Hospital-Acquired Infection Preventive Practice, Knowledge And An Implication To Health Care Workers.

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ABSTRACT

Background: Hospital-acquired infections also called as nosocomial infections. Nosocomial infections are the infections developing in the patients after admission to hospital, which were neither present nor in incubation at the time of hospitalization. Healthcare workers (HCWs) are at increased risk of hospital acquired infections. Nosocomial infections occur worldwide and affect both developed and developing countries. Infections acquired in health care settings are among the major causes of death and increased morbidity among hospitalized patients. They are a significant burden for both the patient and for the health care workers. This study aimed to assess the hospital acquired infections Preventive practice, knowledge and an implication to health care workers of Parul Sevashram hospital, Vadodara.

Materials and Methods: A Quantitative, descriptive Research design was conducted to assess the knowledge and practice and the association between knowledge and practice. A total of 100 health care workers were selected through the non-probability Purposive sampling technique. A Demographic variables data Sheet, self-structured questionnaire and self-reported checklist was used after the expert's content validation to collect data. Analysis and interpretation of data were done by using descriptive and inferential statistics (SPSS software Version 25). This study was conceptualized on the basis of Rosen stoke and baker's health belief model. Researcher had obtained ethical consideration from respected authority and prior permission for data collection was obtained from authority of the hospital.

Results: Majority (92%) of the participants belonged to 21 to 31 years age group and majority of them were males (55%); mostly were Staff Nurses (66%). The study showed that, 16(16%) have poor knowledge, 43(43%) have Average knowledge and 41(41%) have good knowledge regarding prevention of Hospital-acquired infection. Amongst all the selected socio-demographic variables only Gender (X^2=7.661) have significant association with knowledge score and other socio demographic variables age (X^2=0.300), professional qualification (X^2 =0.572), level of education (X^2=2.779), professional experience (X^2=10.456), area of working (X^2= 4.397), Have you under gone any training on prevention of hospital-acquired infection- (X^2= 0.008) found non-significant. Among all the selected socio demographic variables: Gender (X^2=1.861), age (X^2=2.746), professional qualification (X^2 =1.084), level of education (X^2=5.007), professional experience (X^2=9.570), area of working(X^2=4.808), Have you under gone any training on prevention of Hospital-acquired infection- (X^2=2.195) there is no significant association between practice score with selected socio demographic variables.

Correlational analysis revealed that there was a moderately positive relationship between nurses' knowledge and practice (r = 0.277, p > .000) regarding prevention of Hospital-acquired infection. The study showed that there is a significant association between knowledge score with selected socio demographic variables and there is no significant association between practice score with selected socio demographic variables. Correlational analysis revealed that there was a moderately positive relationship between nurses' knowledge and practice regarding prevention of Hospital-acquired infection.

Conclusions: Knowledge about Hospital Acquired Infection is present among health care personnel but there is still lack of adequate quality control practice to prevent Hospital Acquired Infection. Importance of prevention of Hospital Acquired Infection should be emphasized among health care personnel by intensive IEC activities.

Keywords: Hospital acquired infection, Health care workers, knowledge, and preventive practice.

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1. Introduction And Background

Nosocomial or hospital acquired infections are called Health care associated infections (Burke 2003)[1]. Healthcare-acquired infections (HAIs), also known as nosocomial infections, are infections that patients get while receiving

treatment for medical or surgical conditions. A nosocomial infection also called as "hospital acquired infection" can be termed as: An infection acquired in hospital by a patient who was admitted for a reason other than that infection.[2]

Nosocomial infections occur worldwide and affect both developed and resource-poor countries. Infections acquired in health care settings are among the major causes of death and increased morbidity among hospitalized patients. They are a significant burden both for the patient and for public health. A prevalence survey conducted under the auspices of WHO in 55 hospitals of 14 countries representing 4 WHO Regions (Europe, Eastern Mediterranean, South-East Asia and Western Pacific) showed an average of 8.7% of hospital patients had nosocomial infections. At any time, over 1.4 million people worldwide suffer from infectious complications acquired in hospital.[3]

The most frequent nosocomial infections are:

32 %	Urinary tract infections
22%	Surgical site infections
15%	Pneumonia (lung infections)
14%	Bloodstream infections

Currently, the growing increase in health care-associated infections (HAIs) are considered one of the most important challenges facing by health care systems worldwide.[4] HAIs, previously known as "nosocomial" or "hospital" infections, refer to infections that occur 48 hours after admission to a hospital.[5] HAI exposure among HCWs which indicated serious concern for both patients and healthcare providers. Hospital Acquired Infection occurs worldwide and mainly affects low and middle-income countries, which believed to be 5.7–19.1 times greater than that of developed world.[6]

The overall estimate indicated that more than 2.5 million cases of HAI occur each year in the developing and developed world, [7] about 90% of the infections were occurring in a resource limited setting.[8] Thus, the incidence of HAIs has increased elsewhere in the world, in high-income countries 5–15% of hospitalized patients acquire HCAIs which can affect from 9% to 37% of those admitted to intensive care units.[9] According to statistics by the World Health Organization, the global prevalence of HAIs is 15%.[10] The prevalence of HAIs in Europe is 6%,[11] and in developing countries as well as East Mediterranean countries, prevalence has been estimated at5.7%-19.1%.

HAIs cause delayed patient improvement, lengthened hospitalization, increased health care costs for patients and health care systems, and increased suffering of patients' families as a result of following up the complications attributable to HAIs. Considering the importance, cost, and prevalence of HAIs at different and wards of hospitals, the World Health Organization and the Centers for Disease Control and Prevention have proposed 2 approaches to controlling infections: standard precautions and transmission-based precau-tions.[12] Standard precautions refer to the basic principles of control-ling infections to protect health care team members against HAIs. These precautions include hand washing, protective barriers (gloves, masks, guns, and eye protection), managing sharp objects, and man-aging patient-associated care instruments. Transmission-based precautions are used when the standard precautions are inadequate for controlling infections.[13] Hospital- acquired infection preventions are a process of placing a barrier between susceptible host and the microorganism which are an essential component of delivering safe and high-quality service at the facility level. Hence, HAI associated morbidity and mortality are preventable through infection prevention strategy like established representative infection control committee, good practice and safe procedure in proper waste handling, good sanitation, safety radiation and occupational protection.[14]

In hospitals, health workers are responsible for and perform procedures like medication administration, wound dressing, sterilization and disinfection. They are more involved in more contact with patients. Therefore, they are more exposed to various nosocomial infections. Accordingly, the nurses and other health care workers should be aware of how to prevent transmission of nosocomial infections and be knowledgeable of its potential risk to patients, family members and community at large.[15] thus researcher found the gap in the knowledge and practice in relation to the HAIs therefore the study has conceptualized.

Objectives of the study were:

- Assess the knowledge and practice of health care workers regarding preventive practice of Hospital-acquired infection.
- Find out the association between knowledge scores with selected socio demographic variables.
- Find out the association between practice scores with selected socio demographic variables.
- Find out the relationship between knowledge scores with practice score of prevention of Hospital-acquired infection.

HYPOTHESES

H1: There will be significant Association between knowledge scores regarding prevention of Hospital-acquired infection with selected socio demographic variables.

H2: There will be significant Association between practice scores regarding prevention of Hospital-acquired infection with selected socio demographic variables.

H3: There will be significant relationship between health care workers knowledge and practice regarding prevention of Hospital-acquired infection.

2. Materials and Methods

A quantitative research approach was adopted to conduct this study and the design used was descriptive research, to identify the knowledge and practice on prevention of hospital acquired infection and association between the knowledge and practice with selected demographic variables among health care workers at selected tertiary care hospitals at Vadodara. A total of 100 health care workers were selected through the non-probability, purposive sampling technique. The limitation of the study was health care workers working in selected tertiary care hospitals. Health care workers included in the study was Doctors, staff nurses and lab technicians, Study was delimited to 100 samples and to a particular geographical area. The tool was validated by clinical expertise and experienced teachers. To ensure the content validity of the tool, the self-structured questionnaire & checklist with demographic tool was sent to experts. The total 12 experts were selected based on their clinical expertise, experience, and interest in the problem being studied. They were requested to give their opinions on the appropriateness and relevance of the items on the tool. Modifications of items in terms of simplicity and order were made. The data collection tools were a demographic variables data Sheet, self-structured questionnaire and self-reported checklist. The age, gender, Professional qualification, Level of education, Professional experience, Area of Working, training undergone on HAI'S were included in the demographic data. Analysis and interpretation of data were done by using descriptive and inferential statistics. The study was examined and approved by the ethical committee of the institution at Parul University, Vadodara. Ethical approval number is PUIECHR/PIMSR/00/081734/3706. The Data collection permission was obtained from and concerned authority, the medical superintendent in the tertiary care hospital. Written consent was taken from the participants. All information will keep as confidential and used only for the present study. This study was conceptualized on the basis of Rosen stoke and baker's health belief model.

3. REVIEW OF LITERATURE

Purna Devi Shrestha (2017) conducted a study on Prevalence of Hospital Acquired Infection and its Preventive Practices among Health Workers in a Tertiary Care Hospital This study aims to assess prevalence and preventive practices of Hospital Acquired Infection among health workers. A cross -sectional research design was carried out between, Feb. 2017 to May 2017 in National Trauma Center, Kathmandu. Census method was used to recruit 121 respondents and to find out prevalence. A structured questionnaire and observation checklist was used for data collection. Data was objectively analyzed in SPSS full version 21. Prevalence of bacteria causing Hospital Acquired Infections was 11.83% in critical units. Among 95 specimen analysis, 53 specimen were isolated in critical units. The most common site of infection was the urinary tract 19 (35.8%) and bacteria causing nosocomial infection was Escherichia coli 28.30%. Culture plate was used to obtain environment samples, Out of 9 specimen analysis, Staphylococcus aureus was the most common isolated organism. Level of practice were significantly associated with education, training on HAI, work experience 0.019, 0.026, 0.027 respectively. The study found that

prevalence of hospital acquired infection do exist in less percentage but preventive practices of HAI in majority of respondent were fair. Hence, there is a need to raise awareness as well as training on Hospital acquired Infection among health care workers.[16]

A Marani Conducted a study on Point prevalence surveys on healthcare acquired infections in medical and surgical wards of a teaching hospital in Rome Aim of the study was to analyze nine years surveillance activity, carried out by point prevalence surveys from 2007 to 2015, in a 450-bed teaching hospital in Rome. Point prevalence surveys were carried out every year in the medical and surgical wards following the same methodology. In accordance with definitions used by the Centers for Disease Control, all infections occurred more than 48 hours after hospital admission were considered HAI, and included in the study. Baseline characteristics, clinical features, isolated pathogens (only for the period 2011-2015) and antimicrobial resistance were recorded. During the nine years point prevalence surveys a total 2,840 patients were enrolled. Overall 136 (4.79%) patients developed 180 (6.34%) HAI. The most frequent HAI were respiratory tract infections (RTI), which accounted for 35.0% of all HAI, followed by surgical site infections (SSI) 22.2%, urinary tract infections (UTI) 19.4%, bloodstream infections (BSI) 17.2%, and others 6.1%. HAI related to major invasive risk procedures were also evaluated. SSI/patients undergoing surgery 3.99%, UTI/ patients with urinary catheter 4.17% and BSI/patients with CVC 9.42%. Over one-half of all patients surveyed (1,532, 53.9%) were receiving antibiotics at the time of our study. Among them 892 (58.2%) for treatment, 641 (41.8%) for prophylaxis. In the latter group, 109 (17.0%) underwent extra-short term, 89 (13.9%) short term and 443 (69.1%) a long term prophylaxis. During the period 2011-2015 out of 110 HAI episodes 71 (64.5%) were confirmed microbiologically. In total 106 pathogens were isolates, Gram-negative bacteria (63.2%) were isolated more frequently than Gram-positive bacteria (28.3%).The overall HAI prevalence in our hospital was consistent with those reported in other studies in Italy. The study underlined the role of Gram-negative bacteria in HAI and the need for antimicrobial stewardship. It also provided useful baseline data for rational priorities in allocation of resources, for further infection control activities.[17]

Kristi L Lewis et al. (2009) conducted study on Health care professionals' perceptions and knowledge of infection control practices in a community hospital. A total of 130 providers within a hospital setting completed a 51-item survey instrument. Knowledge on hand hygiene practices was limited. Providers did not identify any perceived barriers or possible cues to action to increase the likelihood of engaging in proper infection control practices. The constructs of perceived susceptibility and cues to action show a need for improvement by determining appropriate cues for this workforce and addressing susceptibility of workers. These findings can be used by administrators and infection control practitioners to develop and disseminate educational and other interventions to increase compliance with infection control protocols.[18]

Hamed Sarani et al. (2015) conducted study on Knowledge, Attitude and Practice of Nurses about Standard Precautions for Hospital-Acquired Infection in Teaching Hospitals Affiliated to Zabol University of Medical Sciences (2014). Hospital-acquired infection (HAI) is one of the common problems and difficulties faced by hospitals in all countries around the world. Since nurses are part of the healthcare team that plays a unique role in the control of hospital infection, this study is conducted to analyze the knowledge and practice of healthcare personnel about standard precautions for hospital infection. This descriptive study was conducted on 170 nurses worked in medical surgical wards, pediatric wards, dialysis units of two teaching hospitals in Zabol city, Iran, in 2014. The sample population was selected through simple random sampling. The data collection instrument is composed of a researcher-made questionnaire titled "Hospital-acquired infection Control" based on precautions posited by the World Health Organization (WHO) and the United States Centers for Disease Control and Prevention (CDC). Data were fed into the SPSS software v.20 and were analyzed using descriptive and inferential statistics. The results show that 43% of the participants in this study had poor knowledge, 42% had average

practice, and 37% had a moderate attitude about hospital infection. There was a significant relationship between knowledge and gender (r = 00.8 p = 0.02). However, the variables of age, marital status, employment, work experience, education, and place of work did not establish a significant relationship with the independent variables (p> 0.05).As the results indicate a low level of awareness among the personnel about hospital infection, it is suggested to provide training sessions on the prevention and control of HAI to increase the awareness of personnel and hold practical courses for practicing these principles.[19]

Bayleyegn B et al. (2020) conducted study on Knowledge, Attitude and Practice on Hospital-Acquired Infection Prevention and Associated Factors among Healthcare Workers at University of Gondar Comprehensive Specialized Hospital, Northwest Ethiopia. Hospital-acquired infections can be acquired by a patient or develop among hospital staff, as a more serious problem in low- and middle-income hospital settings. Assessing the level of knowledge, attitude and practice towards hospital-acquired infection prevention among healthcare workers and identifying the associated factors has an unquestionable importance of handling and management of these infections. Thus, in this study, we evaluated the knowledge, attitude and practice towards HAIs prevention and associated factors in healthcare workers at the University of Gondar Comprehensive Specialized Hospital, Northwest Ethiopia. Hospital-based cross-sectional study was conducted among healthcare workers towards HAIs prevention from January to June 2019. Each study participant was selected by simple random sampling. Data were collected using structured self-administered questionnaires. Descriptive analysis was used to present frequency and percentage of the main findings. The association between independent variables and KAP scores on HAI prevention was calculated using Pearson's Chi square and p-values less than 0.05 were considered as statistically significant. A total of 236 participants were included in this study with a 100% response rate; 90% and 57.2% of the participants had good knowledge and positive attitude towards HAI prevention, respectively. Meanwhile, only 36% of the study participants had good practice towards HAI prevention, suggesting less than satisfactory scores in this study. Level of education and work experience were significantly associated with safe-infection prevention attitude and practice (P value < 0.005).Even though the respondents have good knowledge with a sympathetic attitude about HAI preventions, good knowledge did not translate into prudent practices. Level of education and work experience were the independent risk factors towards HAI prevention of attitude and practice.[20]

4. RESULTS

A total of 100 participants were selected in this study.

Table 1: Frequency and percentage distribution of socio demographic variables.
n=100

SR NO.	SOCIO DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENTAGE
1.	**Gender**		
	Male	45	45%
	Female	55	55%
2.	**Age group**		
	21 to 31 year	92	92%
	32 to 42 year	8	8%
	43 & above	00	00
3.	**Professional qualification**		
	Doctors	28	28%
	Nurses	66	66%
	Lab technicians	6	6%
4.	**Level of education**		
	Diploma	32	32%
	Graduates	53	53%
	Master degree	15	15%
5.	**Professional experience**		
	< 1 year	34	34 %
	1year to 3 years	40	40%
	3year to 5 years	11	11%
	>5 years	15	15%
6.	**Area of Working**		
	Critical	44	44%
	General ward	44	44%
	Laboratory	6	6%
	Operation theatre	6	6%
7.	**Any training regarding prevention of HAI'S**		
	Yes	49	49%
	No	51	51%

Table 2: Distribution of frequency and percentage of Health care workers on the basis of their knowledge level.
n=100

Level of knowledge	Frequency	Percentage
Poor	16	16%
Average	43	43%
Good	41	41%

According to knowledge score 16(16%) have poor knowledge, 43(43%) have Average knowledge and 41(41%) have good knowledge regarding prevention of Hospital-acquired infection.

Table 3: Distribution of frequency and percentage of health care workers on the basis of their Practice level.
n=100

Level of knowledge	Frequency	Percentage
Very poor	00	00
Poor	02	2%
Average	22	22%
Good	76	76%

Table 4: Association between knowledge score with selected demographic variables.
n=100

Sr. no.	Variable	1-5	6-10	11-15	Total	X^2	df	Level of significance
1	**Gender**							
	Male	3	18	24	45	7.661[a]	2	S
	Female	13	25	17	55			
	Total	16	43	41	100			
2	**Age**							
	21 to 31 years	15	40	37	92	0.300[a]	2	NS
	32 to 42 years	1	3	4	8			
	43& above	0	0	0	0			
	Total	16	43	41	100			
3	**Professional qualification**							
	Doctors	4	11	13	28	0.572[a]	4	NS
	Nurses	11	29	26	66			
	Lab technicians	1	3	2	6			
	Total	16	43	41	100			
4	**Level of education**							
	Diploma	5	17	10	32	2.779[a]	4	NS
	Graduates	9	19	25	53			
	Master degree	2	7	6	15			
	Total	16	43	41	100			
5	**Professional experience**							
	< 1 year	7	11	16	34	10.456[a]	6	NS
	1year to 3 years	6	23	11	40			
	3year to 5 years	1	6	4	11			
	>5 years	2	3	10	15			
	TOTAL	16	43	41	100			
6	**Area of Working**							
	Critical	5	16	23	44	4.397[a]	6	NS
	General ward	9	21	14	44			
	Laboratory	1	3	2	6			
	Operation theatre	1	3	2	6			
	Total	16	43	41	100			
7	**Have you undergone any training on "prevention of hospital acquired infection"?**							
	Yes	8	21	20	49	0.008[a]	2	NS
	No	8	22	21	51			
	Total	16	43	41	100			

* Significant at 0.05 level χ^2 = Chi Square
*S=Significant *NS= Non-Significant

Table 4 shows that the chi square value computed between knowledge levels of health care workers regarding prevention of Hospital-acquired infection with selected socio demographic variables.
Among all the selected socio demographic variables only Gender (X^2=7.661) have significant association with knowledge score and other socio demographic variables age (X^2=0.300), professional qualification (X^2 =0.572), level of education (X^2=2.779), professional experience (X^2=10.456), area of working(X^2= 4.397), Have you under gone any training on prevention of hospital acquired infection? (X^2= 0.008) found non-significant.

Table 5: Association between Practice score with selected demographic variables.
n=100

Sr. No.	Variable	11-20	21-30	31-40	Total	X^2	Df	Level Of Significance
1	**Gender**							
	Male	0	11	34	45	1.861[a]	2	NS
	Female	2	11	42	55			
	Total	2	22	76	100			
2	**AGE**							
	21 to 31years	2	22	68	92	2.746[a]	2	NS
	32 to 42years	0	0	8	8			
	43? & above	0	0	0	0			
	Total	2	22	76	100			
3	**Professional qualification**							
	Doctors	1	5	22	28	1.084[a]	4	NS
	Nurses	1	16	49	66			
	Lab technicians	0	1	5	6			
	Total	2	22	76	100			
4	**Level of education**							
	Diploma	0	6	26	32	5.007[a]	4	NS
	Graduates	2	10	41	53			
	Master degree	0	6	9	15			
	Total	2	22	76	100			
5	**Professional experience**							
	< 1 year	0	4	30	34	9.570[a]	6	NS
	1year to 3 years	1	14	25	40			
	3year to 5 years	0	2	9	11			
	>5 years	1	2	12	15			
	Total	2	22	76	100			
6	**Area of working**							
	Critical	1	14	29	44	4.808[a]	6	NS
	General ward	1	6	37	44			
	Laboratory	0	1	5	6			
	Operation theatre	0	1	5	6			
	Total	2	22	76	100			
7	**Have you undergone any training on "prevention of hospital-acquired-infection"?**							
	Yes	2	10	37	49	2.195[a]	2	NS
	No	0	12	39	51			
	Total	2	22	76	100			

* Significant at 0.05 level χ^2 = Chi Square
*S=Significant * NS= Non-Significant

Table 5 shows that the chi square value computed between the Practices of health care workers regarding prevention of Hospital-acquired infection with selected socio demographic variables.

Among all the selected socio-demographic variables: Gender (X^2=1.861), age (X^2=2.746), professional qualification (X^2 =1.084), level of education (X^2=5.007), professional experience (X^2=9.570), area of working(X^2=4.808), Have you undergone any training on prevention of Hospital-acquired infection? (X^2=2.195) there is no significant association between practice score with selected socio demographic variables.

Table 6: Correlation Between health care workers Knowledge, and Practice Regarding Prevention of Hospital-acquired infection (n= 100)

	Knowledge	Practice
Knowledge	1	0.277
Practice	0.277	1

***p<0.01*
Correlational analysis revealed that there was a moderately positive relationship between nurses' knowledge and practice (r = 0.277, p > .000) regarding prevention of Hospital-acquired infection **(Table 13).**

MAJOR FINDINGS OF THE STUDY

The findings of the study based on the objectives:

Socio- demographic finding:

According to gender Majority of (55%) of the health care workers were Female and (45%) of health care workers were Male.

According to age group Majority of (92%) of health care workers were in the age group of 21-31 years of age and (8%) of health care workers were in the age group of 32-42 years of age.

According to professional qualification Majority of (66%) of health care workers were nurses, (28%) were doctors & (6%) were lab technicians.

According to level of education (55%) of health care workers did the education up to graduation, and (32%) of health care workers

did up to diploma & (15%) of health care workers did post-graduation.

According to professional experience (15%) of health care workers having more than 5 years of experience (11%) of health care workers having 3 to 5 years of experience, (40%) of health care workers having 1 to 3 years of experience and (40%) of health care workers having 1 to 3 years of experience.

According to Area of working (44%) of health care workers were working in the critical area, (44%) of health care workers were working in the general ward, (6%) of health care workers were working in the laboratory and (6%) of health care workers were working in the operation theater.

According to previous training programme (51%) of health care workers were attended the training regarding prevention of Hospital-acquired infection & (49%) of health care workers did not attended any training regarding prevention of Hospital-acquired infection.

Among all the selected socio demographic variables: Gender (X^2=7.661), age (X^2=0.300), professional qualification (X^2 =0.572), level of education (X^2=2.779), professional experience (X^2=10.456), area of working (X^2= 4.397), Have you under gone any training on prevention of Hospital-acquired infection? (X^2= 0.008) Hence, there is significant association between knowledge score and selected demographic variables.

Among all the selected socio demographic variables: Gender (X^2=1.861), age (X^2=2.746), professional qualification (X^2 =1.084), level of education (X^2=5.007), professional experience (X^2=9.570), area of working(X^2=4.808), Have you under gone any training on prevention of Hospital-acquired infection? (X^2=2.195) there is no significant association between practice score with selected socio demographic variables. Hence, there is no significant association between practice score and selected demographic variables.

Correlational analysis revealed that there was a moderately positive relationship between health care workers' knowledge and practice (r = 0.277, p > .000) regarding prevention of Hospital-acquired infection.

5. DISCUSSION

The similar study was conducted by **Adegboye MB,** on Knowledge, awareness and practice of infection control by health care workers in the intensive care units of a tertiary hospital in Nigeria. We evaluated the practice of infection control among health care workers in the intensive care unit (ICU) of our hospital. This is a descriptive cross-sectional study. Sixty-nine out of the 80 (86%) respondents had good knowledge that a hand is the most common vehicle of transmission of infection. However, 53.8% and 32.5% of the respondents had knowledge of the movement of hand hygiene and practiced six steps of the hand washing technique respectively. Though physicians accounted for 68 (85%) of the respondents, only 28% of them practiced the six steps of the hand washing technique with resident doctors constituting a large proportion of hand washing technique defaulters. Only 13.9% of non-physician and 7.5% of physician respondents had ever attended a training program on infection control respectively. Knowledge and awareness of infection control among the health care workers in our ICU is good but the practice is poor. [21]

A similar study was conducted by **Melaku Desta, Temesgen** on Knowledge, practice, and associated factors of infection prevention among healthcare workers in Debre Markos referral hospital, Northwest Ethiopia. Healthcare-associated infections are a major global public health agenda. Health care workers are the front line of protecting themselves and clients from infection. This study examined the knowledge and practice of healthcare workers on infection prevention and its associated factors among health professionals working at Debre Markos Referral Hospital. A Hospital-based cross-sectional study was conducted with a structured pre-tested questionnaire among 150 participants. The healthcare workers were selected through a systematic random sampling technique. Multivariate logistic regressions were computed to identify associated factors of knowledge and practice of infection prevention and variables with a p-value < 0.05 were considered statistically significant. More than two-third (84.7%) of healthcare workers were found to be knowledgeable but only 86 (57.3%) of respondents demonstrated a good practice on

infection prevention. Older age, lengthy work experience and higher educational status were significantly associated with both knowledge and practice of infection prevention.[22]

The study showed that there is a significant association between knowledge score with selected socio-demographic variables and there is no significant association between practice score with selected socio-demographic variables. Correlational analysis revealed that there was a moderately positive relationship between nurses' knowledge and practice regarding the prevention of Hospital-acquired infection.

6. CONCLUSION

One of the major factors that contribute to the HAI's is the lack of knowledge regarding the prevention of Hospital-acquired infection, so it is important that health care workers should provide knowledge regarding the prevention of Hospital-acquired infection.

This study was undertaken to observe the knowledge and practice regarding the prevention of Hospital-acquired infection among health care workers. The study involves a Descriptive research design with a non-probability convenient sampling technique, 100 samples of health care workers were selected on the basis of inclusion and exclusion criteria. A conceptual framework used for this study is a modified health belief model." Analysis of obtained data was planned based on the objectives and hypothesis of the study, both descriptive and inferential statistics were used for the analysis of the data. The data is interpreted in the form of tables and graphs. This chapter deals with a summary of the study, overall conclusion, nursing implications, limitations, and recommendations.

CONSENT AND ETHICAL APPROVAL

Formal ethical approval was received from the institutional ethical committee, and informed consent was obtained from participants and assured of anonymity.

COMPETING INTERESTS:

Authors have declared that no competing interests exist.

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