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Assessment of Knowledge of Viral Hemorrhagic Fevers towards Infection Prevention and Control Practice Among Primary Healthcare Workers

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Abstract

Background: *The hospital-based contraction of the Viral Hemorrhagic fevers (VHFs) still remains a concern for many healthcare facilities while the significance of Infection prevention and control (IPC) practice as a means of preventing such occurrence has been established. The study aimed at assessing the self-rated knowledge of IPC among primary healthcare workers.*

Materials and Methods: *344 primary healthcare workers sampled across primary healthcare facilities in Port Harcourt metropolis. Primary data was gathered through self-administered questionnaire and was analysed using SPSS version 21.*

Results: *Majority (75%) of the healthcare workers have not encountered any VHFs; however, (45.1%) possessed adequate information about VHFs. (66.0%) claimed not to have adequate knowledge about the transmission, (61.6%) do not have adequate knowledge about the etiology routes while (66.0%) claimed not to have adequate knowledge about symptoms associated of VHFs.*

Conclusion: *The outcome showed that respondents have inadequate knowledge about the transmission, etiology routes and symptoms associated of VHFs. The study recommended that primary healthcare workers should be engaged in various training workshop to improve their understanding about the practice of IPC for VHFs.*

Keywords: *Knowledge, IPC, VHFs*

Introduction

Viral Hemorrhagic fevers (VHF) are a group of febrile illnesses caused by ribonucleic acid (RNA) viruses from several viral families. The VHFs are extremely transmissible which could result to a deadly disease composite recognized by pyrexia, discomfort, internal bleeding, dropsy and low blood pressure. The most lethal among the fevers is the Ebola virus, which has been connected with case mortality level of about 90%. Generally, VHFs are found in animal or arthropod vector which can be transfer to human through infected animal; however, the natural sources of some VHFs are known such Ebola virus in bats and Lassa virus in rodents (Karan *et al*., 2019).

The infection prevention and control (IPC) is vital for healthcare facility that is operating perfectly. Although, it was approximated that there about fairlylarge instances of hepatitis-B and human immunodeficiency (HIV) virus infection caused by unprofessional injection exercise annually (Bedoya, *et al.*, 2017).

In USA, about 40000-80000 mortalities were recorded as a result of hospital-related infection every year, which in economic terms could have cost the country about $4.5billion (Allegranzi, *et al*., 2007; Bedoya *et al.,* 2017). Also, the extent that most causative-agent becomes unresponsive to many drugs and the spread of many of the VHFs viruses has greatly impacted on the socio-economic status of many individuals and countries. Consequently, the IPC practices have shown to be cost-efficient in limiting the threat of the viruses (Bedoya et al., 2017).

Knowledge, attitude, and practice (KAP) represents an assessment of a particular population to gather information about the understanding, judgement and pattern of operation in respect to a specific phenomenon and KAP as a tool is most adopted in health-related behaviour assessment (WHO, 2008; ul Haq, *et al.,* 2012). The knowledge of a population is assessed to know their extent of their understanding on a particular phenomenon such as disease; the attitude is concerned about their judgement, behaviour and interaction with the phenomenon while the practice usually associated with the adoption of preventive measure and other health-related alternatives (ul Haq, *et al.,* 2012).

Methods

Study Area and Study Population*:* The study area is Port Harcourt is the capital of Rivers State. The state is known as maritime state and its geographically located on 4°58′30″N and 6°40′30″E with population of 5,198,716 (NPC, 2006) which cut-across 23 LGAs. The major city of the state is Port Harcourt while the metropolitan area cut-across the Port Harcourt as a city and LGA as well as parts of Obia-Akpor LGA. The study area has various primary, secondary and tertiary healthcare facilities. The most noticeable tertiary healthcare facility is the University of Port Harcourt Teaching Hospital (UPTH) while primary health centres are positioned across the metropolis for various health care services.

The population of the study comprised of the healthcare workers (physicians, nurses, midwives, technical assistants, laboratory staff, and pharmacists) from which a sample was carefully and randomly selected from various health centres in study area while those who were absent or on administrative leave on the day of the study were exempted from the study.

Study Design, Sample Size and Sampling Technique: The study adopted a descriptive cross-sectional design. The sample size was estimated using the Cochrane formula: $n = Z^2.p.(1-p)/e^2$, Where; n = sample size, Z= Standard normal deviate corresponding to the level of significance (1.96), p= Prevalence of the study population of healthcare personnel (p =0.309) from similar study conducted by Fidelis & Olajolumo (2018) and e= minimum error at 95% confidence interval. The derived sample size was 328 while the non-response of 10% was added which resulted in total sample size of 360. The study cut-across 26 healthcare facilities while non-proportionate to sample size allocation was used to assign participants from PHCs, thus, 14 participants were randomly selected each facility. A total of 344 PHC workers participated in the study whis represents 96% of the copies sent out.

Data Collection: The study adopted questionnaire developed by the researcher to elicit information from PHC workers who are fully employed at the healthcare facilities and had worked in the facilities for at least 6 months.

Data Management and Analysis*:* The filled questionnaire was collected, sorted, coded, and entered into an excel spread sheet using the Microsoft Excel 2013 and analysed using the Statistical Package for

the Social Sciences (SPSS) version 21. Descriptive statistics such as frequency counts, percentages and table were used to present the finding from the questionnaire analysis.

Results

From Table 1, the respondents were majorly male (57.0%), aged 30-40 (39.8%), married (57.6%) and Christian (65.4%). The year(s) of practice of respondents showed that 20.1% of the respondents have less than 5years of practice, 29.6% has 6-10years, 28.5% has 11-15years, 17.7% has 16-20years while 4.1% has 21 and above years of practice. Most of the participants held the position of nurse and it represents 50.0%, 11.3% are Physicians, 16.9% are auxiliary nurses, 19.8% are Midwives, 2.0% are Laboratory staff.

Table 2 showed that majority of the respondents (75%) claimed to have not encountered any VHFs but they have very adequate general information about VHFs (45.1%). Only 11% of the respondent claimed to have very adequate knowledge about transmission of VHFs while most (35.0%) claimed to have less adequate knowledge about transmission. Among the respondents, 33.4% claimed to have less adequate knowledge about the etiology routes of VHFs while 45.8% claimed to have not adequate knowledge about symptoms associated of VHFs.

Table 1: Socio-Demographic Characteristics of the respondents

Variable	Frequency (n=344)	Percentage (%)
Gender		
Male	196	57.0
Female	148	43.0
Age (years)		
18-29	64	18.6
30-40	137	39.8
41-50	95	27.6
51-60	35	10.2
61 and Above	13	3.8
Marital Status		
Single	99	28.7
Married	198	57.6
Divorced	36	10.5
Widowed	11	3.2
Religion		
Christian	225	65.4
Islam	69	20.1
Traditional	44	12.8
Others	6	1.7
Year (s) of Experience		
Less than 5years	69	20.1
6-10years	102	29.6
11-15years	98	28.5
16-20years	61	17.7
21years and Above	14	4.1
Position Held		
Physician	39	11.3
Nurse	172	50.0
Auxiliary Nurse	58	16.9
Midwives	68	19.8
Laboratory Staff	7	2.0

Table 2: Self-rated Knowledge about the IPC for VHFs

Variable	Frequency (n=344)	Percentage (%)
Ever Encounter any VHFs		
Yes	258	75.0
No	86	25.0
General Information about VHFs		
Very Adequate	155	45.1
Adequate	138	40.1
Less Adequate	32	9.3
Not Adequate	19	5.5
Knowledge about Transmission		
Very Adequate	38	11.1
Adequate	79	23.0
Less Adequate	120	34.8
Not Adequate	107	31.1
Knowledge about the Etiology routes of VHFs		
Very Adequate	61	17.9
Adequate	72	21.2
Less Adequate	115	33.4
Not Adequate	96	28.2
Knowledge about Symptoms associated with VHFs		
Very Adequate	36	10.5
Adequate	37	10.8
Less Adequate	113	32.9
Not Adequate	158	45.8

Discussion

The finding deduced that majority of the PHC workers have not encountered any VHFs however, they have very adequate information about VHFs. The outcome showed similarity with the study conducted by Aigbiremolen et al., (2012) where the primary health workers involves in their study showed adequate understanding of VHFs (Lassa Fever specifically). Ijarotimi, *et al*. (2018) opined that the frequent in the event of VHFs can ascertained the degree of understanding that could be acquired among healthcare personnel. Also, PHC workers have inadequate knowledge about the transmission, etiology routes and symptoms of VHFs. The finding showed inconsistency with the study conducted by Adebayo *et al*., (2015) and Sheikh *et al*., (2014) where respondents showed great knowledge on the transmission routes of LFs. Although the present study finding showed dissimilarity to that of Pfadenhauer *et al*., (2018) were the healthcare workers showed a very sufficient all-round understanding of VHFs for both in rural and urban area.

Conclusion

The outcome showed that respondents have inadequate knowledge about the transmission, etiology routes and symptoms associated of VHFs. The study recommended that primary healthcare workers should be engaged in various training workshop to improve their understanding about the practice of IPC for VHFs.

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