



Research Paper

A Comparative Study Between Public And Private Teaching Hospitals On Utilization Of Control Measures Regarding Hospital Acquired Infections Among Nurses At Ogun East Senatorial District Teaching Hospitals, Ogun State

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ABSTRACT

Hospital acquired infections (HAIs) affects a huge number of patients globally. Invariably, increases their morbidity, mortality rate and financial losses significantly. Overall, Hospital acquired infections in low income countries was three times higher than in high-income countries. Hence, this study assessed the control measures utilized by nurses regarding hospital acquired infections in OlabisiOnabanjo University Teaching hospital and Babcock University Teaching Hospital, Ogun State.

Descriptive cross-sectional design used and a purposive technique was employed to select 383 consented health workers at OOUTH and BUTH Ogun State into the study. A well-structured and validated questionnaire used to collect information on the control measures utilized by nurses regarding hospital acquired infections in OlabisiOnabanjo University Teaching hospital and Babcock University Teaching Hospital, Ogun State. The data was analyzed using SPSS (20.0) for descriptive (frequency and percentage) and bivariate analysis tool of T- test used to infer the hypothesis $p < 0.05$.

The results indicated that there was significant mean difference between the knowledge on precaution and control measures among nurses in OOUTH 4.24(3.85, 4.64) and BUTH 4.27(3.98, 4.55), Ogun State at p -value 0.05.

Generally, nurses have more than average knowledge of hospital acquired infections but less application of control measures to clinical activities. Therefore, implore more in-training services for nurses on HAIs and control measures in other to minimizing HAIs transmissions among nurses, other health-teams, and patients and overall improve healthcare safety and delivery services.

Keywords: *Hospital acquire infection, Standard precautions, Prevention, Control measures, knowledge of standard precaution and control.*

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I. INTRODUCTION

Hospital acquired infections (HAIs) is ubiquitous and of public health importance. Equally known as a nosocomial infection. It could be acquired in a hospital or other health care facilities by a patient admitted for reasons other than the pathological incident of his/her admission. HAIs may cause a local or systemic infection to patients, healthcare workers or informal care-giver of the patients. In the similar vein, it could also transmit infections to care-givers, and sometimes referred to as occupational hazards because of being an infection that is acquired from the hospital settings by healthcare providers. HAI may occur in different areas of healthcare delivery, such as in hospitals, long-term care facilities, and ambulatory settings, and may also appear after discharge.

Hospital acquire infection affects a large number of patients globally, thus significantly contributing to the increasing mortality rate and financial losses. In developed countries, HAI rates often estimated as 5% to

15%, and sometimes up to 50%, have been reported among hospitalized patients in the regular wards and intensive care units (ICUs) respectively (Garba, Farouq, Salisu, Salisu, Sirajo&Abdulisiu, 2018). Furthermore, it is much higher, and at times, the magnitude of the HAIs remains underestimated or even unknown largely because HAI diagnosis is complex and surveillance activities which require expertise and resources, are lacking in most of these countries (AhmedKhan, KanwalBaig&Mehboob, 2017; Sikora& Zahra, 2021). For instance, of every hundred hospitalized patients, seven in developed and ten in developing countries could acquire healthcare associated infections (Ahmed Khan, KanwalBaig, Mehboob, 2017). The populations at stake mostly are the patients in Intensive Care Units (ICUs), burn units, those undergoing organ transplant and neonates. According to Extended Prevalence of Infection in Intensive Care (EPIC II) study, the proportion of infected patients within the ICU are often as high as 51%. Hospital acquire infection control practices remain rudimentary as most hospitals lack effective infection control programs and trained professionals (Garba, Farouq, Salisu, Salisu, Sirajo&Abdulisiu, 2018). In Nigeria, there was currently no surveillance system to provide estimates of HAI in acute care hospitals. Previous estimates of HAI have reported prevalence rates between 2.5 and 6.3%. However, the studies used single centre and retrospective design as against prospective active surveillance, which was the gold standard (Usman, 2020).

II. MATERIALS AND METHOD

The study adopted a descriptive cross-sectional approach to investigate the nurses' measures utilised for the prevention and control of nosocomial infection at teaching hospitals in Ogun East Senatorial District, Ogun State. The study was targeted at nurses currently working at the selected hospitals. Using the lesliekish formula, the study sample size was determined to be 383 nurses.

III. RESULTS AND DISCUSSION

This study assessed the precautions and control measures utilized by nurses regarding hospital acquired infections in OlabisiOnabanjo University Teaching hospital and Babcock University Teaching Hospital, Ogun State. Findings showed that Almost all (90%) of the respondents were female and married (42%). Majority had BNSC (44%) and most of the respondents were Christians (50%) with an average age of 35 years old.

Based on the knowledge of nosocomial infection, findings showed that respondents' level of knowledge of nosocomial infection was high with the mean percentage value of 84%. Regarding the knowledge of standard precautions and control measures, the results showed that more than half (76%) of the respondents were familiar with standard precautions through formal training/school. Result also shows that the majority of the respondents (83%) knew that respiratory hygiene/cough etiquette and sterile instruments devices are components of standard precautions. Standard precautions was known by the majority of the respondents (83%) as a measure that curtails the transmission and spread of nosocomial infection.

On nursing measures utilised for prevention and control of nosocomial infection (practice), more than half (63%) washed off a patient's body fluid with soap and water. Findings also show that more than half of the respondents always used gloves (57%) and 76% of the respondents discarded both needle and syringe into the safety box without recapping. Regarding the perceived hindrances, findings show that more than three quarters (85%) perceived that new nurse hires often lack clinical experience and heavy patient workload that prevents adequate infection control was also perceived hindrance.

Findings also show that there was significant difference between the knowledge on precaution and control measures among nurses in OOUTH and BUTH.

Table 4.2: Knowledge of nosocomial infection

S/N	Questions	Yes	No	Mean/SD
1	Nosocomial infection is synonymous to Hospital Acquired Infection (HAI)	280 (73%)	103 (27%)	
2	Nosocomial infections are always present in the hospital premises	291 (76%)	92 (24%)	
3.	Nosocomial infection is transferred by health workers through:			
A	Direct contact transmission	50(13 %)	333 (87%)	
B	Indirect contact transmission	318 (83%)	65 (17)	
C	Airborne Transmission	326 (85%)	57 (15%)	
D	Droplet Transmission	291 (76%)	92 (24%)	
E	Common Vehicle Transmission	241 (63%)	142 (37%)	
F	Vector-borne Transmission	180 (47%)	203 (53 %)	
4	Health workers are fund of giving excuses.	241 (63%)	142 (37%)	
5	Nosocomial infection affects only the patients	92(24%)	291 (76%)	7.5±1.2
6	Nosocomial infections are brought by the patients into the hospital	241 (63%)	142 (37%)	
7	Nosocomial infections could be acquired by anyone visiting the hospital	318 (83%)	65(17)	
8	Nosocomial infections are the most common infection in the hospital	241 (63%)	142 (37%)	
9	Can nosocomial infections be prevented	291 (76%)	92 (24%)	
10	Can the spread of nosocomial infections be stopped	291 (76%)	92 (24%)	
11	Patients receiving immunosuppressive therapy are more susceptible to	318 (83%)	65 (17)	

nosocomial infections

Table 4.4.b: Type of PPE used when working?

Personal Protective Equipment	Always	Sometimes	Rarely	Never
Gloves	218 (57%)	61 (16%)	50 (13%)	54 (14%)
Overalls/gowns	222 (58%)	50 (12%)	50 (12%)	69 (18%)
googles	15 (4%)	276 (72%)	42 (11%)	50 (13%)
Nose masks	272 (71%)	27 (7%)	42 (11%)	42 (11%)
Hair nets	276 (72%)	15 (4%)	42 (11%)	50 (13%)
boots	69 (18%)	50 (12%)	50 (12%)	222 (58%)
Face shield	50 (13%)	276 (72%)	42 (11%)	15 (4%)

Table 4.5: Difference between the knowledge on precaution and control measures among nurses in OOUTH and BUTH.

T- Test

	Test Value = 0					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
OOUTH	21.905	35	.000	4.24390	3.8523	4.6355
BUTH	30.375	39		4.27119	3.9897	4.5527

IV. Discussion

In the present study finding, more than half of the respondents are familiar with standard precautions through Colleague/friend and that more than half of the respondents always used gloves (57%), Overalls/gowns (58%), google (4%), nose masks (71%), which is corresponding to

Rocha, Adencia&Janaina (2010), in a descriptive observational study on the knowledge and practice of hand washing, use of gloves and the handling and disposal of needlesticks and other sharp objects among nursing and medical students found that compliance with the use of sterile and non-sterile gloves, and handling and disposal of needle sticks and other sharp objects was higher. Similarly, Alrubaiee, Baharom, Shahar, (2016) also reported that most of the nurses (87%) had a fair level of knowledge, while only 4% of them had a good level of knowledge of preventive measures of nosocomial infections. Likewise their result also revealed that the majority of the nurses (71%) had fair practices about nosocomial infections.

InciKirtil and NurayAkyuz in 2018 reported that the percentage of nurses that practiced all of the approaches for preventing hospital-acquired infections was estimated to be 8.2% for catheter-related bloodstream infections, 67.1% for surgical site infections, 72.9% for catheter-associated urinary tract infections, 27.1% for ventilator-associated infections, 29.4% for isolation preventions and 62.5% for attempts related to sterilization/disinfection of the medical devices. This finding is similar to the findings of this present study where it was found that 83% of the respondents claimed that respiratory hygiene / cough etiquette, sterile instruments devices and Standard precautions curtails the transmission and spread of nosocomial infection respectively. Kermode, Jolley, Langkham, Thomas, Holmes & Gifford in 2005 showed low compliance with eye protective wear. A high proportion of health care workers were not complying with needle recapping precautions. The study also showed that compliance with standard precautions was associated with being on the job for a longer period, knowledge of blood-borne pathogen transmission and strong commitment to workplace safety. This findings is not similar to the present study's finding which showed that there was significant difference between the knowledge on precaution and control measures among nurses in OOUTH and BUTH. Regarding the perceived hindrances, findings showed that more than three quarters (85%) perceived that new nurse hires often lack clinical experience and Heavy patient workload that prevents adequate infection control was also perceived hindrance

V. Recommendations

In line with the findings discovered in this study, the following recommendations are suggested: New nurse hires often lack clinical experience, therefore there should be a full orientation programme before the new workers are engaged. Moreover, more experienced nurses should be employed where there was staff shortage to avoid excess workload by the existing nurses to create a clean environment and clean job.

Government should render more assistance to provide more Facilities and resources for practice of standard precautions to complement the ones in the hospitals. There should be interventions to improve compliance to standard precautions among nurses to address and add to the nurses knowledge and understanding as well as safety measures by the employee's organisations

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