

Evaluation of Hand Washing Practices among Health Care Providers in Teaching Hospitals at Kirkuk City

تقييم مدى التزام العاملين في المجال الصحي بغسل اليدين في مدينة كركوك

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الخلاصة

الخلفية: الميكروبات أيايدي العاملين في المستشفيات أثناء تقديم العناية الصحية هي المصدر الرئيسي للمستشفيات ويمكن الوقاية منها طريق اليدين.

الهدف: تهدف الدراسة الى تقويم تطبيق العاملين لغسل اليدين أثناء تقديم العناية الصحية الى أزاادي التعليمي العام وإيجاد العلاقة بين بعض العوامل وتقييم اليدين / اليدين والذين يعملون وهي الولادة،العناية

المنهجية: أجريت طريق بين (2012) (أيار 2012) العاملين يمكن يكون لها الردهات الباطنية والجراحية والعمليات. العاملين الصحيين عملهم الروتيني رعاية المريض.عينة المستهدفة والمرضى الذين يعملون (الطوارئ، العناية والمستهدفة المستشفيات (150) تحليلها إحصائيا (SPSS).

النتائج: أظهرت من خلال النتائج الاناث تغسل أيديهم أكثر من الذكور قبل (35.1%) (30.5%) بالمريض الذكور (30.5%) م بغسل الأيدي أسوأ بين الاطباء (32.1%) بغسل اليدين بين أعمار (30 - 40) سل اليدين أكثر في ردهات العملية (60.4%) وأقلها التزاما في وحدة العناية القلبية (0%).

الاستنتاجات: الدراسة ان نسبة الالتزام بغسل اليدين عند الممرضات أكثر بكثير من الاطباء قبل الاتصال بالمريض والقيام بعملية تمريضية. فقد بينت الدراسة أن هناك انخفاض في غسل اليدين أكثر من الممرضات.

التوصيات: من الردود المعبر عنها من قبل عمال الرعاية الصحية. يصبح واضح تغيير سلوكي مبرر. يتضمن مجموعة من التعليم وحافز ونظام متميز. ويزود تدريب الزامي منتظم على الاجراءات الصحيحة للفرك اليدوي والغسيل اليدوي الى كل عمال الرعاية الصحية. وتوفير التقنية وأدوات المعلومات يجب أن تكون متوفرة للمساعدة بصياغة الرسائل الرئيسية لمجهزون الرعاية الصحية.

المفردات: ، غسل اليدين مقدم العناية الصحية.

Abstract

Background: Transmission of microorganisms from the hands of healthcare workers are the main source of cross-infection in hospitals and can be prevented by hand washing.

Aim: This study aimed to evaluate the hand washing practices of health care providers in Kirkuk hospitals, to find out the associations of several factors with hand washing /hand hygiene compliance of health care workers, who work in the emergency, theater room, medical and surgical room, Dialysis unit and intensive care unit (ICU) in these hospitals.

Methodology: A Cross sectional observational study was carried out, the study conducted during the period (January 2012 to May 2012); researcher was the observer who randomly observed the health care workers during routine patient care. The target population was doctors and nurses who work in the Medical and Surgical room and intensive care unit (ICU), (150) observation opportunities were collected from three hospitals; Azadi teaching hospital, Kirkuk hospital and pediatric hospital. (SPSS) were used for data analysis.

Results: Female washing their hands before patient contact more than males, (female 35, 1 %, male 30.5 %). The study found that the highest compliance for hand washing before patient contact was among the practical nurses (34.0%), and hand washing compliance was worst among physicians (32.1%). The age of health workers who showed highest compliance was 30-40 years old. The Theater room had the highest hand washing compliance rate (60.4%), and the lowest compliance rate (0%) was found in ICU department.

Conclusion: The study founded that the highest number of nurses applying the hand washing before contact with patients in any care activities, and relative to physicians, the study shows there were lower applying for hand washing than nurses.

Recommendations: Hospital system Change: ensuring that the necessary infrastructure is in place to allow health care providers to practice hand hygiene. This includes two essential elements: access to a

safe, continuous water supply as well as to soap and towels, readily-accessible alcohol-based hand rubs at the point of care.

Key Words: Practices, hand washing, Health Care Provide

INTRODUCTION

Health Care Associated Infection HCAI is a major problem for patient's safety and its surveillance and prevention must be a first priority for settings and institutions committed to making health care safer. The impact of HCAI implies prolonged hospital stay, long-term disability, increased resistance of microorganisms to antimicrobials, massive additional financial burden, high costs for patients and their families, and excess deaths ⁽¹⁾. Overall estimates indicate that more than 1.4 million patients worldwide in developed and developing countries are affected at any time. Although data on the burden of diseases worldwide that are published in World Health Reports inform HCWs, policy-makers, and the public of the most important diseases in terms of morbidity and mortality, HCAI does not appear on the list of the diseases evaluated ⁽²⁾. In developing countries, such systems are seldom in place. Therefore, in many settings, from hospitals to ambulatory and long-term care, HCAI appears to be a hidden, cross-cutting concern that no institution or country can claim to have solved it yet ⁽³⁾.

The purpose of present study are:

1. To evaluate the health care providers to applying hand washing.
2. To find out the relationship between health care providers applying for hand washing before and after patient contact.
3. To find out the relationship between applying the hand washing and the following variables: Site of working (governmental), Gender, health care providers category, department (ICU, Medical and surgical word, Theater room, emergency, Dialysis unit), age of the health care worker and years of experience of the health Care providers.

METHODOLOGY

Observational study was carried out to investigate hand washing practices of health providers. The study was conducted between the period of 1st. January, 2012 - May, 2012, in three hospitals, namely Azadi hospital, Kirkuk hospital and Pediatrics Hospital. The target population includes the health care workers doctors and nurses' females and males who working in departments, namely medical and surgical wards, emergency, Theater Room and Intensive Care Unit (ICU), Dialysis unit, and three hospitals included in our study. The sample size in the current study was (150) observations divided according the following: The sample was selected by simple random sampling; the researcher was the only observer who randomly observed the subjects during routine patient care. The observation periods distributed randomly during the day as well as the day time for five months in three hospitals, and were circulated randomly between the departments. The researcher collected three observations for each health care provider. An equal number of observations were chosen to simplify statistical analysis. Observations were recorded without the names of workers. However, anonymity was preserved for data analysis. Subjects were not aware that they were being observed. Only the eligible manager of each hospital was given a full explanation about the research including purpose, nature of the study, and importance of participation in addition to assurance of confidentiality of the information. The study was the first to be conducted in Kirkuk. There was no chance to

adopt a readymade observation tool form. So, the researcher developed a new one which was evaluated and reviewed carefully by the research committee at Kirkuk Health Directorate. Each observation was recorded with the time of the event, unit or ward, availability of water, soap, drying devices, and compliance with hand hygiene or failure to comply the age, gender, years of experience in the hospital and category of employment were obtained from the health workers themselves. The observational tool form had been pretested and adjusted in a pilot study Anonymity was preserved for data analysis and no judgment was passed about the duration or efficacy of the hand washing technique. The observation periods were, distributed randomly during the day for five months in three hospitals and were circulated randomly between the three departments (Medical and Surgical room, Theater room, dialysis, emergency room, intensive care unit). The researcher collected ten observations for each health care provider category .

RESULTS:

Table (1):Distribution of the Study According to Demographical Data:

Hospital name	Frequency	Percentage
Azadi hospital teaching	85	56.7%
Kirkuk hospital	36	24.0%
Pediatric hospital	29	19.3%
Departments	N.	Percentage
ICU	5	3.3%
Surgical Ward	23	15.3%
Medical Ward	36	24%
Emergency	32	20.3%
Dialysis unit	6	4%
Theatre room	48	32%
Health care provider category	N.	Percentage
Nurse	94	64
Physician	56	36
Gender	N.	%
Male	91	60.7%
Female	59	39.3%
Age	N.	Percentage
20 - 30	75	50%
30 - 40	54	36%
More than 40 years	21	14%
Years of experiences	N.	Percentage
1 - 5	88	58.7%
5 - 10	33	22%
More than 10 years	29	19.3%
Level Of education	N.	Percentage
Primary nursing school	3	2.0
Secondary nursing school	20	13.3
Medical institute	49	32.7
Post graduated	78	52.0

This Table shows that the study sample percentage of Azadi Hospital(56.7%),(24.0) % from Kirkuk hospital, and(19.3%) from Pediatric Hospital, (39.3%)of the study sample were females, and (60.7%) were males. (50%) of the study sample was aged 20-30 years, (36%) was aged 30-40 years, while (14%) of the study population was aged above 40 years. Also the table shows that (58.7%) of the

study sample had 1-5 years' experience, (22%) had 5-10 years' experience as well as (19.3%) had experienced more than ten years.

Table (2): The Relationship between hand washing practice, and health care provider job.

Health Care providers	Before patients contact				After patients contact			
	Washed		Missed		Washed		Missed	
	F	%	F	%	F	%	F	%
Physician	18	32.1	38	67.8	10	17.8	46	82.1
Nurse	32	34.0	62	65.9	27	28.7	67	71.2
Chi-Sq. = 0.057 P-Value = 0.811					Chi-Sq. = 2.230 P-Value = 0.135			
DF = 1					DF = 1			

This Table shows that there was significant difference between health care providers before patient contact. The highest compliance for hand washing before patient contact was among nurses (34.0) and was worst among physicians (32.1) ($p=0.005$).

Table (3): Relationship between gender of care providers and applying Hand Washing.

Gender	Before patients contact				After patients contact			
	Washed		Missed		Washed		Missed	
	F	%	F	%	F	%	F	%
Male	28	30.7	62	62.2	21	22.9	70	76.9
Female	22	35.5	38	64.4	16	27.1	43	72.8
$X^2 = 0.500$ P - Value = 0.480					$X^2 = 0.315$ P-Value = 0.575			
DF = 1					DF = 1			

Results of table (3) shows that there were a significant difference ($p=0.001$) between hand washing before patient contact and the gender of health care providers.

Table (4): Relationship between place of work and hands washing:

Place of work	Before patients contact				After patients contact			
	Washed		Missed		Washed		Missed	
	F	%	F	%	F	%	F	%
ICU	0	0	5	100	0	0	5	100
Medical ward	9	25	27	75	6	16.6	30	83.3
Surgical ward	6	26.0	17	73.9	7	30.4	16	69.5
Theatre room	29	60.4	19	39.5	15	31.2	33	68.7
Dialysis unit	1	16.6	5	83.3	3	50	3	50
Emergency	5	15.6	27	84.3	6	18.7	26	81.2
Chi-Sq. = 25.278 P-Value = 0.000					Chi-Sq. = 7.083 P-Value = 0.215			
DF = 5					DF = 5			

The table shows that there were association between hand washing before patient contact and the department with ($p=0.011$). Theater room units had the highest hand washing compliance rate (60.4%); the lowest compliance rate (0%) was found in ICU department.

DISCUSSION:

The results of the present study revealed that the percent as of hand washing is higher after patient contact. It seems that health provider is most likely to wash hands after patient care. It seems that proper steps were not emphasized in hospitals and practice of hand washing is left to personal motivation. That give specific consideration to the sequence of steps in patient care, it could be the reason for this problem. There has been some concern that using gloves may be considered an alternative to hand washing, but failure to change contaminated gloves is at least as common as failure to wash hands ⁽⁴⁾. Guidelines of the Association for Professionals in Infection Control and Epidemiology state that gloves should be used as an adjunct to (not a substitute for) hand washing ⁽⁵⁾. The Occupational Safety and Health Administration Blood borne Pathogens Standard prohibits washing or decontaminating gloves for reuse ⁽⁶⁾. In Health care provider category job study found that the highest compliance for hand washing before patient contact was among the practical nurses (34%) and was worst among physicians (32.1%) who may be the most difficult for anyone in charge to interrupt and ask to go wash their hands (at least in Arab countries, where the physician still has a strong image of control and professional authority), improvement in physician compliance might improve overall adherence among all health care staff. Our study goes along with the studies that found that hand washing compliance was worst among physicians. Pittet (1999) proposed a possible solution to the problem; use of an antiseptic solution instead of soap-and-water hand washing, soap-and-water hand washing of sufficient duration is too time-consuming to be feasible ⁽⁷⁾.

In the Gender study depicts that female washing their hands before patient contact more than males, (female 35, 1 %, male 30.5 % (p-value .000). This can be explained by females being more careful about hand washing which goes along with a recent research study that found female staff members in one hospital wash their hands more often than male staff members, (December 2001 article in the American Journal of Infection Control). Overall, female hand washing rates were 30.5% higher than those of males. However, our finding regarding hand hygiene before and after patient contact shows no significant difference regarding sex ⁽⁸⁾.

In the found that there is association between hand washing and hand hygiene before patient contact with department. The Theater room had the highest hand washing compliance rate (60.4%), the lowest compliance rate (0%) was found in ICU department. Our results go along with Pittet who found that the lowest compliance rate (36%) was in ICU's. This may be because health care providers dealing with lifesaving give more attention to other choices and do not consider hand washing as important ⁽⁸⁾.

CONCLUSION

1. Poor applying for hand washing at study setting Hospitals
2. The study found that the highest for hand washing before patient contact was among the practical nurses. The practical nurses and was worst among physicians.
3. The study that female washes their hands before patient contact more than males, (female 35, 1 %, and male 30.5 %).
4. We found that there is association between hand washing and hand hygiene before patient contact with department. The Theater room had the highest hand washing compliance rate, the lowest compliance rate was found in ICU department.

RECOMMENDATIONS

1. Acting to hospital system Change: ensuring that the necessary infrastructure is in place to allow health care workers to practice hand hygiene. This includes two essential elements: access to a safe, continuous water supply as well as to soap and towels, readily-accessible alcohol-based hand rubs at the point of care.
2. Training / Education: providing regular compulsory training on the importance of hand hygiene, based on the correct procedures for hand rubbing and hand washing to all health care workers. Technical and information tools should be available to assist with formulating key messages for health care providers.

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