

Infection prevention practices and knowledge among health care providers at tertiary care Hospital

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ABSTRACT

Objective: To determine the infection prevention practices and knowledge in health care providers at tertiary care Hospital.

Study Design: Cross-sectional study:

Setting: This study was conducted at Medicine Department of Peoples University of Medical and health Sciences Nawabshah

Duration: Six months from July 2019 to December 2019.

Patients and Methods: This cross sectional study was conducted at medicine department with collaboration of other departments at Peoples University of Medical and health Sciences Nawabshah. All the health care providers including doctors, nurses, dispensers and other medical staff were included in the study. Selected individuals were interviewed using a self-made questioner regarding knowledge and practices. Questioner was prepared as per previously published studies and some of the questions were self-designed, which we deemed necessary. Knowledge and practices were categorized in terms of excellent, good, average and poor. All the information was collected via study proforma. Data analysis was done by using SPSS version 20.

Result: In this study total 120 healthcare providers were studied. Mean age of study subjects was 28.35±07.34 years and average experience of health providers was 05.50±4.33 years. Females were 55.8%, while males were 44.2%. Out of all study subjects, nurses were most common (41.7%), followed by doctors (17.5%), whereas, dispensers were 12.5% and midwives were 14.2%, while 14.2% were others. Most of the study participants had excellent and good knowledge (44.2% and 35.8% respectively) regarding Hospital acquired infection. Excellent prevention practices were found in 34.2% of health care providers, 37.5% were doing good practices, and 9.2% were found with average practices, while 19.2% were observed with poor practice. This average and poor practice was observed due to deficiency of safety materials and ignorance.

Conclusion: It was concluded that the infection control practices and its knowledge among the health care providers was absolutely fair; however, there is still a wide scope of improvement with regular educational programs and in-house training.

Keywords: Infection, Hygiene, Knowledge, Nurses, Doctors

INTRODUCTION

Healthcare related infections, a global patient safety issue, affect individuals globally.¹ Hospital Acquired Infections (HAIs) are the infections obtained by the patients from the hospital setting following being hospitalized. The HAIs related morbidity and mortality is very high. Because of inappropriate infection control procedures, it is believed to take place in 10 percent of patients in developed nations and 25 percent of individuals in third world countries.^{1,2} A health worker's job is to assist a patient in the restorative process however often they unintentionally serve as a carrier of nosocomial infection.³ Simple preventive measures and approaches can decrease the level of transmission.^{3,4} Hand washing may inhibit infection from being spread among patients. Gloves, masks and gowns have a very significant role in preventing infection transmission, however are often not implemented properly.^{3,4} HAIs are linked with raised mortality and morbidity among hospitalized individuals and predispose healthcare workers (HCWs) to a raised likelihood of infection transmission.⁵ Urinary tract infection (UTI), surgical site infection (SSI), pneumonia, and bloodstream infections are the most prevalent forms of HAIs.^{6,7} In developed

nations, an average 10 percent of hospitalized people and 25 percent in underdeveloped nations develop HAIs, resulting in negative health effects such as growing hospitalizations, significant mortality and morbidity.^{8,9} The higher prevalence of HAIs is linked to the poor standardized infrastructure for infection control programs that has been ignored because of limited funding, inadequate hygienic conditions and poor sanitation procedures.⁹ The risk of HAIs persists even after the advancements in healthcare sector.¹⁰ Poor awareness among healthcare professionals about infection prevention procedures limits enforcement of these measures.¹⁰ However there was a high prevalence of acquired infections in developing countries including Pakistan. In underdeveloped nations, including Pakistan, which has no ideal protocols for prevention and control of infection in hospitals, HAIs are a major concern in government hospitals.¹¹ Because of the pervasiveness of multi-drug resistant microbial species and nosocomial infections, government hospitals across both major and minor cities of Pakistan encounter multifaceted challenges.¹¹ The utilization of non-sterilized equipment, unskilled healthcare workers or a lack of knowledge among

healthcare workers are the key causes of transmission of such infections.³ So with that in mind this study has been conducted to observe the infection preventive practice and knowledge among healthcare providers at tertiary care Hospital.

MATERIALS AND METHODS

The present cross sectional study took place at medicine department with collaboration of other departments at Peoples University of Medical and health Sciences Nawabshah. All the health care providers such as doctors, nurses, dispensers, midwives and other lower staff were included in this study. All the healthcare providers who were not attending the patients and those who were not agree to participate in the study were excluded. All the selected individuals were interviewed by a self-made questioner regarding knowledge and practice of these health care providers in friendly environment. Questioner was developed keeping in view the previously published studies^{5,8,10,12} and some of the questions were self-designed, which we deemed necessary. All the study subjects were counseled that their names and personal information will be kept confidential. Knowledge and practice were categorized in terms of excellent, good, average and poor. This categorization was made on individual's satisfactory answers and their interest and concern in the uses of infection preventive protocols. All the information was collected via study proforma. Analysis of the data was performed using SPSS 20 version.

RESULTS

In current study total 120 healthcare providers were studied. Mean age of study subjects was 28.35±07.34 years and average experience of health providers was 05.50±4.33 years. Females were 55.8%, while males were 44.2%. Table.1

According to healthcare provider's categorization nurses were most common 41.7%, followed by doctors 17.5%, dispensers were 12.5% and midwives were 14.2%, while 14.2% were others. Tables.2

Table 1: Statistical description of age and duration of symptoms n=120

Variables		Statistics
Age (Mean ± SD)		28.35±07.34 years
Work experience (Mean ± SD)		05.50±4.33 years
Gender	Females	67(55.80%)
	Males	53(44.20%)
	Total	120(20.0%)

Table 2: Frequency of health care providers n=120

Health care providers	Frequency	Percentage
Doctors	21	17.5%
Nurses	50	41.7%
Dispensers	15	12.5%
Midwives	17	14.2%
Others	17	14.2%
Total	120	100.0%

According to the assessment of knowledge regarding hospital acquired infection, most of the study participants had excellent and good knowledge as 44.2% and 35.8% respectively as showed in table 3.

On the health care practice assessment 34.2% cases were seen with excellent practice, 37.5% were doing good practice and 9.2% were found with average practice, while 19.2% were observed with poor practice. This average and poor practice was observed due to deficiency of safety materials and ignorance. Table.3

Table 3: Frequency if study subjects regarding knowledge and practice n=120

Knowledge	Frequency	Percentage
Excellent	53	44.2%
Good	43	35.8%
Average	19	15.8%
Poor	05	04.2%
Practice		
Excellent	41	34.2%
Good	45	37.5%
Average	11	09.2%
Poor	23	19.2%

DISCUSSION

Infections related to healthcare facilities are the significant public health challenges worldwide. Healthcare providers are in front line to protecting themselves and individuals.⁹ In this study mean age of study subjects was 28.35±07.34 years and females were most common. Similarly Fashafsheh I et al¹³ reported that most of the individuals were between age of 20 to 30 year and females were in majority. On other hand Riasat R et al¹² reported that out of all respondents, females were 106 (53.50%) and males were 92 (46.50%) with an average working experience of 4.2 years. However in this study average experience was 05.50±4.33 years. Similarly in another study of Desta M et al⁹ reported 25.25 years of mean age, while inconsistently they found males respondents in majority.

In this study among healthcare provider's categorization nurses were most common 41.7%, followed by doctors 17.5%, dispensers were 12.5% and midwives were 14.2%, while 14.2% were others. These findings were also similar to the study of Desta M et al⁹ as physician were 14%, nurse were 55.3% Midwifery were 12%, health officer were 2%, laboratory technician were 8.7% and 12.8% were others. On other hand Akram A et al¹⁴ also found nurses in majority.

In present study majority of the study participants had excellent and good knowledge regarding Hospital acquired infection. Similarly Akram A et al¹⁴ reported that only 12% respondents showed good knowledge, while majority of respondents 80% showed a knowledge of adequate level. Though Sodhi K et al¹⁰ reported that the overall knowledge was good in 37% respondents, while average and below average awareness was found in 40% and 18% of nurses respectively. While, excellent knowledge was demonstrated by just 5% of nurses. In another study of Assefa J et al¹⁶ reported that 70.8% of respondents had sufficient infection control awareness. 16 (9.40%) claimed that gloves were insufficient to offer full protection from infection. 163 (95.30%) of the respondents replied that hand-washing with alcohol-based antiseptics or a soap eliminates the risk of HAIs being transmitted.

In this study 34.2% cases were seen with excellent practice, 37.5% were doing good practice and 9.2% were found with average practice, while 19.2% were observed

with poor practice. This average and poor practice was observed due to deficiency of things and ignorance. However Riasat R et al¹² reported that Most study participants (83.8%) accurately defined hand washing as among the most successful way to avoid HCAIs and greater knowledge was observed among doctors (63.1%) as compared to nurses. The majority of respondents (97.5%) accepted that HCAIs can be successfully avoided by limiting exposure injury by sharp objects, using barrier precautions (97.5%) and hand sanitation (98.0%). In Qatar Ibrahim, an interview-based cross-sectional survey evaluated the attitude and knowledge about infection control in medical students, the results showed that about standard precautions of isolation 48.4% respondents had satisfactory knowledge, 85% respondents were aware of hand sanitization practices. Moreover, medical students were offered minimal training on hand hygiene; while standard precautions were being followed by just 35% of senior medical doctors.¹⁵ Pakistan's healthcare sector is primarily dealing with infectious diseases. Unless effective and appropriate evidence-based infection preventive measures are enforced, public hospitals can unintentionally promote the infection transmission between healthcare workers and patients, raising the risk of mortality and morbidity.¹⁷ Continuous educational programs, conferences, workshops or symposiums should be scheduled periodically for this purpose. A proper infection management team must be in operation.

CONCLUSION

It was concluded that the infection control practice and its knowledge among the health care providers was absolutely fair; though, still there is a vast area of development by regular instructional activities and in-house trainings. This was small sample size and single center study. Further large sample size and multicenter studies are recommended on this subject at local level.

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