	456	73.7	163	26.3
24	A patient who has had a transplant will require what type of isolation?	382	61.7	237	38.3
25	For a patient with hepatitis A, the nurse is aware that the disease is transmitted through:	407	65.8	212	34.2
26	The most common way of spreading infection in a health care environment is via:	507	81.9	112	18.1
27	The choice of personal protective equipment is made by:	190	30.7	429	69.3
28	Isolation nursing is:	425	68.7	194	31.3
29	Gloves should be worn:	590	95.3	29	4.7
30	Sterile gloves should be used when:	619	100.0	0	0.0

Figure 2: Over all Knowledge about hand hygiene amongst the study population (n=619).



In the above Figure no. 2 shows that, 64.8% had correctly answered the question regarding hand hygiene. However in practice 100% compliance was not there.

z-score greater than or equal to the critical value of 1.96 is significant at the 0.05 level.

DISCUSSION:

- Present study showed that most of the nursing staff has an acceptable level of knowledge on hand hygiene. 64.8% of nursing staff had correctly answered the question regarding hand hygiene.
- In a study by Ghadamgahi et al.,only 47.8% of nurses obtained an acceptable level of knowledge.[6]
- However, only 27.9% of nurses knew that the most frequent source of germs responsible for HCAI's were the germs already present on or within the patient, only 20.4% were aware about the time duration to scrub hands together when washing with soap & water.
- Only 39.7% were aware about the time for rubbing hands together when using an alcohol based hand rub, only 44% were aware about the type of hand hygiene method needed in the required clinical situation and 30.7% regarding the choice of PPE is made by.
- Thus this study identified gaps in their knowledge & areas needed for improvement.

CONCLUSION:

- There is a need to give training on hand hygiene for all healthcare workers on timely interval.
- The study showed that 32% of nursing staff has low level of knowledge on hand hygiene.
- So it highlights the importance of training among the nursing staff regarding hand hygiene to provide the current and updated knowledge in the area of nosocomial infections and prevention of infections.
- According to WHO guidelines, the knowledge about good hand washing practices and compliance of the same amongst health care workers is essential for lowering the health care associated infections.

RECOMMENDATION:

All health-care workers require clear and comprehensive training and education on the importance of hand hygiene, the My 5 Moments for Hand Hygiene approach and the correct procedures for hand rubbing and hand washing.

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