



Knowledge Attitude and Practice (KAP) of Hepatitis B (HBV) Infection among Tertiary Institution Students in the South-Western States of Nigeria

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ABSTRACT

The Hepatitis B virus creates a global health burden with undesirable morbidity and mortality statistics. It is a serious health problem in developing countries resulting in chronic liver cirrhosis, hepatocellular carcinoma, and hepatic failure. Good knowledge, attitude, and practice (KAP) of Hepatitis B infection (HBI) are essential for control. However, there is limited evidence concerning the KAP of HBV among undergraduates who are significantly exposed to the infection. To address this gap in knowledge, a cross-sectional, self-administered questionnaire survey was conducted among 1,000 undergraduate students in the southwestern states of Nigeria. The study assesses the participants' knowledge, attitudes, and practices related to HBV infection prevention. The study participants were 414 males and 586 females. The majority of the participants were within the age range of 17-20 years (50.6%), followed by 21-24 years (38.8%), 25-28 years (9.6%), and a small percentage above 28 years (1.0%). The majority of the students were aware that Hepatitis B is a disease of the liver and is transmitted through contaminated infected blood (67.3%). However, a small percentage believed it was a problem of indigestion (7.7%), a common ailment (6.9%), or a disease found in rural areas (10.9%). Our study revealed that the respondents had an average level of knowledge of an average attitude to, but poor practice towards, HBV vaccination. The poor practice was attributed to the non-availability of the vaccine. It is therefore suggested that enlightenment campaigns on HBV infection should be carried out from time to time. The government should also provide students and the public with easy access to the HBV vaccine as well as post-vaccination tests to verify immunity.

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INTRODUCTION

Hepatitis B is a viral infection that affects the liver and is a major global health concern. It is caused by the hepatitis B virus (HBV), which is transmitted through contact with infected blood or other body fluids (Schillie et al., 2018; Tripathi & Mousa, 2023). Hepatitis B is prevalent in many places, with Sub-Saharan Africa and some parts of Asia having greater infection rates than other

places (Esposito et al., 2017; Spearman et al 2017; Sonderup, 2020). Complex natural consequences of chronic Hepatitis B infection, including liver cirrhosis and hepatocellular cancer, are possible (Yim & Lok, 2006; Wu & Chang, 2016; Hsu et al, 2023).

In order to promote public health and stop the spread of infectious illnesses, knowledge, attitudes, and prevention are essential. This is

crucial for Nigerian university students, who are frequently more at risk because of their close proximity and shared living quarters. To create successful treatments and encourage a healthy campus environment, it is crucial to comprehend the degree of knowledge, attitudes, and preventive actions among these students. Numerous researches have investigated the understanding, attitudes, and practices of Nigerian healthcare professionals on infection control (Ogoina et al., 2015; Lee et al., 2021; Orji et al 2023).

These researches have demonstrated that past exposure to common precautions is linked to greater awareness of and more favorable attitudes toward infection control practices. But there is not a lot of research that particularly examines the knowledge, attitudes, and preventative practices among students in higher institutions in Nigeria.

Specific focus must be paid to the prevention of hepatitis B, a significant public health issue in Nigeria, in addition to standard infection control efforts. The knowledge and Hepatitis B vaccination rates of healthcare personnel, especially those operating in conflict zones, have been found to be insufficient (Dayyab et al., 2020; Kandi et al 2020; Ayana & Hussien, 2021). This underlines the necessity of specialized interventions and educational initiatives to raise awareness and vaccination rates among this high-risk population.

In order to create effective measures to foster a healthy campus environment, it is essential to understand the knowledge, attitudes, and perception behaviors among tertiary institution students in Nigeria (Pulimeno et al., 2020). Interventions can be adapted to address individual knowledge gaps and misunderstandings by measuring their attitudes toward preventive activities and their knowledge of infection control procedures. Additionally, encouraging hepatitis B vaccination among this demographic can help to lessen the impact of the illness in Nigeria (Machmud et al, 2023).

The goal of this study is to give a thorough assessment of the present knowledge, attitudes, and prevention practices among students in South-Western States of Nigeria tertiary institutions. This article will help to build

evidence-based treatments and policies to ensure a safe and secure campus environment by synthesizing existing research and identifying knowledge gaps.

METHODS

Study Area, Design, and Participants

The instrument used for data collection was a structured questionnaire with closed and open-ended questions. The data collection instrument was developed in line with the study objectives; thus, focusing on accessing the knowledge, attitude and perception concerning HBV in Nigeria.

The instrument was adapted from several studies after a thorough literature review. The questionnaire was examined for face and content validity and ensured that the questionnaire appropriately addressed all relevant questions pertaining to the study within the local context

The population of this study comprised all records of students who participated in filling the questionnaire in Tertiary institutions in Nigeria. This Study was conducted in all Tertiary institutions in the South-western region in Nigeria. The purpose of choosing this particular zone is to assess the KAP of undergraduates in South-western Nigeria and how it can be used to determine other zones in Nigeria.

According to National Universities Commission, the population of students in Nigerian Universities is estimated to be more than 2.1 million (Bello, 2022). So therefore, according to Slovin's formula in finding the sample size of a population, which is

$$n = \frac{N}{1 + Ne^2}$$

where n is the sample size, N is the population size, e is desired margin of error

$$n = \frac{210,000}{1 + (210,000)(0.05)^2}$$

$$n = 399.9$$

The fact that the population of this study is large, we resolved to using 1000 sample size for the study so as to have a wide study.

Using a Chi-squared test/ formula: $\chi^2 = \frac{(O_i - E_i)^2}{E_i}$

$$\chi^2 = \text{Chi-square}$$

$$O_i = \text{Observed value}$$



E_i = Expected value

Statistical Analysis

Data were entered into Microsoft Excel (2016) and then imported into IBM SPSS version 26.0 (SPSS Inc, Version 26.0, Chicago, USA) for analysis. For each quantitative and categorical variable, descriptive statistics were computed and expressed as either frequency and percentages or

mean and standard deviation (S.D.). Associations between demographic variables, knowledge, attitudes, and practices were analyzed using chi-square tests. Categorical variables were measured as percentages while continuous variables were expressed as mean (standard deviation), with level of significance set at $p < 0.05$.

Table 1: General Characteristics and Distribution of Study Subjects of HBV among respondents

Characteristics	Frequency	Percent
Age (years)		
17-20	506	50.6
21-24	388	38.8
25-28	96	9.6
Above 28	10	1.0
Sex		
Male	414	41.4
Female	586	58.6
Level		
100L	319	31.9
200L	200	20.0
300L	250	25.0
400L	196	19.6
500L	35	3.5
Religion		
Christian	793	79.3
Muslim	206	20.6
Traditional belief	0	0.0
None	1	0.1
Parent level of education		
Primary	28	2.8
Secondary	272	27.2
Tertiary	695	69.5
Illiterate	5	0.5



Table 2: Distribution of responses to knowledge-based questions

Knowledge based questions				
Questions	Response	Total (%)	Chi-square	P-value
What is hepatitis B infection?	Disease of the liver	673 (67.3%)	71.242	0.000
	Problem of indigestion	77 (7.7%)		
	A common ailment	69 (6.9%)		
	A disease found in rural area	109 (10.9%)		
	No idea	72 (7.2%)		
Hepatitis B infection is caused by?	Virus	614 (61.4%)	179.700	0.000
	Bacteria	145 (14.5%)		
	Fungi	96 (9.6%)		
	Parasite	52 (5.2%)		
	All of the above	21 (2.1%)		
	I don't know	72 (7.2%)		
	What are the signs of HBV?	Yellowness of the conjunctiva		
Swelling of the stomach	202 (20.2%)			
Inability to walk/loss of weight	223 (23.3%)			
No idea	156 (15.6%)			
All of the above	175 (17.5%)			
How can HBV be treated?	It has no cure	401 (40.1%)	144.391	0.000
	Herbal mixture	90 (9.0%)		
	Drugs that can be used for chronic cases	174 (17.4%)		
	Use of ORT	170 (17.0%)		
	No idea	165 (16.5%)		
How do I test/diagnose HBV	Blood test	483 (48.3%)	107.827	0.001
	Urine test	266 (26.6%)		
	Stool test	74 (7.4%)		
	Nasopharyngeal swab/test	77 (7.7%)		
	I don't know	100 (10.0%)		

Table 3: Distribution of responses on Attitude based questions.

Attitude based questions				
Questions	Response	Total (%)	Chi-square	P-value
How can someone contact HBV	By sexual intercourse	308 (30.8%)	5.522	0.854
	By using unsterilized sharps pins and needles	107 (10.7%)		
	By drinking dirty water	137 (13.7%)		
	By mosquito bite	143 (14.3%)		
	By shaking hands with an infected person	38 (3.8%)		
	From mother to child	267 (26.7%)		



Are there vaccines for prevention against HBV?	YES	752 (75.2%)		
	NO	271 (27.1%)		
How can HBV be prevented?	I don't know	180 (18.0%)	37.480	0.054
	By vaccination	549 (54.9%)		
	By avoiding unsterilized sharps	271 (27.1%)		
How serious is HBV infection?	By exercising regularly	180 (18.0%)	128.365	0.337
	Moderately serious	214 (21.4%)		
	Not so serious	200 (20.0%)		
	Very serious if not treated	583 (58.8%)		
	I don't know	3 (0.03%)	33.303	0.001

Table 4: Distribution of responses on Practice based questions

Practice-Based Questions	Response	Total (%)	Chi-square	P-value
Have you ever taken an HBV vaccine?	YES	343 (34.3%)		
	NO	654 (65.4%)		
	I don't know	3 (0.03%)	11.511	0.074
How many doses of the vaccine did you take?	0	562 (56.2%)		
	1	253 (25.3%)		
	2	132 (13.2%)		
	3	53 (5.3%)		0.002

RESULTS

In this study, a cross-sectional, self-administered questionnaire survey was conducted among 1000 undergraduate students in the south-western states of Nigeria. The socio-demographic characteristics of the respondents were analyzed using frequencies and percentages. The study also assessed the Knowledge, Attitude, and Practice (KAP) of Hepatitis B infection among the participants.

The study participants consisted of 414 males and 586 females, with different age ranges. The majority of the participants were within the age range of 17-20 years (50.6%), followed by 21-24 years (38.8%), 25-28 years (9.6%), and a small percentage above 28 years (1.0%) as shown in Table 1.

In Table 2, the knowledge of Hepatitis B among the participants was assessed through a questionnaire. The majority of the students were aware that Hepatitis B is a disease of the liver and is transmitted through contaminated infected blood (67.3%). However, a small percentage believed it is a problem of indigestion (7.7%), a common ailment (6.9%), or a disease found in rural areas (10.9%). It also revealed information on the causes of Hepatitis B, the majority of the participants correctly answered that it is caused by a virus (61.4%). However, a small percentage believed it is caused by bacteria (14.5%), fungi (9.6%), or parasites (5.2%).

In terms of diagnosis, 48.3% of the participants agreed that Hepatitis B can be diagnosed through a blood test, while smaller



percentages mentioned urine test (26.6%), stool test (7.4%), or nasopharyngeal swab/test (7.7%).

Table 3 revealed the participants' attitudes towards Hepatitis B varied. Some believed it can be transmitted through sexual intercourse (30.8%), using unsterilized sharp objects (10.7%), drinking water (13.7%), mosquito bites (14.3%), shaking hands with an infected person (3.8%), or from an infected mother to child during childbearing (26.7%). Regarding prevention, 75.2% of the participants were aware that there is a vaccine for Hepatitis B prevention. However, a small percentage (27.1%) believed there is no vaccine, and some were unsure (18%).

Table 4, revealed the participants' practice toward Hepatitis B, only 34.3% had taken the Hepatitis B vaccine, indicating a low vaccination rate among the study population. A high percentage of the respondents (65.4%) have not been vaccinated against the disease.

It is important to note that this study provides insights into the knowledge, attitudes, and practices of undergraduate students in Nigeria regarding hepatitis B infection prevention. However, further research and interventions are needed to improve awareness, vaccination rates, and prevention practices among this population.

DISCUSSION

The study used routinely collected data from students of tertiary institutions in the south-western states of Nigeria to study the KAP regarding HBV infection among undergraduate students in Nigeria. The study uses descriptive statistics to understand the KAP of HBV amongst the students of tertiary institutions which is in line with a similar study conducted among preclinical medical students in Nepal (Shrestha et al., 2020). According to the survey, most students were not fully protected against the disease, revealing a gap in preventative efforts. This discovery raises questions about the state of affairs not only in Nepal but also in other developing nations, such as Nigeria.

From our study, it was revealed that the participants are quite aware of the disease and its transmission mode, which is in line with a study conducted by (Dayyab et al., 2020). However, quite a significant number of participants representing about 35% of the respondents are

ignorant of the cause and its mode of transmission. This is consistent with a study on mother-child transmission of HBV carried out by (Amsalu et al., 2018). This poses a great danger to the nation in the fight against the spread of the disease. The findings of the study revealed that there is a need for improvement in the knowledge levels of undergraduate students regarding HBV infection. While a significant proportion of participants were aware that HBV infection is a disease of the liver and is transmitted through contaminated infected blood, there were misconceptions regarding its causes and modes of transmission among others. For example, some students believed that HBV infection is caused by bacteria, fungi, or parasites, which indicates a lack of accurate information. In addition, while some recognized sexual intercourse, unsterilized sharp objects, and mother-to-child transmission as modes of transmission, others held misconceptions such as transmission through drinking dirty water or mosquito bites. These misconceptions highlight the need for targeted educational interventions to correct misinformation and promote accurate knowledge.

In terms of prevention practices, the study revealed a low vaccination rate among the participants. This is in line with a study carried out by (Amsalu et al., 2018) which also revealed a low vaccination rate of 2.5% of the infected mothers. Only a small percentage of students had received the Hepatitis B vaccine, indicating a lack of awareness or access to vaccination services. This finding emphasizes the importance of promoting vaccination programs and increasing awareness about the benefits of vaccination in preventing Hepatitis B infection.

Overall, the study highlights the need for comprehensive educational programs targeting undergraduate students in Nigeria to improve their knowledge, attitudes, and prevention practices regarding Hepatitis B infection. These programs should focus on providing accurate information about the disease, its modes of transmission, and the importance of vaccination. Additionally, efforts should be made to address misconceptions and promote positive attitudes toward preventive behaviors. By enhancing knowledge and promoting preventive practices, we can reduce the



burden of Hepatitis B infection among undergraduate students in Nigeria.

CONCLUSION

Although undergraduate students in Nigeria generally have an average understanding of Hepatitis B, more has to be done to turn that knowledge into preventive measures, there is a need to provide formal and obligatory education about Hepatitis B infection, its transmission, prevention along with update on infection control practices for students. It is essential that all barrier techniques should become a protocol and a norm in students' daily practice. In addition to following standard infection control measures, students should be encouraged to be vaccinated against Hepatitis B and other contagious diseases. Key tactics for enhancing prevention practices include addressing myths, encouraging optimistic attitudes, and expanding access to preventive care. We can significantly lessen the prevalence of Hepatitis B infection among Nigerian undergraduate students by combining education, awareness campaigns, and improved access to vaccines. Finally, these results suggest that viral infections such as Hepatitis B and other contagious diseases should be carefully considered by our society as a whole.

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