Awareness, Knowledge and Attitude of Hand Hygiene Practices among Healthcare workers in Kirkuk Pediatric Hospital

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Abstract

Introduction: The hands have a well demonstrated role in prevention of the transmission of hospital infections, which can be minimized with appropriate hand hygiene. However, compliance with hand washing is frequently sub-optimal. His study set out to evaluate the knowledge and attitudes towards hand washing of health workers in Kirkuk Pediatric Hospital.

Subjects and Methods: A cross sectional survey conducted in the period from 1st September - 30th October 2017. After approval from the research and ethical committees and after obtaining permission the hospital, a modified form of the WHO hand hygiene knowledge questionnaire for Healthcare workers that included 35 items was sent to 160 health care workers. A scoring system was devised and their knowledge and attitude were graded as good (>75%), moderate (50-74%) and poor (<50%).

Results: The majority of the respondents (85.9%) had moderate knowledge on hand hygiene. Statistically significant associations of various groups of HCW were observed with their satisfaction regarding knowledge about hand hygiene (p- value = 0.006). But the overall attitude of the respondents towards hand hygiene was not satisfactory, showing low moderate attitude only (54.73%). Their awareness of hand hygiene in preventing health care-associated infection were more than 90% of Healthcare workers and 91.9% of them can improve their compliance with hand hygiene.

Conclusion: This study highlights the urgent need for introducing measures in order to increase the knowledge, attitudes, practices, which may play a very important role in increasing hand hygiene compliance.

Key words: Healthcare workers hand hygiene practices in Kirkuk pediatric hospital, Awareness, knowledge and attitude of Hand Hygiene in Kirkuk Pediatric Hospital.

Introduction

Healthcare associated infection (HAI) is a "systemic or localized disease due to an adverse response to the invasion of infection agents or their toxin that is acquired after admission to the acute health care institute or facility (1)." Based on the infection type, HAIs can develop between 1-3 days after admission to hospital, 3-10 days after discharge, or within 1-3 months following a surgical procedure(2,3-5). HAIs badly affect treatment complexity, poor patient outcomes and healthcare costs. In the USA greater than 2 million individuals are influenced and greater than 100,000 individuals die yearly from HAIs, and for this reason HAI is a leading cause ofdeath. HAI increases the cost of health care services in the USA(6,7). Hospital-acquired infections still represent a problem to the health care system. HAIs result in substantial morbidity and mortalty(8). A lot hospital infections are due to pathogens transmitted ed from one patient to another by way of health workers (HCWs) who have not practiced washing of hands between patients or who do not adapt to control means like use of hand disinfection, glove use etc(9). Although Semmelweis revealed a century ago that just washing of hands was efficient in reducing the incidence of hospital infections,(10) HCW's compliance with hand washing measures remain low (11). Even the spread of multi-drug resistant pathogens has not compelled HCWs to adopt recommended practices(12). Nosocomial infections cause greater mortality, morbidity, and additional costs.

Through application of appropriate standardized prevention procedures, the risk of transmission of infectious pathogens during provision of health care services, can be kept to the lowest degree. Many well known articles reveal a disappointing compliance levels of healthcare workers (HCWs) to HAI measures (13). To overcome compliance problems it is essential to apply control and prevention strategies like adherence to disinfection guidelines.

Materials and Methods

This is a cross sectional study done in Kirkuk Pediatric Hospital and a qualitative approach was used in the study to assess the knowledge, attitude, and practice of hand hygiene among doctors, nurses and technicians who worked in this hospital during September and October 2017. A convenient sampling technique was used to recruit the participants and used across different disciplines (29, 30). The required sample size was 146 participants. A total of 160 questionnaires were distributed and 149 questionnaires were returned (the samples selected were 22 doctors, 64 nurses, 37 Technicians and 26 other staff) indicating a high response rate of 93.1 %. The other 7% did not answer the questionnaire or did not return it. The primary strategy was the drop-and-collect technique. This technique involves hand delivery and subsequent recovery of self-completion questionnaires (31). This technique had many advantages, including a high response rate and saving time. Additionally, the researcher dealt with the participants face-to-face and directly (32). By adopting this technique, a clearer picture of the study for the participants was ensured.

Knowledge was assessed using WHO's hand hygiene questionnaire for HCW. This included 34 questions with multiple choice and "yes" or "no" questions. Attitude and practice were assessed using another self-structured questionnaire which consists of 15 questions. Respondents were given the option to select on a 1- to 5-point scale between strongly agree and strongly disagree. A score of 0 was given for negative attitudes and poorpractices. 1 point was given for each correct response to positive attitudes and good practices so that a maximum score for attitude was 5 and for practice it is five. Care-related HH practices were used to assess HH compliance: before touching a patient, before performing an aseptic/clean procedure, after body fluid exposure risk, after touching a patient, and after touching patient surroundings. Data was analyzed using SPSS version 23 software.

Results

One hundred and forty nine of the 160 attendees returned the survey; a response rate of 93.1%. Respondents were male to female (47.7% to 52.3% respectively), reflecting a predominance of females. Their mean age was 36.84 years. Most were registered nurses (43.0%), Doctors (14.8%), Technicians (24.8%) and others (17.4%). Higher incidence of compliance with hand hygiene was found in the emergency unit and premature units which were (100% and 95.8% respectively) and lowest in the nutritional unit (28.6%).

Discussion

Poor hand washing behavior is one of the risky health behaviours among adolescents which may lead to various infections and contamination and consequently affect health (33-35).

Hand hygiene is usually associated with hand washing in the medical care field. The health workers can use antimicrobial soap or an alcohol based hand sanitizer to wash hands. In this study, the majority (85.9%) of the HCW routinely used an alcohol-based hand rub for sanitising their hands. Previous results were found by Maheshwari et al (36) among HCW in Bhopal hospital. About 91.9% of HCW correctly opined that hand hygiene, which means unclean hands of HCW, were the principle route of cross-transmission of potentially harmful micro-organisms between patients in a health care facility. The findings of the current study agree with Nair et al's findings (37) among nursing students of Raichur medical college. In the current research, 46.3% of HCW assume that the source of micro-organisms responsible for infections associated with health care were micro-organisms normally present on the patient. That is in agreement with the research where that was perceived as the principle source in articles (36-37). CDC and WHO guidelines advised alcohol-based hand rub as a standard of care compared to soap and water, especially in heavy workload places. It should be easily accessible and less irritating to skin and saves time.

Table 1: Socio-demographic features

Characters	Doctor	%	Nurse	%	Technician	%	Others	%	Total	%
Male	14	19.7	30	42.4	19	26.7	8	11.3	71	100.0
Female	8	10.3	34	43.6	18	23.1	18	23.1	78	100.0
Total	22	14.8	64	43.0	37	24.8	26	17.4	149	100.0

Table 2: Knowledge of hand hygiene in preventing health care-associated infection according to type of profession

	High knowledge	%	Low knowledge	%	Total
Doctor	19	86.4	3	13.6	22
Nurse	60	93.8	4	6.3	64
Technician	34	91.9	3	8.1	37
Others	24	92.3	2	7.6	26
Total	137	91.9	11	8.0	148

Table 3: Awareness of Hand Hygiene in Preventing Health Care-associated Infection

	Improve compliance	%	Not improve compliance	%	Total
Doctor	21	95.5	1	4.5	22
Nurse	58	90.6	6	9.4	64
Technician	33	89.2	4	10.8	37
Others	25	96.2	1	3.8	26
Total	137	91.9	12	8.1	149

Table 4: Awareness of use of Alcohol hand rubs to prevent transmission of germs to the health-care worker

	Awareness of use of ABHR	%	Unawareness of use of ABHR	%	Total
Doctor	17	77.3	5	22.7	22
Nurse	35	54.7	29	45.3	64
Technician	18	48.6	19	51.4	37
Others	7	26.9	19	73.1	26
Total	77	51.7	72	48.3	149

Chi-square = 12.5 p-value = 0.006

Table 5: Factors preventing (HCW) from performing hand hygiene as recommended for comparison between groups using chi-square

	Factors prevent (HCW) from performing hand hygiene				
	Yes	%	No	%	p-value
Lack of time/ too busy	42	28.2	107	71.8	0.0001
Lack of alcohol-based hand rub	62	41.6	87	58.4	0.08
Forgetfulness	54	36.2	95	63.8	0.007
Nobody else does	11	7.4	138	92.6	0.0001
Lack of towels	77	51.7	72	48.3	*
It's not important	10	6.7	139	93.3	0.0001
Use gloves instead	95	63.8	54	36.2	0.03
Short patient contact	28	18.8	121	81.2	0.0001
Total	379		1192		

In cases of dirty hands (soiled with blood or body fluids), soap and water was used in the current study; only 36.2% used hand washing, but (52.3%) of HCW use alcohol rub instead of hand washing. In this research still 49% of HCW thought that alcohol hand rubs cannot prevent transmission of germs to the HCW whereas hand disinfectants containing alcohol are an influential alternative to standard soap and water in other situations (38).

HCW don't use alcohol hand rubs because the majority of them cited absence of resources that prevented hand hygiene performance with (63.8%) citing they use gloves instead of alcohol hand rubs; 51.7% of HCW claimed absence of towels, others (41.6%) insisted on absence of alcohol-based hand rub, another 28.2% mentioned the absence of time, another 18.8% claimed short patient contact; 36.2% of HCW cited forgetfulness, (7.4%) of HCW claimed 'nobody else does', finally (6.7%) cited that it is not important. The previously mentioned obstacles were found in many articles, specifically in resource limited settings (39). All these obstacles may influence the compliance with alcohol-based hand rub and sometimes shifting to hand wash. It should be mentioned that hand washing with soap and water for a short time rather than the proper recommendedtime can be harmful because a lot of research conducted in intensive care units found that HCW failed to wash their hands as per the recommended times, which was responsible for spread of infection due to multi drug resistant organisms (40).

Conclusion

The current study highlights the urgent need for introducing measures in order to increase the knowledge, attitudes, practices, which may play a very important role in increasing hand hygiene compliance and there is a need to improve the clinical daily routines for nurses and doctors in order to reduce cross transmission of infections among patients.

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