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Full Length Research Paper

A Study to Assess Knowledge and Practice Regarding Hand Hygiene among Health Care Professional Staffs

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Abstract
Presently innovative banking plays a very important role in banking customer life, banks motivates human to make saving money for their future. It provides number of facilities to the people, banking service has become a need of the society. As we know that in this 21st century banking sector have a great challenges i.e. customer satisfaction, and being a part of the society banks also facing this challenges, and banks are accepting challenges very nicely for the betterment of service banks are providing innovative services to the customer so that they can get proper benefit in this sector. Banks have influenced the economics and politics for centuries. The objective of this paper is to analyze the services provided by banks, and to observe that how innovative, and new services they are giving to the society, and to know that how much these facilities or services are beneficial for the society and as well as banks. This paper is descriptive in nature, and data has been collected through various secondary sources. The paper explains the objective with the help of case study of different commercial banks in innovative way. The paper concluded that banking sector has been changes rapidly. Now technology has made tremendous impact in banking, in 21st century dreams becomes reality. Now you can get banking services anytime and anywhere, wherever and whenever you want, priority banking is a symphony ofBanking benefits, unique investment products, personalized services and exclusive life style, benefits that brings complete harmony to all your financial needs.

Keywords: *Hand hygiene, health care professional staffs, knowledge, practice*

Introduction

Infection caused due to hospital acquired microbes is an evolving problem worldwide, and horizontal transmission of bacterial organisms continues to cause a high nosocomial infection rate in health care settings. Nosocomial infections due to poor hand hygiene are a major cause of increasing morbidity, mortality and health care costs among hospitalized patients worldwide.

The high prevalence of these infections, as high as 19 %, in developing countries poses a challenge to health care providers. Hand hygiene is considered the single most cost-effective public health measure for preventing health care associated infection (HCAI).Transmission of healthcare-associated pathogens generally occurs via the contaminated hands of healthcare workers often transmitting virulent and multi-drug resistant strains. Though preventable with a simple hand washing, health care workers are reluctant to adopt recommended practices to curb these infections.

When should hand hygiene be performed?

In health care services, hand hygiene must be performed (Ayliffe, Babb and Taylor, 2000; Magiorakos et al, 2009):

- Before the beginning of the shift and after the end.
- Before and after contact with any patient, their body substances or items contaminated by them
- Between different procedures on the same patient.
- Before preparing, handling, serving or eating food or feeding a patient/resident.
- After assisting patients with personal care (e.g. assisting patient to blow nose, toileting or doing wound care)
- Before and after performing invasive procedures.
- Before putting on and after taking off gloves.
- After performing personal functions (e.g. using the toilet, blowing your nose).
- When hands come into contact with secretions, excretions, blood and body fluids (use soap and running water whenever hands are visibly soiled).

How to wash hands (WHO guidelines on hand hygiene in health care, 2005; Pittet Allegranzi and Joyce 2009):

- Wet hands with water.
- Apply enough soap and handwash to cover all hand surfaces.
- Rub hands palm to palm.

- Right palm over the other hand with interlaced fingers and vice versa.
- Palm to palm with fingers interlaced.
- Backs of fingers to opposing palms with fingers interlocked.
- Rotational rubbing of left thumb clasped in right palm and vice versa.
- Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa.
- Rince hands with wate
- Dry thoroughly with towel. Duration of procedure: At least 15 seconds.
- Use the same towel to turn off the faucet.

Hand hygiene is recognized as the leading measure to prevent cross-transmission of microorganisms and to reduce the incidence of health care associated infections. Despite the relative simplicity of this procedure, compliance with hand hygiene among health care providers is as low as 40%. To address this problem, continuous efforts are being made to identify effective and sustainable strategies. One of such efforts is the introduction of an evidence-based concept of *"My five moments for hand hygiene"* by World Health Organization. These five moments that call for the use of hand hygiene include the moment before touching a patient, before performing aseptic and clean procedures, after being at risk of exposure to body fluids, after touching a patient, and after touching patient surroundings. This concept has been aptly used to improve understanding, training, monitoring, and reporting hand hygiene among healthcare workers.

In Asia there is a paucity of studies exploring this subject, although the prevalence of health care associated infections is high in this region; especially medical and nursing student's knowledge of standard precautions is rarely compared. The observance of hygiene by students is reported as being weak. Therefore, it is absolutely essential to investigate and know nurse's knowledge, attitudes, and practices about hand washing so that appropriate strategies can be developed to promote hand washing compliance.

Materials and Methods

The study was conducted in Area Hospital, Suryapet, Telugana India to assess the knowledge, attitude and practice regarding hand hygiene among health care professional staffs of a tertiary care hospital in suryapet after obtaining ethical clearance from the institutional ethical committee. The investigator explained the nature of the study. Verbal consent was obtained from those who volunteered to participate. A total of 100 respondents were included in the study and a pre-validated questionnaires were administered to respondents. Their level of knowledge was assessed on the basis of the Hand Hygiene Knowledge Questionnaires for Health-Care Workers designed by WHO and revised August 2009, which was modified and this included 34 questions carrying both multiple choice and 'yes" or "no" questions in the knowledge section. Measurement of attitude was done on the basis of 13 questions where the subjects had to give their opinion on a 1 to 5 point Likert scale ranging from strongly disagrees to strongly agree. Analysis of data both descriptive and inferential statistics analyzed on the basis of the objectives and hypotheses of the study. Mean, median, range and standard deviation calculated. t" test is used to evaluating the effect of hand hygiene practice on health care professionals.

The questionnaire for present research study comprises of two sections.

Section I:

It consists of demographic variables of the health care professional staffs such as age, education, area of residence, type of family and monthly income.

Section II:

Consisted of multiple choice questions evaluate to assess the knowledge and attitude of the health care professional staffs regarding hand hygiene.

Part I: Questions related to hand hygiene

Section III:

It comprised of questions related to practice hand hygiene.

Scoring procedure

Section: I

The total number of knowledge questions was 18. All the questions had four alternatives with one right answer. A score of "one" was given for every correct answer and score of "zero" was given for every wrong answers. The total score was converted into percentage and interpreted as follows,

Adequate knowledge	-	>75%
Moderate knowledge	-	50 – 75%
Inadequate knowledge	-	<50%

Section C

To interpret the level of attitude the score was classified as,

Positive attitude - >75%
Favourable attitude - 50 – 75%
Negative attitude - <50%

Section: II

To interpret the health care professional staffs questionnaire was given to collect information regarding practice on postnatal exercise. It consists of 6 questions. The maximum score was 6 and minimum score was zero.

To interpret the level of practice the score was classified as,

Poor practice - < 50%
Fair practice - 50 – 75%
Good practice - >75

Results

Table 1: Mean and standard deviation of knowledge of hand hygiene practice on health care professionals**.**

N=100

Factors	Mean	Standard Deviation
Which of the following is the main route of transmission of potentially harmful germs	3.3	2.34
What is the most frequent source of germs responsible for health care associated infections	4.6	0.81
Before touching a patient (yes)	4.6	0.76
Immediately after risk of body fluid exposure (yes	5.7	0.89
After exposure to immediate surroundings of a patient (no)	3.8	1.03
Immediately before a clean/aseptic procedure (yes)	4.7	1.02
After exposure to immediate surroundings of a patient (no)	4.8	1.02
Immediately before a clean/aseptic procedure (yes)	4.7	1.03
After touching a patient (yes)	5.7	0.68
Immediately after a risk of body fluid exposure (yes)	3.8	0.81
Immediately before a clean/aseptic procedure (no)	4.7	0.76
After exposure to the immediate surroundings of a patient (yes)	4.8	0.56
What is the minimal time needed for alcohol-based hand rub to kill most germs on your hands? (20 seconds)	4.7	0.81
After emptying a bed pan (washing)	5.7	0.76
After visible exposure to blood (washing)	3.8	0.89
Hand washing and hand rubbing are recommended to be performed in sequence (false)	4.7	1.03
Hand rubbing is more rapid for hand cleansing than hand washing (true)	4.8	0.68
Hand rubbing is more effective against germs than hand washing (false)	4.7	0.56
Overall	**8.36**	**1.599**

Table 1 shows the mean and standard deviation of knowledge on hand hygiene health care professional staffs. The above table clearly indicates that the overall mean score of knowledge is 8.36 with standard deviation of 1.599

Table 2: Mean and standard deviation of attitude of hand hygiene practice on health care professionals.

N=100

Factors	Mean	Standard Deviation
I adhere to correct hand hygiene practices at all times	2.6	1.23
I have sufficient knowledge about hand hygiene	5.4	0.8
Sometimes I have more important things to do than hand hygiene	1.6	0.61
Emergencies and other priorities make hygiene more difficult at times	3.0	0.33
Wearing gloves reduces the need for hand hygiene	6.2	0.54
I feel frustrated when others omit hand hygiene	2.4	0.56
I am reluctant to ask others to engage in hand hygiene	5.5	0.33
Newly qualified staff has not been properly instructed in hand	5.2	0.13

hygiene in their training		
I feel guilty if I omit hand hygiene	2.1	0.38
Adhering to hand hygiene practices is easy in the current setup	3.2	0.23
Over all	**3.72**	**0.514**

Table 2 shows the mean and standard deviation of knowledge on learning needs of the Effect of clinical practice guideline on Exercise of Postpartum mothers. The above table clearly indicates that the overall mean score of knowledge is 3.72 with standard deviation of 0.514

Table 3: Mean and standard deviation of practice of hand hygiene practices on health care professionals.

N=100

Factors	Mean	Standard Deviation
Sometimes I miss out hand hygiene simply because I forget it	3.6	1.8
Hand hygiene is an essential part of my role	5.6	1.49
The frequency of hand hygiene required makes it difficult for me to carry it out as often as necessary	3.6	1.46
Infection prevention team have a positive influence on my hand hygiene	3.0	1.12
Infection prevention notice boards remind me to do hand hygiene	6.2	2.56
It is difficult for me to attend hand hygiene courses due to time pressure	2.8	3.33
Over all	**2.48**	**1.176**

Table 3 shows the mean and standard deviation of practices on learning needs of the Effect of clinical practice guideline on Exercise of Postpartum mothers. The above table clearly indicates that the overall mean score of knowledge is 2.48 with standard deviation of 1.176

Table 4: Correlation of pre and posttest level of knowledge and attitude on hand hygiene of health care professional staffs.

N=100

Domain	Knowledge		Attitude		'r' value
	Mean	S.D	Mean	S.D	
Posttest	8.36	1.599	**3.72**	**0.514**	0.21*

Table 4 illustrates the correlation of posttest level of knowledge and attitude hand hygiene practice of health care professional staffs..The analysis reveals that the post test level of knowledge mean score was 8.36 with S.D 1.599, the attitude mean score was 3.72 with S.D 0.514 and Overall 'r' 0.21 value was significant at $p<0.05$ level.

Table 5: Correlation of pre and posttest level of knowledge and practice on hand hygiene of health care professional staffs.

N=100

Domain	Knowledge		Practice		'r' value
	Mean	S.D	Mean	S.D	
Posttest	8.36	1.599	2.48	1.176	1.00***

**p<0.05, ***p<0.001*

Table 5 shows the correlation of posttest level of knowledge and practice on hand hygine practice of health care professional staffs. The analysis reveals that the post test level of knowledge mean score was 8.36 with S.D 1.599, the practice mean 2.48 with S.D 1.176 and overall 'r' value was 0.31 which is clearly indicates a positive correlation between knowledge and practice (r = 1.00) which is significant at $p<0.001$.

Discussion

The knowledge about good hand washing practices and compliance of the same according to WHO guidelines amongst health care workers is essential for lowering the health care associated infections. In this study, both residents and nurses had average knowledge on hand hygiene. Seventy five respondents answered correctly when asked about the main route of transmission of potentially harmful

germs between patients. Our results are comparable with other studies which reported that 72% of participants knew that unhygienic hands of health care workers (HCWs) were the main route of transmission.

WHO recommends alcohol based hand rubs for hand antisepsis based on its intrinsic advantages of fast acting, broad spectrum microbicidal activity and to improve compliance by making the process faster, but due to its non-availability in some of the hospitals, adherence is doubtful. In this study, knowledge that alcohol free hand rub is more rapid and more effective against germs than hand washing was better among residents. However, only some of the residents and nurses (35% and 25% respectively) were aware about the minimum time needed for effective hand hygiene as mentioned in WHO guidelines. Our findings were similar to a study carried out by Khaled M. AbdElaziz at Ain Shams University, Cairo. Wherein 23.2% of observed candidates showed inappropriate hand washing due to both short contact time (less than 30 sec) and improper drying after hand washing.

A majority of the nurses (92%) agreed that correct hand hygiene practices should be followed at all times. Further, a significantly higher percentage of nurses thought that health care personnel should have sufficient knowledge and training about hand hygiene as well as enroll in regular training sessions regarding hand hygiene practices (85% and 69% respectively). More nurses felt guilty about omitting hand hygiene and also felt uncomfortable when others omit hand hygiene as compared with residents. Furthermore, our results are comparable with other studies and reports.

Conclusion

Hand-to-hand contact can spread mild conditions, such as the common cold, but also more severe or life-threatening diseases. Infectious diseases are a particular risk to the very young, the elderly, those with a preexisting disease, and people with a compromised immune system. Nurses washing their hands not only prevent them from getting sick, but it also reduces the risk of infecting others. If they don't wash their hands properly before coming into contact with others, they can infect their patients but also their family members (Pittet, Allegranzi and Joyce 2009). To comply with routine hand hygiene recommendations, health care workers should ideally perform hand hygiene where and when care is provided, which means at the point of care and at the moments indicated, and following the recommended technique and time. Present study highlights the importance of training sessions regarding hand hygiene practices among the residents and staff nurses to provide the current and updated knowledge in the area of nosocomial infections and prevention of infections. It would also translate in a behavioral change of attitudes and practices that would help in reducing the incidence of nosocomial infections.

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