KNOWLEDGE OF THE HEALTH IMPLICATIONS OF HEPATITIS B VIRUS AMONG UNDERGRADUATES IN A TERTIARY INSTITUTION IN EDO STATE

TIMBIRI, E.B. PhD
Department of Health, Safety and Environmental Education
Faculty of Education
elizabeth.timbiri@uniben.edu

Abstract

Hepatitis B virus is seen as a major threat to human health. This study examined the knowledge of the health implications of hepatitis B virus among female undergraduates of the University of Benin. Three research questions were raised for this study. The descriptive survey research design was used for the study. The population for this study was three thousand, one hundred and eighty (3,180) female undergraduates. Simple random sampling and purposive sampling techniques were used for the study, and one hundred and fifty-nine (159) respondents were drawn as the sample for the study. The instrument used for this study was a self-structured questionnaire made up of two sections. The questionnaire was validated by three experts in the field of Health, Safety, and Environmental Education. The test re-test method was used to determine the reliability of the study, and a score of 0.75 was obtained. The data collected were analyzed using frequency count and percentage. From the findings, it was revealed that the respondents had low levels of knowledge of HBV, poor knowledge of the health implications of HBV as well as poor knowledge of the preventive practices for HBV. Only 24% of respondents agreed that untreated HBV can lead to liver cirrhosis, while 32% agreed that using a condom can prevent HBV. In line with the findings of the study, it was therefore recommended that public health awareness campaigns should be organized within the school to further improve students_ knowledge of HBV.

Keywords: Hepatitis, Liver, cirrhosis, high-risk, gender,

Background to the Study

The different types of hepatitis affect the liver in one way or another. It may be caused by viral infection, alcohol consumption, several health conditions, or even some medications. According to the World Health Organization (WHO) (2017), Hepatitis is the inflammation of the liver that is caused by a variety of infectious viruses and non-infectious agents leading to a range of health problems, some of which can be fatal. A different virus is responsible for each type of viral hepatitis. While they all cause liver disease, they differ in important ways including modes of transmission, severity of the illness, geographical distribution, and prevention methods. In particular, types B and C lead to chronic disease and are the most common cause of liver cirrhosis, liver cancer, and viral hepatitis-related deaths. In 2017 WHO estimated 354 million people worldwide live with hepatitis B or C, and for most, testing and treatment remain beyond reach.

Hepatitis B virus (HBV) infection is one of the most common public health issues globally, especially in low- and middle-income countries. HBV is one of the most common public health issues globally, especially in low- and middle-income countries. The hepatitis B virus can survive outside the body for at least 7 days. During this time, the virus can still cause infection if it enters the body of a person who is not protected by the vaccine. The incubation period of the hepatitis B virus ranges from 30 to 180 days. For many people, hepatitis B is a short-term illness. For others, it can become a long-term, chronic infection that can lead to serious, even life-threatening health issues like liver disease or liver cancer. Age plays a role in whether hepatitis B will become chronic. Recent estimates show that Hepatitis accounts for approximately 1.3 million deaths annually, making it the seventh leading cause of death globally (Abbajofir & Abbafati, 2016). Hepatitis B and C are responsible for a large proportion of hepatitis mortality and morbidity, with over 90% of persons infected unaware of their condition, and as such they don_t seek treatment (Spearman, Afihene & Ally, 2017). According to the Centers for Disease Control and Prevention (CDC) (2020), the younger a person is when infected with HBV, the greater the chance of developing chronic infection. The World Health Organization (WHO) (2017) estimates that about 60 million persons in the African region are currently infected with the Hepatitis B virus (HBV), accounting for 23% of the global Hepatitis B disease burden). The burden of Hepatitis B is on the increase even though effective vaccines to prevent the disease have existed since the 1980s (WHO, 2017). This continued increase in burden is due to the ineffective or non-existence of hepatitis management programs in the sub-Saharan African region. The high mortality and morbidity that results are due in part to the fact that such people can live asymptomatically for up to 30 years, as testing is done mostly when the disease becomes chronic and cirrhosis has occurred is severe. Those living with HBV require years if not decades of regular monitoring to prevent liver complications from occurring and improve HBV-related mortality. There are antiviral therapies available that can effectively suppress HBV replication and decrease the risk of liver failure and liver cancer for those who are treatment-eligible.

In a study by Eni et al., (2019) respondents had high (70%) awareness of hepatitis B and average knowledge (46.4%) of the virus. This asymmetry in awareness levels and knowledge could be indicative of low perceptions of HBV risk among the study participants. In addition, results showed that persons with high-risk behavior, such as having unprotected sex with multiple sex partners, were not associated with HBV knowledge or vaccine uptake. This again indicates a low perception of risk among such individuals (Eni et al., 2019). Another study by Alabi, Mautin & Ekundayo among health workers revealed that the majority (64.7%) of the respondents demonstrated good knowledge of HBV infection. The study further revealed that 18.4% of the respondents practised unprotected sex and 20% of them did not always wear their hand gloves at work. Similar findings were obtained from the study done across three states in Nigeria (Lagos, Ogun, and Abia states) where 23.9% and 24% of the respondents practised unprotected sex and had multiple sexual partners (Eni et al., 2019). This definitely would make the risk of developing the infection higher. Similarly, a study by Egbe, Ike, Egbe, and Unam (2023) revealed that 43.2 %, 31.6 %, 49.8 %, 44.8 %, and 41.4 %, respectively, of the research participants knew these

viruses could be obtained from unsafe circumcision, unsafe tattooing, or unprotected sexual intercourse; and using condoms and avoiding unsafe sex are preventive measures. However, 67.8 % of these participants admitted to having unprotected sexual encounters. This is an indication that knowing about a disease alone is not enough to prevent it.

Statement of the Problem

Over two billion people have been infected with HBV worldwide, with close to four hundred million individuals being chronically infected (Umer, Terklemariam, Ayele & Mengesha, 2023). An estimated 20 million of those chronically infected people are in Nigeria (Ajuwon et al., 2021) which puts Nigeria as one of the countries with the highest burdens of HBV infection in the world. People at risk of the disease include students who are away from home for the first time and have been known to engage in sex experimentation and other risky sexual behaviours like the non-use of condoms. They also have multiple sexual partners. These acts can put them at risk for hepatitis B. Some students also engage in body piercings, which again puts them at risk for the disease. From the researcher_s observation, students_ knowledge of hepatitis B is perceived to be low. This prompted the researcher to carry out this study on knowledge of the health implications of Hepatitis B among female undergraduates of the University of Benin.

Research Questions

The following research questions have been raised to guide the study;

1. What is the level of knowledge of HBV among female undergraduates of the University of Benin?
2. Are female students knowledgeable of the health implications of HBV?
3. What are students_ knowledge of the preventive practices of HBV?

Methodology

This study employed the descriptive survey design. A descriptive survey was used to describe the characteristics of a population being studied. The population of this study is three thousand one hundred and eighty (3180) comprising all female students residing in hostels within the school premises. The researchers adopted the multi-stage sampling technique to select respondents for the study. Firstly, the simple random sampling technique of balloting with replacement was used to select 2 hostels out of the 3 female hostels. Then purposively, 5% of respondents will be selected from each of the selected female hostels. The sample size for the study was therefore one hundred and fifty-nine (159) students. A self-structured questionnaire with 19 items was the instrument used for the collection of data, and it was constructed after meticulously studying the related literature of the study. To establish the content and face validity of the instrument for the study, the researcher presented the instrument to three experts in the Department of Health, Safety, and Environmental Education. Their suggestions, corrections, and contributions were then effected in the final draft of the instrument to ensure that the instrument measures what it was set to measure. To test the reliability, the researcher used the test re-test method. The test was administered to twenty (20) students outside the real population but similar to the real population and after two weeks the instrument was again administered to the same respondents. The responses were computed using Pearson Product Moment correlation Coefficient and the

reliability coefficient was 0.76. The instrument was administered by the researcher and the research assistant, and data was collected on the spot to ensure a high return rate. The descriptive statistic of frequency count and simple percentages was used to analyze the data.

Results

Research Question 1: What is the level of knowledge of HBV among female undergraduates of the University of Benin?

Table 1: Level of knowledge of HBV

Knowledge level	Frequency	Percent
Low	108	67.9
High	51	32.1
Total	159	100.0

*score of 0-4: low knowledge; score of 5-9: High knowledge

Table one shows the level of knowledge of HPV. It can be seen that 68.1% of the respondents have low knowledge of HBV and 31.9% have high knowledge of HBV. Thus majority of the respondents have low knowledge of HBV.

Research Question 2: Are female undergraduate Students knowledgeable of the health implications of hepatitis B?

Table 2: Respondent level of knowledge about the health implications of HBV (n=159)

ITEMS	SA (%)	A (%)	D (%)	SD (%)	Total (%)
HBV causes chronic liver failure	18 (11.3)	12 (8.0)	62 (39.0)	67 (42.1)	100%
HBV causes yellowing of the eyes	28 (17.6)	67 (42.1)	53 (33.3)	11 (7.0)	100%
HBV causes dark urine	37 (23.3)	43 (27.0)	59 (37.1)	20 (12.6)	100%
HBV causes abdominal pain	26 (16.4)	63 (39.6)	37 (23.3)	33 (20.7)	100%
Untreated HBV can lead to liver cirrhosis	20 (12.6)	31 (19.5)	48 (30.2)	60 (37.7)	100%

The table above revealed that 11.3% of respondents strongly agreed that HBV causes liver failure, 8.0% agreed, 39% of respondents disagreed, and 42.1% strongly disagreed. A total of 17.6% strongly agreed that HBV causes yellowing of the eyes, 42.1% agreed, 33.3% disagreed

and 7.0% strongly disagreed. A total of 23.3% of respondents strongly agreed that HBV infection causes dark urine, 27.0% agreed, 37.1% of respondents disagreed and 12.6% strongly disagreed. About 16.4% of respondents strongly agreed that HBV causes abdominal pain, 39.6% agreed, 23.3% disagreed and 20.7% strongly disagreed. A total of 12.6% of respondents strongly agreed that untreated HBV can lead to liver cirrhosis, 19.5% agreed, 30.2% disagreed and 37.7% strongly disagreed.

Research Question 3: What is students_ knowledge of the preventive practice of HBV?
Table 3: Respondent level of knowledge about the preventive practice of HBV (n=159).

ITEMS	SA (%)	A (%)	D (%)	SD (%)	Total
Early detection reduces the risk of complications of HBV	27 (16.9)	59 (37.1)	39 (25.0)	34 (21.4)	100%
Having a single sexual partner can prevent the transmission of HBV	36 (22.6)	18 (11.3)	68 (42.8)	37 (21.4)	100%
Using a condom can prevent the transmission of HBV	32 (20.1)	28 (18.0)	53 (33.3)	46 (29.0)	100%
HBV vaccine is the best method of preventing the transmission of the virus	46 (29.0)	57 (35.8)	21 (13.2)	35 (22.0)	100%
HBV can be transmitted through kissing	(38.4)	59 (37.1)	18 (11.3)	(13.2)	100%

The table above revealed that 16.9% of respondents strongly agreed that early detection reduces the risk of complications from HBV, 37.1% agreed, 25.0% of respondents disagreed, and 21.4% strongly disagreed. A total of 22.6% strongly agreed that having a single sexual partner can prevent the transmission of HBV, 11.3% agreed, 42.8% disagreed and 23.3% strongly disagreed. A total of 20.1% of respondents strongly agreed that the use of condoms can prevent the transmission of HBV, 18.0% agreed, 33.3% of respondents disagreed and 29.0% strongly disagreed. About 29.0% of respondents strongly agreed that the HBV vaccine is the best method of preventing the transmission of the virus, 35.8% agreed, 13.2% disagreed and 22.0% strongly disagreed. A total of 38.4% of respondents strongly agreed that HBV can be transmitted through kissing, 37.1% agreed, 11.3% disagreed and 13.2% strongly disagreed.

Discussion of findings

On the level of knowledge of HBV among undergraduates of the University of Benin, the majority of respondents had poor knowledge of HBV. This was contrasted by Eni et al., (2019) whose study revealed that the majority of respondents had good knowledge of HBV infection based on the knowledge assessment. Students_ poor knowledge of HBV could be because many

of them may not have been vaccinated and have not had the opportunity to get informed when visiting the health centre. This study was corroborated by Agbesanwa, Aina, and Ibrahim (2023) whose study revealed poor knowledge of HBV among young adults. Over 80% of students studied in Syria were aware of the disease yet unaware of its symptoms and lacked the knowledge of mode of transmission (Ibrahim & Idris, 2014). In a similar study done in another part of Nigeria, fair knowledge of hepatitis B was reported among the young adults studied (Joseph, Joseph & Olokoba, 2021). This study was also corroborated by Olorukoba et al., (2018) who revealed that overall knowledge of HBV was found to be poor among 64.4% of the students. Eni et al., (2019) asserted that persons who were out of school were more knowledgeable of HBV than students.

On knowledge of the health implications of HBV, very few of the respondents were aware that HBV causes yellowing of the eyes and liver cirrhosis. This was contrasted by Eni et al., (2019) whose study revealed that the majority of respondents were knowledgeable that HBV causes yellowing of the eyes and liver damage. This study was again corroborated by Agbesanwa et al., (2023) revealed that the majority of respondents were not knowledgeable that HBV infection can lead to liver cancer, cirrhosis, and damage.

On knowledge of the preventive practices of HBV, the majority of the respondents did not believe that having a single sexual partner can prevent the transmission of the disease. Also, the majority did not believe that using a condom can prevent transmission of HBV. This was corroborated by Egbe, Ike, and Egbe (2023) whose study revealed that only a few of the respondents believe HBV can be acquired from unprotected sexual intercourse. Such a belief can promote unsafe sexual practices, thereby promoting the spread of HBV. In a similar study, only 19.5% and 47.3% of the respondents knew the disease could be transmitted via unprotected sexual contact and blood transfusion respectively (Olorukoba et al., 2018).

Conclusion

It can therefore be concluded that female undergraduate students of the University of Benin have a poor level of knowledge of HBV, poor knowledge of the health implications of HBV, and poor knowledge of the preventive practices of HBV.

Recommendations

The following recommendations were made:

1. Public health awareness campaigns should be organized on HBV infection within the school to improve student's knowledge of the disease
2. Posters and billboards on HBV should be provided in the health center so that students can become informed about the disease when they visit.
3. Health outreach that would require the vaccination of students on HBV should be organized as a means of preventing the spread of the disease.

References

Abajobir, A.A. & Abbafati, C. (2017). Global, regional, and national age-sex specific mortality for 264 causes of death, 1980–2016: A systematic analysis for the Global Burden of Disease Study 2016. *Lancet* 390(10100): 1151–1210. DOI: https://doi. org/10.1016/S0140-6736(17)32152-9

Agbesanwa, T.A., Aina, F.O. & Ibrahim, A.O. (2023). Knowledge and awareness of Hepatitis B infection among young adults in Ekiti, Nigeria: Implications for education and vaccination. *Cureus* 15(2): 23-29 doi 10.7759/cureus

Ajuwon, B.I., Yujuico, I., Roper, K., Richardson, A., Sheel, M. & Lidbury, B.A. (2021). HepatitisB virus infection in Nigeria: A systematic review and meta-analysis of data published between 2010 and 2019. *BMC Infectious Disease, 21*(1):1–15.

Alabi, A.O. Mautin, G.J. & Ekundayo, A.A. (2023). Knowledge, perception, and prevention Practices of Hepatitis B virus infection among health workers in a tertiary health institution, Southwest Nigeria. *Babcock Univeristy Medical Journal 6* (1): 50-58

Egbe, K.A., Ike, A.C. & Egbe, F. (2023). Knowledge and burden of hepatitis B virus in Nasarawa State, Nigeria. *Elsevier* 22.e01938 https://doi.org/10.1016/j.sciaf.2023e01938

Egbe, K.A., Ike, A.C., Egbe, F. & Unam, N.F. (2023). Hepatitis B and C virus knowledge and Infections in Enugu State. *Nigeria Journal of Clinical Virology Plus* 3(4): 61-17 https;//doi.org/10.1016/j.jcup.2023.100172

Eni, A.O., Soluade, G.S., Oshamika, O.O., Efekemo, P.O., Igwe, T.T. & Onile-ere, A.O. (2019). Knowledge and Awareness of Hepatitis B virus infection in Niger. *Annals of Global Health* 85(1: 56-72) doi https://doi.org/10.5334/aogh.33

Ibrahim, N. & Idris, A. (2014). Hepatitis B awareness among medical students and their vaccination status at Syrian Private University.. *Hepatitis Research & Treatment* 12(1):1–7

Joseph, A.A., Joseph, O. & Olokoba, B. (2021). Knowledge of hepatitis B among young adults ina Higher Learning Institution in Nigeria and its implication on effective disease control. *Microbes Infectious Disease.* 2 (1): 458–467

Olorukoba, A.A., Earnest, E.C., Yahaya, S.S., Onoja-Alexander, M., Hamza, K.L. & Lawal, B. (2018). Awareness and knowledge of Hepatitis B virus infection among students in a tertiary institution in North Western Nigeria. *International Journal of Infectious Diseases* 73(364):62-69 https://doi.org/10.1016/j.ijid2018.04.4239

Spearman, C.W. Afihene, M. & Ally, R. (2017). Hepatitis B in sub-Saharan Africa: Strategies to achieve the 2030 elimination targets. *Lancet Gastroenterol Hepatology* 2(12): 900–909. doi: https://doi. org/10.1016/S2468-1253 (17) 30295-9

Umer, A., Teklemariam, Z., Ayele, F. & Mengesha, M.M. (2023). Prevalence of hepatitis infection and its associated factors among pregnant mothers attending antenatal care at public hospitals at Hararghe, Eastern Ethiopia. *Frontier Global Women's Health* 4:1056488. https://doi.org/10.3389/FGWH.2023.1056488

World Health Organization (WHO). (2017). Global Hepatitis Report. Geneva. http://apps.who.int/iris/bitstream/han dle/10665/255016/9789241565455 sionid=FF92E62958F285733BACE28B602BB99B?se quence=1. Accessed March, 20th2024.