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Health Care Workers Knowledge, Attitude and Practice towards Hospital Acquired Infection Prevention at Dessie Referral Hospital, Northeast Ethiopia

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Abstract

Background: The intimate contact of health care workers and patient at the health care facility lead to the transmission of pathogenic organisms from patient to health care worker and vice versa. Hospital acquired infection prevention which is standardized guide lines contain a multitude protocols needed to be implemented by health care workers to reduce potentially hospital acquired infections.

Objective: To assess health care workers knowledge, attitude and practice towards hospital acquired infection prevention at Dessie referral hospital.

Method: Institutional based cross sectional study was conducted among health care workers at Dessie referral hospital. The subjects were selected by proportional allocation in each respective department and simple random sampling method was employed. The data was analyzed by using statistical package for social sciences (SPSS) and described in frequency tables and graph.

Results: 191 study subjects were participated in the study which gives a response rate of 90.5% from 211 total sample sizes. The study subjects had given their response according to self-administered questioner. The result indicates that 86.4%, 76.4% and 77% of respondents had good knowledge and favourable attitude and poor practice towards hospital acquired infection prevention respectively.

Conclusion and recommendation: Even though the majority of the health care workers had good knowledge and favourable attitude, more than two third of them had poor practice towards hospital acquired infection prevention. Therefore health workers should strictly follow hospital acquired infection prevention guidelines. Improving sustainable supplies like personal protective equipment, water supply and hand washing facilities at patient care site is vital to correct the poor practice of infection prevention.

Keywords: Health care workers; Hospital acquired infection; Infection prevention; Knowledge; Attitude; Practice; Dessie referral hospital

Introduction

Hospital acquired infections or nosocomial infections are common worldwide problems mainly in developing and middle-income countries but it also affects developed countries [1]. The most common health care associated infections include; pneumonia (21.8%), surgical site infection (21.8%), gastrointestinal infections (17.1%), UTI (12.9%) primary blood stream infections (9.9%), eye, ear, nose, throat, mouth infections (5.6%), lower respiratory tract infections (4.0%), skin and soft tissue infections (3.2%), cardiovascular infections (1.2%), bone and joint infections (1.0%), CNS infections (0.8%), reproductive tract infection (0.6%), and systemic infections (0.2%). These infections are mostly caused by bacteria such as E.coli, Staphylococcus aureus, Streptococcus and Clostridium species, and other non-bacterial microorganisms like fungus, viruses and other parasites [2,3].

Materials and Methods

Study design, setting and period

Facility based cross sectional study was conducted in Dessie referral hospital among health care workers to assess their KAP towards HAIP from March 11-17, 2017. DRH found in Dessie town, Amhara region, North east Ethiopia, 401 km away from Addis Ababa, the capital of Ethiopia and 480 km from Bahirdar, capital of Amhara regional state [4]. This hospital gives many services including preventive, curative and rehabilitative care for patients coming from all woredas and zones of Eastern Amhara and Afar regional state.

Population

This study was done on HCW working in DRH. Those HCW providing health care service during data collection period were included in the study. HCW who were not providing service during the study period such as health workers who were on annual breaks and educational leave were excluded in this study.

Sample size determination and sampling technique

The sample size was determined by using single population proportion formula, the level of confidence=95% (Z=1.96),

degree of precision (marginal error)=5% and by taking estimate of prevalence towards HAIP practice=54.2%. Based on this assumption, the sample size for the study was 381 [5-8]. Since total population is 388 which is less than 10,000; we used population correction formula, we got 192. Then by adding 10% for non response rate the final sample size was 211 health care providers.

Data collection tools and procedure

Self-administered questionnaire was used for data collection. It includes four parts; the first section containing socio demographic characteristics such as age, sex, educational status, work experience and profession. The second part elicits about knowledge, the third part includes questions concerning attitude and the last part includes practice assessment questions towards infection prevention [9-12]. Before data collection one day training was given for data collectors and supervisor regarding the study, the questionnaires and data collection procedure by the main investigator [13].

Operational definitions

Good knowledge: health workers who answered ≥ 70% of knowledge questions correctly.

Poor knowledge: health workers who answered<70% of knowledge questions correctly.

Favorable attitude: health workers who answered ≥ 70% of attitude questions.

Unfavorable attitude: health workers who answered <70% of attitude questions.

Good practice: health workers who have properly practiced ≥ 70% of practice questions.

Poor practice: health workers who have practiced<70% of practice questions.

Results

Socio-demographic characteristics of the study participants

Out of the total sample size (n=211), 191 study subjects were participated in the study which gives a response rate of 90.5%. The mean age of the study subjects was 29.87 years (+6.76 SD). One hundred fifteen (60.2%) of respondents were males and the rest 76 (39.8%) were females. (See **Table 1** for more detail)

Variables		Frequency(n=191)	Percentage
Age	19-28	117	61.30%
	29-38	59	30.90%
	39-47	9	4.70%
	>47	6	3.10%
Sex	M	115	60.20%
	F	76	39.80%
Educational status	Diploma	69	36.10%
	Degree	96	50.30%
	Above	26	13.60%
Level of experience	≥ 5years	151	79.10%
	6-10years	23	12%
	≥ 11years	17	8.90%
Profession	Nurse	100	52.40%
	Medical laboratory	13	6.80%
	Pharmacy	18	9.40%
	Doctor	25	13.10%
	Anaesthetists	3	1.60%
	Psychiatry	3	1.60%
	Ophthalmology	3	1.60%
	Midwives	18	9.40%
	Radiology	5	2.60%
	IESO	1	0.50%
	Dentist	1	0.50%
	Physiotherapy	1	0.50%

Table 1: Sociodemographic characteristic of health workers at Dessie referral hospital, North East Ethiopia.

Discussion

In this study 86.4% of health workers had good knowledge which was in line with the study conducted in Bahirdar city, Gondar and Debre Markos referral hospital which were reported as 84.2%, 81.6% and 84.7% of health workers had good knowledge respectively. On the other hand this finding is relatively lower than similar study conducted in Egypt, Cairo university hospital which reported as 90% of respondents had good knowledge. In the current study 93.8% of respondents were knowledgeable as gloves should always be worn in contact precaution which is higher than a study conducted in Mizan Aman general hospital which was reported as 70.4% of respondents knew this. This difference might be attributed to the difference in the academic background of the study respondents, setting of the study, sampling technique, sample size between studies and infection prevention guideline availability.

Conclusion and Recommendation

Most of respondents had good knowledge and considerable high level of favourable attitude but majority of respondents had poor practice i.e. they do not always wear masks and gloves, wash hands and they do not discard infectious materials according to the recommendations of the guideline. Therefore Dessie referral hospital health workers should strictly follow

HAIP guideline and the hospital administrators should fulfill necessary supplies for infection prevention. Researchers should also do further study by using mixed qualitative and quantitative methods to address the unreached problems of the hospital.

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