

KNOWLEDGE OF HEPATITIS B VIRUS INFECTION AMONG HEALTHCARE WORKERS IN KWARA STATE, NIGERIA

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Abstract

The study assessed the knowledge of transmission of Hepatitis B Virus infection among healthcare workers in Kwara State, Nigeria. The study objectives were to find out whether healthcare workers in Kwara State have knowledge of transmission of HBV infection and to assess the difference in level of knowledge based on area of specialization. An ex-post facto research design was employed. Two hundred and four (204) healthcare workers were selected across general hospitals in Kwara State, Nigeria using multi stage sampling technique. A researchers' developed instrument tagged "QKHBIR" which was validated by three experts and tested for reliability using test re-test method was used for the study. A result of 0.73r clearly indicated that the instrument was reliable. The researchers analysed the data using frequency counts, percentages, mean, and standard deviation. The findings revealed that healthcare workers in Kwara State have significant knowledge of HBV infection and doctors have the highest level of knowledge. It was concluded that healthcare workers in Kwara State, Nigeria have knowledge of hepatitis B infection and doctors have more knowledge of HBV infection, followed by nurses, laboratory scientists and laboratory technicians respectively. It was recommended that since healthcare workers in Kwara State, Nigeria have knowledge of HBV infection, they should try as much as possible to prevent themselves from being infected by getting vaccinated against the virus and by using surgical gloves, avoiding needle-stick injuries and using all other preventive measures available.

Key Words: Knowledge, Health, Healthcare Workers, Hepatitis B Virus, Hepatitis B Infection

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Introduction

Hepatitis B Virus (HBV) infection is unique among critical infections affecting humankind and according to Lavanchy (2014), it stands out among the most well known infectious diseases without seasonal distribution. Hepatitis B (HB) infection is caused by hepatitis B Virus, a DNA virus that infects the liver, causing inflammation and death of the liver cells. Statistics showed that more than two billion individuals have been infected with HBV globally and there are more than three hundred and forty million carriers of Hepatitis B surface Antigen (HBsAg) (Abedi, Madani, Asadi & Nejatizadeh, 2011). WHO, (2009) estimated that 350 million people were chronic carriers of hepatitis B virus infection and up to one million persons die every year because of HBV infection. Furthermore, Africa has the highest level of prevalence of HBV (8 per cent of the adult population is currently infected). The prevalence of HBV infection among adult population in Africa and Asia is 5 - 7 percent (Centre for Disease Control, (CDC) 2015). This high prevalence rate with its long term implications make HBV infection significant with regards to general wellness and well being (Sharma, Rasania, Verma, & Singh, 2010).

World Health Organization (WHO) (2012) affirmed that HBV is highly infectious and it is 50-100 times more infectious than HIV. HBV infection is mainly transmitted through blood, semen, vaginal fluids, and mucous films, in addition to unprotected sex, unsafe blood transfusions, unsafe use and disposal of needles, mother to child transmission during birth, as well as an occupational disease particularly among healthcare workers. Fortunately, HBV can be prevented through vaccination (WHO, 2012).

As indicated by Hussain, Patrick and Shams (2010), HBV infection is endemic in Nigeria. Unfortunately, some HBV infections are asymptomatic, hence, there is a risk that individuals are infectious without being aware of it (WHO, 2012). Generally, use of unsterilised needles and uncontrolled hazardous waste dumping among nurses, doctors, and pathology workers are the significant risk factors for transmission of blood-borne infections in developing countries including Nigeria (Ahn & Lim, 2008). Although, sharp instruments including razor could be a mode of transmission of the infection (Sagoe-Moses, Pearson, Perry & Jagger, 2011). The danger of transmission through blood among HCWs relies upon variables such as viral load, hospital condition and technical skills (Communicable Disease Network, 2011).

Hepatitis B Foundation (2015) advanced that unprotected sexual intercourse is the major risk factor for HBV among youths. However, children can get the infection prenatally at birth, from other infected children or from family members they live with. WHO (2015) opined that HBV is widely spread through exposure to an infected blood or other body fluids, including saliva, menstrual fluid, vaginal and seminal fluids. A study by Samuel, Aderibigbe, Salami and Babatunde, (2009) revealed that over three-quarters of healthcare workers examined in South-Western Nigeria had known about hepatitis B infection prior to the study. This implies that, some of them still lack knowledge of the infection. On mode of transmission, a significant number of the respondents mentioned blood and blood products as a method of transmission of HBV infection, while very few others said that the disease could be sexually transmitted. Faeco-oral transmission and transmission through drinking contaminated water were wrongly identified as routes of transmission of HBV infection.

Similarly, a study by Zafar, Habib & Hadwani (2009) revealed that in Pakistan, doctors had experienced the most needle-stick injuries, while blood collection was responsible for most of their exposure to blood-borne infections. In addition, majority of HCWs had been exposed to blood at least once. Needle recapping after administering intravenous injections and line was responsible for most of the finger injuries among them. There is paucity of data on the knowledge of transmission of hepatitis B infection among healthcare workers and their level of knowledge based on area of expertise in the study area. It is against this backdrop that the researchers carried out a study on knowledge of transmission of HBV infection among healthcare workers in Kwara State, Nigeria.

Statement of the Problem

The researcher through literature review observed that Nigeria, being an African country has a relatively high prevalence of HBV infection. HBV infection constitute a major burden especially in endemic areas. Unfortunately, it is a highly contagious infection among healthcare workers. It has both direct (cost of treatment, pre and post-exposure prophylaxis) and indirect (death, chronic illness, and absence from work) effects on. Often times, healthcare workers become victims of circumstances by contracting

deadly infections due to the nature of their job. Many of them have lost their lives while many others have incurred a lot of expenses treatment of such infections.

Such occurrences may be as a result of inadequate knowledge of those infections. Healthcare workers could play an essential role in preventing HBV transmission among themselves if they have adequate knowledge. Since they are always in close contact with patients amid their practise years. adequate knowledge of the cause, prevention, and transmission of HBV infection among HCWs will assist in reducing the spread of this disease in the hospitals and ultimately, the society. In view of this, the researchers assessed the knowledge of transmission of hepatitis B virus infection among healthcare workers in Kwara State, Nigeria.

Objectives of the Study

The aim of the study was to examine the knowledge of hepatitis B infection among healthcare workers in Kwara State, Nigeria. Specifically, the study examined the knowledge of transmission of HBV infection among healthcare workers in Kwaara State, Nigeria and the difference in knowledge of HBV infection based on area of specialization with a view to reducing its' transmission among healthcare workers in Kwara State, Nigeria.

Research Questions

The following research questions were raised to guide the study;

1. Are healthcare workers in Kwara State, Nigeria knowledgeable about Hepatitis B Virus infection?
2. Is there any difference among healthcare workers in Kwara State, Nigeria in the knowledge of transmission of HBV infection based on area of specialization?

Methodology

The study adopted an ex-post facto research design. All healthcare workers in general hospitals in Kwara State, Nigeria formed the target population for the study. Specifically, doctors, nurses, laboratory scientists, and laboratory technicians were the target population. Data from the Kwara State Ministry of Health (2016) revealed that there were eight hundred and twenty four health personnel in general hospitals in Kwara State, Nigeria as

at the time of this study. Two hundred and four (204) respondents were used for the study. The sample was selected using a multi-stage sampling technique. The study area was stratified into the three existing senatorial districts of Kwara central, Kwara North, and Kwara South. Two general hospitals were randomly selected from each senatorial district with the use of simple random sampling technique, while doctors, nurses, laboratory scientists, and laboratory technicians were randomly selected using systematic sampling to select every 3rd personnel as they were arriving at the hospitals.

A researchers' structured questionnaire tagged Questionnaire on Knowledge of Hepatitis B infection and Risk Factors (QKHBIR) was used for the study. The instrument contained two sections (A and B). Section A elicited information on the demographic data of respondents while section B contained questions items on the variables for the study which was rated on a four point likert scale of Strongly Agree(SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The responses were later merged into Yes (SA and A) and No (D and SD). Three experts in the field of Health Education validated the instrument. The experts scrutinized the instrument by ascertaining its face validity and their corrections/criticisms materialized in the production of final copies of the instrument. A split-half method was used to ascertain the reliability of the instrument, while the reliability coefficient was ascertained using Spearman Brown equal half, a result of 0.73r was high enough to make the instrument reliable. The researchers with the help of three trained research assistants collected the data. The instrument was administered on the respondents at the selected hospitals on daily basis. Data collection lasted for three weeks, while the collected data were coded, collated, and subjected to Statistical Package for Social Science (SPSS) version 20.0. The data was analysed using a descriptive statistical tool of frequency counts, percentages to analyse the demographic characteristics of the respondents and answer the research questions raised for the study.

Results

Research Question One: Are health workers in Kwara State knowledgeable about Hepatitis B Virus infection?

Table 1: Frequency Counts, Percentages, Mean Score and Standard Deviation of Respondents on the Knowledge of Hepatitis B infection among HWs in Kwara State, Nigeria.

S/N	Knowledge of Hepatitis B Infection	Yes	No
1	Hepatitis B virus causes hepatitis B infection	204(100%)	0(0%)
2	HBV infection affects liver cells.	198(97.1%)	06(2.9%)
3	HBV infection can either be acute or chronic.	179(87.7%)	25(12.3%)
4	HBV infection may show no symptom in some individuals who are carriers of the infection	192(94.1%)	12(5.9%)
5	HBV causes liver inflammation and death of liver cells.	152(74.5%)	52(22.5%)
6	HBV is widely transmitted just like STIs.	143(70.1%)	61(29.9%)
7	HBV is 50-100 times more endemic than HIV	120(58.8%)	84(41.2%)
8	HBV can be transmitted through sexual intimacy.	178(87.2%)	26(12.8%)
9	HBV can be gotten from contaminated food and water.	97(47.5%)	107(52.5%)
10	HBV can be acquired from the hospital	173(84.8%)	31(15.2%)
11	HBV can be transmitted by faeces of an infected person.	186(91.2%)	18(8.8%)
12	Another route of transmission of HBV is through needle-stick injuries	202(99.0%)	02(1.0%)
13	HBV can be hereditary	14(6.9%)	190(93.1%)
14	HBV can be passed from mother to child during delivery	201(98.5%)	03(1.5%)
15	HBV can be transmitted through transfusion of infected blood	204(100%)	0(0%)
16	Healthcare workers who have become infected with HBV must stop treating patients immediately and get treated	187(91.7%)	17(8.3%)
17	Living in the same room with HBV patient can also make one to have HBV	190(93.1%)	14(6.9%)
18	HBV infection can be prevented through vaccination	183(89.7%)	21(10.3%)
19	I have heard about HBV vaccines before	200(98.0%)	04(2.0%)
20	Sharing of sharp objects can make one to contract HBV	204(100%)	0(0%)

Table 1 shows that 204 (100%) of the respondents knew that HBV infection is caused by HBV, 198(97.1%) knew that HBV infection affects liver cells, 198(97.1%) of the respondents had knowledge that HBV could either be acute or chronic. 192 (94.1%) agreed that HBV infection may show no symptom in some individuals who are carriers of the infection. Again, 152 (74.5%) knew that HBV causes liver inflammation and death of liver cells. 143 (70.1%) agreed that HBV is widely transmitted just like STIs, 120 (58.8%) agreed that HBV is 50-100 times more endemic than HIV. On mode of transmission, 204 (100%) knew that sharing of sharp objects could be a route

of transmission of HB infection, 178(87.2%) expressed that HBV can be transmitted through sexual intimacy, 173(84.8) also believed that HBV can be acquired from the hospital, 186 (91.2%) knew that HBV can be transmitted by faeces of an infected person, 202 (99.0%) knew that needle-stick injury could be a route of transmission of HB infection. Furthermore, 201(98.5%) of the respondents agreed that HBV can be passed from mother to child during delivery, 204(100%) agreed that HBV can be transmitted through transfusion of infected blood, 187 (91.7%) believed that healthcare workers who have become infected with HBV must stop treating patients immediately and get treated, 190(93.1%) expressed that living in the same room with HBV patient can also make one to have HBV. On prevention of HBV infection, 183 (89.7%) knew that HBV infection can be prevented through vaccination, 200 (98.0%) have heard about HBV vaccines before, 204 (100%) knew that sharing of sharp objects can make one to contact HBV. However, 107 (52.5%) disagreed that HBV can be gotten from contaminated food and water, while, 190(93.1%) disagreed that HBV infection can be hereditary. This results show that healthcare workers in Kwara State have adequate knowledge of HBV infection.

Research Question Two: Is there any difference in the knowledge of HBV infection among health workers in Kwara State, Nigeria based on area of specialization?

Table 2: Mean scores of Knowledge of Healthcare Workers on HBV Infection based on Area of Specialization

Area of Specialization	N	Knowledge	
		Mean	Standard Deviation
Doctors	50	3.72	0.427
Nurses	127	3.54	0.403
Laboratory Scientists	21	3.02	0.382
Laboratory Technicians	06	3.04	0.387

Table 2 show that doctors have more knowledge (3.72 ± 0.427) of HBV infection compared to nurses counterparts (3.54). A lesser knowledge is

reflected among laboratory scientists (3.02 ± 0.403) while the least knowledge (3.04 ± 0.387) was found among the laboratory technicians. This implies that the respondents differ on knowledge of Hepatitis B based on area of specialization. This may be as a result of expertise level of the doctors who seem to be the first point of call for hepatitis B patients.

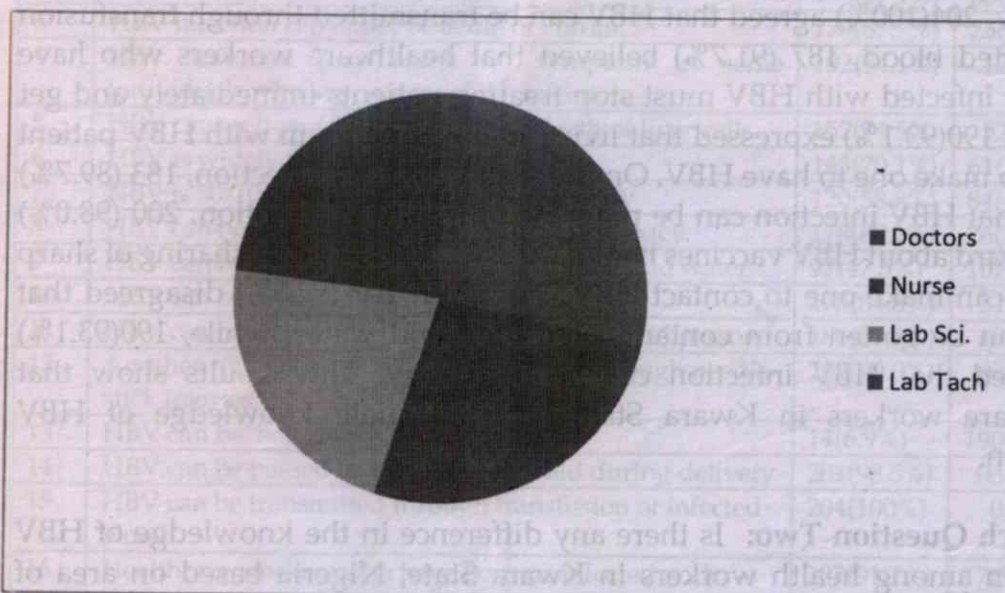


Fig 1: Knowledge of Healthcare Workers on HBV infection based on area of specialization

Discussion of Findings

Health workers in Kwara State Nigeria were found to be knowledgeable about HBV infection. This is because, 204 (100%) of the respondents knew that HB infection is caused by HBV, 198 (97.1%) of the respondents had knowledge that HBV could either be acute or chronic. 204 (100%) knew that sharing of sharp objects could be a route of transmission of HB infection, 202 (99.0%) knew that needle-stick injury could be a route of transmission of HB infection. On whether HBV infection affects the liver cells, the respondents scored 3.15. On whether HBV infection can be acute or chronic, 3.57 was the mean score. On needle stick injuries as a route of transmission of HBV, the mean score was 4.25. On mother-to-child transmission of HBV, respondents scored 4.29, while, on whether HBV

infection could be prevented through vaccination, the mean score was 3.89. On the aggregate, the health workers scored 3.49. This finding is corroborated by Hepatitis B Foundation (2015) that unprotected sexual intercourse is the major risk factor for HBV among youth. However, children can get the infection prenatally at birth, from other infected children or from family members they live close to. It can also be contracted as an occupational disease among healthcare workers.

Doctors were also found to have more knowledge (3.72 ± 0.427) of HBV infection compared to their nurses' counterparts (3.54). A lesser knowledge was reflected among laboratory scientists (3.02 ± 0.403) while the least knowledge (3.04 ± 0.387) was found among the laboratory technicians. This implies that the respondents differ on knowledge of Hepatitis B based on area of specialization. This finding is not different from the findings of Zafar, Habib and Hadwani (2009) which revealed that in Pakistan, doctors had experienced the most injuries, while blood collection was the activity that accounted for most of their exposure to blood-borne microorganisms. In addition, majority of HCWs had been exposed to blood at least once. Needle recapping after administering intravenous injections and line was responsible for most of the finger injuries among them.

Conclusions

Based on the findings of this study, the researchers concluded that,

1. Health workers in Kwara State, Nigeria have knowledge of hepatitis B infection.
2. Doctors have more knowledge of HBV infection, followed by nurses, laboratory scientists and laboratory technicians respectively in Kwara State, Nigeria.

Recommendations

Based on the conclusions drawn from this study, the following recommendations were made the researchers;

1. Since healthcare workers in Kwara State, Nigeria have knowledge of HBV infection, they should try as much as possible to prevent themselves from being infected by getting vaccinated against the virus

and by using surgical gloves, avoiding needle-stick injuries and all other preventive measures available.

2. Health workers in Kwara State, Nigeria should be trained and retrained by health educators, superior officers, and non-governmental organizations, in form of workshop and seminars on transmission of HBV infection and importance of preventing themselves from getting infected.

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