Assessment of Knowledge and Perception about Hand Hygiene at THQ Hospital Kot-Addu, Pakistan

Farhana Fareed[1], Haris Khurram[2], Sehrish Fareed[3], Rubina Fareed[4], Muhammad Waseem Hassan Hashmi[5]

1 *Post RN, BSN Student, Gulf College of Nursing, Dera Ghazi Khan Pakistan*
Collection of data, Data compiling and entering, Typing the manuscript, finding the theoretical support.

2 *Lecturer, Department of Sciences and Humanities. National University of Computer and Emerging Sciences, Chiniot-Faisalabad & PhD Scholar, Department of Statistics. Bahauddin Zakariya University, Multan Pakistan*
Guidance of research, Writing Statistical methodology, Statistical data analysis, Writing Statistical results.

3 *Post RN, BSN Student, Gulf College of Nursing, Dera Ghazi Khan Pakistan*
Help in collecting data, Tabulation of results

4 *Post RN, BSN Student, Gulf College of Nursing, Dera Ghazi Khan Pakistan*
Help in collecting data, Help in writing manuscript

5 *Technical advisor, Infection Control Department. Bakhtawar Amin Trust and Teaching Hospital, Multan Pakistan*
Provide guidance in finalizing the work, proof reading

ABSTRACT

Objective: To determine the Knowledge and Perception of Hand Hygiene in Health Care Providers in less developed areas. **Study Design:** Cross-Sectional and Descriptive Study. **Settings:** Study was conducted at Tehsil Headquarter Hospital Kot-Addu Muzaffargarh located in South Punjab. **Duration:** Data was collection between August 2019 and September 2019. **Methods:** The setting for this research will be all clinical care areas. All the registered doctors and nurses in the hospital will be involved in this research and they are 85 in counts. Data collection is done through questionnaires. **Results:** Out of 85 respondents, 30 (35.7%) were male and 54 (64.3%) were females. Including 40 (47.6%) nurses and 44 (52.4%) doctors. Average marks obtained by the respondents were 4.22 ± 1.28, for male respondents results were 3.87 ± 0.90 and for female respondents, the obtained marks were 4.43 ± 1.44. **Conclusion:** Knowledge and perception of hand hygiene in less developed areas are good.

Keywords: Knowledge, Hand hygiene, Heath care.

INTRODUCTION

In health care settings hands of health care workers are considered as the most common vehicle for transmission of micro-organisms from patient to patient and from the environment to patients. If the handwashing practices of HCWs are suboptimal chances of microbial growth are more, causing direct transmission of pathogens. Hand hygiene is the leading measure of preventing the spread of resistant microorganisms and a mechanism to reduce the Health Care Associated Infections (HCAI) among nurses and healthcare workers.[1]

Hand washing seems to be the most important precautionary method to control the transmission of infections from health care workers to environment. There are no specific monitoring tools established to verify the level of compliance about the hand hygiene, hence hand washing has not been adopted well.[2]

Amongst the Health Care Workers nurses are more prone to spread cross infections due to noncompliance of hand washing practices and the reasons were dense working conditions and insufficient materials.[3] Studies revealed that various HCWs although have knowledge about the required hand hygiene practices but do not follow accurately as per standards due to which chances of contamination of their hands were more.[4]

Hand washing is the most effective way of preventing the spread of Hospital Acquired Infections, however the importance of this procedure is not well recognized by the HCWs resulting in poor compliance. Noncompliance of hand hygiene practices by health care workers is a complex issue and it was found that only reliable method to monitor the compliance is direct observation. When it was compared with self-reporting method the later resulted in higher compliance level.[5]

There are significant shreds of evidence that improved handwashing techniques resulted in reducing nosocomial infections, whereas education feedback intervention and patient awareness programs failed to improve the hand washing compliance.[6,7,8]

Introduction of an evidence-based concept of "My five moments for hand hygiene" by the World Health Organization has helped to address the problem to a good extent. These five moments that call for the use of hand hygiene include the moment before touching a patient, before performing septic and clean procedures, after being at risk of exposure of body fluids, after touching a patient, and after touching patient surroundings. This concept has been effectively used to improve understanding, training, monitoring, and reporting hand hygiene among healthcare workers.[9]

Regional Offices of the World Health Organization (WHO) have jointly developed these guidelines to provide comprehensive information to Health care workers in the prevention and control of transmissible infections. The basic requirement is that the hand hygiene guidelines be implemented in hospitals but the applicability of these guidelines among health care workers remains low. The reasons of lack of compliance to handwashing include lack of appropriate equipment, low staff to patient ratios, allergies to hand washing products, insufficient knowledge among staff about risks and procedures, the time required and casual attitudes among HCWs towards bio-safety.[10,11]

Alcohol-based hand rub may be better than traditional hand washing as they require less time, acts faster, less irritating, and contribute to sustained improvement in compliance associated with decreased infection rates[12,13]. Hand hygiene is a core element of patient safety for the prevention of Health Care Associated Infection (HAIs) and spread of anti-microbial resistance. Its promotion represents a challenge that requires a multi-model strategy.

In Asia, there are a few studies exploring this subject, although the prevalence of health care associated infections is higher in this region especially among medical and nursing students. Similarly, for the hospitals in less developed areas, there is also a need to assess the knowledge of health care associated with hand hygiene. This study was done to assess the knowledge and perception of handwashing in a less developed area so that appropriate measures can be taken to promote handwashing compliance.

METHODS

This was cross-sectional and descriptive study conducted at THQ Hospital Kot-Addu, located in Southern Punjab. Timeline for data collection was between August 2019 and September 2019.

The total number of registered doctors and nurses who are directly involved in patient care activities in THQ hospital Kot-Addu are 85. So, all these doctors and nurses including, senior doctors, consultants, medical officers,

Nurses and Head Nurse were the part of this study. A questionnaire was adopted available on the website: http://www.ascquality.org/Library/handhygienetoolki t. This questionnaire includes 7 different questions for assessing the knowledge of the major essentials about hand hygiene and after checking the responses, obtained marks of each respondent were noted. All the respondents were included in this study after obtaining written permission and purely on a volunteer basis.

Data analysis was done using Statistical Package for Social Sciences (SPSS) software. The analysis includes descriptive statistics, frequencies and percentages. For testing the equality of average responses for the different demographic variable we also used t-test and analysis of variance (ANOVA).

RESULTS AND DISCUSSION

Table 1 shows the frequency analysis of each attribute for which frequencies and percentages are calculated. There are 35 persons who are between 21-30 years and are 41.6% of the total data. 39 people are between 30 to 40 years and 46.4% of the whole data. There are only 4 persons who are between 40 to 50 age group and are 4.76% of data and in last there are 6 persons who are above than 50 years and 7.14% of all data. Same as the distribution of gender, marital status, experience, Designation and duty hours are also shown in this table. Finally, the marks obtained by the respondent are discussed. There are only 3 respondents who answered correctly for each question which are 3.5% of the data. The maximum number got by respondent is 4 that is 28.5% of the data.

Table 1: Frequency Analysis of Attributes

Variable	Categories	f	Percent
Age	21-30	35	41.67
	30-40	39	46.43
	40-50	4	4.76
	Above 50	6	7.14
Gender	Male	30	35.71
	Female	54	64.29
Marital Status	Single	7	8.33
	Married	77	91.67
Experience	0 to 5 Years	45	53.57
	5 to 10 Years	22	26.19
	10 to 15 Years	8	9.52
	Above 15 Years	9	10.71
Designation	Nurse	40	47.62
	Doctor	44	52.38
Duty hours	6 Hours	70	83.33
	12 Hours	14	16.67
Obtain Marks	1	1	1.19
	2	6	7.14
	3	18	21.43
	4	24	28.57
	5	21	25.00
	6	11	13.10
	7	3	3.57

Table 2 shows the frequency distribution of each question. For question 1, 96.43% respondent gave a true answer while 3.57% respondent gave false answer. For question 2, 20% of the respondent gave false answer. For question 3 the 33.3% respondent gave the wrong answer for question 4 the percentage of false is 15.4%. the ratio of wrong answer for question 5 is 78.5% same for question 6 and 7 the ratio of wrong is more than the true one. Table 3 shows the mean comparison of marks obtained by different attributes. Firstly, comparison is made for gender. The results of the t-test are significant at 10% level of significance which means that the mean marks obtained by male and female are statistically significant. Female has on average more marks as compared to male respondent.

Table 2: Frequency Analysis of Questions

Sr. No	Questions	Answer	F	Percent
1	In which of the following situations should hand hygiene be performed?	False	3	3.57
		True	81	96.43
2	If hands are not visibly soiled or visibly contaminated with blood or other proteinaceous material, which of the following regimens is the most effective for reducing the number of pathogenic bacteria on the hands of personnel?	False	17	20.24
		True	67	79.76
3	How antibiotic-resistant pathogens are most frequently spread from one patient to another in health care settings?	False	28	33.33
		True	56	66.67
4	Which of the following infections can be potentially transmitted from patients to clinical staff if appropriate glove use and hand hygiene are not performed?	False	13	15.48
		True	71	84.52
5	Clostridium difficile (the cause of antibiotic-associated diarrhea) is readily killed by alcohol-based hand hygiene products	False	66	78.57
		True	18	21.43
6	Which of the following pathogens readily survive in the environment of the patient for days to weeks?	False	59	70.24
		True	25	29.76
7	Which of the following statements about alcohol-based hand hygiene products is accurate?	False	48	57.14
		True	36	42.86

The marks of the respondent are not significantly different for marital status and duty hours but are highly significant at 5% level of significance for designation. This shows that on average nurses get more marks than doctors.

Table 3: Mean Marks Comparison using the t-test

Variable	Categories	Mean± S.D.	t-test
Gender	Male	3.87±0.90	-1.93*
	Female	4.43±1.44	
Marital Status	Single	5.14±1.68	1.54
	Married	4.14±1.23	
Designation	Nurse	4.55±1.43	2.24**
	Doctor	3.93±1.08	
Duty hours	6 Hours	4.17±4.50	-0.744
	12 Hours	4.50±1.56	

**= significant at 5%; *= significant at 10%; S.D = Standard Deviation

For testing the mean equality for the variable having more than two attributes ANOVA is used in table 4. For the age group, the value of F-test statistic is highly significant at 5% level of significance. The average marks of minimum and maximum age group are higher as compared to other groups. This difference is due to maximum age group people are more experienced and for minimum age group level, the effectiveness and knowledge due to recent degree is more value.

Table 4: Mean Marks Comparison using ANONA

Variable	Categories	Mean± S.D.	F-test
Age	21-30	4.74±1.46	4.63**
	31-40	3.72±1.05	
	41-50	4.75±0.50	
	51-60	4.17±0.75	
Experience	0 to 5 Years	4.49±1.38	1.44
	5 to 10 Years	3.86±1.08	
	10 to 15 Years	3.88±1.64	
	Above 15 Years	4.11±0.78	

**= significant at 5%; *= significant at 10%; S.D = Standard Deviation

CONCLUSION

It is to be concluded that most of the health care provides obtained more than average marks. This shows that they paid their attentions carefully toward this problem. So, the overall results were good. Also, the females got more

marks as compared to males. Same is for nurses who acquired more knowledge about this issue as compared to doctors. The respondents who are in higher age categories have more knowledge regarding this issue. But the respondents who are youngest got on average more marks as compared to others which show that the educational standards have been improved in recent years.

SUGGESTIONS / RECOMMENDATIONS

By virtue of educational based seminars and adopting a multimodal strategic approach we can improve the hand hygiene knowledge in less developed areas, and this will also lead toward patients' safety.

CONFLICT OF INTEREST / DISCLOSURE

None.

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