ISSN PRINT 2319 1775 Online 2320 7876

Research paper © 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 11, S Iss 3,Dec 2022

Hand Washing Knowledge, Attitudes, And Practices During the Covid-19 Pandemic in students of Allied Health Sciences: A Targeted Educational Intervention

Author-

Mamta Sharma, Dr.Geeta Gupta, Dr. Ankita Gupta

Key Words- Hand Hygiene, Hand washing, Covid 19

ABSTRACT

Background: It has been seen during the COVID times that hand hygiene plays a very important role in prevention of it's transmission. A health care worker plays a very important role in contact transmission of infections. Awareness among the students of allied health Sciences can help aid in reducing the infections. Thus a study regarding assessment of the knowledge, attitude and practices of hand washing during Covid -19 pandemic was undertaken in first year students of Allied Health Sciences.

Methodology: A cross sectional study was undertaken with students of allied health sciences to assess their knowledge, attitude and practices regarding hand hygiene. The students were trained regarding hand hygiene and a pre training and post training questionnaire was given and assessed.

Result: Total sixty-two students of GNM and DOTT course participated in the study. There was a significant improvement in knowledge, attitude and practices of the students after training sessions.

Conclusion: The novel students of allied health sciences were probable targets of imparting hand hygiene knowledge. The interventional change in attitude and practices of the students at grass root level will revolutionise the infection control practices in any health care facility.

Key words: Allied, Knowledge, Hand hygiene, Attitude, Training

INTRODUCTION

The COVID 19 epidemic has exposed humanity to the worst global threats ever. The pandemic spread rapidly costing lives of many. Various guidelines regarding COVID management and prevention were issued by the Health Ministry. Several methods like contact precautions, restricting public movements and social distancing were emphasized to slow down the transmission rate of COVID 19[1]. Even after building of anti-bodies and availability of appropriate vaccine, proper hand hygiene and hand washing remains a key element in avoiding such diseases and pandemics in future.

Hand hygiene is one of the most important components of infection control activities. They play a major role in transmission of pathogenic flora from one contact to another. Health care workers (HCW) hands gradually become colonized with flora throughout patient treatment

ISSN PRINT 2319 1775 Online 2320 7876

Research paper © 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 11, S Iss 3,Dec 2022

which act as a potential source of infection for other patients . It is seen that microorganisms from the hands of Health Care Workers (HCWs) including nursing staff, is the major cause of nosocomial infections and also causes emergence of multi drug resistant organisms.[2,3] It has been estimated that handwashing with soap could save a million lives a year .[4,5] Thus hand washing remains the most important preventive measure.

For proper utility of the preventive measures, the knowledge, attitude and practices (KAP) is very crucial. The knowledge, attitude and practices are based on beliefs and are influenced by demographic variables like age, gender, marital status, place of origin, social influence etc. Several studies have been done regarding hand hygiene. However studies addressing the issue at grass root level by involving nursing and OT Diploma students is very less in our geographical area. Thus a study involving the first year nursing and Diploma OT students was undertaken at our set up.

Material and Methods

A cross sectional, observational study was conducted in the Department of Microbiology Santosh Medical College & Hospital, Ghaziabad, Uttar Pradesh. A total of sixty-two students of first year GNM(General nursing and Midwifery) and DOTT(Diploma in Operation Theatre Technician) students participated in the study. After taking clearance from the ethical committee the volunteered students were made aware about the objectives of study.

A set of structured questionnaire was framed which had three sections. The first section was based on sociodemographic variables like age , gender ,course ,marital status etc. The second section had 8 questions and assessed on knowledge and attitude on hand hygiene. The students were asked to respond to questions as “yes”, “no” and “not sure”. Each right answer was taken as correct and wrong one with not sure option was taken as wrong. The third section consisted of 8 questions on hand hygiene practices. This section was observational and an assessor had a checklist and examined the participants for the practice. If the practice was performed correctly it was taken as correct and if not, it was stated as wrong. After the session, continuous training conclaves were organised in the department regarding hand hygiene. After one month of training the students were assessed on the same questionnaires and responses were noted and evaluated.The data obtained was statistically analysed.

RESULTS

There were a total of 62 students in this study. Out of these 12 (19%) students were male and 50 (81%) students were female. The majority (45%) of the participants were within the age group of 19 - 20 years. The students from GNM course were in majority i.e. 55(89%) as compared to DOTT that was 7 (11%).

Table 1: Sociodemographic variables of the participants.

S. No.	Variables	Students (n=62)
1	Age	
	17-18	17(27%)
	19-20	28(45%)

ISSN PRINT 2319 1775 Online 2320 7876

Research paper © 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 11, S Iss 3,Dec 2022

	>21	17(27%)
2	Gender	
	Male	12(19%)
	Female	50(81%)
3	Course	
	GNM	55(89%)
	DOTT	7(11%)

The knowledge among students regarding hand hygiene was suboptimal at the first assessment. It was seen that only 40(65%) of students knew that the best method to prevent Coronavirus was hand washing and not hand rub. Only 23(37%) of students had the knowledge that the lowest alcohol concentration in hand sanitiser was 60%(Table 2)

Regarding the evaluation of attitude towards hand hygiene, it was observed that the majority of students (94%) had positive attitude that hand washing could reduce the possibility of COVID transmission, but this increased to almost 98%–100% after training (Table 3). There was also significant increase regarding the practice element of hand hygiene on post training evaluation for all the five moments as per WHO recommendation. The questionnaires along with their responses are shown in Table 4. The knowledge component improved significantly after training. Regarding the practices of hand hygiene, about 100 % of students performed all the steps correctly. This improvement emphasized that post training, all students were well acclimatized with hand hygiene and it had become an integral part of their personality. The individual responses are tabulated in Table 3,4 and 5.

Table -2: Responses on knowledge about hand hygiene knowledge (K) during COVID 19 pandemic.

S.no	**Questions**	**Responses**	**Pre -training**	**Post training**
K1	What is the best HH method to prevent Coronavirus?(Handwashing with soap and water)	correct	40(65%)	60(97%)
		incorrect	22(35%)	2(3%)
K2	What is the minimum time period for HW with soap and water to prevent Coronavirus?(40-60 seconds)	correct	19(31%)	58(94%)
		incorrect	43(69%)	4(6%)
K3	What is the lowest alcohol concentration in hand sanitizer that prevents Coronavirus?(60%)	correct	23(37%)	61(98%)
		incorrect	39(63%)	1(2%)
K4	Is using warm water necessary and important during HW to prevent Coronavirus?(NO)	correct	20(32%)	58(94%)
		incorrect	42(68%)	4(6%)
K5	Have you seen a video explaining the proper	Yes	37(60%)	53(85%)

ISSN PRINT 2319 1775 Online 2320 7876

Research paper © 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 11, S Iss 3,Dec 2022

	method of HW in the last 3 months? Yes/No	No	25(40%)	9(15%)

Table 3: Responses regarding attitude(A) about hand hygiene during COVID 19 pandemic.

s.no	**Questions**	**Responses**	**Pre training**	**Post training**
A1	Do you think that HW with soap and water reduces the possibility of coronavirus infection?	Yes	58(94%)	62(100%)
		No	4(6%)	0
A2	Do you think that, while wearing gloves, you should not touch your face? (YES/NO)	Yes	43(69%)	57(92%)
		No	19(31%)	5(8%)
A3	Do you wash your hands with soap and water when needed, such as when returning from public places?	Yes	25(40%)	61(98%)
		No	37(60%)	1(2%)

Table 4: Responses on practices of hand hygiene during COVID 19 pandemic.

S.no.	**Questions**	**Answer**	**Pre training**	**Post training**
P1	Was the insides and the backs of hands washed?	Yes	53(85%)	62(100%)
		No	9(15%)	0
P2	Did the participant wash between fingers?	Yes	50(81%)	62(100%)
		no	12(19%)	0
P3	Did the participant wash his/her wrists?	Yes	42(68%)	62(100%)
		No	20(32%)	0
P4	Did the participant wash the fingertips?	Yes	50(81%)	62(100%)
		No	12(19%)	0
P5	Did the participant wash the thumbs?	Yes	51(82%)	62(100%)
		No	11(18%)	0
P6	Did the participant wash the nails?	Yes	46(74%)	61(98%)

ISSN PRINT 2319 1775 Online 2320 7876

Research paper © 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 11, S Iss 3,Dec 2022

		No	16(26%)	1(2%)
P7	Did the participant dried hands with a clean towel after washing them?	Yes	54(87%)	61(98%)
		No	8(13%)	1(2%)
P8	How long did the participant wash his/her hands with soap and water?	Correct	23(37%)	61(98%)
		Incorrect	39(63%)	1(2%)

DISCUSSION

Hand hygiene is critical for the college community's health. This study looked at how well university students knew about hand hygiene, how they felt about it, and how they practiced it. In the present study, it was seen that the first-year students of allied health sciences were lacking in knowledge regarding many aspects of hand hygiene. Though approximately 80% percent of the students performed the steps of hand hygiene correctly. However, after training sessions almost everyone (100%) of students performed correctly. Nair et al.[6] in their study reported that hand hygiene practices were better complied by the nursing students than the medical students. Similar to this study by Mortel et al. [7] nursing students had better knowledge than other students. Surprisingly most of the students(69%) were unaware of the time duration of washing hands . There was shortfall in knowledge regarding correct steps of hand hygiene as per WHO's five moments of hand hygiene protocol in 68-85% students on pre training evaluation which significantly increased to 98-100% after the training program. Similarly, knowledge of students regarding constituents of hand rub and duration of hand washing increased to 98% and 94% respectively post training. Most of our students had a positive attitude towards hand hygiene after training and started practicing hand hygiene for all 5 moments and increased adherence was observed towards practicing other parameters too . The importance of hand hygiene is been continuously exemplified and it has been proved by our study that training sessions has resulted in significant improvement in knowledge, attitude and practice of hand hygiene among the medical students. [8,9]Hand hygiene is critical for the college community's health. This study looked at how well university students knew about hand hygiene, how they felt about it, and how they practiced it.

Gap among the study results focussed that continuous training sessions should be conducted for updating the student's knowledge and continuous feedback monitoring, supervision of hand hygiene practice and providing rewards for better practice on hand hygiene should be followed to improve hand hygiene practice and technique among students. The results will be useful in the development and implementation of future hand hygiene intervention.[10,11]

CONCLUSION

COVID-19 has been a major public health issue in the world comprising every aspect of humanity. Emergence of newer variants with vaccine and therapeutic failures have all the more focussed on prevention of disease. Hand hygiene is the single most measure that can be undertaken as a routine and be protected with COVID and other diseases. Assessing and

ISSN PRINT 2319 1775 Online 2320 7876

Research paper © 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 11, S Iss 3,Dec 2022

training the allied health care students will help reduce the contact transmission rate and hospital acquired infections. Our study highlights the importance of training sessions on awareness of hand hygiene as soon as the students enter the medical field. The naïve students can easily be molded and acquainted towards infection control practices and it becomes a part of their personality traits. The continuous motivation, training sessions along with skill demonstration is now mandatory for future healthcare professional team members.

ACKNOWLEDGEMENTS

REFERENCES

1. World Health Organization (WHO). Water, sanitation, hygiene, and waste management for the COVID-19 virus: interim guidance. *WHO Interim Guid.* 1–9 (2020).
2. Mohan Lal. Review Article Hand Hygiene – Effective Way To Prevent Infections. Int. J. Curr. Res. 7, 13448–13449 (2015).
3. Songa, J., Van Roekel, K., Mwangi, J., & Noel, L. Pinnacle Medicine & Medical Sciences (ISSN : 2360-9516) A Study On Hand Washing Practices Among Health Care Workers In Embu Referral Hospital , Embu County. 2, 3–7 (2015).
4. Curtis, V. & Cairncross, S. Effect of washing hands with soap on diarrhoea risk in the community: A systematic review. Lancet Infect. Dis. 3, 275–281 (2003).
5. World Health Report. *WHO* **298**, 196–197 (2000).
6. Nair SS, Hanumantappa R, Hiremath SG, Siraj MA, Raghunath P. Knowledge, attitude, and practice of hand hygiene among medical and nursing students at a tertiary health care centre in Raichur, India. ISRN Prev Med 2014;2014:1–4.
7. Basurrah M, Madani T. Hand washing and gloving practice among health care workers in medical and surgical wards in a tertiary care centre in Riyadh, Saudi Arabia. Scand J Infect Dis 2006;38(8):620–4.
8. Chauhan Kalpana & Pandey Anita & Thakuria Bhaskar. (2019). Hand hygiene: An educational intervention targeting grass root level. Journal of Infection and Public Health. 12. 10.1016/j.jiph.2018.12.014.
9. Fakhri N, Jallal M, Belabbes S, et al. COVID-19 and Moroccan nursing students: A multicentre cross-sectional survey on their related knowledge, attitudes and practices. Nurs Open. 2021;8:1634–1641. https://doi. org/10.1002/nop2.790
10. Kumar R, Singh V, Mohanty A, Bahurupi Y, Gupta PK. Corona health-care warriors in India: knowledge, attitude, and practices during COVID-19 outbreak. J Educ Health Promot. 2021 Feb 27;10:44. doi: 10.4103/jehp.jehp_524_20. PMID: 34084791; PMCID: PMC8057180.
11. Mathur P. Hand hygiene: back to the basics of infection control. Indian J Med Res 2011;134:611–20.