

Original Article

## Knowledge and Preventive Practices of Nosocomial Infections among Health Workers in Two Selected Tertiary Hospitals in Ogun State

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### Abstract

**Background:** Hospital-acquired infection (HAI) is one of the common difficulties faced by hospitals in all countries around the world. In Nigeria, every year, many lives are lost because of the spread of nosocomial infections in the hospitals. Health workers are not only expected to be knowledgeable about HAI but are also to adopt preventive practices required against the HAI.

**Aims:** This study assessed the level of knowledge, preventive practices against nosocomial infection and the factors affecting the practices against nosocomial infection among health workers in two selected tertiary hospitals in Ogun State.

**Methodology:** A survey was done using multistage sampling technique to recruit respondents for this study. A self-structured questionnaire was used for the data collection. Data retrieved were analyzed using descriptive and inferential statistics with the use of Statistical Package for the Social Scientist (SPSS) version 21.

**Results:** Findings revealed that 94.1% of the respondents had high knowledge about nosocomial infection, 95.9% had high knowledge on preventive practices against nosocomial infection. Factors that affect preventive practices were workload, lack of equipment and distance to preventive equipment.

**Conclusion:** The study concluded that the health workers in the selected tertiary hospitals had good knowledge about HAI and practice though the practice was affected by some factors.

**Keywords:** Health Workers, Knowledge, Nosocomial Infections, Preventive Practices.

### Background to the Study

Hospital-acquired infection (HAI) is one of the common problems and difficulties faced by hospitals in all countries around the world. The fact that health is wealth does not exclude health workers despite the fact that they are professionally shouldered with the responsibilities of providing health care to the people. Adequate knowledge of health-care associated infections and some measures to curb the festering of such ailments among health workers will surely bring to the fore the professional acumen and improve the efficacy of health administration and better the lots of the society.

Nosocomial infections are a major public health problem globally and are on the increase despite efforts in hospital infection control measures and contribute significantly to morbidity and mortality (Mbim, Mboto, & Agbo, 2016). Hospital-acquired infections are also known as nosocomial infections (Khan, Ahmad, & Mehboob, 2015). According to World Health Organization (2010), Hospital acquired infection is defined as an infection occurring in a patient during the process of care within a health care facility which was not present or incubating at the time of admission. These infections are those acquired after 48 hours of patient's admission (Alrubaiee et al., 2017).

Invasive devices such as catheters and ventilators employed in modern health care are associated to these infections (Centers for Disease Control and Prevention, 2016). Risk factors include lack of proper health care facilities such as isolation units, sinks and bed space; inappropriate waste management, contaminated equipment, inappropriate use of antibiotics and transmission of infection from the hands of healthcare workers and family caretakers due to inadequate hand hygiene practice (Shahida et al., 2016).

According to Khan et al. (2015), organisms that are frequently involved in hospital-acquired infections include *Streptococcus* spp., *Acinetobacter* spp., enterococci, *Pseudomonas Aeruginosa*, Coagulase-negative staphylococci, *Staphylococcus aureus*, *Bacillus cereus*, *Legionella* and Enterobacteria family members. These micro-organisms can be transferred from person to person, environment and contaminated water and food, infected individuals, contaminated health care personnel's skin or contact via shared items and surfaces.

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 than other health care workers. Therefore, they are more exposed to various nosocomial infections (Shinde & Mohite, 2014). Hence, nurses play a vital role in transmitting nosocomial infections, and their compliance with infection control measures seems to be necessary for preventing and controlling nosocomial infections (Sarani et al., 2015). 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. In clinical practice, the researchers have observed cases where health workers handle contaminated linen with bare hands, put needles in the patient's mattress after giving injections, do not clean the stethoscope after each patient contact and do not wash hands regularly in the clinical environment. Inadequate knowledge and poor infection prevention and control practices among health workers increase the rates of hospital-acquired infections. Hand hygiene is the single most important intervention to prevent transmission of infection and should be a quality standard in all

health institutions. In a study that was conducted in India where Nair, Hanumantappa et al. (2014) assessed knowledge, attitude and practices of hand hygiene among medical and nursing students at a tertiary health care centre, the majority of students had poor knowledge with regard to hand hygiene. This means that the students were not well informed about the importance of hand hygiene and this negatively affected their attitude and practices of hand hygiene. Poor hand hygiene practice among health workers increases the risk of acquiring nosocomial infections.

Health care associated infections have long been recognized as crucial factors bedevilling the quality and outcomes of health care delivery. Developing countries have reported to have up to 20 times the risk of contracting a nosocomial infection compared with developed countries (World Health Organization [WHO], 2012). Thus, spread of infection serves as a major source of worry for health care practice, particularly in developing countries where the health care system is already overstretched. Therefore, this study is set to assess the knowledge and preventive practices of nosocomial infection among health workers in two selected tertiary hospitals in Ogun State.

### Research Questions

1. What is the level of knowledge of health workers about nosocomial infection in two selected tertiary hospitals in Ogun state?
2. What is the level of preventive practices against nosocomial infection among health workers in two selected tertiary hospitals in Ogun state?
3. What are the factors affecting the preventive practices of nosocomial infections in two selected tertiary hospitals in Ogun State?

### Hypotheses

**H<sub>0</sub>1:** There is no significant relationship between the knowledge of health workers and their preventive practices against nosocomial infection.

**H<sub>0</sub>2:** There is no significant difference between the years of experience of health workers and their preventive practices of nosocomial infection.

### Methodology

**Research Design:** A survey which is a descriptive design was done to determine the knowledge, preventive practices and factors affecting the

preventive practices of nosocomial infections among health workers in two selected tertiary hospitals in Ogun state.

**Research Setting:** The study was carried out among health workers at Babcock University Teaching Hospital (BUTH), Ilishan-Remo and Olabisi Onabanjo University Teaching Hospital (OOUTH), Sagamu, Ogun State. These are private/mission hospital and public/government hospital respectively.

**Population of the Study:** The population of the study comprised of health workers working at Babcock University Teaching Hospital, Ilishan-Remo and Olabisi Onabanjo University Teaching Hospital, Sagamu. Babcock University Teaching hospital comprises of 360 health workers (208 Nurses, 87 Midwives, 136 Doctors and 16 Medical Laboratory Scientists). Olabisi Onabanjo University Teaching Hospital comprises of 477 health workers (255 Nurses or Midwives, 203 Medical doctors and 19 Medical Laboratory Scientists). The total population as at the time of conducting this study was 837 health workers.

### Sample Size/Sampling Technique

**Sample Size:** The sample size was calculated using Taro-Yamane formula:

$$n = \frac{N}{[1+N(e)^2]}$$
 Where, n= sample size, N= estimated target population, e= sampling error (0.05 acceptable error)

At 95% confidence level and 5% error level.  
Where N= 837

Therefore,  $n = \frac{837}{[1+837(0.05)^2]}$   $n = \frac{837}{1+837(0.0025)}$   
 $n = \frac{837}{1+2.0925}$   $n = \frac{837}{3.0925}$   $n = 271$

Therefore, 271 health workers were recruited for the study.

**Sampling Technique:** Multistage sampling technique was used in recruiting the participants:

**Stage 1:** Proportionate sampling technique

a) Number of health workers in BUTH  
 $\times \frac{\text{Sample size}}{\text{Total number in the two settings}}$   
 $= \frac{360}{837} \times 271 = 0.43 \times 271 = 117$

Therefore, 117 health workers were recruited from BUTH.

b) Number of health workers in OOUTH  
 $\times \frac{\text{Sample size}}{\text{Total number in the two settings}}$   
 $= \frac{477}{837} \times 271 = 0.57 \times 271 = 154.$

Therefore, 154 health workers were recruited from OOUTH.

**Stage 2:** Convenient sampling technique was used in recruiting the respondents from each of the setting.

**Instrument for Data Collection:** The researcher utilized a self-structured questionnaire with closed-ended questions to collect data on the knowledge and preventive practices of nosocomial infection among health workers in the study centres.

**Method of Data Collection:** A letter of introduction was written to the Chief Medical Directors of Babcock University Teaching Hospital, Ilishan-Remo and Olabisi Onabanjo University Teaching Hospital, Sagamu, Ogun State. Ethical approvals were sought from the ethical committee of the two study centres. The purpose and contents of the questionnaire were explained to the participants. This was done in order to gain maximum cooperation in obtaining the correct and unbiased information. The researchers waited for the participants to complete the questionnaire and then it was retrieved immediately after filling to prevent loss of instrument.

**Method of Data Analysis:** The questionnaires were sorted, arranged and coded for analysis. Analysis was done with Statistical Package for the Social Sciences (SPSS) software version 21. Descriptive and inferential statistics were used for the data presentation.

### Results

Table 1.a. shows the demographic features of the respondents in the study. The analysis revealed that 106 (39.1%) which is the majority of the respondents were between 30 – 39 years. Majority 187(69.0%) of the respondents were female. The profile of the professional area or disciplines of the respondents were 193 (71.2%) registered nurse/midwives, 50(18.5%) medical doctors and 28(10.3%) medical laboratory scientist. On the

length of years of practice, 105(38.7%) indicated that they have been practicing for less than 5 years, 104(38.4%) indicated 5-10 years, 28(10.4%) of the respondents indicated that they have been practicing about 11 – 15 years. The number of respondents that indicated 16 – 20 years were 18(6.6%) and the number that indicated that they have been practicing for more than 20 years were 16(5.9%). 229(84.5%) of the respondents worked on full time.

Table 1 shows the knowledge of respondents about Nosocomial Infection. From the table, when asked whether Nosocomial infection is an infection gotten from the hospital during admission of the patient, 257(94.8%) indicated true. On the average, the respondents indicated true that Nosocomial infection is an infection gotten from the hospital during admission of the patient (Mean = 1.95, STD = 0.222). Furthermore, 264(97.4%) indicated true to the statement that Nosocomial infection is also known as hospital acquired infection. On the average, the respondents indicated true that Nosocomial infection is also known as hospital acquired infection (Mean = 1.97, STD = 0.159). From the analysis on knowledge of respondents about Nosocomial Infection, 16 (5.9%) of the respondents had moderate knowledge about Nosocomial Infection while 255 (94.1%) had high knowledge about Nosocomial Infection. The overall level of knowledge about Nosocomial Infection was high (mean = 19.83). The standard deviation was 1.16, indicating that their responses on knowledge was not far apart.

Table 2 shows the preventive practices against Nosocomial Infection among the respondent. It was observed that when the respondents were asked how often they wash hands if they used gloves, 33(12.2%) indicated that they always do not wash hands if they used gloves, 19(7.0%) indicated often, 49(18.1%) sometimes, 55(20.3%) rarely and 115(42.4%) indicated that they never wash hands if they used gloves. From the analysis 20 (7.4%) had moderate preventive practice against Nosocomial Infection and 251 (92.6%) had high preventive practices against Nosocomial Infection. The mean score of preventive practices against Nosocomial Infection was 44.21. The standard deviation was 4.59, indicating that their responses on preventive practice against Nosocomial Infection was far apart.

Table 3 shows the factors affecting the preventive practices against Nosocomial Infection. From the table when asked whether workload affects their ability to apply infection prevention guidelines, 107(39.5%) indicated true, 158(58.3%) indicated false and 6(2.2%) do not know. On the average the respondent indicated true that workload affects their ability to apply infection prevention guidelines (Mean = 1.63, STD = 0.528). The 259(95.6%) of the respondents indicated true to the statement that adequate knowledge of nosocomial infection and chain of infection promotes my infection preventive practices. On the average the respondents indicated true that adequate knowledge of nosocomial infection and chain of infection promotes my infection preventive practices (Mean = 1.06, STD = 0.292).

### Hypotheses Testing

**H<sub>01</sub>:** *There is no significant relationship between the knowledge of health workers and their preventive practices against nosocomial infection.*

The result showed a value of  $p = 0.000$  based on the value of  $p < 0.05$  that showed that the estimate between the two variables is statistically significant, we reject the null hypothesis. We then declare that there is a significant relationship between the knowledge of health workers and their preventive practices against nosocomial infection. That is, knowledge of health workers on preventive practices against nosocomial infection played a role in the preventive practices against nosocomial infection.

**H<sub>02</sub>:** *There is no significant difference between the years of experience of health workers and their preventive practices of nosocomial infection.*

The result showed a  $p$  value of 0.013. Based on the  $p$ -value of  $p < 0.05$ , meaning that the estimate or analysis between the two variables was statistically significant we reject the null hypothesis that says there is no significant difference between the years of experience of health workers and their preventive practices of nosocomial infection. It is then declared that there is a significant difference between the years of experience of health workers and their preventive practices of nosocomial infection. That is number of years of experience of a health workers has a significant influence on the preventive practices of nosocomial infection.

**Table 1a : Socio-demographic Characteristics**

Items		Frequency (n)	Percentage (%)
Age	20 -29 years	45	16.6
	30 – 39 years	106	39.1
	40 -49 years	85	31.4
	50 years and above	35	12.9
	Total	271	100.0
Gender	Male	84	31.0
	Female	187	69.0
	Total	271	100.0
Professional Area	Registered Nurse/Midwife	193	71.2
	Medical Doctor	50	18.5
	Medical Lab. Scientist	28	10.3
	Total	271	100.0
Years of Practice	Less than 5 years	105	38.7
	5 – 10 years	104	38.4
	11 – 15 years	28	10.4
	16 – 20 years	18	6.6
	Above 20 years	16	5.9
	Total	271	100.0
Employment Status	Full time	229	84.5
	Contract	42	15.5
	Total	271	100.0

**Table 1: Knowledge about Nosocomial Infections**

Items	True	False	I don't know	Mean	STD	Remark
Nosocomial infection is an infection gotten from the hospital during admission of the patient.	257(94.8%)	11(4.1%)	3(1.1%)	1.95	0.222	<i>Moderate knowledge = 16(5.9%)</i>
Nosocomial infection is also known as hospital acquired infection.	264(97.4%)	4(1.5%)	3(1.1%)	1.97	0.159	
Organisms that causes nosocomial infection include Streptococcus spp., Staphylococci and Acinetobacter spp.	249(91.9%)	10(3.7%)	12(4.4%)	1.92	0.274	
Prolonged hospital stay increases the risk of nosocomial infection.	254(93.7%)	9(3.3%)	8 (3.0%)	1.94	0.243	<i>High knowledge = 255 (94.1%)</i>
Nosocomial infection can be transmitted by medical equipment such as syringes, needles, catheters, stethoscopes, thermometers etc.	255(94.1%)	4(1.5%)	12(4.4%)	1.94	0.236	
Standard Precautions are taken to prevent Nosocomial infections.	256(94.5%)	10(3.7%)	5 (1.8%)	1.94	0.229	<i>Knowledge mean Score = 19.833</i>
Standard precautions apply to all patients regardless of their diagnosis.	257(94.8%)	8(3.0%)	6 (2.2%)	1.95	0.222	
All health workers and patients are considered potentially infectious.	238(87.8%)	24(8.9%)	9 (3.3%)	1.88	0.328	<i>Standard deviation = 1.157</i>
Micro-organisms are destroyed by using only clean water	62(22.9%)	196(72.3%)	13(4.8%)	1.72	0.448	
Nosocomial infections are curable.	244(90.0%)	13(4.8%)	14(5.2%)	1.90	0.300	

**Table 2: Preventive Practices against Nosocomial Infection**

Items	Always	Often	Some Times	Rarely	Never	Mean (STD)	Remark
I do not wash hands if I used gloves.	33 12.2%	19 7.0%	49 18.1%	55 20.3%	115 42.4%	3.74 (1.386)	<i>Moderate knowledge</i> = 20(7.4%)
I wash hands before and after direct contact with the patients.	270 99.6%	1 0.4%	0 0.0%	0 0.0%	0 0.0%	5.00 (0.061)	
I put on a mask and glasses when performing invasive and body fluid procedures.	179 66.1%	43 15.9%	35 12.9%	11 4.1%	3 1.1%	4.42 (0.939)	<i>High knowledge</i> =251 (92.6%)
I wear personal protective equipment when handling linen.	164 60.5%	53 19.6%	28 10.3%	22 8.1%	4 1.5%	4.30 (1.041)	
I shake linen out to release dust from the linen.	52 19.2%	19 7.0%	29 10.7%	31 11.4%	140 51.7%	3.69 (1.596)	<i>Knowledge mean Score</i> = 44.21
I recap needles after use and before disposal.	47 17.3%	12 4.4%	24 8.9%	30 11.1%	158 58.3%	3.89 (1.551)	
I follow aseptic techniques strictly.	192 70.8%	49 18.1%	23 8.5%	5 1.8%	2 0.7%	4.56 (0.786)	<i>Standard deviation</i> = 4.69
I isolate patients with communicable diseases in separate rooms to prevent cross contamination	270 99.6%	1 0.4%	0 0.0%	0 0.0%	0 0.0%	5.00 (0.061)	
I use the same needle and syringe for at least two patients before disposing.	0 0.0%	0 0.0%	0 0.0%	0 0.0%	271 100.0	5.00 (0.000)	
I follow the World's Health Organization's '5' moments of hand hygiene.	205 75.6%	37 13.7%	22 8.1%	7 2.6%	0 0.0%	4.62 (0.744)	

**Table 3: Factors Affecting the Preventive Practices against Nosocomial Infection**

Items	True	False	I Don't know	Mean	STD
The workload affects my ability to apply infection prevention guidelines.	107 (39.5%)	158 (58.3%)	6 (2.2%)	1.63	0.528
Lack of supervision from the infection control department makes it difficult to follow the procedure guidelines of infection prevention and control in the hospital.	43 (15.9%)	225 (83.0%)	3 (1.1%)	1.85	0.385
My cultural belief makes it difficult for me to follow some infection control procedures.	19 (7.0%)	248 (91.5%)	4 (1.5%)	1.94	0.287
Lack of in-service training or workshop by the hospital makes me ignore the standard precautions in the hospital.	57 (21.1%)	209 (77.1%)	5 (1.8%)	1.81	0.439
Hospital equipment are not readily available to	126	137	8	1.56	0.553

practice infection prevention and control.	(46.4%)	(50.6%)	(3.0%)		
Language serves as a barrier for effective prevention of nosocomial infection in the hospital.	61 (22.5%)	200 (73.8%)	10 (3.7%)	1.81	0.477
The part-time health workers in the hospital serves as a barrier to infection prevention.	33 (12.2%)	224 (82.7%)	14 (5.1%)	1.93	0.411
The distance from the necessary facilities influences infection prevention practices in the hospital.	100 (36.9%)	168 (62.0%)	3 (1.1%)	1.64	0.503
Insufficient support from the management in creating a facilitating work environment is a barrier to infection prevention.	101 (37.3%)	165 (60.9%)	5 (1.8%)	1.65	0.516
Adequate knowledge of nosocomial infection and chain of infection promotes my infection preventive practices.	259 (95.6%)	8 (3.0%)	4 (1.5%)	1.06	0.292

**Table 4: Test of Relationship between knowledge of Health Workers and their Preventive Practices against Nosocomial Infection.**

Knowledge of Health Workers	Preventive Practices against Nosocomial Infection				Test Result
	Low	Moderate	High	Total	
Low	0	0	0	0	$P = 0.000$
Moderate	0	11	0	11	
High	0	9	251	260	
Total	0	20	251	271	

**Table 5: Test of Difference between the Years of Experience of Health Workers and their Preventive Practices of Nosocomial Infection**

Years of Experience	Preventive Practices against Nosocomial Infection				Mean	Test Result
	Low	Moderate	High	Total		
Less than 5 years	0	15	90	105	42.629	$P = 0.013$
5 – 10 years	0	5	99	104	45.19	
11 – 15 years	0	0	28	28	45.42	
16 – 20 years	0	0	18	18	44.00	
Above 20 years	0	0	16	16	46.313	
Total	0	20	251	271	44.21	

## Discussion

The findings from this study were based on the analyzed data from the 271 copies of questionnaire retrieved and analyzed from health workers in two selected tertiary hospitals in Ogun State, Nigeria. Majority of the respondents were between 30-39 years old. Female constituted the largest gender and majority of the respondents were Nurses. Respondents that worked full time and with 1-10 years' experience constituted the majority.

**Research Question 1:** *What is the level of knowledge of health workers about nosocomial infection in two selected tertiary hospitals in Ogun state?*

The result of this study on the level of knowledge about nosocomial infection was high. The result agrees with earlier studies on Nosocomial Infection among health workers. Specifically, the findings correlate with the findings of Arinze-Onyia, Ndu, Aguwa, Modebe and Nwamoh (2018), who conducted a research on knowledge and practice of standard precautions by health-care workers in a tertiary health institution in Enugu, Nigeria. The findings of Arinze-Onyia, Ndu, Aguwa, Modebe and Nwamoh (2018), showed that the health care workers had high knowledge of the concept. In terms of gaps, this study has less gap in knowledge than Arinze-Onyia, Ndu, Aguwa, Modebe and Nwamoh (2018) study. Similarly, our result correlates with the findings of Melaku, Temesgen, Nega, Nibretie, Muluken and Mulualem (2018), conducted among healthcare workers in Debre Markos referral hospital, Northwest Ethiopia. Their results showed that more than two-third of healthcare workers were found to be knowledgeable. The finding of this study revealed a good knowledge of infection prevention on the majority of participants. Furthermore, the research conducted by Samaila, Istifanus, Danjuma, Mohammed, Omoniyi and Yusuf (2015) on the knowledge of healthcare workers on nosocomial infection in selected secondary health institutions in Zaria, Nigeria showed a somewhat diverse outcome from our findings. In their study of one hundred and sixty self-administered questionnaires, the result showed that majority a moderate number of the respondents were aware of nosocomial infection, compared to this study the high knowledge in this study there seems to be an

urgent need. This could suggest that location of hospital and value system can be responsible for knowledge of Nosocomial Infection. Future studies can carry out a comparison study. The result showed that standard precaution training and regular provision of personal protective equipment (PPEs) are vital in compliance to standard precaution.

**Research question 2:** *What is the level of preventive practices against nosocomial infection among health workers in two selected tertiary hospitals in Ogun state?*

The level of practice of preventive practices against nosocomial infection among health workers in two selected tertiary hospitals in Ogun state was high. The result corroborates with earlier findings of preventive practice against nosocomial infections. This finding is closely similar to the result from Alrubaiee, Baharom, Shahar, Daud and Basaleem (2017). The results revealed that the majority of the nurses had fair practices about nosocomial infections, whereas only 26% of them had good practices and less than five percent had poor practices. Compared to our result over 92% had high knowledge about different preventive practices against Nosocomial Infection. Furthermore, the study by Adjugah and Ordinioha (2018) showed that the practice of the infection control measures was poor among 92.5% of the respondents. This study showed that the knowledge of infection control measures among the respondents was high; as well as practice. This could be traceable to the awareness being advanced in the hospitals. However, despite this high value there are lapses that needed to be corrected. This implies that efforts are therefore needed to encourage practice, to help reduce the incidence of hospital-acquired infections. More so, Sahiledengle, Gebresilassie, Getahun and Hiko (2018) and Iliyasu, Dayyab, Zaiyad, Tiamiyu, Abubakar, Mijinyawa and Habib (2016), carried out a research on infection prevention practices and associated factors among healthcare workers in Governmental healthcare facilities in Addis Ababa, the results showed that a two-third of the healthcare workers had good infection prevention practices. Their result correlates perfectly with our study. Both studies suggest that having a good knowledge on infection prevention measures is a predictor of good infection prevention practices.



All together in many studies, compliance with standard precautions among healthcare workers was reported to be high but inadequate with regard to eye protection, avoidance of needle recapping, glove use when required, washing hands before and after patient contact, use of face masks, and avoidance of a used needle that is disassembled from a syringe and in implementation of precautions for all patients.

**Research question 3:** *What are the factors affecting the preventive practices of nosocomial infections in two selected tertiary hospitals in Ogun State?*

When the respondents were asked to enumerate the factors that affect preventive practices of nosocomial infection the following factors were indicated in varying degrees: workload, lack of supervision from the infection control department, cultural belief, lack of in-service training or workshop, hospital equipment, language, part-time health workers, distance from the necessary facilities, insufficient support from the management in creating a facilitating work environment, and adequate knowledge of nosocomial infection. This finding relates to the findings of Haile, Engeda and Abdo (2017) and Travers, Herzig, Pogorzelska-Maziarz, Carter, Cohen, Semeraro, Bjarnadottir and Stone (2015) who found that perceived barriers to effective infection control, language or culture, lack of knowledge, understanding or training among healthcare workers on standard precautions, part-time staff, shortage of time to implement the precautions and work overload, were key themes that affect the preventive practices of nosocomial infections. Not limited to the above mentioned, Haile, Engeda and Abdo (2017) also reported factors that affect compliance with standard precautions to infection prevention to include limited resources, uncomfortable equipment, skin irritation, forgetfulness, distance from the necessary facilities and insufficient support from management in creating a facilitating work environment. One other study that support this finding is the work of Tariku, Eshetu and Abdella (2017), carried out in Gondar University Comprehensive Specialized Hospital, Northwest Ethiopia. Their result showed that the associated factors influencing compliance with standard precautions such as training on standard

precautions, accessibility of personal protective equipment, and management support.

**Hypothesis 1:** *There is no significant relationship between the knowledge of health workers and their preventive practices against nosocomial infection.*

In this study, there was a significant relationship between knowledge of health workers and their preventive practices against nosocomial infection. This finding is in accordance with proper expectation and past studies. In terms of comparisons on specifics, the findings from this study partially agree with the findings of Oli, Okoli, Ujam, Adje and Ezeobi (2016) in Delta state Nigeria among medical doctors, pharmacists, nurses and the medical laboratory scientists. Their result showed that health-care professionals have good knowledge of hospital-acquired infections but active effort was not always made to identify and resolve them. In addition, the study confirms the Sahiledengle, Gebresilassie, Getahun and Hiko (2018) carried out among healthcare workers in government healthcare facilities in Addis Ababa. Their results showed that 95% healthcare workers had good infection prevention practices and also, 95% have good knowledge on infection prevention measures. This shows that two-third of the healthcare workers had good infection prevention practices. A very close correlation with this finding. That is, both studies agreed that having good knowledge on infection prevention measures is a predictor of good infection prevention practices.

**Hypothesis 2:** *There is no significant difference between the years of experience of health workers and their preventive practices of nosocomial infection.*

The result showed that there was a significant difference in practice between the years of experience of health workers. This finding is related to the findings by Melaku, Temesgen, Nega, Nibretie, Muluken and Mulualem (2018), among healthcare workers in Debre Markos referral hospital, Northwest Ethiopia. They found showed that length of work experience was significantly associated with practice of infection prevention. This probably may be associated with increasing knowledge of the use of preventive equipment and the amount of In-service training attended. The finding of this study revealed a good

knowledge of infection prevention on the majority of participants with relatively high practice rate. Nevertheless, it also highlighted gaps and lapses in practice that can pose a serious danger to health workers. Furthermore, the study past works on years of experience and level of practice. This is seen in the works of Felix, Victor, Malagutti and Gir (2013), who reported a significant difference in years of experience and level of practice. The findings from this study is also in line with the findings by Saidu et al. (2015) among nurses working at Federal Medical Centre, Gombe.

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