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KNOWLEDGE AND PRACTICE OF INFECTION CONTROL AMONG NURSES AND MIDWIFES IN FEDERAL MEDICAL CENTER OWERRI.

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ABSTRACT

The study was carried out on Knowledge and Practice of infection Control among nurses and Midwifes in Federal medical Centre Owerri. Four research questions guided the study. The population of the study consisted of all nurses and midwives in the different wards of Federal Medical Centre Owerri. The study design was descriptive using a simple random sampling technique of balloting to select 133 respondents. Questionnaire was used for data collection with Pearson's Product Moment Correlation reliability co-efficient of 0.96. Data collected was analyzed using mean and percentage to answer the research question. The results revealed that on the average majority of the respondents had good knowledge pf infection control and high level of practice. It was also revealed that the experienced

KEYWORDS: *Knowledge, practice, infection control, nurses and midwifes, Federal Medical Center Owerri.*

INTRODUCTION

Healthcare associated infections also known as nosocomial infection is a localized or systemic infection acquired in a hospital or any other healthcare facility by a patient admitted for a reason other than the pathology present during admission (World Health Organization (WHO, 2017).

Poor hospital hygiene has been widely published as part of patients concern about safety in hospitals. This has made infection control a hot topic in clinical practice, the media and the community at large. The main purpose of infection control is to reduce the occurrence and transmission of infectious diseases from patient to patient, health workers to patient, or patient to health workers. The need for infection control in health care facilities is born out of the need to prevent health care associated infections (HCAIs). HCAIs can be defined as an infection occurring in a patient during the process of care in the hospital or other healthcare facilities which were not present or incubating at the time of admission (World Health Organization (WHO, 2010). It contributes to significant morbidity and mortality, longer duration of hospitalization as well as increased cost of treatment in both developed and resources poor countries.

The Nursing and Midwifery Council of Nigeria (NMCN), (2010) stated that all health workers have a responsibility to ensure that patients receive safe and effective care and that risks to infection are minimized. This means that better infection control is a priority for all healthcare professionals including nurses in patient care.

The study aimed to ascertain the level of knowledge and practice of infection control among nurses and midwifes in Federal Medical Centre (FMC Owerri).

MATERIAL AND METHODS

Research Design

In this study, descriptive research design was adopted, using the questionnaire as instrument for data collection.

Research Setting

The study was carried out in federal medical centre Owerri (FMC Owerri).

Target Population

The population of the study comprised of all nurses and midwifes in the various wards of the hospital excluding all the outpatient departments. The nurses and midwifes came to about 200 in number (14 males and 186 females) making a total of 133 nurses and midwifes as the target population. This group was used in this study because of the important role they play in control of HCAIs through infection control practices. More so, it was expected that

respondents had knowledge on infection control from training, classroom lectures, seminars and workshops they must have attended.

Sample size
The sample size is a smaller portion of the population drawn for a study. It is a group selected from the accessible population for the purpose of the study with view to make generalization about the population as a whole (Agbapuonwu *et al*., 2013).The sample size was selected using the Taro Yamme formular for sample size estimation.

Therefore, using the Taro Yamane formula, sample size of 133 was given. The respondents were now selected using random sampling technique of balloting. They were now given the questionnaire to fill.

Sampling technique
This refers to the method employed in selecting samples from the population. Here the researcher used simple random sampling technique which is one of the probability sampling technique to select all respondents from the total population. The method of simple random sampling used was balloting where respondents selected at random by using the "YES" Or "NO" method whereby those who picked "YES" participated in the study while those who picked "NO" did not participate in the study. 100 were expected to pick YES from the box while 100 were expected to pick NO making it a total of 100 respondents.

Instrument of Data Collection
The instrument for data collection is the questionnaire which is constructed with close ended questions and rating scale questions (Likert-type scale of Strongly agreed, Agreed, Strongly disagreed, Disagreed). The questionnaire was preferred to other methods for convenience and as a beginner. Self-structured questionnaire was used comprising of four sections. Section A was the demographic data of respondents, section B was on the knowledge of nurses and midwifes on infection control, section C was on the practices employed by nurses and midwifes on infection control and the methods of infection control and section D was on the factors influencing infection control practices. All the items in the questionnaire were closed ended and there were 29 items altogether.

Method of Data Collection
Face to face administration of questionnaire was done to collect data from the respondent. The questionnaire was administered to the nurses in the wards on different shift everyday, and the former one administered previously were retrieved.

Method of Data Analysis
Data analysis discussed the process by which data collected were summarized. Data were analyzed using mean and percentages. The data obtained were represented in tables and charts.

Ethical Consideration
Before the administration of the questionnaire, consent was sought from the participating respondents after a written permission from the hospital Administration. The respondents were asked not to include their names and address in the questionnaire to avoid identifying them on the information supplied (anonymity) and enhance co-operation. They were also given the assurance that they were free to have access to the study reports as additional information on infection control. Data collected were analyzed without any alternation. Books, journal and other source of literature review were appropriately cited and referenced using APA style.

Table 1: Percentage distribution of the socio-economic profile of respondents.

Variables	Frequency	Percent (%)
Age (year)		
18-25	30	22.5
26-30	28	21.0
31-35	56	42.0
36 and above	19	14.5
Marital Status		
Single	40	30.0
Married	86	5.3
Divorced	7	64.7
Qualification		
Registered Nurse	52	39.0
Registered Midwife	28	21.0
BSc Nurse	41	30.8
MSc Nursing	12	9.2
Sex		
Male	40	30.0
Female	93	70.0
Ward Allocation		
Theatre	54	40.5
Private	13	9.8
Maternity	42	31.5
Surgical ward	14	10.5
Paediatric	10	7.7

Table 1 shows the profile of the respondents. It indicates that most respondents were in the 31-35 years age group, mostly married people, were registered female nurses and mostly allocated to the theatre.

Table 2: Respondents' level of knowledge about infection control.

S/N	ITEMS	Freq	%
1	Have you been taught infection control?	104	78.2
2.	Most nurses and midwifes get information on infection control through health talk and journals	97	72.9
3	Blood and body fluids of all patients should be considered as potentially infectious	90	67.7
4.	Ward cleaning and sanitation practice reduce dust and environment reservoirs of organisms	100	75.2
5	Isolation procedure protects both the care givers from exposure to infection agents and the patient from cross infection	98	73.7
6.	Proper waste disposal can minimize the spread of infection	97	72.9
7.	The hair, fingernails and clinical apparatus of nurses and midwifes provide a means to cross infection	95	71.4
8.	Proper hand washing is the easiest technique in infection control in a hospital	102	76.7
	Grand Total	**783**	
	Average	**98**	**73.6**

Result from the data of Table 2 shows respondents' level of knowledge about infection control. It revealed that 78.2% of the respondents possessed knowledge of infection control. Most respondents possessed the knowledge that information on infection control could be obtained through health talk and journals (72.9%), blood and body fluids of all patients should be considered as potentially infectious (67.7%), ward cleaning and sanitation practice reduce dust and environment reservoirs of organisms (75.2%), isolation procedure protects both the care givers from exposure to infection agents and the patient from cross infection (73.7%),proper waste disposal can minimize the spread of infection (72.9%), the hair, fingernails and clinical apparatus of nurses and midwifes provide a means to cross infection (71.4%),proper hand washing is the easiest technique in infection control in a hospital (76.7%).

Table 3: Percentage level of practice of infection control.

S/N	ITEMS	Freq	%
9	Bed pans, urinals and other reusable articles should be washed and also disinfected.	94	70.7
10	Aseptic technique should be maintained in sterile procedures.	99	74.4
11	Patient's bed side bins are disinfected and emptied on regular basis in the ward	95	71.4
12	Proper hand washing is done before and after a nursing procedure.	68	51.1
13	Patents in the ward should not share instrument without disinfection.	84	63.2
14	PPEs should be used in the different procedures in the ward.	92	69.2
15	Wastes and sharps should be properly disposed.	95	71.4
16	Hand washing is done; (a) Before any clean and sterile procedure (b) Immediately after contact with body substance (c) Between patient contact	87	65.4
17	Infection control practices in the ward are; (a) Proper cleaning and sterilization of equipment after use. (b) Limitation of infected visitors in a patient's room (c) Used needles and sharps are disposed in safety boxes in our ward.	74	55.6
	Grand Total	**788**	
	Average	**88**	**65.8**

Result present in Table 3 shows the percentage level of practice of infection control. It revealed that bed pans, urinals and other reusable articles should be washed and also disinfected (70.7%), aseptic technique should be maintained in sterile procedures (74.4%), patient's bed side bins are disinfected and emptied on regular basis in the ward (71.4%), proper hand washing is done before and after a nursing procedure (51.1%), patents in the ward should not share instrument without disinfection (63.2%), PPEs should be used in the different procedures in the ward (69.2%), wastes and sharps should be properly disposed (71.4%), hand washing is done; before any clean and sterile procedure, immediately after contact with body substance and between patient contact (65.4%), infection control practices in the ward are; proper cleaning and sterilization of equipment after use, limitation of infected visitors in a patient's room, used needles and sharps are disposed in safety boxes in our ward (55.6%). Therefore, on average, 65.8% of the respondents practice infection control to a high level.

Table 4: Correlation coefficient between level of knowledge and practice infection control.

Variables	N	R	Remark
Knowledge	133	0.87	Strong positive relationship
Practice	133		

The result presented in Table 4 shows the correlation coefficient between level of knowledge of the respondents and their practice of infection control. It revealed a correlation coefficient of 0.87 which indicates strong positive relationship between level of knowledge and practice of infection control. This implies that increase in knowledge leads to high practice of infection control.

Table 5: Responses on the contributory factors affecting infection control practice.

S/N	Factors that can influence infection control and prevention include:	Mean	SD	Remark
18	Age	2.93	0.827	Agreed
19	Level of immunity	3.13	0.860	Agreed
20	Open wounds	3.33	0.884	Agreed
21	Use of antibiotics	3.47	0.730	Agreed
22	Nutritional status	3.40	0.855	Agreed
23	Knowledge	3.17	0.791	Agreed
	Grand Mean	**3.24**		

Result from the data of Table 5 shows the contributory factors affecting infection control practice. It revealed that age had a mean value of 2.93, level of immunity (3.13), open wounds (3.33), use of antibiotics (3.47), nutritional status (3.40), and knowledge (3.17). Also, the grand mean value of 3.24 falls within the range of acceptance. Therefore, the respondents agreed on the items above as are the contributory factors affecting infection control practice.

DISCUSSION

From the result shown in Table 2 revealed that more than half of the respondents possessed knowledge of infection control. Most respondents possessed the knowledge that information on infection control could be obtained through health talk and journals, blood and body fluids of all patients should be considered as potentially infectious, ward cleaning and sanitation practice reduce dust and environment reservoirs of organisms, isolation procedure protects both the care givers from exposure to infectious agents and the patient from cross infection, proper waste disposal can minimize the spread of infection, the hair, fingernails and clinical apparatus of nurses and midwifes provide a means to cross infection, proper hand washing is the easiest technique in infection control in a hospital. This is not surprising since infection control is a continual ongoing process which involves measures practiced by healthcare workers to reduce the transmission of infectious agents from patient to patient, patient to health worker or health worker to patient.

Result present in Table 3 shows the percentage level of practice of infection control. It revealed that bed pans, urinals and other reusable articles should be washed and also disinfected (70.7%), aseptic technique should be maintained in sterile procedures (74.4%), patient's bed side bins are disinfected and emptied on regular basis in the ward (71.4%), proper hand washing is done before and after a nursing procedure (51.1%), patents in the ward should not share instrument without disinfection (63.2%), PPEs should be used in the different procedures in the ward (69.2%), wastes and sharps should be properly disposed (71.4%), hand washing is done; before any clean and sterile procedure, immediately after contact with body substance and between patient contact (65.4%), infection control practices in the ward are; proper cleaning and sterilization of equipment after use, limitation of infected visitors in a patient's room, used needles and sharps are disposed in safety boxes in our ward (55.6%). Therefore, on average, 65.8% of the respondents practice infection control to a high level.

The result presented in Table 4 shows the correlation coefficient between level of knowledge of the respondents and their practice of infection control. It revealed a strong positive relationship between level of knowledge and practice of infection control. This implies that increase in knowledge leads to high practice of infection control.

The finding of the current study shows that there were relationships between nurse's knowledge on infection control measure and their practice on infection control measure. Result from the data of Table 5 shows the contributory factors affecting infection control practice. It revealed that age, level of immunity, open wounds, use of antibiotics, nutritional status, and knowledge. Also, the grand mean falls within the range of acceptance. Therefore, the respondents agreed on the items above as are the contributory factors affecting infection control practice.

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involves measures practiced by healthcare workers to reduce the transmission of infectious agents from patient to patient, patient to health worker or health worker to patient. More so, current trends public awareness and rising cost of healthcare have increased the importance of infection prevention and control and this is the reason nurses play a primary role in infection prevention and control. Healthcare workers protect themselves from contact with infectious materials, sharps injury and/or exposure to a communicable disease by applying the knowledge of infectious process and using appropriate personal protective equipment.

This result is in agreement with Prabhakar and Mubarak (2016) who revealed that most of the nurses had good knowledge about infection control. Ekwere (2013) reported that the level of knowledge of standard safety precaution is imperative to its practice, the proportion of nurses with overall good knowledge of standard precautions is high. However, more light needs to be thrown on the laid down rules and guidelines following proper hand washing because it is vital to halting transmission of pathogens to other patients as well as the health worker. A study carried out by Foster *et al*. (2010) on knowledge and practice of occupational infection control among healthcare workers asserted that healthcare workers were aware of the risk of transmission of infection, however on improvement in knowledge with clear guidelines are needed and a comprehensive programme to educate healthcare workers regarding compliance with universal precaution.

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From the responses received, nurses appear to be knowledgeable about the meaning of infection control in the hospital setting and key activities within two infection strategies.

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CONCLUSION

Based on the findings of the study, it was concluded that more than half of the respondents possessed knowledge of infection control. On average, the respondents practice infection control to a high level. There is a strong positive relationship between level of knowledge and practice of infection control. Age, level of immunity, open wounds, use of antibiotics, nutritional status, and knowledge are the contributory factors affecting infection control practice. This means that there should be forum to educate nurses on the benefits associated with infection control. This is because a higher level of education was related to practice of infection control.

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