Knowledge and Attitude of Nurses Towards Implementation of Covid 19 Safety Precaution Protocols in Federal Medical Centre, Owerri, Imo State, Nigeria

Vincent, C. C. N.

Department of Nursing Science, Imo State University, Owerri, Imo State

Corresponding Author: Vincent, C. C. N. Department of Nursing Science, Imo State University, Owerri, Imo State.

Abstract

This descriptive study instigated the knowledge and attitude of nurses towards implementation of COVID-19 safety precaution protocol in Federal Medical Centre (FMC), Owerri. Coronavirus disease (COVID 19) is pathogenic viral infection, highly transmittable through direct and indirect routes which has caused global pandemic and has led to drastic loss of human life worldwide. The population of the study consists of seven hundred and eighty (780) nurses with a sample size of 290 determined by Taro Yamane. A self-structured validated questionnaire was used as the major instrument for data collection. Data analysis was achieved through descriptive and non-parametric statistics of chi-square. Research findings revealed that 268 (92.4%), of the respondents have a high knowledge of covid-19 safety precaution protocols, 93 (32. 1%) of the respondents adhered to implementation of Covid-19 safety precaution protocols. Also 159 (59.8%) of the respondent have a negative attitude towards implementation of COVID-19 safety precaution protocol with a mean score of 2.26. There is no significant relationship between gender, years of professional experience and attitudes towards implementation of COVID-19 safety precaution protocols. Also, gender, years of professional experience, professional qualification do not significantly influence knowledge of implementation of COVID19 safety precaution protocols. Furthermore, there is significant relationship between professional qualification and attitude towards implementation of COVID 19 safety precaution protocols among nurses in FMC, Owerri. The media should constantly advertise the required COVID 19 safety precaution protocols so as to ensure proper dissemination of information among the populace. Also, hospital administrations should ensure that there is adequate provision of necessary safety equipment to curtail spread of covid-19.

INTRODUCTION

Standard precautions are a set of infection control practices used to prevent transmission of diseases that can be acquired by contact with blood, body fluids, non-intact skin (including rashes), and mucous membranes (1). These measures are to be used when providing care to all individuals, whether or not they appear infectious or symptomatic. In recent years, attention to healthcare associated infections has grown, with increased reports from institute for healthcare improvements, joint commission and Medicare. The impact of infectious disease changes over time as microorganisms mutate, as human behavior patterns shift or as therapeutic options change (2). National Centre for Disease Control provides timely recommendations about many of the situations that a nurse may face when caring for or teaching a patient with an infectious disease .National Centers for disease control routinely publishes recommendations, guidelines, dates, statistics, and summaries (3).

Despite, the identified benefits of COVID 19 safety precautions protocols to curtail the spread of severe acute respiratory syndrome corona virus 2 and its

ravaging effects in the world generally, such as social distance policy, hand washing hygiene, isolation and quarantine of infected clients and patients, its implementation by nurses and other healthcare workers has been found to be poor in many tertiary health facilities all over the world, Africa and Nigeria. (3, 4). Nurses and other healthcare professionals in many parts of the world especially in developed and developing nations hardly regard safety precautions protocols in the course of providing medical instructions and nursing care (5).

In developing countries like Nigeria, the problem of poor implementation of safety precaution protocol on COVID 19 is attributed partly to lack of strict enforcement of WHO regulations and NCDC, lack of medical facilities (tools) of community level, administrative logistics in government, hospitals and tertiary health facilities (6). In some situations, COVID 19 safety precautions protocol is either being used for academic purposes or media jingles.

Morbidity and Mortality rates is high in developing countries and Africa because of Government inability to sustain social distance policy and ban in large gatherings, poor hand washing techniques, refusal to wear face masks and surgical gloves and hand hygiene (sanitization). Proper implementation and utilization of COVID 19 standard safety precaution protocol in medical and tertiary health facilities has been identified as an important strategy to reduce ravaging effects and menace of global pandemic(7).

Health education efforts and clinical conferences in tertiary health institutions and hospitals in Owerri have focused in equipping nurses and other healthcare workers with necessary knowledge to ensure successful utilization of universal standard preventive and precaution protocols (8). However many nurses in health and medical facilities in Owerri do not implement infection control measures and universal safety precautions (5). Studies have been carried out to determine factors responsible for non-implementation of COVID 19 safety precaution protocols (8). The researcher wonders whether the nurses that work in Federal Medical Centre, Owerri have good knowledge about implementation of precautionary/preventive protocols of COVID 19 and their attitudes towards the implementation.

MATERIALS AND METHODS

The descriptive survey design was employed for this study. The area of study is Federal Medical Center, Owerri. Federal Medical Center, Owerri is a federal tertiary institution in Imo State. The hospital renders all the necessary health care services expected at tertiary level to the great majority of people of Imo State. It has 54 units/wards. Federal Medical Center, Owerri attends to more than 72,000 patients per year. The population of the study consist of seven hundred and eighty (780) nurses. The sample size of 290 was determined using Taro Yamane sample size selection which formed 37.18% of the population.A multistage sampling technique was used to select respondents for the study. The nurses were stratified according to departments. Simple random sampling technique was used to select fifteen departments. The dutyregister of each ward was used as the sampling frame. A basket containing folded pieces of papers written 'Yes' or 'No' werereshuffledfor nurses in each department to pick. These included nurses on morning, evening and night duties respectively. Those who picked 'Yes' were selected until a total number of two hundred and ninety (290) nurses were reached which represents the sample size. These numbers of nurses were the same that answered the questionnaire. A validated self-structured questionnaire was used as the instrument for data collection which yielded a reliability index of 0.7. The duly completed copies of the structured questionnaire were collected, coded and analyzed using descriptive statistics of frequency count and percentages.Hypothesis wereanalyzed by the use of non-parametric statistics of chi square.

RESULTS

Table 1. *Socio-demographic data of the respondents (n = 290)*

Variable	Category	Frequency	Percentage
Age(in years)	20-29	39	13.5
	30-39	53	18.3
	40-49	135	46.6
	50 and above	77	26.6

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Gender	Male	58	20.0
	Female	232	80.0
Professional Educational Level	RN, RM, RCN	117	40.4
	BSC/BNSC in nursing	155	53.4
	Masters in nursing	18	6.2
	PhD in Nursing	Nil	-
Years of experience	<5 years	31	10.7
	5-10 years	48	16.6
	11-15 years	49	16.9
	16-20 years	36	12.4
	21-25 years	74	25.5
	Above 25 years	52	17.9

This table shows that age brackets of 40 – 49 are higher (46.6%) with 13.5% being under the age brackets of 20 – 29 years. As usual there are more females (80% than males. Interestingly, more than half (53.4%) have BSC/BNSc in Nursing Science, none of the nurses had PhD in Nursing Science. Those that have 21 – 25 years of experience are more (25.5%).

Table 2. *Knowledge of nurses on covid-19 safety precaution protocols*

Level of knowledge	Frequency	Percentage%
High knowledge	268	92.4%
Low knowledge	22	7.6%
Total	**290**	**100%**

The table shows that 268 (92.4%) of the respondents have a high knowledge of covid-19 safety precaution protocols while 22 (7.6%) have low knowledge.

Table 3. *Extent of implementation of covid-19 safety precaution protocols among nurses in FMC*

Extent of implementation	Frequency	Percentage%
High extent	93	32.1%
Low extent	197	67.9%
Total	**290**	**100%**

Based on the individual scores of the respondents on the extent of implementation questionnaire, it is revealed that only 93 (32.1%) of the respondents have high extent of implementation of covid-19 safety precaution protocols while 197 (67.9%) have low extent of implementation.

Table 4. *Factors associated with non-implementation of COVID-19 safety precaution protocols among nurses in Federal Medical Centre (FMC) Owerri*

S/N	Statements	SA	A	D	SD	Mean	Remark
1.	Community influence	170	89	13	18	3.41	Agree
2.	Institutional barriers	41	22	90	137	1.88	Disagree
3.	Lack of safety commitment from the public	133	78	40	39	3.05	Agree
4.	Lack of proper knowledge of novel coronavirus	173	59	37	21	3.32	Agree
5.	Poor safety culture	144	80	41	25	3.18	Agree
6.	Lack of strict enforcement of WHO regulations	150	89	23	28	3.24	Agree
7.	Lack of government policies	22	29	44	195	1.57	Disagree
8.	Lack of resources/materials (gloves, apron, facemask etc)	163	69	37	21	3.28	Agree
	Cumulative mean					**2.86**	

The mean score for items 1, 3, 4, 5, 6 and 8 are given as 3.41, 3.05, 3.32, 3.8, 3.24 and 3.28 respectively which are all above the mean mark of 2.50. The cumulative mean is given as 2.86. This implies that majority of the respondents are in agreement that Community influence, Lack of safety commitment from the public, Lack of proper knowledge of novel coronavirus, Poor safety culture, Lack of strict enforcement of WHO regulations and Lack of resources/materials (gloves, apron, facemask etc.) all constitute factors hindering implementation of covid-19 safety precaution protocols.

Table 5. *Attitude of nurses towards implementation of COVID-19 safety precaution protocols in Federal Medical Centre Owerri*

S/N	Statements	SA	A	D	SD	Mean	Remark
1.	Failure to maintain social distance helps to control infection	8	20	182	80	3.15	Positive
2.	Use of face mask control spread of covid-19	177	91	11	11	3.49	Positive
3.	Healthy young individuals can get the disease	51	22	37	180	1.81	Negative
4.	Covid-19 is easier to spread than influenza	33	40	99	118	1.95	Negative
5.	All infected patients should go to the hospital than self-medicate	41	22	90	137	1.88	Negative
6.	Traveling abroad poses high risk of infection	100	178	2	10	3.26	Positive
7.	Risk of getting covid-19 is higher when you do not get the vaccine	22	29	44	195	1.57	Negative
8.	Staying at home is a necessary measure to control outbreak	21	37	41	191	1.61	Negative
9.	National lockdown is an appropriate measure to control the outbreak	15	29	77	169	1.62	Negative
	Cumulative mean					**2.26**	

Note: item 1 was coded in reverse order

Data on table 5 show the attitude of nurses in FMC Owerri towards implementation of covid-19 safety precaution protocols. The mean scores for majority of the items i.e. 3, 4, 5, 7, 8 and 9 are given as 1.81, 1.95, 1.88, 1.57, 1.61 and 1.62 respectively which are all below the mean mark of 2.50. The cumulative mean is given as 2.26. This implies that majority (159, 54.8%) of the respondents have a negative attitude and 131 (15.2%) of the nurses have positive attitude towards implementation of covid-19 safety precaution protocols in FMC Owerri

Ho₁: There is no significant relationship between gender and attitude of nurses towards implementation of covid-19 safety precaution protocols in FMC Owerri

Table 6. *Chi-square table of relationship between gender and attitude of nurses towards implementation of covid-19 safety precaution protocols in FMC Owerri*

Gender	Positive Attitude	Negative Attitude	Total	df	X²	p- value
Male	28 (51.3)	30 (48.7)	58			
Female	103 (35.7)	129 (64.3)	232	1	0.282	**0.595**
Total	131	159	**290**			

This table indicated that there is no significant relationship between gender and attitude of nurses towards implementation of covid-19 safety precaution protocols in FMC Owerri.

Ho₂: There is no significant relationship between gender and knowledge of nurses on implementation of covid-19 safety precaution protocols in FMC Owerri

Table 7. *Chi-square table of relationship between gender and knowledge of nurses on implementation of covid-19 safety precaution protocols in FMC Owerri*

Gender	High knowledge	Low knowledge	Total	df	X^2	p- value
Male	53 (19.8)	5 (22.7)	58		0.111	**0.739**
Female	215 (80.2)	17(77.3)	232	1		
Total	268	22	**290**			

This table indicated that there is no significant relationship between gender and knowledge of nurses on implementation of covid-19 safety precaution protocols in FMC Owerri.

Ho$_3$: There is no significant relationship between years of experience and attitude of nurses towards implementation of covid-19 safety precaution protocols in FMC Owerri

Table 8. *Chi-square table of relationship between years of experience and attitude of nurses towards implementation of covid-19 safety precaution protocols in FMC Owerri*

Years of experience	Positive Attitude	Negative Attitude	Total	df	X^2	p- value
<5	21 (16.0)	10 (6.3)	31			
5-10	22 (16.8)	26 (16.4)	48			
11-15	19 (14.5)	30 (18.9)	49			
16-20	16 (12.2)	20 (12.6)	36			
21-25	33 (25.5)	41 (25.8)	74	5	8.157	**0.148**
Above 25years	20 (15.3)	32 (20.1)	52			
Total	131	159	**290**			

This table shows that there is no significant relationship between years of experience and attitude of nurses towards implementation of covid-19 safety precaution protocols in FMC Owerri.

Ho$_4$: There is no significant relationship between years of experience and knowledge of nurses towards implementation of covid-19 safety precaution protocols in FMC Owerri

Table 9. *Chi-square table of relationship between years of experience and knowledge of nurses towards implementation of covid-19 safety precaution protocols in FMC Owerri*

Years of experience	High knowledge	Low knowledge	Total	df	X^2	p- value
<5	28 (10.4)	3 (13.6)	31			
5-10	44 (16.4)	4 (18.2)	48			
11-15	44 (16.4)	5 (22.7)	49			
16-20	33 (12.3)	3 (13.6)	36			**0.870**
21-25	69 (25.7)	5 (22.7)	74	5	1.849	
Above 25years	50 (18.7)	2 (9.1)	52			
Total	268	22	**290**			

This table revealed that there is no significant relationship between years of experience and knowledge of nurses towards implementation of covid-19 safety precaution protocols in FMC Owerri.

Ho$_5$: There is no significant relationship between professional qualification and attitude of nurses towards implementation of covid-19 safety precaution protocols in FMC Owerri

Table 10. *Chi-square table of relationship between professional qualification and attitude of nurses towards implementation of covid-19 safety precaution protocols in FMC Owerri*

Professional Qualification	Positive Attitude	Negative Attitude	Total	df	X^2	p- value
Diploma	51 (40.2)	66 (41.5)	117			
BSc/BNSc	65 (48.0)	90 (56.6)	155	2	12.063	
Masters	15 (11.8)	3 (1.9)	18			**0.002**
Total	131	159	**290**			

This table revealed that there is a significant relationship between professional qualification and attitude of nurses towards implementation of covid-19 safety precaution protocols in FMC Owerri.

Ho$_6$: There is no significant relationship between professional qualification and knowledge of nurses towards implementation of covid-19 safety precaution protocols in FMC Owerri

Table 11. *Chi-square table of relationship between professional qualification and knowledge of nurses towards implementation of covid-19 safety precaution protocols in FMC Owerri*

Professional Qualification	High knowledge	Low knowledge	Total	df	X^2	p- value
Diploma	107 (39.9)	10 (45.5)	117			
BSc/BNSc	144 (53.7)	11 (50.0)	155	2	0.313	**0.855**
Masters	17 (6.3)	1 (4.5)	18			
Total	268	22	**290**			

This table shows that there is no significant relationship between professional qualification and knowledge of nurses on implementation of covid-19 safety precaution protocols in FMC Owerri.

DISCUSSION

Knowledge of Covid-19 Safety Precaution Protocols among Nurses in FMC Owerri

The study revealed that 268 (92.4%) of the respondents have a high knowledge of covid-19 safety precaution protocols. Reason for a larger number of nurses having high knowledge of covid-19 safety precaution protocols could be hinged on the fact that covid-19 was declared a world pandemic and information was made available to everyone by every means possible. This finding of high level of knowledge covid-19 safety precaution protocols among nurses in FMC Owerri is supported by Zhang *et al* who in their study found out that there was a very high knowledge of the safety precautions for covid-19 (9).Also supporting this finding is a study by Mason and Friese who in their study recorded that there was a very high knowledge of covid-19 disease and the safety precaution protocols (10).

Extent of Implementation of Covid-19 Safety Precaution Protocols among Nurses in FMC Owerri

The study shows that only 93 (32.1%) of the respondents have high extent of implementation of covid-19 safety precaution protocols.This finding is debunked by the findings of Taghrir, Borazjanj and Shiralywho recorded a high level (85%) of implementation of the covid-19 safety precaution protocols among the nurses (11).

Factors Associated with Non-Implementation of Covid-19 Safety Precaution Protocols in FMC Owerri

The study revealed that majority of the respondents are in agreement that community influence, lack of safety commitment from the public, lack of proper knowledge of novel coronavirus, poor safety culture, lack of strict enforcement of WHO regulations and lack of resources/materials (gloves, apron, facemask etc.) all constituted factors hindering implementation of covid-19 safety precaution protocols.This finding is strongly supported by McGoogan who reported that inadequate gloves, face mask, PPE, poor safety culture and inadequate knowledge of the virus were factors which hindered implementation of covid-19 safety protocols (12).

Attitude of nurses towards implementation of covid-19 safety precaution protocols in FMC Owerri

The study revealed that 131 (45.2%) of the respondents have a positive attitude towards implementation of covid-19 safety precaution protocols while 159 (54.8%) have negative attitude. This high level of negative attitude to covid-19 safety precaution protocols among nurses can be hinged on the fact that people believed a lot of propaganda about the pandemic which highly affected their attitude towards following safety protocols to curb the disease, health professionals inclusive. This finding however, is debunked by Taghrir, Borazjanj and Shiraly who recorded that about 89% of the nurses involved in their study had very positive attitude towards implementation of covid-19 safety precaution protocols (11).

CONCLUSION

The covid-19 pandemic posed perilous times for Nigeria as a country and the world at large as different parts of the world till this day, are still recovering from the aftermath of the pandemic. Efforts have been constantly made to curb the disease worldwide. This has led to development of various forms of covid-19 vaccine to help boost recipients' immunity and also establishment of safety protocols to help curb the spread of the disease. However, various factors have impeded the successful implementation of these safety protocols in hospital. Cultural beliefs, religious stands, myths etc. have gone a long way to discourage individuals and even health professionals from following the safety protocols thereby inciting negative attitude on their parts towards the safety precaution protocols. It is however, expedient that nurses follow these safety precaution protocols in order to reduce the incidence of the disease in hospitals.

The findings of the study revealed that there is high knowledge of covid-19 safety precaution protocols among the nurses in FMC Owerri. Despite the high knowledge of these protocols, extent of implementation was low among the nurses. Also, there was more level of negative attitude towards the safety precautions protocol than positive attitude. The researcher in the course of this study reviewed various studies and found out that none of the studies on covid-19 safety precaution protocols have been situated among the nurses in FMC Owerri. This is a new knowledge which the present study has contributed to.

Recommendation

The researcher recommends the following:

a) The media should constantly advertise the required covid-19 safety precaution protocols so as to ensure proper dissemination of information among the populace.

b) Hospital administrations should ensure that there is adequate provision of necessary safety equipment to curtail spread of covid-19.

c) Nurses and other health workers should strictly adhere to the covid-19 safety precaution protocols in their various hospitals.

Acknowledgement

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