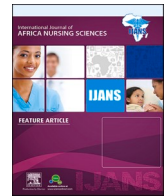




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Risk Perception, risk Involvement/Exposure and compliance to preventive measures to COVID-19 among nurses in a tertiary hospital in Asaba, Nigeria

Okwudili C. Ezike^{a,*}, Linda C. Odikpo^b, Evert N. Onyia^c, Michel C. Egbuniwe^d,
Ifeoma Ndubuisi^e, Ada C. Nwaneri^d, Chikodili N. Ihudiebube-splendor^d, Chijike C. Irodi^e,
Sambo B. Danlami^f, Amina W. Abdussalam^g

^a Department of Nursing Services, Federal Medical Centre (FMC) Asaba, Delta State, Nigeria

^b Department of Nursing Sciences, Nnamdi Azikiwe University Awka, Anambra State, Nigeria

^c Department of Nursing Services, Nnamdi Azikiwe University Teaching Hospital Nnewi, Nigeria

^d Department of Nursing Sciences, University of Nigeria Enugu Campus, Enugu, Nigeria

^e Department of Nursing Sciences, Igbinedion University Okada, Edo State, Nigeria

^f College of Nursing and Midwifery Vom, Plateau State, Nigeria

^g School of Nursing, University of Ilorin Teaching Hospital Ilorin, Kwara State, Nigeria

ABSTRACT

Background: Covid-19 infection is a serious threat to health care workers (HCW) because it is primarily spread between people during close contact, often via small droplets produced by coughing, sneezing, or talking. Therefore, how HCW exposure to COVID 19 virus translates into risk of infection is thus critical for informing infection prevention and control (IPC) recommendations.

Aim: This study assessed the risk perception, risk involvement/exposure and compliance to preventive measures to COVID-19 among nurses in a tertiary hospital in Asaba Nigeria.

Methods: A cross-sectional descriptive survey (Census method) was used to recruit to the study, the entire 378 nurses in a tertiary hospital in Asaba, who met the inclusion criteria. There was no sampling as the population was few. For the participatory observation of the respondents, each ward had research assistant who is a nurse selected from the unit and trained on data collection for the study.

Results: A subset of the nurses (9.3%) in the study centre strongly agree that Covid-19 is a mirage, and 2.6% also agree that the pandemic does not exist, while 37.8% agree that the pandemic is being politicized. Many of the nurses 141(37.3%) had contact with the environment where Covid-19 patients were cared for. For the participatory observation, decontamination of high touch surfaces was poor in most of the units. Personal protective equipment were lacking in some medical wards as only 2(50%) of the wards had all the PPE available at the time of the study.

Conclusion: Some of the infection preventive measures for Covid 19 were neglected by the nurses, and this calls for reminder in the form of posters at strategic spots in the hospital and further trainings on IPC.

1. Introduction

1.1. Background

Covid-19 is an infectious disease caused by severe acute respiratory syndrome coronavirus type 2 (SARS-CoV-2). The disease was first identified in December 2019 in Wuhan, the capital of China's Hubei province, and has since spread globally, resulting in the ongoing 2019–2020 coronavirus pandemic as declared by WHO (Hui, Madani, Ntoumi, Dar, et al. 2020; WHO, 2020). The first confirmed case of the pandemic of Covid-19 in Nigeria was announced on February 27, 2020 (NCDC, 2020)^a, and on March 09, 2020, a second case of the virus was

reported (NCDC, 2020)^b. From that period, Coronavirus continued to spread in the country, affecting many, of which infected health workers make up about 800 cases (NCDC, 2020)^c; thus showing the vulnerability of health workers, especially nurses to COVID-19 infection. Delta State had its share of the spread of Covid-19, with 17 confirmed cases and two deaths as of May 03, 2020. This current makes the state ideal for study on Covid-19.

The Coronavirus is primarily spread between people during close contact, often via tiny droplets produced by coughing, sneezing, or talking (WHO, 2020). These droplets often fall to the ground or onto surfaces rather than remain in the air for long distances. People may also become infected by touching a contaminated surface and then touching

* Corresponding author.

E-mail address: okwycallistus@gmail.com (O.C. Ezike).

their eyes, nose, or mouth. People most at risk of acquiring the disease are those in contact with or care for patients with COVID-19. This inevitably places health care workers (HCWs) at high risk of infection. Because the patients often visit hospitals when they feel unwell, healthcare workers have a high chance of contracting the virus; especially the nurses who spend more time with patients than other professionals in that sector. Often, nurses help these patients with activities of daily living, including feeding, bed-bathing, toileting, bed making, cleaning patients' lockers, suctioning and feeding patients, etc. They perform these activities of daily living and other roles as nurses even before knowing the status of the patients; thus exposing them to the risk of contracting many infectious disease including Covid-19, (Gosnell, 2006). But if the nurses' risk perception about the contagious disease is high, their prevention strategies will be great.

According to Anna-Leena, Jussi, Katja (2020), risk perceptions guide individuals' judgments and evaluations of threats and can promote or limit public compliance with and response to information communicated by authorities. People's risk perception of pandemic is one of the factors contributing to an increase in public participation in adopting preventive measures (van der, Timmermans, Beaujean, Oudhoff, Van Steenberg, 2011). A study on risk perception and response by health workers in the previous Ebola epidemics shows numerous individual and social-level factors played a role in modifying risk perception in health workers. Nurses' risk perception in the context of COVID-19 has to be understood, notably because Protection Motivation Theory (PMT) stated that the intention of the general public to adopt protective measures is significantly influenced by high levels of perceived risk. The theory posits that public perception of the severity and vulnerability to a particular health threat determines their risk perception about the disease and their ability to adopt correct protective measures (Rogers, 1975). There will be a low level of compliance to prevention protocols if risk perception is also low.

2. Problem statement

The rate of spread of Covid-19 infection is high, but it is preventable. How HCWs' exposure to COVID 19 virus translates into the risk of infection is critical for informing infection prevention and control (IPC) recommendations. Recommended measures at preventing the infection include frequent hand washing, maintaining physical/social distance, covering coughs and sneezes with a tissue or inner elbow, and keeping unwashed hands away from the face. Face masks are also recommended for those who suspect they have the virus and their caregivers. Some hospitals and nurses have additional personal and agency measures to help them render safe care to patients without contracting the deadly virus. It is those measures that the researchers want to explore with this study.

Moreover, based on extensive literature review, there seemed to be no or few studies on the risk perception of nurses; most studies concentrated on nurses' knowledge and practices in the South-south zone of Nigeria. Hence, the need for a study that will assess the knowledge and practice of prevention protocols of these nurses and further assess their risk perception about the infectious disease. Thus, the concern of the researchers is on "Risk perception, Risk involvement/exposure, and compliance to preventive measures to COVID-19 among Nurses in a tertiary hospital in Asaba Nigeria.

3. Purpose of the study

The purpose of this study was thus to assess Risk perception, Risk involvement/exposure, and compliance to preventive measures to COVID-19 among Nurses in a tertiary hospital in Asaba, Nigeria. Specifically, the study's objectives include determining nurses' perception in a tertiary hospital in Asaba about their risks of contracting COVID-19, assessing their level of risk involvement, and finding out their risk reduction and preventive measures to COVID-19.

4. Methods

4.1. Research design

The design used for this study was a cross-sectional descriptive survey method defined by Aggarwal and Ranganathan (2017) as involving the collection of information on the presence or level of one or more variables of interest, whether exposure or outcome as they exist in a defined population at one particular time without influencing the behavior of the individuals' population.

5. Setting

The study was conducted in one of the two government-owned tertiary hospitals in Asaba, Nigeria. Asaba is situated in the South-South geo-political zone of Nigeria. It has many wards with a standard isolation unit built by the Governor of Delta State.

6. Population and sampling

The total number of registered nurses in the institution at the time of this study was 466 (Nurses' Annual Report, 2019). The entire nurses (378) who met the inclusion criteria participated in the study (census method). Thus there was no sample size determination. Everyone was given an equal chance to participate in the study using Google drive, considering the following inclusion criteria: a respondent should have worked at least one year and must not be on leave during the data collection period. However, nurses whom NCDC experts had trained to train others were excluded from the study. For the participatory observation of the respondents, each ward had a research assistant who is a nurse selected from the unit and trained on data collection for the study. They helped in observing their colleagues while working with them.

7. Data collection

Data collection was done in July 2020, employing a 35-item, pre-tested, researchers-developed, self-administered Google-driven questionnaire and a 9 items participatory observation checklist. The observation checklist was adapted from the WHO risk assessment tool for Covid-19 (WHO, 2020); hence, not all parts of the WHO checklist was used by the researchers. The questionnaire was structured according to a four-point Likert response pattern of "Strongly agree," "Agree," "Disagree," and "Strongly disagree," to identify the risk perceptions of the nurses; and a three-point Likert scale response pattern of "Yes," "Unknown" and "No" to understand the nurses' level of risk involvement. Finally, a four-point Likert response pattern of "Always", "Most times", "Occasionally" and "Rarely" was used to find out the prevention practices of nurses in the context of COVID-19 pandemics; while the 9-items observation checklist was used to observe nurses and units' compliance to Covid-19 infection prevention protocol. The checklist was structured into a 2-points scoring system of "Yes" and "No." Yes indicated that from the researcher's observation, the nurse or the unit complied with a particular item of Covid-19 infection control protocol being observed, while "No" indicated non-adherence to the infection control protocol being followed in the unit. The researchers and the research assistants were responsible for collecting data with the observation checklist, and the observation checklists were returned in hard copies with Covid-19 prevention protocols fully adhered to.

Face and content validity was achieved by handing the instrument to three experts and researchers in the field of virology, infection prevention and control (IPC) and pulmonology, to determine (at face value) the appropriateness of the instrument in measuring what was being studied. The pulmonologist made corrections and the IPC contact person on the number of items in the questionnaire, increasing the number of items from 12 to 17 for risk perception and 8–11 for the risk involvement. The experts on the checklist made no correction. The questionnaires in the

various units were distributed to nurses who met the inclusion criteria with the help of Google drive. Every unit has a “What’s App” group through which the Google-driven questionnaires were distributed. The distribution of the questionnaires lasted two weeks, while the completion and submission of the questionnaires took another two weeks. The questionnaires were submitted by the participants electronically via Survey Monkey App, while additional three weeks were used to collect data with the checklist by the research team members, checking the preventive measures nurses and the units adhere to most. This aspect was done by participatory observation, after which 378 nurses who completed the questionnaires were observed while they were working. Consent to be observed was included in the consent form, but the participants were not informed about the date they would be observed, thus, their behaviours were influenced minimally (if there was such influence by the knowledge that they would be observed).

7.1. Data analysis

All the (378) nurses selected for this study responded to the questionnaire representing a 100% response rate. The responses to items in the instruments were subjected to simple descriptive statistics, ranging from percentages and mean scores to standard deviations, with the aid of the SPSS software version 24. The researchers used Mean decision rules to classify the nurses according to their risk involvement as low, moderate, and high.

Ethical Considerations

The Research Ethics Committee of a federal government-owned tertiary hospital in Asaba granted ethical approval for the study. An administrative permit was also obtained by the researchers from the appropriate authorities in the Nursing services department of the hospital. The researchers obtained informed (written) consent from each respondent prior to administering the instrument to them. A consent form was embedded into the Google-driven questionnaire, and each participant had to first complete the consent form before completing the questionnaire.

8. Results

The majority of the participants were young nurses. The modal age fell within the age range of 31–40 years (49.7%), while the mean age was 42 years. Like what is expected of the nursing profession, the majority (93.7%) of the participants were females; a majority of them (75.7%) married and are Christians (98.9%), with the majority of the participants reporting having double qualifications- RN/RM (64.6%). The modal years of experience fell within 6–10 years (41.5%), while the unit with the highest response was maternity complex (23.3%). (Table 1

The majority of the nurses (61.1%) in the study Centre strongly disagree that Covid-19 is a mirage, and 27% disagree that the pandemic does not exist. Only 13.8% of nurses believe Covid-19 is not more political than it is, while 37.8% agree that the pandemic is politicized. The majority of the nurses (73.3%) and (45.8%) strongly agree that Covid-19 is highly infectious and a threat to them, respectively. A more significant number of nurses [257(68.0%)] firmly believe that the personal risk perception of Covid-19 has led them to adopt preventive measures. Despite the seriousness of the infection, many nurses (41.8%) at the center disagree that they are afraid to attend to cases of Covid-19 because of fear of transmission. The majority of the nurses (70.4%) agree that personal self-efficacy in handling similar diseases influences their risk perception of Covid-19. Many nurses (46.6%) and (50.3%) respectively strongly agree that the media propaganda also makes them feel highly at risk of COVID-19 as a nurse. Fear of numerous deaths from the disease influences their risk perception COVID-19. This result may be because many of them, 155 (41.0%), believe that access to social media influences knowledge and practice of preventive strategies to Covid-19. (Table 2.

Only 43 nurses (11.4%) have provided direct care to Covid-19

Table 1
Sociodemographic characteristics of the respondents.

Variable	Frequency	Percentage
Age category (Years)		
less than 30	120	31.7
31 – 40	185	49.2
41 – 50	81	21.4
51 and above	12	3.2
Mean age (Years)		
	42.1	
Sex		
Male	24	6.3
Female	354	93.7
Marital status		
Married	286	75.7
Single	61	16.1
Widow	24	6.3
Divorced/separated	7	1.9
Religion		
Christian	369	98.9
Islam	4	1.1
Traditional	0	–
Qualification/level of education		
RN	4	1.1
RN/RM	244	64.6
B.SCN	112	29.6
MSN/Ph.D. Nursing	18	4.8
Years of experience		
1 – 5	59	15.6
6 – 10	157	41.5
11 – 15	100	26.5
16 – above	62	16.4
Unit		
Medical wards	42	11.1
Surgical wards	44	11.6
Children ward	28	7.4
Clinics	82	21.7
Theatre	31	8.2
Isolation wards	23	6.1
Maternity complex	88	23.3
Emergency unit	40	10.6

patients; 21.4% had face-to-face contact with a confirmed case of Covid-19 in the facility. Many of the nurses, 141(37.3%), had contact with the environment where Covid-19 patients were cared for; 291 (77.0%) of the nurses attested to not having adequate personal protective equipment in their units, while 320 (84.7%) of the nurses affirmed that unnecessary disguise of Covid-19 patients with their symptoms increases their exposure risk. The majority of the nurses, 262(69.3%), said past experiences with previous epidemics show that their risk of exposure is high; Table 3. ,

Aggregation of the level of involvement and exposure to risk amongst the respondents shows that a little more than half [204 (53.7%)] of the nurses had a high level of risk exposure; 143(37.9%) of the respondents were moderately exposed, while only a subset of the nurses (8.4%) reported a low level of exposure; (Table 4.

The 23 nurses observed in the isolation ward scored 100% in all the prevention protocols. Decontamination of high touch surfaces was poor in most units but most flawed in maternity complex (21.6%). Nurses scored well in observing hand hygiene protocol with theatre, isolation, and emergency units at the top of the list. Proper disposal of waste was poor in medical wards (45.2%), children wards (39.3%), and clinics (36.6%). Physical distancing when providing care was above average in the units except for the clinics where the nurses scored a little below the average (47.6%). All the nurses in theatre, isolation, and emergency units made use of the recommended PPE. More than half of the nurses in all the units avoided touching eyes, nose, and mouth while on duty; (Table 5.

All the units observed had all required items for hand hygiene. The researchers observed constant tap water supply in theatres, isolation wards, children’s wards, and emergency units. Personal protective equipment was lacking in some medical wards as only 2(50%) of the wards had all the PPE available at the time of the study. The maternity complex was worst hit with a lack of PPE, as only 3(37.5%) of the wards in the complex had all the PPE at the time of observation. Table 6

Table 2
Risk perception of the respondents on COVID –19

Questions	Strongly agree	Agree	Disagree	Strongly disagree
• COVID-19 is a mirage	35 (9.3)	10 (2.6)	102 (27.0)	231 (61.1)
• COVID-19 is more political than the normal illness we see in the hospitals	42 (11.1)	143 (37.8)	141 (37.3)	52 (13.8)
• COVID-19 is a highly infectious disease	277 (73.3)	95 (25.1)	4 (1.1)	2 (0.5)
• COVID-19 is a big threat	173 (45.8)	156 (41.3)	47 (12.4)	2 (0.5)
• Personal risk perception of the COVID-19 pandemic has led to adopting preventive measures	257 (68.0)	82 (21.7)	29 (7.7)	10 (2.6)
• Afraid to attend to cases of COVID-19 for fear of transmission	63 (16.7)	100 (26.5)	158 (41.8)	57 (15.1)
• Feel secure about the current pandemic	12 (3.2)	98 (25.9)	166 (43.9)	102 (27.0)
• Personal self-efficacy in handling similar diseases influences my risk perception of COVID-19	47 (12.4)	266 (70.4)	30 (7.9)	35 (9.3)
• Feel highly anxious whenever a colleague is infected with COVID-19	136 (36.0)	161 (42.6)	63 (16.7)	18 (4.8)
• +I feel at risk to infect my family if I contract the disease	111 (29.4)	103 (27.2)	109 (28.8)	55 (14.6)
• Media propaganda also makes me feel highly at risk of COVID-19 as a nurse	176 (46.6)	120 (31.7)	71 (18.8)	11 (2.9)
• Fear of numerous deaths from the disease influence my risk perception of COVID-19	190 (50.3)	128 (33.9)	55 (14.6)	5 (1.3)
• Living alone influences knowledge and practice of preventive strategies to COVID-19	30 (7.9)	49 (13.0)	199 (52.6)	100 (26.5)
• Area of residence influences knowledge and practice of preventive strategies to COVID-19	148 (39.2)	50 (13.2)	125 (33.1)	55 (14.5)
• Living with people influences knowledge and practice of preventive strategies to COVID-19	123 (32.5)	100 (26.5)	112 (29.6)	43 (11.4)
• Means of transportation to work influences knowledge and practice of preventive strategies to COVID-19	141 (37.3)	147 (38.9)	87 (23.0)	55 (14.6)
• Access to social media influences knowledge and practice of preventive strategies to COVID-19	147 (38.9)	155 (41.0)	34 (9.0)	42 (11.1)

9. Discussion

This study assessed the risk perception, risk involvement/exposure, and compliance to preventive measures to COVID-19 among Nurses in a tertiary hospital in Nigeria. Regarding their perception of the disease,

Table 3
Risk involvement/exposure to risk among the respondents in the context of COVID-19

Variable	Yes	No	I don't know
• Provide direct care to a confirmed COVID- 19 Patient	43 (11.4)	335 (88.6)	–
• Had face to face contact with a confirmed patient in the health facility	81 (21.4)	186 (49.2)	111 (29.4)
• Had contact with the environment where COVID-19 patients were cared for	141 (37.3)	140 (37.0)	97 (25.7)
• Enter public transport to work	300 (79.4)	78 (20.6)	–
• Overworking during shifts	187 (49.5)	191 (50.5)	–
• Inadequate personal protective equipment in my unit	291 (77.0)	87 (23.0)	–
• Inadequate testing equipment in my facility	237 (62.7)	141 (37.3)	–
• Unavailability of self-isolation place	184 (48.7)	194 (51.3)	–
• Some of my colleagues have been infected	185 (48.9)	49 (13.0)	144 (38.1)
• Unnecessary disguise of COVID-19 patients with their symptoms	320 (84.7)	58 (15.3)	–
• My experience with previous epidemics	262 (69.3)	116 (30.7)	–

Table 4
Level of risk involvement and exposure among the respondents

Level of risk involvement	Frequency	Percentage
Highly	204	53.7
Moderately	143	37.9
Low	31	8.4

the minority believes that Covid-19 is a mirage (11.9%), politicized, and does not exist (48.9). This is because early cases of the disease in the country were recorded amongst the political elites, making Nigerians believe that the political class is deceiving the masses. This same result was also seen in the findings by Arslanca, Fidan, Dagez, Dursun (2021) that despite the knowledge level about COVID 19 being high 91.66%, only 66.93% of them were willing to get vaccinated, meaning that there is no confidence in the vaccine and the reports about the spread of COVID-19. Even those who presented in the hospitals during the first wave of the Covid-19 had few and unserious symptoms with a close link to malaria symptoms. These observations probably made those nurses share such a view that the infectious disease is a mirage and politicized. However, the majority of the nurses strongly agree that Covid-19 is highly contagious. Still, their experience of other highly infectious diseases like Lassa fever, Ebola disease, to mention a few, had made them adopt the same preventive measures for Covid-19, which is the standard precautions and in addition, the airborne precautions; and it has made them not to be scared to render care to patients with infectious disease. Deressa, Worku, Abebe, Gizaw, and Amogne (2021), in their study, found out that respondents who had previously provided clinical care to Ebola, SARS, and Cholera patients had significantly lower levels of worry about the COVID-19 crisis than participants who had not.

Though many agree that they are at high risk of Covid-19 as a nurse because of the continuous mass media enlightenment and propaganda of numerous deaths, they believe that adopting simple infection techniques such as hand hygiene helped them overcome their fears. The daily reported death cases from the infectious disease had made them perceive the disease as a serious threat. This perceived threat or seriousness of the disease is responsible for the adoption of preventive measures. This finding is in line with the study by Toan (2020), who believes that Social and mass media could influence the risk perception of individuals with regards to Coronavirus. So, from the result, the risk perception of the

Table 5
Nurses' compliance to Covid-19 infection prevention protocol

Unit	Number of Nurses observed	Observed physical distancing (%)	Observed hand hygiene (%)	Made use of the recommended PPE	Disposed waste properly	Decontaminated high touch surfaces properly (%)	Avoided touching eyes, nose, and mouth
Medical wards	42	31 (73.8)	28 (66.7)	20 (47.6)	19 (45.2)	14 (33.3)	28 (66.7)
Surgical wards	44	44 (100.0)	34 (77.3)	22(50.0)	44 (100.0)	27 (61.4)	44 (100.0)
Children wards	28	14 (50.0)	19 (67.9)	17 (60.7)	11 (39.3)	11 (39.3)	15 (53.6)
Clinics	82	39 (47.6)	57 (69.5)	34 (41.5)	30 (36.6)	26 (31.7)	52 (63.4)
Theatres	31	24 (77.4)	31 (100.0)	31 (100.0)	31 (100.0)	29 (93.5)	31 (100.0)
Isolation ward	23	23 (100.0)	23 (100.0)	23 (100.0)	23 (100.0)	23 (100.0)	23 (100.0)
Maternity complex	88	46 (52.3)	50 (56.8)	31 (35.2)	74 (84.1)	19 (21.6)	63 (71.6)
Emergency units	40	40 (100.0)	40 (100.0)	40 (100.0)	40 (100.0)	32 (80.0)	26 (65.0)

Table 6
Units' compliance to Covid-19 infection prevention protocol

Unit	Number of wards or units observed	Availability of items for hand hygiene (%)	Constant water supply (%)	Availability of PPE (%)
Medical wards	4	4 (100.0)	3 (75.0)	2 (50.0)
Surgical wards	5	5 (100.0)	4 (80.0)	2 (40.0)
Children wards	2	2 (100.0)	2 (100.0)	1 (50.0)
Clinics	8	8 (100.0)	6 (75.0)	4 (50.0)
Theatres	3	3 (100.0)	3 (100.0)	3 (100.0)
Isolation ward	1	1 (100.0)	1 (100.0)	1 (100.0)
Maternity complex	8	8 (100.0)	7 (87.5)	3 (37.5)
Emergency units	1	1 (100.0)	1 (100.0)	1 (100.0)

nurses influenced their preventive strategies to covid-19. However, decontamination of surfaces was given less attention by the nurses, particularly in the maternity complex. This poor attention paid to decontamination of surfaces may be because, in practice, most hospitals, including the one studied, have delegated cleaning of surfaces to health assistants and cleaners. These personnel are often not trained in infection control; hence, they often neglect high touch surfaces like door handles, nurses' tables, weight scales, and other measuring instruments. This area neglected by health assistants could impose danger to the nurses, patients, and patient relatives.

The study setting being a referral center and having a functional isolation and treatment unit had most of the covid-19 cases in the state and neighboring states. So, most nurses had contact with the covid-19 patients or connected with the environment where these patients were cared for. Hence, their risk involvement was high, coupled with inadequate provisions of the PPE in most of the clinical areas except the isolation Centre, which had all the equipment put in place. This high exposure risk affected the abilities of the nurses to adopt prevention protocols adequately. Even when and where there is a willingness to adopt the prevention protocols, inadequate supply of the PPE served as a barrier to compliance with prevention protocols. This report is in line with [Lynne \(2020\)](#), who stated that caring for patients in the high-stakes context of COVID-19, which is a public health emergency on this scale, makes the threat personal for nurses, as well as one they manage professionally, especially with inadequate and insufficient personal protective equipment (PPE) reported in many areas.

In the context of risk reduction and prevention strategies of Covid-19

by the nurses working in the tertiary hospital in Asaba, the result showed that all the nurses observed in the isolation unit fully complied with the prevention protocols. This full compliance might be because they have complete, adequate provisions of PPE and were trained on IPC before the nurses were sent to the isolation unit. This was not so in other wards where some lapses were observed concerning adherence to the standard precautions like regular surface decontamination, proper waste management, and physical distancing, which could also be because they were not trained on IPC before the spread of covid-19. Despite the inadequate supply of PPE, most nurses complied with simple infection prevention measures to help them stay free from the infection, such as avoiding touching the eyes, nose, and mouth while on duty and hand hygiene. Furthermore, it was observed that the facility scored well in the provision of items for hand hygiene and constant water supply. Still, PPE was inadequate in all the units apart from the isolation unit, which poses a high risk for the nurses to easily get infected, thus limiting the workforce.

10. Limitations

The findings of this study cannot be generalized to other tertiary health institutions in South-south geo-political zone, as only one tertiary hospital in Asaba was sampled for data collection due to the restrictions on movement as a result of the pandemic.

11. Recommendation

From the foregoing, it is recommended that hospital management of various health care institutions should provide adequate and complete PPE, elbow-Operated taps, and foot-operated bins in all the clinical areas. In addition, every year, quarterly training on IPC should be organized for nurses with emphasis on decontamination of high touch surfaces; and, by extension, to other staff for disease prevention and risk exposure reduction.

12. Conclusion

This study assessed the risk perception, risk involvement/exposure, and compliance to preventive measures to COVID-19 among Nurses in a tertiary hospital in Asaba, Nigeria. The result provided evidence that allowed the researchers to conclude that the study respondents perceive covid-19 as a highly infectious disease, but some of the preventive strategies were not strictly adhered to, which is linked to inadequate supply of PPE and little or no IPC update for the nurses and other health care workers generally.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Authors' Contributions

Every author contributed significantly in all parts of the manuscript and the research. It will be difficult to categorize the authors' contributions.

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Further reading

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