

## Original Article

# Knowledge and Practice of Hepatitis B Virus Infection Prevention among Young Adults in Benue North-East: A Cross-Sectional Study

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### ABSTRACT

The abstract consists of background, methods, results, and conclusions. The abstract succinctly introduces the paper. It should not exceed 250-300 words. Arial Narrow Font 10, single space.

**Background:** The increasing prevalence of HBV infection in Benue State, especially among young adults has called for public health concern. This study, therefore, assessed knowledge and practice of HBV infection prevention among young adults (18 – 35 years) in North-East Senatorial District of Benue State, Nigeria.

**Methods:** A cross-sectional research design was used, and a sample size of 440 was drawn from a population of 404,270 young adults. A researcher-developed questionnaire (K&P-HBVIPQ) with reliability coefficients of 0.85 and 0.74 for knowledge and practice, respectively, was used for data collection. Descriptive statistics were used to describe sociodemographic characteristics and to analyse responses on knowledge and practice items. Pearson chi-square statistics was used to test for association between knowledge/practice of HBV infection prevention and sociodemographic characteristics. Significant associations were declared at  $P < .05$ .

**Results:** The overall knowledge regarding HBV infection prevention was poor as more than half (53.6%) of the participants scored below 50% on knowledge items. Practice of HBV infection prevention was fair as almost half (49.9%) of the participants scored from 50 – 69% on practice items. Good knowledge/practice of HBV infection prevention was significantly associated with being a female, being of older age (30 – 35 years), acquiring tertiary education, and having a family member infected with HBV ( $P < .05$ ).

**Conclusions:** Young adults' knowledge of HBV infection prevention was poor, while their practice was fair but not encouraging. Therefore, the Benue State Government in collaboration with Local Government Authorities and NGOs in Benue North-East should step up public health education activities on HBV infection prevention, targeting mostly young adults with no or low level of education.

**Keywords:** *knowledge, practice, hepatitis B virus, infection, young adults, Benue State*

### INTRODUCTION

One of the deadly infectious diseases that poses greater threat to global public health is hepatitis B virus (HBV) infection. This infectious disease ranks as the tenth leading cause of death on a global scale<sup>1</sup>, as it is closely associated with the development of hepatocellular carcinoma (HCC) and liver cirrhosis<sup>2</sup>. The word 'hepatitis' generally, is derived from the Ancient Greek word 'hepar' meaning 'liver', and the Latin word 'itis' meaning 'inflammation'. Thus, hepatitis simply means inflammation of the liver. The liver is a very vital body organ responsible for processing nutrients, filtering the blood as well as fighting infections. However, when the liver is inflamed or damaged, its functions are affected adversely. Hepatitis could be caused by heavy alcohol use, some medications and certain medical conditions<sup>3</sup>. Often times, hepatitis is caused by a virus in which case, it is referred to as viral hepatitis<sup>4</sup>.

There are five main strains of viral hepatitis namely Hepatitis A, B, C, D and E. Among the strains, Hepatitis B which is caused by the hepatitis B virus (HBV) is the most common and mostly deadly strain<sup>5</sup>. It can cause both acute and chronic liver diseases resulting in irreversible liver damages in many cases<sup>6</sup>. Hepatitis B is the world's most common liver infection, which is caused by a deoxyribonucleic acid (DNA)-virus, the HBV, which is highly contagious, 50-100

times more infectious than human immunodeficiency virus (HIV)<sup>7</sup>. HBV is transmitted between people through blood, semen, vaginal fluids and mucous membranes. The most common ways of transmission of HBV are by unprotected sex, unsafe blood transfusions, unsafe use of needles, syringes, razor blades, barbing clippers and from mother to child at birth<sup>8</sup>.

HBV constitutes a major global health challenge as about 66% of the world population live in areas where there are high levels of HBV infection<sup>9</sup>. More than two billion people are infected with HBV world-wide while about 280 million people are chronic carriers, harbouring the virus in their liver<sup>10</sup>. Worldwide, HBV is responsible for an estimated 1.4 million deaths per year from acute infection and hepatitis-related liver cancer and cirrhosis—a toll comparable to that of human immunodeficiency virus (HIV) and tuberculosis<sup>11</sup>. HBV infection is more prevalent in the developing countries of Africa such as Senegal (30%), Gambia (28%), Benin (10%), Nigeria (7%) and Ivory Coast (5%)<sup>12</sup>. It is estimated that out of the 360 million chronic global carriers of HBV, about 65 million of these chronic carriers live in Africa<sup>13</sup>.

Young adults constitute a vulnerable group to HBV infection. According to the Nigerian National Youth Policy, a young adult is anyone between the age of 18 and 35 years. Young adults belong to the age group that exhibits high tendency for risky sexual behaviour, putting them at higher risk of HBV infection<sup>14</sup>. Recently, as the prevalence of HBV infection is increasing in young adult age group, the sexual contact has become the main transmission route of public health concern<sup>15</sup>. The most important risk factors for HBV infection are sexual activity with multiple sex partners and injection of drugs. HBV infection in general is associated with indicators of sexual activity, e.g. number of sexual partners, years of sexual activity and the occurrence of other sexually transmitted diseases<sup>16</sup>. Risk behaviours often associated with HBV infection among young adults include frequent unprotected sexual intercourse, drinking of alcohol, smoking cigarettes and use of marijuana<sup>17</sup>.

Knowledge is highly essential towards prevention of many infectious diseases as knowing the cause of the disease and what to do are paramount for disease prevention. Poor knowledge can place people at the danger of severe and fatal health complications<sup>18</sup>. Several studies in Nigeria and other parts of the world have reported poor knowledge of HBV infection<sup>18-22</sup>. Some of the studies have found associations between knowledge of HBV infection and gender<sup>22,23</sup>, level of education<sup>23-27</sup>, and having a member infected with HBV<sup>23,28</sup>.

Practice is an action or activity that is repeatable, regular, and recognizable in a given context. In the context of disease prevention, a practice is an action taken to keep oneself healthy and well, and to prevent or avoid risk of poor health, illness, injury and early death. Good practices increase the likelihood that people will stay healthy and well for as long as possible. Effective prevention practices decrease the risk of individuals experiencing a disease or injury. Some studies in Nigeria and other parts of the world have reported good

practice of HBV infection prevention<sup>22,29,30</sup>, others have reported fair or moderate practice<sup>24</sup> while some have reported poor practice<sup>18,23,26</sup>.

In Benue State, a study carried out by Mbaawuaga, Iroegbu<sup>31</sup> covering the three Senatorial Districts of Benue State revealed that 85.9% of the blood specimens that were randomly collected and screened for hepatitis showed evidence of exposure to HBV infection. This is an indication that a lot of people could increasingly be at risk of HBV infection especially in the rural communities where residents may suffer the diseases due to ignorance, lack of information, poor health education among other factors<sup>32</sup>. Other studies have also shown worrisome prevalence of HBV infection in Benue State<sup>33-35</sup>. This is an indication that HBV infection is endemic in Benue State. This study, therefore, assessed knowledge and practice of HBV infection prevention among young adults in Benue North-East Senatorial District.

## METHODS

The study adopted a cross-sectional design and was conducted in North-East Senatorial District of Benue State, Nigeria. A sample size of 440 was drawn from a population of 404,270 young adults (18 – 35 years) using Yamane's formula for sample size calculation as displayed below:

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

Where:

n = Sample size

N = Population size = 404,270

e = Level of precision set at 0.05

$$n = \frac{404,270}{1 + 404,270 \times 0.05^2}$$

$$= 399.60$$

$$= 400$$

Adding an attrition rate of 10% i.e.  $10 \times \frac{400}{100} = 40$

Therefore, the sample size is 400 + 40 = 440.

A non-random sampling technique (convenience sampling) was used for recruiting the participants. By this method, only subjects that were accessible, available at the time of the research and were willing to participate that were recruited for the study. The instrument used for data collection was a researcher-developed questionnaire entitled knowledge and practice of HBV infection prevention questionnaire (K&P-HBVIPQ) with a total of 31 items. The questionnaire assessed knowledge about aetiology, modes of transmission and methods of prevention of HBV infection, as well as practice of its prevention methods. The questionnaire was adjudged to be valid by experts, and showed reliability coefficients of 0.85 and 0.74 for knowledge and practice, respectively. Face to face method of data collection was employed. Descriptive statistics (frequency and percentages) were used to describe the sociodemographic characteristics and determine the

knowledge and practice of HBV infection prevention. Knowledge was categorized into three: good (70% and above), average (50 to 69%) and poor (below 50%) 36. Practice of HBV infection was also categorized into three: good (70% and above), moderate (50 to 69%) and poor (below 50%). Pearson chi-square statistics was used to test the association between knowledge/practice of HBV infection prevention and the sociodemographic characteristics. Significant associations were declared at  $P < .05$ .

No ethical approval was sought for this study because in Benue State where this study was conducted, ethical approvals are given for researches that involve laboratory tests only, however, informed consents were obtained from the participants after explaining the purpose of the study to them and assuring them of the confidentiality of their personal details.

## RESULTS

### *Sociodemographic Characteristics of the Participants*

Table 1 presents the sociodemographic characteristics of the participants. The sample size was 440 out of which 425 participants successfully completed and returned the questionnaires. Majority of the participants were males (70.1%), the age bracket of 24 – 29 years has the highest percentage (53.9%). Most of the participants were married (57.4%), and majority (54.6%) of them attended secondary school as their highest level of education. On whether a family member was infected with HBV, most of the participants (81.6%) indicated “No”, and on HBV vaccination status, majority of the participants (78.4%) were not vaccinated against HBV infection.

Table 1. Sociodemographic Characteristics of the Participants (n = 425)

	<b>Sociodemographic Variable</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>1</b>	<b>Gender</b>		
	Male	298	70.1
	Female	127	29.9
<b>2</b>	<b>Age Range (in Years)</b>		
	18 – 23	66	15.5
	24 – 29	229	53.9
	30 – 35	130	30.6
<b>3</b>	<b>Marital Status</b>		
	Single	147	34.6
	Married	244	57.4
	Separated	26	6.1
	Widowed	08	1.9
<b>4</b>	<b>Level of Education</b>		
	No formal education	14	3.3
	Primary	98	23.1
	Secondary	232	54.6
	Tertiary	81	19.1
<b>5</b>	<b>Family member infected with HBV</b>		
	Yes	78	18.4
	No	347	81.6
<b>6</b>	<b>HBV Vaccination Status</b>		
	Vaccinated	92	21.6
	Not Vaccinated	333	78.4

### *Participants' Knowledge of HBV Infection Prevention*

Table 2 indicates that majority of the participants (88.9%) knew that Hepatitis B was an infectious disease, most of them (84.7%) also knew that HBV infection cannot be prevented by consulting oracles. Majority (59.8%), however, did not know that having unprotected sex can transmit HBV infection, more than half of the participants (55.5%) got it wrongly that Hepatitis B infection can be cured by traditional herbalists; and majority of them (61.2%) did not know that there was a vaccine for Hepatitis B infection prevention. More than half of the participants (51.3%) did not know that treating a Hepatitis B positive mother could block

the transmission of Hepatitis B from mother to child; more than half (51.8%) also did not know that avoiding the sharing of needles and syringes could prevent HBV infection.

On whether sharing of razor blades could aid transmission of HBV infection, most of the participants (60.0%) did not know, more than half of them (51.3%), however, knew that avoiding sharing of barbing clippers helps in preventing HBV infection. More than half of the participants (51.3%) did not know that HBV infection could be prevented by avoiding sharing of toothbrushes; just as the use of latex condom correctly to prevent HBV infection was not known to more than half of them (52.2%). Majority of the participants (61.9%) did not know that HBV infection

could be transmitted by body tattooing; the overwhelming majority of them (91.1%), however, knew that Hepatitis B cannot be transmitted by sharing clothes. On whether blood screening before transfusion could help prevent transmission of HBV infection, majority of the participants

(59.5%) got the answer wrongly. The Table indicates that the overall correct knowledge score on HBV infection prevention was 53.6%. The categorization of knowledge on HBV infection prevention is illustrated in Figure 1.

Table 2. Frequency and Percentage Analysis on Knowledge of HBV Infection Prevention among Young Adults in North-East Senatorial District of Benue State (n = 425)

Statement	Correct	Wrong
	n (%)	n (%)
Hepatitis B is an infectious disease	378 (88.9)	47 (11.1)
HBV infection can be prevented by consulting oracles	360 (84.7)	65 (15.3)
Having unprotected sex can transmit HBV infection	171 (40.2)	254 (59.8)
Hepatitis B can be cured by traditional herbalists	189 (44.5)	236 (55.5)
There is a vaccine for hepatitis B virus infection	165 (38.8)	260 (61.2)
Treating hepatitis B positive mother could block the transmission of hepatitis B from mother to child	207 (48.7)	218 (51.3)
Avoiding sharing of needles and syringes could prevent HBV infection	205 (48.2)	220 (51.8)
Sharing of razor blades could aid HBV transmission	170 (40.0)	255 (60.0)
Avoiding sharing of barbing clippers helps in preventing HBV infection	218 (51.3)	207 (48.7)
HBV infection can be prevented by avoiding sharing of toothbrushes	207 (48.7)	218 (51.3)
Using latex condoms correctly can prevent HBV infection	203 (47.8)	222 (52.2)
HBV can be transmitted by body tattooing	162 (38.1)	263 (61.9)
Hepatitis B can be transmitted by sharing clothes	387 (91.1)	38 (8.9)
Blood screening before transfusion helps in preventing HBV infection	172 (40.5)	253 (59.5)
<b>Overall Knowledge Score</b>	<b>228 (53.6)</b>	<b>197 (46.4)</b>

n = Number, % = Percentage

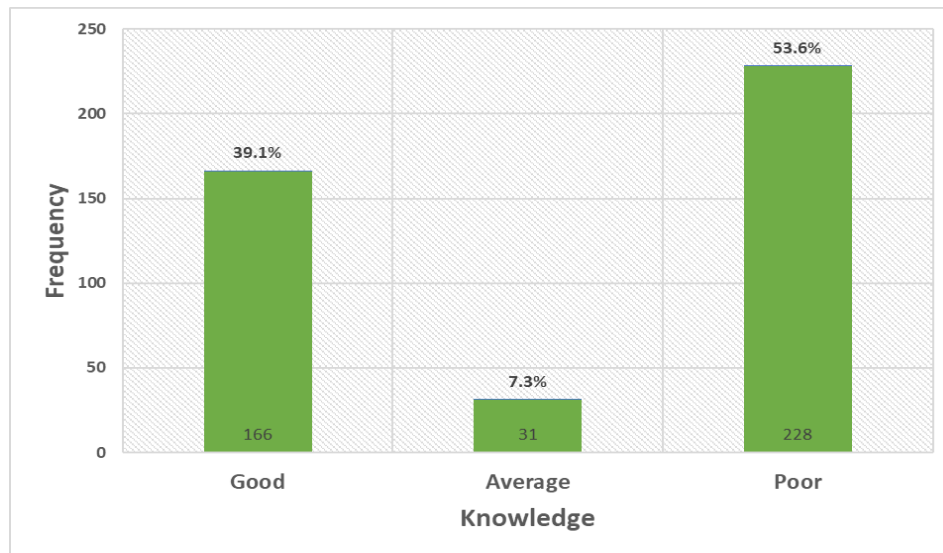


Figure 1. Categorization of Knowledge of HBV Infection Prevention among Young Adults

### Participants' Practice of HBV Infection Prevention

Table 3 shows that more than half of the participants, 229 (53.9%) never checked their HBV infection status, more than half, 232 (54.6%) indicated that they rarely used condom during sex to prevent HBV infection, 193 (45.4%) of the participants indicated that they sometimes avoided

sharing barbing clippers. More than half of the participants, 218 (51.3%) rarely insisted on sterilized clippers when patronizing commercial barbers. On whether they avoid sharing razor blades with people, more than half of the participants, 226 (53.2%) indicated that they rarely avoided it. More than half of the participants, 237 (55.8%) indicated that they sometimes made sure no one shared toothbrush

with them, more than half, 227 (53.4%) indicated that they rarely avoided having multiple sexual partners.

On whether they do avoid sharing needles and syringes, more than half of the participants, 234 (55.1%) indicated rarely avoiding it. More than half of the participants, 226 (53.2%) always tried to avoid contact with the blood of accident victims. On whether they do advise people to go for HBV screening and vaccination, 243 (57.2%) of the participants indicated rarely doing it, 166 (39.1%) indicated

never doing it. Overall, the Table shows that 161 (37.9%) of the participants indicated rarely practising HBV infection prevention, 109 (25.6%) indicated never practising it, 105 (24.7%) indicated practising it sometimes, and only 50 (11.8%) indicated always practising HBV infection prevention. The categorization of practice of HBV infection is presented in Figure 2.

Table 3. Frequency and Percentage Analysis on Practice of HBV Infection Prevention among Young Adults in North-East Senatorial District of Benue State (n = 425)

Question	Always	Sometimes	Rarely	Never
	n (%)	n (%)	n (%)	n (%)
How often do you:				
check your HBV infection status?	16 (3.8)	81 (19.1)	99 (23.3)	229 (53.9)
use condom during sex to prevent HBV infection?	13 (3.1)	48 (11.3)	232 (54.6)	132 (31.1)
avoid sharing barbing clippers with people?	73 (17.2)	193 (45.4)	133 (31.3)	26 (6.1)
insist on sterilized clippers when patronizing commercial barbers?	16 (3.8)	71 (16.7)	218 (51.3)	120 (28.2)
avoid sharing razor blades with people?	8 (1.9)	45 (10.6)	226 (53.2)	146 (34.4)
make sure no one shares your toothbrush with you?	103 (24.2)	237 (55.8)	77 (18.1)	8 (1.9)
avoid having multiple sexual partners?	11 (2.6)	48 (11.3)	227 (53.4)	139 (32.7)
avoid sharing needles and syringes?	10 (2.4)	49 (11.5)	234 (55.1)	132 (31.1)
insist on screened blood before transfusion?	70 (16.5)	194 (45.6)	133 (31.3)	28 (6.6)
try to avoid contact with the blood of accident victims?	226 (53.2)	167 (39.3)	31 (7.3)	1 (0.2)
advise people to go for HBV screening and vaccination?	2 (0.5)	14 (3.3)	166 (39.1)	243 (57.2)
<b>Overall Practice Score</b>	<b>50 (11.8)</b>	<b>105 (24.7)</b>	<b>161 (37.9)</b>	<b>109 (25.6)</b>

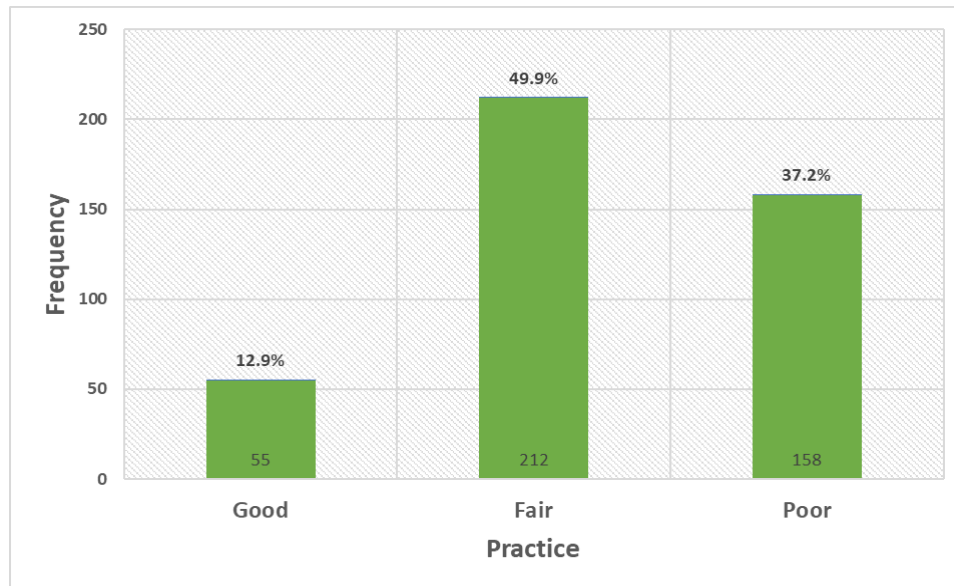


Figure 2. Categorization of Practice of HBV Infection Prevention among Young Adults

**Association between Knowledge of HBV Infection Prevention and Sociodemographic Characteristics**

Table 4 presents Pearson chi-square analysis on the association between knowledge of HBV infection prevention and gender, age, marital status, level of education, family member ever suffered from HBV infection and HBV vaccination status. The result indicates significant associations between knowledge of HBV infection

prevention and gender ( $\chi^2 = 19.74, p < .001$ ), marital status ( $\chi^2 = 21.87, p = .001$ ), level of education ( $\chi^2 = 148.62, p < .001$ ), family member ever suffered from HBV infection ( $\chi^2 = 34.48, p < .001$ ), and HBV vaccination status ( $\chi^2 = 37.25, p < .001$ ). The result, however, indicates no significant association between knowledge of HBV infection prevention and age ( $\chi^2 = 5.22, p = 0.265$ ).

Table 4. Chi-square Analysis on Association between Knowledge of HBV Infection Prevention and Gender, Age, Marital Status, Level of Education, Family Member Infected with HBV and Vaccination Status (n = 425)

Variable	N	Knowledge of HBV Infection			Df	$\chi^2$	p-value
		Good f (%)	Average f (%)	Poor f (%)			
<b>Gender</b>							
Male	298	96 (32.2)	25 (8.4)	177 (59.4)	2	19.74	< .001**
Female	127	70 (55.1)	6 (4.7)	51 (40.2)			
<b>Age (in Years)</b>							
18 – 23	66	20 (30.3)	5 (7.6)	41 (62.1)	4	5.22	0.265
24 – 29	229	86 (37.6)	18 (7.9)	125 (54.6)			
30 – 35	130	60 (46.2)	8 (6.2)	62 (47.7)			
<b>Marital Status</b>							
Single	147	43 (29.3)	13 (8.8)	91 (39.9)	6	21.87	0.001*
Married	244	99 (40.6)	16 (6.6)	129 (56.6)			
Separated	26	19 (73.1)	2 (7.7)	5 (2.2)			
Widowed	08	5 (62.5)	0 (0.0)	3 (37.5)			
<b>Level of Education</b>							
No formal education	14	0 (0.0)	0 (0.0)	14 (100)	6	148.62	< .001**
Primary	98	6 (6.1)	8 (8.2)	84 (85.7)			
Secondary	232	87 (37.5)	22 (9.5)	123 (53.0)			
Tertiary	81	73 (90.1)	1 (1.2)	7 (8.6)			
<b>Family member infected with HBV</b>							
Yes	78	53 (67.9)	5 (6.4)	20 (25.6)	2	34.48	< .001**
No	347	113 (32.6)	26 (7.5)	208 (59.9)			
<b>HBV Vaccination Status</b>							
Vaccinated	92	61 (66.3)	2 (2.2)	29 (31.5)	2	37.25	< .001**
Not Vaccinated	333	105 (31.5)	29 (8.7)	199 (59.8)			

\*\* significant at  $p < .01$ , \*significant at  $p < .05$

**Association between Practice of HBV Infection Prevention and Sociodemographic Characteristics**

Table 5 presents Pearson chi-square analysis on the association between practice of HBV infection prevention and gender, age, marital status, level of education, family member ever suffered from HBV infection and HBV vaccination status. The result shows significant associations

between practice of HBV infection prevention and gender ( $\chi^2 = 30.70, p < .001$ ); age ( $\chi^2 = 42.55, p < .001$ ); marital status ( $\chi^2 = 357.50, p < .001$ ); level of education ( $\chi^2 = 177.61, p < .001$ ); family member ever suffered from HBV infection ( $\chi^2 = 10.58, p = .005$ ); and HBV vaccination status ( $\chi^2 = 51.45, p < .001$ ).

Table 5. Chi-square Analysis on Association between Practice of HBV Infection Prevention and Gender, Age, Marital Status, Level of Education, Family Member Infected with HBV and Vaccination Status (n = 425)

Variable	N	Practice of HBV Prevention			Df	$\chi^2$	p-value
		Good f (%)	Fair f (%)	Poor f (%)			
<b>Gender</b>							
Male	298	26 (8.7)	139 (46.6)	133 (44.6)	2	30.70	< .001**
Female	127	29 (22.8)	73 (57.5)	25 (19.7)			
<b>Age (in Years)</b>							
18 – 23	66	4 (6.1)	18 (27.3)	44 (66.7)	4	42.55	< .001**
24 – 29	229	26 (11.4)	115 (50.2)	88 (38.4)			
30 – 35	130	25 (19.2)	79 (60.8)	26 (20.0)			
<b>Marital Status</b>							
Single	147	10 (6.8)	12 (8.2)	125 (85.0)	6	357.50	< .001**
Married	244	19 (7.8)	192 (78.7)	33 (13.5)			
Separated	26	18 (69.2)	8 (30.8)	0 (0.0)			
Widowed	08	8 (100.0)	0 (0.0)	0 (0.0)			
<b>Level of Education</b>							
No formal education	14	0 (0.0)	0 (0.0)	14 (100.0)	6	177.61	< .001**
Primary	98	2 (2.0)	32 (32.7)	64 (65.3)			
Secondary	232	14 (6.0)	140 (60.3)	78 (33.6)			
Tertiary	81	39 (48.1)	40 (49.4)	2 (2.5)			
<b>Family member infected with HBV</b>							
Yes	78	15 (19.2)	46 (59.0)	17 (21.8)	2	10.58	0.005*
No	347	40 (11.5)	166 (47.8)	141 (40.6)			
<b>HBV Vaccination Status</b>							
Vaccinated	92	4 (4.3)	30 (32.6)	58 (63.0)	2	51.45	< .001**
Not Vaccinated	333	27 (8.1)	158 (47.4)	148 (44.4)			

\*\* significant at  $p < .01$ , \*significant at  $p < .05$

## DISCUSSION

This study assessed knowledge and practice of HBV infection prevention among young adults in North-East Senatorial District of Benue State. The result of the study revealed that the overall knowledge regarding HBV infection prevention among young adults was poor as more than half (53.6%) of them scored below 50% on knowledge items. Similar findings were reported among indigenes of Jigawa State, Nigeria<sup>18</sup>, healthcare students in Jordan<sup>22</sup>, pregnant women and mothers in Vietnam<sup>20</sup>, Hepatitis B-patients in Quetta City, Pakistan<sup>19</sup> and barbers in Sana City, Yemen<sup>21</sup>. The finding may be attributed to the lackadaisical public health concern about HBV infection in Benue State unlike HIV/AIDS that has received serious attention in the area of massive awareness and sensitization.

The finding on females demonstrating better knowledge of HBV infection than males is in agreement with that of Alaridah, Joudeh<sup>22</sup> but contradicts that of Hosen, Moonajilin<sup>23</sup> who reported no significant association between knowledge of HBV infection and gender. The variation could be as a result of locational and cultural differences. Females being more knowledgeable about HBV infection could be attributed to their more frequent visits to healthcare facilities than males for antenatal, postnatal or

related health issues where they may have learnt one or two things about HBV infection from healthcare professionals. The finding on those participants who acquired tertiary education demonstrating better knowledge of HBV infection than those with lower education levels corroborates those of Hosen, Moonajilin<sup>23</sup>, Balegha, Yidana<sup>26</sup>, Gebrecherkos, Girmay<sup>24</sup>, Abongwa, Sunjo<sup>27</sup> and Elbur, Almalki<sup>25</sup>. This finding was expected because the likelihood of those in higher institutions being exposed to educative materials on infectious diseases is more than those who have not been to tertiary institution of learning. The finding on those having a family member infected with HBV demonstrating better knowledge of HBV than those not having a family infected agrees with Hosen, Moonajilin<sup>23</sup> and Adejimi, Bakare<sup>28</sup>. This finding could be explained by the fact that having a family member who is infected with HBV could make one to know more facts about HBV infection including its modes of transmission, symptoms, prevention and treatment. The finding indicating that those who were vaccinated against HBV were more knowledgeable about its prevention than those who were not vaccinated was expected. This is because those who were vaccinated must have been educated about HBV infection and how to prevent it. This must have improved their knowledge of the disease, giving them an edge over those who were not vaccinated.

This study also found fair practice of HBV infection

prevention among young adults in North-East Senatorial District of Benue State. Almost half (49.9%) of the participants scored from 50 – 69% on practice items indicating fair practice of HBV infection prevention. Only 12.9% demonstrated good practice of HBV infection prevention. This finding is not encouraging as the spread of HBV to a significant extent depends on practices that are conducive to its transmission. This finding is in agreement with Gebrecherkos, Girmay<sup>24</sup> who also reported fair practice of HBV infection prevention in their study. The practice of HBV infection prevention as found in this study was better than as reported by Hosen, Moonajilin<sup>23</sup>, Yakudima, Magaji<sup>18</sup> and Balegha, Yidana<sup>26</sup> in their studies. It was, however, below the practice levels found by Alaridah, Joudeh<sup>22</sup>, Dwiartama, Nirbayati<sup>30</sup> and Roien, Mousavi<sup>29</sup>. The variations in the findings across these studies could be attributed to the locational and cultural differences as well as the varying characteristics of the studied populations.

Good practice of HBV infection prevention was found to be significantly associated with being a female, being older (30 – 35 years), being widowed, acquiring tertiary education, having a family member infected with HBV and not being vaccinated against HBV infection. The finding on significant association between practice of HBV infection prevention and gender corroborates that of Adejimi, Bakare<sup>28</sup> but contradicts the finding by Abongwa, Sunjo<sup>27</sup> who found no significant association. This finding could be attributed to the fact that females visit healthcare facilities more frequent than males which could have helped them to practice HBV infection prevention better than their male counterparts. The finding indicating older participants (30 – 35 years) demonstrating better practice of HBV infection prevention than the younger ones could be attributed to the accumulation of knowledge and experiences they may have had over the years regarding infectious diseases including HBV which the younger ones may have not had yet.

The finding indicating that participants with tertiary level of education had better practice of HBV infection prevention agrees with several other studies<sup>19,23,24</sup>. This finding could be explained by the fact that those who had acquired tertiary education possessed better knowledge of HBV infection which could have translated into their better practice of HBV infection prevention than those with lower levels of education. Finding indicating that participants whose family members were infected with HBV had better practice than those whose family members were not infected agrees with Hosen, Moonajilin<sup>23</sup> who also found significant association. This implies that those who have family members infected with HBV would be more careful and cautious about HBV transmission, thus avoiding those practices that could predispose them to the infection. The finding indicating that participants who were not vaccinated against HBV demonstrated better practice of HBV infection prevention than those who were vaccinated was not surprising. This is because those who were vaccinated against HBV must have felt that they were already protected

against the disease by vaccination and wouldn't care to avoid practices that could predispose them to the infection. This finding is not encouraging because those practices could as well predispose one to other infections that do not have vaccines such as HIV/AIDS.

## CONCLUSIONS

The knowledge of HBV infection prevention among young adults was poor, while the practice was fair but not encouraging. It is high time the Benue State Government in collaboration with Local Government Authorities in Benue North-East step up public health education activities on HBV infection and its prevention, targeting mostly young adults.

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