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(RESEARCH ARTICLE)

Lassa fever: knowledge deficits among nurses and non-nurses at a tertiary hospital in Ondo, southwest Nigeria

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Abstract

Introduction: Lassa fever is endemic to many African countries with knowledge deficit linked to increased exposure, morbidity and mortality among healthcare workers.

Objectives: To assess knowledge deficit among nurses and non-nurses.

Materials and methods: This was a descriptive, cross-sectional study conducted at the University of Medical Sciences Teaching Hospital, Ondo State, Nigeria.

Results: There were 59 (48.8%) nurses and 62 (51.2%) non-nurses with a male to female ratio of 1:2.9. Their mean age was 34.2±8.0 years. Nurses and non-nurses performed well in 30 (62.5%) and 26 (54.2%) out of 48 knowledge domains respectively. Participants performed poorly in (i) early identification of disease such as negative malaria test in a feverish patient (32.2%) and role of high index of suspicion (34.7%); (ii) knowledge of transmission via body fluid {sweat (43%), saliva (28.9%), semen (21.5%)}, and (iii) decontamination with methylated spirit (22.3%), chlorine (32.2%) and formalin (20.7%)}.

Nurses performed better than non-nurses in identifying (i) *Mastomys natalensis* as carrier for Lassa fever virus (p=0.049) (ii) deafness as a Lassa fever sequelae (p=0.041) (iii) semen (p=0.008) and vagina secretion (p=0.035) as routes of transmission (iv) nurses being directly at risk of Lassa fever (p = <0.01) (v) patient avoidance (p=0.004), hand washing (p=0.004), use of hand sanitizer (p=0.046) and safe waste disposal (p=0.047) as helpful in reducing Lassa fever infection.

Conclusion: Knowledge of Lassa fever among healthcare workers in the tertiary hospital was generally unsatisfactory with serious knowledge deficits in many domains.

Keywords: Lassa fever; Knowledge deficit; Healthcare workers; Nurses; Nigeria

1. Introduction

The story of Lassa fever started with Ms. Laura Wine, a missionary nurse from the United States of America who died in 1969 in a small town in Northern Nigeria named Lassa (now known to be located in current Borno State) [1]. Lassa fever

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is a zoonotic arena virus disease that is endemic to Nigeria and some other West African countries, including the Mano River Union Countries of Sierra Leone, Liberia and Guinea [2].

Aside being the most populous group of healthcare workers (HCWs), nurses have arguably the most intimate and prolonged contact with patients than any other group of hospital workers and therefore run the greatest risk of contracting infectious diseases [3-5]. In 2012, four nurses and three doctors were the only healthcare workers who died of Lassa fever during arguably one of the worst outbreaks in Nigeria [6]. Within a period of 9 months (August 2015-May 2016), two hundred and seventy three cases of Lassa fever involving 23 States in Nigeria were reported to the World Health Organization (WHO) with 149 fatalities; of these, ten cases were health care workers (HCWs) and four were hospital acquired infections [6].

Since the last outbreak of the disease in 2016, there has been an increase in the number of recurring cases from 796 in 2019, 1,165 in 2020 and 4,632 in 2021 [7]. Of note, in the year 2020, despite being overshadowed by COVID-19, the highest national case fatality rate in over 50 years was reported, including affecting the highest number of HCWs (forty eight) [8]. However, at the current rate in 2022, Lassa fever cases may yet outshine what was reported in the year 2020 as already, between January 1 and March 20, 2022, there has been 3,316cases reported from 91 local government with 123 deaths, 38 infected HCWs and at least loss of 4 medical doctors [9]. Of all confirmed cases so far, 68%have been from Edo, Ondo and Bauchi States [9-10]. Despite the establishment of Infectious Disease Units in most States in Nigeria, the generality of nurses and other HCWs are still exposed to cases of Lassa fever in the Emergency Room, General Outpatient Department and the general wards as most cases of Lassa fever that present with mild to no symptoms still trickle to the general wards. It is therefore important for nurses to be able to quickly identify Lassa fever. In order to achieve this, they need to be adequately equipped with enough information on Lassa fever and infection prevention and control strategies.

A number of studies have shown that HCWs in Nigeria have below par knowledge of Lassa fever [11-13] while a few others indicate otherwise [14-15] even though methodologies and settings vary from study to study. We set out to (i) assess knowledge of nurses and non-nurses on clinical features of Lassa fever, control and prevention of intra-hospital spread of the disease among HCWs and (ii) identify areas of knowledge deficiencies and proffer solutions.

2. Material and methods

2.1. Description of study area

University of Medical Sciences Teaching Hospital is a 470-bed multi-complex hospital with facilities spread across Ondo West and Akure South Local Government Areas of Ondo State, Southwest Nigeria. It receives referral from the primary and secondary level healthcare facilities within the State, private clinics and tertiary hospitals in neighbouring South-western States.

2.2. Study design

This was a descriptive, cross-sectional study conducted between January 31, 2020 and March 16, 2020. Consecutive healthcare workers attending a one-day training course on Lassa fever who gave consent were recruited into the study. Two similar sessions were held in two centres within the space of one week. The first session was held at the Medical Village for HCWs in the Ondo Axis (comprising of the Ondo complex and Medical Village) of the Teaching Hospital situated in Ondo West LGA. The second session held at the Akure complex of the Teaching Hospital situated in Akure South LGA. Attendance was by voluntary participation.

Participants were divided into nurses and 'non-nurses'. The non-nurses included Health Attendants, Physiotherapists, Medical Laboratory Scientists, Technicians, Dieticians, Health Information Managers and Administrative staff.

2.3. Exclusion criteria

Medical doctors in attendance, research personnel, programme facilitators and non-consenting participants were excluded from the study.

2.4. Data acquisition and management

Self-administered questionnaires which were filled in by participants within a time frame of 15 minutes were used to collect data as part of pre-test before commencement of training. The questions were designed to assess knowledge of participants on Lassa fever, its early identification, prevention and control. The first section of the questionnaire

captured the biodata of respondents which include age, gender, profession and highest academic and professional qualifications. There were 4best answer questions on epidemiology, 2 questions with 9 True of False options on identification of Lassa fever disease, 5 questions with 31 True or False options on prevention and control of Lassa fever disease, and 4 best answer questions on general knowledge of participants which include treatment, vaccine, complications and disease clearance. All amount to a total of 48 equally weighted questions (a score of 1 per question). All questionnaires were processed for completeness of data and proper responses. Incomplete questionnaires were excluded from final analysis.

2.5. Ethical approval

Self-administration of questionnaires by each participant was taken as willingness to participate in the study. All questionnaires were coded (without names) and confidentiality of responses was ensured throughout the study.

2.6. Statistical analysis

Data was analysed using IBM SPSS statistical software version 20. Continuous variables were expressed as frequency, percentage and mean±SD. Chi square testing was carried out to determine significance with a p value < 0.05 at 95% Confidence Interval.

3. Results

Table 1 Demography of nurses and non-nurses

Category	Frequency	Percentage	Age (years)
Gender			
Male	31	25.6%	32.7±6.7
Female	90	74.4%	34.9±8.4
Profession			
Nurses	59	48.8%	34.2±9.3
Non-nurses (see break down below)	62	51.2%	34.2±6.6
Administration Officer	6	5.0%	
X-ray Technician	2	1.7%	
Cleaner	2	1.7%	
Medical Lab Scientist	6	5.0%	
Dental Technician	3	2.5%	
Health Assistant	22	18.2%	
Health Information Manager	5	4.1%	
Pharmacist	2	1.7%	
Physiotherapist	4	3.4%	
Public Health Technician	2	1.7%	
Dietician	1	0.8%	
Clinical Psychologist	1	0.8%	
Med Social Worker	3	2.5%	
Security personnel	1	0.8%	
Radiographer	1	0.8%	
Intern	1	0.8%	

One hundred and forty two HCWs participated in filling out the questionnaires but only 121 (85.2%) who had complete data were analysed. There were 59 (48.8%) nurses and 62 (51.2%) other hospital workers (non-nurses). There were 31 (25.6%) males and 90 (74.4%) females. Their age range was 21-56 years with a mean age of 34.2±8.0 years. The mean age for nurses and non-nurses were 34.2±9.3 and 34.2±6.6 years respectively (table 1). The nurses ranged in rank from Nursing Officer I to Assistant Director of Nursing Services. The non-nurses were predominantly Health Assistants (n=22, 18.2%), Administrative Officers (n=6, 5%), Medical Laboratory Scientists (n=6, 5%), Health Information Managers (n=5, 4.1%) and Physiotherapists (n=4, 3.4%) as shown in table 1.

Twenty four (40.7%)nurses and 30 (48.4%) non-nurses knew that the disease was first reported in Lassa town in Northern Nigeria; 47 (79.7%) nurses and 40 (64.5%) non-nurses knew that *Mastomys natalensis*is the vector for Lassa fever; 49 (83.1%) nurses and 58 (93.5%) non-nurses knew that Lassa fever is more common during the dry season while 42 (71.2%) nurses and 35 (56.5%) non-nurses knew the incubation period for Lassa fever (table 2).

Table 2 Knowledge of participants on epidemiology and clinical features of Lassa fever

Question domain		**General N = 121**	**Nurses N = 59**	**Others N = 62**	**P(Chi square)**
Where was Lassa fever first reported in the world? Answer: Lassa village, Borno, Nigeria		54 (44.6%)	24 (40.7%)	30 (48.4%)	0.465 (0.727)
What kind of rat carries the Lassa fever virus? Answer: Mastomys natalensis		87 (71.9%)	47 (79.7%)	40 (64.5%)	0.049 (3.432)
Lassa fever is more common during (a) rainy season (b) dry season (c) winter (d) autumn good		107 (88.4%)	49 (83.1%)	58 (93.5%)	0.068 (3.340)
Incubation period for Lassa fever is (a) 1-5 days (b) 6 weeks (c) 3-21 days (d) 24-48 hours (e) none		77 (63.6%)	42 (71.2%)	35 (56.5%)	0.238 (1.575)
Symptoms of Lassa fever may include					
Fever	True	86 (71.1%)	45 (76.3%)	41 (66.1%)	0.226 (1.596)
Cough	True	44 (36.4%)	25 (42.4%)	19 (30.6%)	1.900 (1.824)
Muscle pain	True	41 (33.9%)	22 (37.3%)	19 (30.6%)	0.448 (0.606)
Diarrhoea	True	42 (34.7%)	23 (39%)	19 (30.6%)	0.345 (0.942)
Bleeding	True	81 (66.9%)	41 (69.5%)	40 (64.5%)	0.563 (0.358)
Convulsion	False	8 (6.6%)	5 (8.5%)	3(4.8%)	0.484 (0.650)
Suspect Lassa fever in a patient with fever if					
Rapid test for malaria is negative		39 (32.2%)	17 (28.8%)	22 (35.5%)	0.443 (0.616)
if fever persists after 48 hours despite treatment		84 (69.4%)	42 (71.2%)	42 (67.8%)	0.692 (0.182)
if patient recently returned from a Lassa fever zone All True		32 (26.4%)	20 (33.9%)	12 (19.4%)	0.097 (3.317)

Tables 2 and 3 showed that nurses and non-nurses were well knowledgeable on Lassa fever prevention and control except in the following domains where the proportion of both nurses and non-nurses who performed well was below 50%: myalgia (33.9%) and cough (36.4) being symptoms of Lassa fever, negative rapid test for malaria in a patient with fever (32.2%) and recent return from a Lassa fever zone (26.4%) as being pointers to diagnosis of Lassa fever while table 3 showed body fluid {sweat (43%), saliva (28.9%), semen (21.5%) and vaginal secretion(22.3%)} being routes of contracting Lassa fever, mortuary attendants being directly at risk of Lassa fever (41.3%), maintaining high index of suspicion as being helpful in reducing risk of Lassa fever (34.7%), methylated spirit (22.3%), formalin (20.7%), chlorine (32.2%) and hydrogen peroxide as killers of the Lassa fever virus (6.6%), duration of infection before virus is cleared from the body (40.5%), and deafness being a complication of Lassa fever (20.7%).

Out of 48 domains that were tested, nurses performed well in 30 (62.5%) domains while non-nurses performed well in 26 (54.2%) domains. Nurses were statistically more knowledgeable than non-nurses in 9 out of 48 (18.8%) knowledge domains: *Mastomys natalensis*as carrier for the Lassa fever virus (p=0.049, chi square 3.432); deafness being a Lassa fever sequelae (p=0.041, chi square 4.629); semen (p=0.008, chi square 7.388) and vagina secretion (p=0.035, chi square 4.103) as routes of contracting Lassa fever;nurses being directly at risk of contracting Lassa fever (p = <0.01, chi square 14.976); avoidance of patient (p=0.004, chi square 7.149), hand washing (p=0.004, chi square 7.835), use of hand sanitizer (p=0.046, chi square 3.512) and safe disposal of wastes (p=0.047, chi square 3.417) as being helpful in reducing risk of Lassa fever infection (tables 3).

Table 2 Knowledge of participants on Lassa fever control and prevention of spread

Question domain*		**General N = 121**	**Nurses N = 59**	**Others N = 62**	**P (Chi square)**
Lassa fever virus can be contracted via contact with infected					
Blood	**True**	78 (64.5%)	41 (69.5%)	37 (59.7%)	0.434 (0.838)
Urine	**True**	54 (44.6%)	32 (54.2%)	22 (35.5%)	0.065 (3.764)
Sweat	**True**	52 (43.0%)	24 (40.7%)	28 (45.2%)	0.578 (0.438)
Saliva	**True**	35 (28.9%)	20 (33.9%)	15 (24.2%)	0.318 (1.145)
Semen	**True**	26 (21.5%)	19 (32.2%)	7 (11.3%)	0.008 (7.388)*
vaginal secretion	**True**	27 (22.3%)	18 (30.5%)	9 (14.5%)	0.035 (4.103)*
Air bone droplets	**False**	35 (28.9%)	14 (23.7%)	21 (33.9%)	0.226 (4.831)
The following workers are DIRECTLY at risk of contracting Lassa fever in the hospital					
Doctors	**True**	94 (77.7%)	47 (79.7%)	47 (75.8%)	0.520(0.032)
Nurses	**True**	81 (66.9%)	50 (84.7%)	31 (50%)	<0.01 14.976)*
Administration staff	**True**	11 (9.1%)	6 (10.2%)	5 (8.1%)	0.762 (0.120)
Cleaners	**True**	67 (55.4%)	40 (67.8%)	27 (43.6%)	0.016 (6.284)*
Cashiers	**False**	11 (9.1%)	5 (8.5%)	6 (9.7%)	0.654 (0.083)
Health attendants	**True**	75 (62%)	41 (69.5%)	34 (54.8%)	0.185 (2.100)
Mortuary attendants	**True**	50 (41.3%)	29 (49.2%)	21 (33.9%)	0.139 (2.446)
Medical laboratory staff	**True**	65 (53.7%)	34 (57.6%)	(50%)	0.582 (0.426)
The following are helpful in reducing risk of Lassa fever infection					
Avoid the patient	**False**	10 (8.3%)	1 (1.7%)	9 (14.5%)	0.004 (7.149)*
Hand washing	**True**	82 (67.8%)	48 (81.4%)	34 (54.8%)	0.004 (7.835)*
Wear correct ppe	**True**	81 (66.9%)	42 (71.2%)	39 (62.9%)	0.692 (0.354)
Appropriate disposal/disinfection of items	**True**	65 (53.7%)	35 (59.3%)	30 (48.4%)	0.459 (0.856)
Maintain high index of suspicion	**True**	42 (34.7%)	25 (42.4%)	17 (27.4%)	0.178 (2.366)
Use of hand sanitizer	**True**	70 (57.9%)	40 (67.8%)	30 (48.4%)	0.046 (3.512)*
Dispose wastes in a safe manner	**True**	68 (56.2%)	39 (66.1%)	29 (46.8%)	0.047 (3.417)*
Who should collect blood sample from a suspected case					
Specially trained response team	**True**	100 (82.6)	50 (84.7%)	50 (80.6%)	0.469 (0.667)
Doctor on duty	**False**	18 (14.9%)	6 (10.2%)	12 (19.4%)	0.206 (1.908)

Nurse	**False**	1 (0.8%)	1	0	0.517 (0.943)
Attendant	**False**	0	0	0	
Lassa fever is killed by					
Methylated spirit	**True**	27 (22.3%)	13 (22%)	14 (22.6%)	0514 (0.035)
Formalin	**True**	25 (20.7%)	14 (23.7%)	11 (17.7%)	0.360 (1.063)
Chlorhexidine	**False**	11 (9.1%)	5 (8.5%)	6 (9.7%)	0.583 (0.013)
Chlorine	**True**	39 (32.2%)	16 (27.1%)	23 (37.1%)	0.415 (0.923)
Hydrogen peroxide	**True**	8 (6.6%)	3 (5.1%)	5 (8.1%)	0.719 (0.318)
Lassa fever (a) **is treatable and curable** (b) has no cure (c) some people have natural immunity against Lassa fever		94 (77.7%)	49 (83.1%)	45 (72.6%)	0.461 (0.970)
Lassa fever vaccine is available (a) yes (b) **no** (c) I don't know		12 (9.9%)	6 (10.2%)	6 (9.7%)	1.000 (0.001)
In survivors, virus is cleared from circulation after (a) 5 days (b) 2 weeks (c) 3 weeks (d) **3 months**		49 (40.5%)	23 (39.0%)	26 (41.9%)	0.697 (0.246)
Lassa fever survivors can have (a) stroke (b) **deafness** (c) arthritis (d) blindness (e) none		25(20.7%)	17 (28.8%)	8 (12.9%)	0.041 (4.629)*

*correct responses are highlighted in bold

4. Discussion

4.1. Overall knowledge of nurses and non-nurses

The nurses and non-nurses in our study demonstrated overall good knowledge of Lassa fever as shown by the high proportion of HCWs who performed well in the 48 knowledge domains tested. This is in agreement with findings from some previous studies in Nigeria [14-15]. However, we were surprised to observe that a large percent of the nurses and non-nurses were unaware of the origin of Lassa fever. While this does not bear influence clinically on the participants, it is noteworthy as Lassa fever is endemic to Nigeria and so one would expect Nigerian HCWs to be well aware of its origin. We proceed to discuss areas of knowledge deficit.

4.2. Early identification of Lassa fever

Our study revealed that a very low proportion of nurses knew that fever in the presence of a negative rapid test for malaria and presence of fever in a person who recently returned from a Lassa fever zone in Nigeria are important tools in arriving at early diagnosis of Lassa fever. Even though Lassa fever is endemic in Nigeria, the disease is known to be more prevalent in some States in Nigeria which include Edo, Ondo, Ebonyi and Bauchi. According to the NCDC national guidelines for Lassa fever case management, the disease should be suspected if patient has not responded to standard anti-malaria treatment and treatment for other common infectious causes of fever within 48-72 hours or in a patient with history of fever and history of travel to high risk/burden area of Lassa fever [16]. This is an important guide as Lassa fever is difficult to distinguish clinically from other febrile illnesses like malaria fever, typhoid fever and other viral haemorrhagic fevers [17].

Only 25 (42.4%) of nurses in our study knew that maintaining a high index of suspicion is helpful in reducing risk of Lassa fever. This deficit in knowledge regarding clinical diagnosis portends serious implications for missed diagnosis and misdiagnosis of Lassa fever and by extension, exposure of unsuspecting nurses to Lassa fever. In one study, 16 HCWs in a tertiary hospital in Nigeria contracted Lassa fever from a 15 year old which claimed the lives of five of them (CFR-31.6%); further review showed that healthcare workers had a low index of suspicion for Lassa fever [18]. Saleh et al described to no little detail the circumstances leading to the death of two HCWs (one nurse and one auxiliary nurse) who died of Lassa fever while self-medicating on antimalarial drugs [19].

It also tallies with the finding of poor knowledge of clinical diagnosis among healthcare workers across different strata of hospitals in Ondo State and in a tertiary hospital in Ebonyi, Southeast Nigeria [11,20]. It runs contrary to findings in similar tertiary hospital settings. This may be due to differences in methodology. For example, in the study by Omotowo

et al, majority of the respondents were medical doctors (nurses comprised only 23.4%) while Adebayo et al did not specify the composition of HCWs studied at the Teaching Hospitals in Ebonyi and Edo States, Nigeria [21-22].

A high index of suspicion is perhaps the single most important tool in control and prevention of Lassa fever. This is because the disease can mimic other feverish illnesses, present without symptoms and on other occasions, mimic non-feverish conditions [16,23-24]. The disease can also be enigmatic in pregnant women and the paediatric age group thus requiring high index of suspicion among them [16,25]. The common symptoms of Lassa fever are often non-specific until there is overwhelming viraemia. In 2019, a low index of suspicion was identified as a major reason why sixteen HCWs (>50% of whom are in the tertiary hospitals and involved 6 nurses) were infected with Lassa fever virus; in fact, twelve (75%) of them admitted not suspecting that they had Lassa fever [26].

Myalgia may accompany fever, lassitude, headache and other constitutional symptoms of viraemia. The proportion of HCWs who knew that myalgia is a symptom of Lassa fever was the lowest in the study by Adebayo et al [22]. This is why it is worrisome that the proportion of nurses (and non-nurses) who did not know the important role of high index of suspicion in preventing Lassa fever infection is high. As a matter of fact, Lassa fever may present as asymptomatic or with only myalgia in some cases. The importance of high index of suspicion in early detection of Lassa fever cannot be overemphasized as it has been proven that Ribavirin is most effective in treating the disease when commenced within the first six days of infection [27-28].

4.3. Transmission of Lassa fever

In our study, a significantly high proportion of the nurses are not aware that apart from blood, other body fluids like sweat (59.3%), saliva (66.1%), semen (67.8%) and vaginal secretion (69.5%) are established routes of spread of Lassa fever. This is an important observation with implications as it has been shown that secondary human-to-human transmission can occur via direct contact with the blood or body fluids of infected patients [29-31].

The high proportion of nurses who were not aware that mortuary attendants are directly at risk of Lassa fever may indicate a few things. One, that nurses do not know or have the right process of transporting dead bodies to the morgue; two, that nurses are not aware of the status of the Lassa fever virus after death; three, that nurses do not know the actual job description of mortuary attendants among other hypotheses. This is similar to the report among HCWs in Enugu where the knowledge concerning burial practices and other preventive measures was found to be poor [21].

Mortuary attendants play critical roles in the control and prevention of transmissible diseases as poorly processed corpses from their handling immediately after death, preservation and disposal stand everyone involved at high risk of contracting the disease. The corpse of a Lassa fever victim remains contagious for several days after death. Mortuary staff are expected to be in PPEs from the point of transfer of corpse (which must be in body bag) to the morgue to its release for safe burial [16]. In two separate accounts, an undertaker who handled the corpse of a Lassa fever victim 6 days after death contracted the disease while clinical staff and the Pathologist who performed autopsy did not as they were all on PPE [32-33].

4.4. Protection of healthcare workers against Lassa fever

A large proportion of nurses (and non-nurses) do not know that methylated spirit, formalin, chlorine and hydrogen peroxide are effective killers of the Lassa fever virus. This is another very remarkable finding that calls for action. What is striking in our study is that more than one-fifth of the nurses (22%) did not know that methylated spirit will kill the Lassa fever virus and only a little over a quarter of them (27.1%) knew that chlorine is useful in killing the virus. This finding indicates a serious gap in knowledge among nurses working at a tertiary institution. The NCDC national guidelines state that alcohol-based hand-rub (ABHR) is the standard of care when hands are not visibly soiled [16]. While chlorine water is not encouraged for hand washing due to its slow action and skin irritation, it is nevertheless useful in decontaminating beddings and other PPEs meant for re-use [16].

4.5. General knowledge on Lassa fever

An appreciable proportion of HCWs are aware that Lassa fever is treatable and that a Lassa fever vaccine is not yet available. However, very few of them know how long it takes before the virus is cleared from the body. Also only a few know that deafness is a sequelae of Lassa fever disease. In the final analysis, our study showed that the proportion of nurses with good knowledge of Lassa fever was higher than non-nurses in our study (62.5% v 54.2%). However, in some of the areas where nurses significantly performed better than non-nurses, both categories had performed poorly (table 3).This suggests that there is little to differentiate between nurses and non-nurses in terms of knowledge of Lassa fever in our study. Factors that have been associated with knowledge of Lassa fever, prevention and control include age,

gender, prior exposure to training on Lassa fever, tertiary level of education, work experience >7 years as well as place of work and professional category.[11,13,20,34-36]

This study is not without its limitations. It was a single centre study with a small sample size and convenient sampling method. Authors also did not allot scores to the groups for comparison as we considered several earlier studies had already established its usefulness. Our main objective was to describe the depth of knowledge deficit (if any). Medical doctors were not included in the study as the training session took place during the Association of Resident Doctors' industrial action in the State.

5. Conclusion

Knowledge of Lassa fever was generally unsatisfactory among nurses and non-nurses at the UNIMED Teaching Hospital with gross deficiencies in critical areas that are most required in terms of early clinical identification of the infection, prevention and containment of spread as well as care of a patient with Lassa fever.

We thus recommend quarterly training and retraining of HCWs in the tertiary hospital in Ondo State on Lassa fever. Regular engagement of the local Infection Prevention and Control Committee with the Head of nursing department and unit heads in terms of hands-on training, interactions, practical exposure and bi-directional free flowing communication will go a long way in ensuring that HCWs are abreast of current trends in Lassa fever prevention and control.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest.

Statement of informed consent

Self-administration of questionnaires by participants was taken as willingness to participate in the study.

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