



KNOWLEDGE OF HEPATITIS B VIRUS INFECTION AND MODE OF TRANSMISSION AMONG WOMEN OF REPRODUCTIVE AGE IN WORK AND STUDY PROGRAMME OF EBONYI STATE UNIVERSITY ABAKALIKI, NIGERIA

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ABSTRACT

Background: *Hepatitis B virus is the most serious type of viral hepatitis and can cause both acute and chronic infections. The aim of the study was to assess the knowledge of hepatitis B virus infection and its mode of transmission among women of reproductive age in Work and Study programme of Ebonyi State University Abakaliki, Nigeria*

Methodology: *This was a descriptive cross-sectional study. A systematic sampling technique was used to select 326 respondents. Information was obtained using a pre-tested, self-administered questionnaire. Statistical Package for Social Sciences, version 22 was used in the analysis.*

Results: *Majority (77.6%) of the respondents were aware of hepatitis B virus infection and the major (50%) source of information was health workers. Knowledge on method of transmission of the virus included blood transfusion, 62.3%; unprotected sexual intercourse, 54.0%; mother to child transmission, 40.5% while for prevention, screening of blood before transfusion had 62.6%; vaccination, 48.8% and use of condom, 42.6%. A minor proportion (32.5%) had been vaccinated with the Hepatitis B vaccine and only 39.6% had received the recommended three doses. The major (50%) reason for non-vaccination was ignorance. Out of 27.0% who had been screened for the virus 1.5% knew they tested positive for hepatitis B surface antigen.*

Conclusions: *Majority of the respondents were aware of hepatitis B virus infection. Though most of the respondents had good knowledge of the transmission of the virus, their understanding of the methods of prevention was poor. There is need for public enlightenment on the burden of hepatitis B virus infection in Nigeria and the availability and importance of the hepatitis B vaccine.*

Keywords: *Knowledge, hepatitis B virus, women of reproductive age, Ebonyi state, Nigeria.*

INTRODUCTION

Hepatitis B virus is the most serious type of viral hepatitis. It affects the liver and can cause both acute and chronic infections. The infection is transmitted by contact with infected blood or body fluids including semen, urine and saliva.^{1,2,3} Mother to child transmission and exposure to infected blood are the

main routes of hepatitis B infection especially in hyperendemic countries.^{1,4} Hepatitis B is regarded as one of the important infectious diseases all over the world especially in developing countries.^{1,5} In 2015, hepatitis B virus infection accounted for about two thirds of the 1.34 million deaths attributed to viral

hepatitis in the world.⁶ It is known to cause 80% of all liver cancers.⁷ The prevalence of hepatitis B virus infection is more pronounced in Western Pacific and WHO African region including Nigeria.^{4,6}

The risk of transmission of hepatitis B virus from infected blood is said to be 100 times more than that for the human immunodeficiency virus in people who are not immunized.⁸ Also, Hepatitis B virus ranks second only to cigarette smoking when it comes to known carcinogenic agents that affect man.^{9,10,11} However, there is an effective vaccine against the infection.¹ This is the first vaccine against a major human cancer¹² and is the mainstay of prevention.¹ Based on these facts, it becomes worrisome why the disease is still prevalent especially in developing countries.^{6,13,14}

There is evidence that knowledge about the disease is very poor among the people.^{15,16,17} In 1992, the World Health Assembly recommended global vaccination against hepatitis B and this has made it possible that about 179 countries including Nigeria have included hepatitis B vaccine in their national immunization schedule based on records of 2011.¹² It has been established that there is a relationship between adequate knowledge and increased awareness of hepatitis B virus with the uptake of its vaccine.^{18,19,20} Interestingly, the use of the vaccine has been of good effect in reducing the prevalence of hepatitis B among children less than five years based on the inclusion of the vaccine in the immunization schedule of several countries.¹ This study was designed to assess the knowledge of hepatitis B virus infection and its mode of transmission among women of reproductive age in Work and Study programme of Ebonyi State University Abakaliki, Nigeria

METHODOLOGY

Ebonyi State University was established in 1999 and has four campuses including Presco, College of Agricultural Sciences (CAS), Ishieke and Main campuses. The university has eight faculties which are all located within the four campuses of the University. The Work and Study programme is structured to accommodate students who are working and the departments involved are located in the four campuses of the university. The study was a descriptive cross-sectional design and was carried out between August and October 2015.

The respondents were women of reproductive age of the Work and Study Programme of the University excluding first year students. A pre-tested, semi-structured self-administered questionnaire which was developed by the researchers was used for data collection. A sample size of 326 was determined²¹ based on a type 1 error (α) of 0.05, a tolerable margin of error of 0.05 and the proportion of 24.8% that had had good knowledge of hepatitis B virus.¹⁵

A systematic sampling technique was used to select the respondents on each day of data collection. The number of undergraduate students present on the day of data collection in each of the four campuses of the university formed the sampling frame. The respondents were allocated equally to the four campuses of the university and the sampling interval was three in CAS and Main campus and four in Ishieke and Presco campuses. The index student in each of the campuses was selected by balloting. Data entry and analysis were done using Statistical Package for Social Sciences (SPSS) statistical software, version 22. Ethical approval for the study was obtained from the Research and Ethics Committee of Ebonyi State University Abakaliki. Written informed consent was obtained from the participants.

RESULTS

The mean age of the students was 27.6 ± 6.5 years and majority (51.5%) of the respondents were in the age group of 25-34 years. Majority (69.3%) of the respondents were the singles and also the unemployed (61%) as shown in Table 1.

Table 1: Socio-demographic characteristics of the respondents (n=326)

Age	Freq. %
Mean = 27.6 ± 6.5	
Age of respondents in groups	
<25 years	113(34.7)
25-34 years	168(51.5)
35 years	45(13.8)
Marital status	
Single	226(69.3)
Married	95(29.1)
Separated/widowed	5(1.5)
Religion	
Christianity	310(95.1)
Islam	11(3.4)
Traditional religion	5(1.5)
Employment status	
Unemployed	199(61.0)
Salaried employment	92(28.2)
Self employed	45(13.8)
Ethnicity	
Igbo	275(84.4)
Yoruba	12(3.7)
Hausa	6 (1.8)
Ethnic minorities	33(10.1)

A higher proportion of the respondents (77.6%) were aware of hepatitis B virus. The highest source of information on hepatitis B among the respondents was health workers (50%) while family members were the least source of information (5.5%) as shown in Table 2.

Table 2: Awareness of Hepatitis B virus infection among the respondents (n=326)

Variable	Freq (%)
Awareness of Hepatitis B virus infection	
Yes	253(77.6)
No	73(22.4)
Source of information	
Health workers	163(50.0)
Friends	62(19.0)
Radio	35(10.7)
Television	25(7.7)
Internet	23(7.1)
Family members	18(5.5)

In Table 3 more than half of the respondents (59.8%) were of the opinion that hepatitis B virus infection affects the liver. Hepatitis B infection was considered by the respondents to be transmitted mainly through blood transfusion (62.3%) while screening of blood before transfusion was the main method of preventing the infection and a minor proportion (32.5%) had received hepatitis B vaccination.

Table 3: Respondents knowledge on mode of transmission and prevention of HBV infection

Variable	Freq. (%) (n=326)
Organ affected by Hepatitis B virus infection	
Liver	195(59.8)
Heart	36(11.0)
Lungs	28(8.6)
Brain	17(5.2)
Uncertain	50(15.3)
Mode of transmission of Hepatitis B**	
Blood transfusion	203(62.3)
Unprotected sexual intercourse	176(54.0)
Mother to child transmission during delivery	132(40.5)
Needle prick	104(31.9)
Scarification	75(23.0)
Faeco-oral	69(21.2)
Interpersonal contact	39(11.9)
Handshake	29(8.9)
Witches and witchcraft	23(7.1)
Symptoms of Hepatitis B virus infection**	
Yellowness of the eyes	182(55.8)
Fatigue	117(35.9)
Nausea and vomiting	111(34.0)
Cough	61(18.7)
Clay coloured stool	60(18.4)
Mode of prevention**	
Screening of blood before transfusion	204(62.6)
Vaccination	159(48.8)
Use of condom	139(42.6)
Not sharing of sharp objects	129(39.6)
Boiling of water before drinking	58(17.8)

** multiple responses

The study showed that more than a third (39.6%) of those vaccinated had received the full three doses of the vaccine as presented in Table 4

Table 4: Hepatitis B vaccination status of the respondents

Variable	Frequency (%) (n=326)
Vaccination status of respondents	
Vaccinated	106(32.5)
Not vaccinated	220(67.5)
Number of doses of Hepatitis B virus vaccine received	
One dose	39(36.8)
Two doses	25(23.6)
Three doses	42(39.6)
Reason for non-vaccination	
Ignorance	95(43.2)
Missed opportunity	8(3.6)
Cultural/religious belief	5(2.3)
No specific reason	112(50.9)
Hepatitis B surface antigen status	
Positive	5(1.5)
Negative	83(25.5)
Unknown	238(73.0)

DISCUSSION

Majority of the respondents (77.6%) were aware of hepatitis B virus infection which could be explained by the educational attainment of the respondents. Also, as women of reproductive age, their various contacts with the health system may have acquainted them with the information. This proportion is similar to that obtained from other studies in Nigeria.^{15,22} In a study among pregnant women in Ghana, only a minor proportion, (41%) were aware of the infection.²³ This difference could be due to the different levels of understanding of hepatitis B virus infection in the various developing countries.

Health workers formed the major (50%) source of information concerning hepatitis B infection among the respondents as shown. This is expected bearing in mind that health education is part of health service delivery in the country. In other studies, either television or radio or a combination of the two were the main sources of information on hepatitis B among the respondents.^{11,23,24} However, in a study among health workers, seminars/workshops were the main source of information on the disease.²⁵ This was expected since health workers were the respondents in that study.

Majority (59.8%) of the respondents were certain that hepatitis B virus affects the liver. In a study among teachers in Kwara State, Nigeria, a similar proportion, (62%) was sure hepatitis B virus affects the liver.²³ This similarity in proportion could be because the respondents have similar educational backgrounds. However, in a study among pregnant women a minor proportion, (24.8%) knew that hepatitis is a viral infection of the liver.¹⁵ The relevance of educational level in the knowledge of hepatitis is revealed in a study involving rural

communities in Cameroon in which only a minor proportion, (16.8%) were of the opinion that hepatitis B is a viral infection.²⁶

The respondents had a good knowledge of the mode of transfusion of hepatitis B virus infection by indicating that it could be transmitted through blood transfusion, (62.3%); unprotected sexual intercourse, (54.0%); and mother to child transmission, (40.5%). It has been established that hepatitis B virus infection is hyper-endemic in Nigeria and in such countries mother to child transmission and exposure to infected blood are the main routes of transmission.^{1,4} Since an approximate one fifth of the respondents were of the opinion that hepatitis B virus was transmitted faeco-orally, there are still misconceptions about the disease.

The highest proportion of respondents preferred the screening of blood before transfusion as the main method of preventing the transmission of the virus. This was a reversal of the mode of transmission of the virus as indicated by the respondents. Surprisingly, in a study among secondary school teachers in Kwara State, Nigeria, avoiding the sharing of personal care items²³ was mentioned as the most important method of preventing the transmission of the virus. Similarly, in a study in rural Cameroon, isolation of patients was perceived as the focus of prevention.²⁶ Perhaps, this could be an indication that the people were not aware of the existence of a vaccine for hepatitis B virus. Hence poor knowledge of the existence of the vaccine could result in poor vaccine coverage and this may explain the situation in Nigeria at present.

In a study among barbers in Nigeria, majority of the respondents (87.6%) were aware that not being vaccinated is a risk factor for HBV infection.¹⁷ This could be attributed to training of barbers in several

cities of Nigeria due to the HIV epidemic. It is logical that due to the hyper-endemicity of HBV in Nigeria, the knowledge of the disease may have been included in the training programme of the barbers. In spite of the knowledge of this important information by the barbers, only 2.3% of them received the recommended three doses of the vaccine.¹⁷

A small proportion (39.6%) of those who have been vaccinated had completed the recommended three doses of hepatitis B vaccine as seen in this study. This proportion is higher than that obtained among public safety workers and barbers in Nigeria.^{16,17} Bearing in mind that these practitioners are high risk groups there is need for increased public enlightenment on the relevance of hepatitis B vaccine. The major reason for non-vaccination was being ignorant of the vaccine. This was also the same reason for not receiving hepatitis B vaccination in a study in India.²⁵ With the affirmation that vaccination is the main preventive measure for the infection, there is the need to increase the awareness of the vaccine among the people.

CONCLUSIONS

Majority of the respondents were aware of hepatitis B virus infection. Though most of the respondents had good knowledge of the transmission of the virus the understanding of the method of prevention was poor. It could be that the people were uninformed about the availability of hepatitis B vaccine. This was also reflected in the low proportion of the respondents who have been screened for the virus. There is need for public enlightenment on the burden of hepatitis B virus infection in Nigeria and the availability of hepatitis B vaccine. Bringing information about hepatitis B vaccine to the people may lead to an increase in the coverage of the vaccine.

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