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ORIGINAL ARTICLE **OPEN ACCESS**

Knowledge and Practice of Infection Control among Nurses and Domestic Staff in Coouth Amaku Awka, Anambra State, Nigeria

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ABSTRACT

The study was descriptive survey which aimed at investigating the knowledge ad practice of infection control among nurses and domestic staff in COOUTH Awka, Anambra state. The rationale for the study was benefits to the study on the preventive measures will promote health care, reduce infection thereby reducing long stayed hospitalization and morbidity and mortality rate. Three research questions were raised for this study. The descriptive survey design was used in collecting data. The generated data was analyzed using table and chart. They found that nurses and domestic staff knowledge of infection control was high. They know the practices of infection control measures and ignorance, lack of time, lack of necessary supplies, patients not at risk or forgetful and lack of display of universal precaution are factors hindering their practice of infection control. Recommendations were made based on the findings of the study. In conclusion, the knowledge of nurses and domestic workers in infection control measures are high and with many militating factors.

Keywords*: knowledge, practice, infection control, nurses, domestic staff*

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INTRODUCTION

Health care associated infections (HCAL) are major setback to any organization. The prevalence of health care associated infections varies widely across the globe – worldwide. Almost 10% of the hospitalized patients acquired Health care associated infections (HCAL) and the prevalence of (HCAL) in developing countries has become as high as 30 – 50% [1]. Many of these pathogens implicated in HCAL are often multi – drug resistant and are able to survive in the environment for a long period of time resulting to Health care associated infections.

Infection control is intervention concerned with preventing nosocomial or health care – associated infection, a practice which is sub discipline of epidemiology. It is an essential, though often under recognized and under supported part of the infrastructure of the health care. Infection control addressed factors related to the spread of infections within health care setting, whether patient to patient, patient to staff or staff to patients or among staff [2-4].

Infection control, the universal or standard precautions have been identified as being of immense importance. There are measures designed by the center for disease control to reduce the risk of transmission of infections, through blood and body fluids. Precautions to all patients are also, referred to as universal blood and body fluids precautions. Infection control is a problem which must first be discussed in any health institution especially, in the emergency department because the success of any other health care personnel are at increased risk of infection, from blood borne pathogens (BBP) like human immune deficiency virus (HIV), hepatitis B virus (HBV) and hepatitis C virus (HCV)

These health care personnel's are prone to accidents, infections through broken or non-intact skin, mucus membranes of the nose, eyes or mouth, needle pricks etc. if standard precautions is not practiced especially hand hygiene which is by far the most effective method of reducing the prevalence of HCAL. Consequently, there will be increase morbidity and mortality among the health care worker hence; there is need for this study.

Adequate and accurate knowledge has been acknowledged as a pre – requisite for the adoption of desirable health behavior. The WHO [5], stated that when a person is well informed, the individual will be equipped to make right decisions concerning his/her health, and that of the family and will take up active role in improving the society in which the person lives in. Low level of knowledge regarding infection control measures has resulted to increase in Health care associated infections [6].

It is likely that low level of knowledge that exists among nurses and domestic staff in COOUTH Amaku, Awka, has resulted to increased morbidity and mortality rates from health care associated infection. It is upon these facts that the researcher is motivated to carry out this study to assess the knowledge and practice of infection control practices among the staff of COOUTH Amaku, Awka.

The purpose of this study was to investigate the knowledge and practice of infection control among nurses and domestic staff of COOUTH Amaku Awka, Anambra State, Nigeria.

MATERIAL AND METHODS

RESEARCH DESIGN

The research used non – experimental descriptive survey method which involved gathering and analyzing information, in order to answer the research questions [7].

STUDY AREA

This study was carried out in Chukwuemeka Odumegwu Ojukwu University Teaching Hospital (COOUTH) located in Awka south local government Area of Awka capital, Anambra state. COOUTH Awka is a state government owned institution situated at the heart if Awka town. The hospital is a by hospital and comprises of many wards especially male and female surgical wards, male and female medial wards, peadiatric wards, children emergency wards, obstetric and gyneacology ward, antenatal ward, labourward and post natal ward, general outpatient department (GOPD) and special outpatient department (SOPD), theatres, laboratories and difference departments.

TARGET POPULATION

The total populations were nurses and domestic staff working in all COOUTH and its Annex's which comprises of 1,200, COOUTH 950, Uli 180, Igbariam 70, so the total population of 1,200 nurses and domestic staff were used.

STUDY SAMPLE

The sample size for this study was statistically determined based on Nwana's Concept Nwana, (1985) as quoted by Ofoegbu [8] was of the opine that when the population of stud is few hundred, a 40 percent sample size will be adequate, if many thousand, a 20 percent sample size and is a few thousands, the about 10 percent will suffice. Where several thousand of the population is to be studied, only about 5 percent sample size or less need to be used. Therefore, since the population of the study is 1,200, 10% of the population was used. The sample size was

$$\frac{\mathbf{10}}{\mathbf{100}} x \frac{\mathbf{1200}}{1} = \mathbf{120}$$

SAMPLE TECHNIQUES

In the research, the researcher used simple random techniques to select3 hospital (i.e. main and annex to represent, the total population of study. There are 1,200 nurse and domestic staff from COOUTH.

Following Nwana's concept, the sample size of 120 was gotten and this samples selected from 3 hospitals (annex) using proportionate stratified sampling which is based on the population for each Annex's. This was done using the formula:

$$\frac{\textbf{Sample size}}{\textbf{Population}} \boldsymbol{x} \frac{\boldsymbol{N}}{\mathbf{1}}$$

Where N: number of nurses and domestic staff in each annex

1. COOUTH (main) has a population of 950
   Therefore $\frac{\mathbf{120}}{\mathbf{1200}} \boldsymbol{x} \frac{\mathbf{950}}{1} = \mathbf{95}$
2. Uli state university has population of 180
   Therefore $\frac{\mathbf{120}}{\mathbf{1200}} \boldsymbol{x} \frac{\mathbf{180}}{\mathbf{1}} = \mathbf{18}$
3. Igbariam university has population of 70
   Therefore $\frac{\mathbf{120}}{\mathbf{1200}} \boldsymbol{x} \frac{\mathbf{70}}{\mathbf{1}} = \mathbf{7}$

Hospital	Sample Size
COOUTH Awka	95
Uli State University	18
Igbariam University	7

The sample proportion for each village was then randomly selected.

INSTRUMENTS FOR DATA COLLECTION

The instruments used for this study was structured questionnaire, comprising of two sectors
Section A and B.
Section A dealt with personal data
Section B dealt with questions generated on the research topic.

VALIDATION OF THE INSTRUMENT

The questionnaire was designed by the researcher to identify and ambiguity in the question supervision, difficult of items and for testing the clarity which was validated and approved by the researchers.

RELIABILITY OF THE INSTRUMENT

A pilot of study was carried out on ten people not included in the sample population. Data collected were analyzed using spear man's park correlation co – efficient and result yielded (0.75).

ETHICAL CONSIDERATIONS

The reason for conducting research work was explained to the respondents and their consent sought. Participant was voluntary, also the identities of the respondents were confidential, so their names were not required in any part of the questionnaire.

METHOD OF DATA COLLECTION

Several visits were made by the researcher to the various branches of COOUTH, after brief introduction and explanation of the rules of participation, to the respondents the questionnaires were shared to the willing participants, who filled and returned them immediately, giving a hundred present 100% return rate.

DATA ANALYSIS

The result of the analysis were presented in tables and pre chart and according to the research question followed by brief interpretation of the data.

RESULTS

Table 2: Research on Knowledge of Infection Control

Option	Frequency	Percentage
Agree	26	22
Strongly agree	82	68
Disagree	8	7
Strongly disagree	4	3.3
	120	**100%**

From the above table, 26(22%) agreed that nurses and domestic staff have (knowledge of infection control measure, 82(68%) strongly agreed 8(7%) disagree while 4(3.3%) strongly disagree.

Table 3: Responses on what did you understand by infection control

Option		Frequency	Percentage
a.	The discipline concerned with preventing infection	10	8.3
b.	Measure designed to reduce the risk of transmission of infection	7	5.8
c.	Also known as universal or standard precaution	5	4.2
d.	All of the above	98	82
		120	**100%**

From the above table 10(8.3%) opined is the discipline concerned with preventing nosocomial infection 7(5.8%) said is measure designed to reduce the risk of transmission of infection, 5(4.2%) said is universal or standard precautions while 98(82%) agreed on all the options.

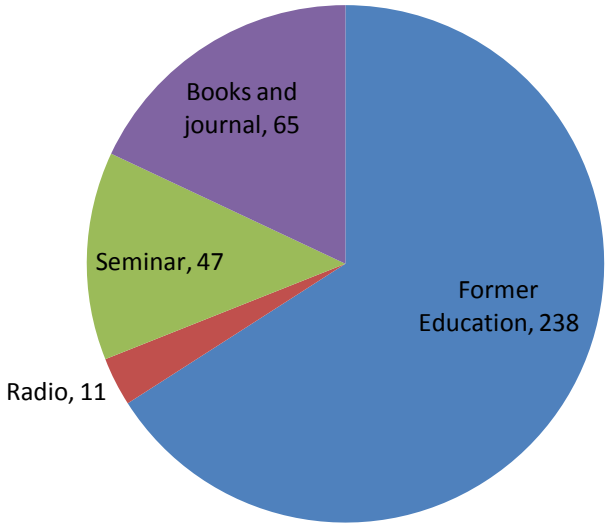


Figure I: response on what is the sources of their knowledge?

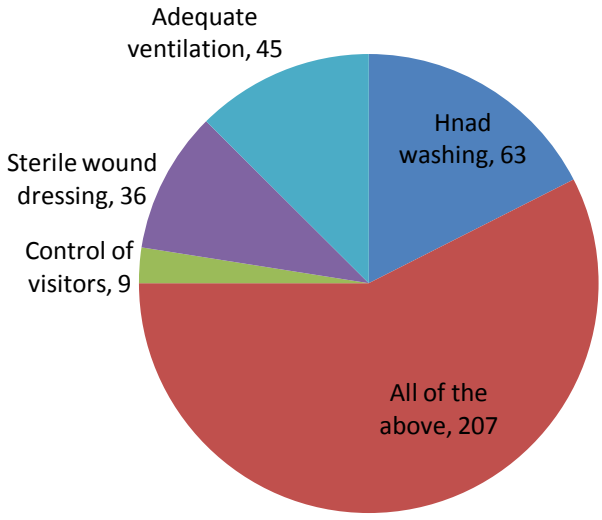
From the above pie chart 66% (238^0) said is formal education, 33% (1^0) agreed is through radio 125% (47^0) said is through seminars while 18.3% (65^0) opined is through books and journals.

Table 4: Responses on Components of Infection Control Measures.

Option	Frequency	Percentage
a. Hand washing	20	17
b. Personal protective equipment	13	10.5
c. Injection safety	7	5.8
d. Waste management	8	7
e. All of the above	12	60
	120	**100%**

From the above table, 20(17%) said hand washing is a components of infection control measures, 13(11%) opined that personal protective equipment 7(6%) opined is injection safety 8(7%) said is waste management while 72(60%) agreed on all the options.

Figure 2: Response on measures adopted by nurses in your establishment/hospital.



From the pie chart above, 17.5% (63^0) said is hand washing, 10% (36^0) uphold sterile wound dressing, 2.5% (9^0) agreed on adequate ventilation, 12.5% (45^0) said is control of visitors while 57.5% (207^0) agreed on all the options as measures adopted by nurses on infection control.

Table 5: Response on how often do you wash your hands before and after procedures.

Option	Frequency	Percentage
Always	80	67
Sometimes	23	19
Rarely	15	12.5
Not at all	2	1.7
	120	**100%**

From the above table 80 (67%) said they always wash their hands before and after procedures, 23 (19%) said sometimes they do, 15 (13%) agreed on rarely while 2(1.5%) uphold not at all.

Research Question 3

What are the factors hindering the practice of infection control measures in the surgical unit in COOUTH Awka.

Table 6: Response on factors that negatively, influence infection control measures in the surgical unit

Option	Frequency	Percentage
a. Finance	10	8.3
b. Ignorance	17	14
c. Lack of skilled nurses	68	56.7
d. Laziness of nurses	25	20.8
	120	**100%**

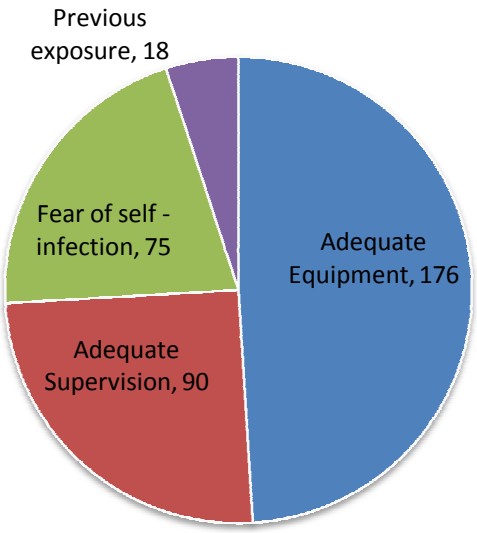
From the table above, 10 (8.3%) agreed is finance, 17 (14%) opined is ignorance, 68 (57%) agreed is lack of skilled nurses while 25 (21%) said is laziness of the nurses is factors that negatively influence infection control.

Table 7: response of factors hindering the practices of infection control measures in the surgical unit

Option	Frequency	Percentage
a. Lack of time	6	5
b. Ignorance	4	3.3
c. Lack of necessary supplies	56	46.7
d. Lack of display of universal precaution	38	31.7
e. Patients not at risk	16	13.3
	120	**100%**

From the above table, 6 (5%) agreed is lack of time, 4 (3.3%) said is ignorance, 56 (46.7%) upholds is lack of necessary supplies like water, personal protective equipment's, safety boxes etc. 38 (31.7%) agreed is lack of universal precaution on guidelines while 16(13.3%) said is patients not at risk or forgetful.

Figure 3: Responses on the factors that positively influence infection control.



From the pie chart above, 59(176^0) said is adequate equipment, 30(90^0) agreed on adequate supervision, 25(75^0) upholds the fear of self – infection while 6(18^0) opined is previous exposure that positively influence infection control.

DISCUSSION

In research question 1, from table 2, it showed that 26(22%) agreed that nurses and domestic staff had knowledge of infection control measures, 82 (68%) strongly agreed, 8(7%) disagreed while 4(3.3%) strongly disagreed.

From table 3, it showed that 10(8.3%) infection control is discipline concerned with preventing nosocomial infection, 7(6%) said is a measure designed to reduce the risk of transmission of infection, 5 (4%) said is universal or standard precautions while 98(82%) agreed on all the options.

From figure 1, pie chart showed that 79(238^0) agreed on all the options as their source of knowledge, 4(11^0) said is through radio, 15(47^0) is through seminar, while 22(65^0) agreed on books and journals. This is slightly in line with Adinma *et al*. [9] on study on knowledge and practice of universal precaution against blood borne pathogens among house officers and nurses in texting health institutions which showed that knowledge of universal precautionary measures was high for both categories of respondents and regular educational programs lasting less than an hour on the control of hospital infection for new employees.

In research question 2 from the table 4, it showed that 20(17%) said is hand washing, 13(11%) opined is personal protective equipment, 7(6%) upheld is injection safety, 8(7%) said is waste management while 72(60%) agreed on all the options as components of infection control measures.

From figure 2, 21(63^0) said is hand washing, 12 (30^0) agreed on sterile wound dressing, 3(9^0) opined is adequate ventilation, 15(45^0) said is control of visitors while 69(207^0) agreed on all the options as measures adopted by nurses in infection control.

From table 5, 80(67%) said they always wash their hands before and after each procedure 23(19%) said sometimes they do, 15(13%) agreed on rarely while 2(2%) upheld not at all.

In research question 3, from table 6, 6(5%) said is lack of time, 4(3.3%) agreed in ignorance, 56(47%) opined is lack of necessary supplies, 38(32%) agreed on lack of display of universal precaution measure while 16(13.3%) said is patients not at risk or forgetful are factors hindering the practice on infection control measures.

From table 7, 10(8.3%) said that finance negatively influence measures of infection control, 17(14%) opined is ignorance, 68(57%) said is lack of skilled nurses while 25(21%) said is laziness of the nurses.

Figure 3, showed that 59(176.4^0) said that adequate equipment positively influence infection control 30(90^0) opined is adequate supervision, 25(75^0) said is fear of self-infection while 6(18^0) agreed on previous exposure. This is in line with Adinma *et al*. [9], which showed that most 6 important factor influencing universal precaution is lack of protective equipment.

CONCLUSION

The majority of the respondents had knowledge of infection control measures and their main source of information was formal education. Hand washing, personal protective equipment, infection safety and waste management were practice of the infection control measures. Ignorance, lack of time, lack of necessary supplies, lack of display of universal precaution etc. were factors hindering the practice of infection control measures.

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