



ORIGINAL ARTICLE

KNOWLEDGE, PERCEPTION, AND PREVENTIVE PRACTICES AGAINST HEPATITIS B VIRUS INFECTION AMONG YOUNG ADULTS IN SELECTED LOCAL GOVERNMENT AREAS OF LAGOS NIGERIA

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ABSTRACT

Background: Hepatitis B virus (HBV) is a major global health concern, with Nigeria facing persistent transmission due to limited knowledge and poor preventive practices. Young adults are a critical population for intervention. This study assessed knowledge, perception, and preventive practices related to HBV infection among young adults in Lagos, Nigeria

Methods: This descriptive cross-sectional study was carried out from April 12 to July 10, 2025, involving 1,113 young adults aged 18–35 years across three Local Government Areas in Lagos State. Multi-stage sampling was employed, and data were collected using interviewer-administered semi-structured questionnaires. Outcomes included knowledge, perception, and preventive practices. Data were analysed using SPSS version 30, with significance set at $p < 0.05$. Ethical approval was obtained from the Lagos University Teaching Hospital Health Research Ethics Committee.

Results: Respondents' mean age was 25.7 years (SD = 5.29); most were male (52.9%) and had a tertiary education (57%). Good knowledge was demonstrated by 67.1%, positive perceptions by 81.5%, and good preventive practices by 43.8%. Although 82.5% were aware of HBV, 76% had not been screened, and 84.9% had not been vaccinated. Lack of knowledge of vaccination sites was the main barrier (61.6%). Educational attainment was significantly associated with knowledge ($p = 0.006$), perception ($p < 0.001$), and preventive practices ($p < 0.001$).

Conclusion: Despite high knowledge and positive perceptions, preventive practices remain inadequate. Strengthening vaccination programs, expanding screening, and addressing barriers to vaccination access are essential to reduce HBV transmission in Nigeria.

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INTRODUCTION

Hepatitis B virus (HBV) infection is a major global health concern.^{1,2} The prevalence of HBV varies widely across regions, ranging from 5.8% in Africa to 0.5% in the Americas, with the majority of cases occurring in developing countries.³ HBV infection poses a significant public health challenge with life-threatening complications.³ Chronic HBV infection can lead to cirrhosis, liver failure, and hepatocellular carcinoma. Mortality continues to rise, with approximately 1.1 million deaths attributed to HBV in 2022.³ Globally, an estimated 296 million individuals live with chronic HBV infection, with 1.5 million new cases annually and nearly 82,000 deaths recorded in 2019.⁴ Despite these figures, the HBV vaccine, administered in three doses after birth, remains more than 95% effective in preventing infection.⁴

In sub-Saharan Africa (SSA), HBV persists as a major public health problem.^{5,6} Each year, an estimated 771,000 new infections and 272,000 deaths occur in the region.¹ Nigeria bears the highest burden of HBV in SSA, with millions undiagnosed and untreated.^{1,7} According to United Nations reports, Nigeria faces one of the greatest global burdens of chronic viral hepatitis, with a population of 211.4 million in 2021 and an estimated 19 million individuals affected.⁸⁻¹⁰ The prevalence of HBV and hepatitis C virus (HCV) in Nigeria has raised concern, with rates of 8.1% and 1.1%, respectively. In Lagos State, HBV prevalence is 2.1% and HCV prevalence 0.1%.¹¹ Both sexes are equally affected, though young adults show higher HBV prevalence.¹² Contributing factors include poor hygienic practices, limited awareness of transmission routes, geographic variation, exposure to risk factors, inadequate healthcare access, insufficient vaccination coverage, weak preventive measures, and host genetic factors.¹³

The HBV vaccine was introduced into Nigeria's National Programme of Immunisation (NPI) in 2004.¹⁴ Young adults, defined as individuals aged 18–35 years by the U.S. Census Bureau and

Nigeria's former National Youth Policy, represent a vulnerable group because they are exposed to high-risk behaviours that increase their susceptibility to a range of adverse outcomes.¹⁵⁻¹⁷

Those aged ≤ 21 years may have received childhood immunisation, while those born before 2004 often remain unvaccinated, leaving them susceptible to infection through unsafe sexual practices and injection drug use.¹⁴

Several interventions have been introduced in Nigeria to prevent and control HBV infection.¹⁸ Among the most visible is World Hepatitis Day, observed annually on July 28, which features awareness campaigns led by government agencies, non-governmental organisations, and professional bodies.¹⁹ These campaigns often extend to secondary and tertiary schools.¹⁹ However, evidence suggests that despite these efforts, many young adults do not fully internalise the messages conveyed.²⁰ This disconnect suggests awareness campaigns via one-off events are insufficient, as exposure to information doesn't necessarily lead to behavioural change. This study examines Knowledge, Perception, and Preventive Practices Against Hepatitis B Virus Infection Among Young Adults in Lagos State, Nigeria; The findings are expected to provide evidence that will inform targeted recommendations to enhance HBV knowledge and preventive practices, particularly vaccination uptake.

METHODS

Study Area

Lagos State is Nigeria's commercial hub and one of the most populous states in the southwestern region. It is the smallest state in the country, with a land mass of 3,577 km², representing 0.4% of Nigeria's total land area of 923,773 km². The Lagos State Bureau of Statistics estimates the population at over 21 million, although the 2006 census recorded 9,013,534 inhabitants. The annual growth rate is 3.22%, and the population density is 4,139 persons/km². The state is divided into 20 Local Government Areas (LGAs)

Table 1: Sociodemographic characteristics of the respondents (n=1,113)

Variable	n (%)
Age group (years)	
16 -20	251 (22.6)
21 – 25	299 (26.9)
26 – 30	331 (29.7)
31 – 35	232 (20.8)
Mean (SD)	25.7 (5.288)
Gender	
Female	524 (47.1)
Male	589 (52.9)
Highest level of education	
None	13 (1.2)
Primary	21 (1.8)
Secondary	445 (40.0)
Tertiary	634 (57.0)
Employment status	
Employed	664 (59.6)
Unemployed	73 (6.6)
Student	376 (33.8)
Occupation (n=664)	
Unskilled	118 (17.8)
Semi-skilled	138 (20.8)
Skilled	408 (61.4)
Marital status	
Married	273 (24.5)
Single	840 (75.5)
Religion	
Christianity	931 (83.6)
Islam	182 (16.4)
Ethnicity	
Hausa	34 (3.1)
Igbo	383 (34.4)
Yoruba	696 (62.5)

Study Design and Sample Size Determination

This was a community-based descriptive cross-sectional study conducted among households in three LGAs of Lagos State. With a 95% confidence level, alpha of 0.05, precision of 5%, and an expected non-response rate of 10%, the estimated sample size per LGA was 371, yielding a total of 1,113 respondents.

Eligibility Criteria

Eligibility criteria included being between 18 and 35 years of age and residing in the LGA for at least one year. Informed consent was obtained before participation.

Sampling Technique

A multistage sampling technique involving six stages was used to recruit respondents for the

study.

Stage One and Two: Selection of Local Government Areas (LGAs) and Wards

Lagos State comprises 20 LGAs. Three urban LGAs (Surulere, Lagos Island and Somolu) were selected using simple random sampling by balloting. Within these LGAs, which contained 8, 10, and 11 wards, four wards were randomly chosen from each through balloting.

Stage Three and Four: Selection of Streets and Houses

Lists of streets were obtained from the Local Government Secretariats, and from each ward, ten streets were randomly selected using a simple random sampling technique, resulting in a total of

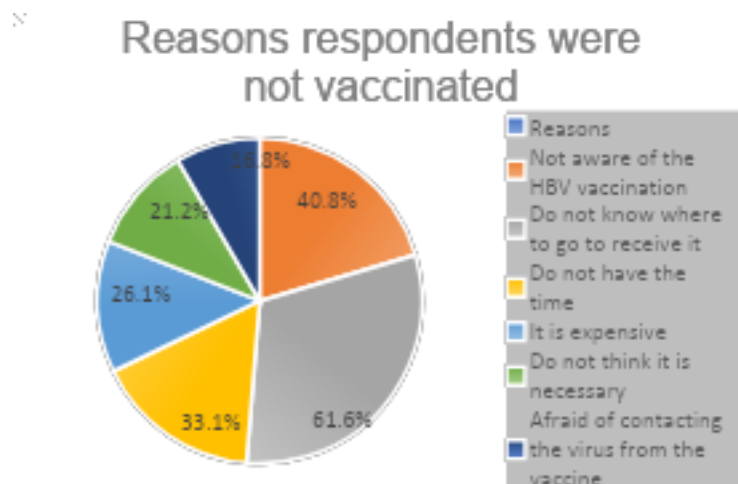


Figure 1: Reasons respondents were not vaccinated (n = 779)

40 streets. The researcher and assistants then enumerated every house along these streets to establish a sampling frame. Typically, each street comprised between 32 and 35 houses; for calculation purposes, 32 houses per street were assumed. This yielded a total of 1,280 houses across the 40 streets. The calculated sample size for each LGA was 371. To determine the sampling interval, the total number of houses ($N = 1,280$) was divided by the sample size ($n = 371$), yielding approximately 3.4. This figure was rounded to three, meaning that every third house was selected. The first house was chosen by balloting, ensuring that the initial selection was unbiased. From that point onward, every third house was systematically included until the target sample size was achieved.

Stage Five and Six: Selection of Households and Respondents

Within each selected house, one household with an eligible respondent was chosen by balloting if multiple households qualified. If only one household had an eligible respondent, it was automatically selected. In cases where no eligible respondent was present, the next house with an eligible respondent was included. Finally, one eligible respondent was selected from each household. Where multiple eligible respondents were present, simple random sampling by balloting

was used. If only one eligible respondent was available, that individual was selected. Participation was contingent upon informed consent.

Data Collection Tools and Techniques

Data for the study were collected using a pretested, interviewer-administered, semi-structured questionnaire adapted from relevant literature.²¹⁻²⁴ The instrument was administered in English by the principal researcher, with assistance from five trained research assistants, to ensure consistency and accuracy in data collection. The questionnaire was designed to comprehensively capture information across five key domains. Section A focused on sociodemographic characteristics of respondents, providing essential background data. Section B assessed respondents' knowledge of hepatitis B infection, while Section C explored their perceptions of the disease. Section D examined preventive practices adopted against hepatitis B infection, and Section E investigated factors influencing uptake of the hepatitis B vaccine.

Validity and reliability of the study

To ensure the reliability and validity of the data collected, measures were taken to minimise bias during data collection. First, the research assistants underwent structured training conducted by the principal researcher.

Table 2: Knowledge of Hepatitis B infection among the respondents (n=1,113)

Variable	I don't know n (%)	No n (%)	Yes n (%)
Awareness of hepatitis B infection			
Ever heard of hepatitis B infection	-	195 (17.5)	918 (82.5)
Knowledge of people affected and potential health consequence (n=918)			
Hepatitis B is a viral infection	175 (19.1)	231 (25.2)	512 (55.8)
Hepatitis B affects the liver function	198 (21.6)	201 (21.9)	519 (56.5)
Hepatitis B infection causes liver cancer	261 (28.4)	286 (31.2)	371 (40.4)
Hepatitis B infection affects all age groups	192 (20.9)	260 (28.3)	466 (50.8)
Knowledge of mode of transmission of hepatitis B infection (n=918)			
Hepatitis B infection can be transmitted from mother to child	230 (25.1)	283 (30.9)	404 (44.1)
Hepatitis B can be transmitted by unsafe sexual practices	178 (19.4)	335 (36.5)	405 (44.1)
Hepatitis B can be transmitted through unsterilised syringes, needles and previously used surgical instrument	195 (21.2)	278 (30.3)	445 (48.5)
Hepatitis B can be transmitted by eating food prepared by an infected person	163 (17.8)	493 (53.7)	262 (28.5)
Hepatitis B can be transmitted by mosquito bites	161 (17.5)	509 (55.4)	248 (27.0)
Hepatitis B is spread by casual contact like handshake	166 (18.1)	516 (56.2)	236 (25.7)
Hepatitis B can be transmitted by sharing toothbrush with an infected person	189 (20.6)	376 (41.0)	353 (38.5)
Hepatitis B can be transmitted during tribal marking, tattoos and skin piercings	205 (22.3)	276 (30.1)	437 (47.6)
An infected person, who looks healthy can spread the disease	165 (18.0)	294 (32.0)	459 (50.0)
Knowledge of the symptoms, treatment and prevention of hepatitis B (n=918)			
Fever, nausea, vomiting and yellow eyes are common symptoms of hepatitis B	159 (17.3)	214 (23.3)	545 (59.4)
Hepatitis B can be treated or cured by medication	205 (22.3)	198 (21.6)	515 (56.1)
There is vaccine available to prevent hepatitis B infection	161 (17.5)	179 (19.5)	578 (63.0)
Hepatitis B vaccination of newborns is included in the routine Immunisation program in Nigeria	277 (30.2)	239 (26.0)	402 (43.8)
Hepatitis B has a laboratory test	151 (16.4)	204 (22.2)	563 (61.3)
A person can die from untreated hepatitis B infection	120 (13.1)	176 (19.2)	622 (67.8)

The training covered the objectives of the study, ethical considerations such as obtaining informed consent and maintaining confidentiality, and detailed guidance on how to administer the questionnaire consistently. Second, the questionnaire was standardised through careful adaptation from the relevant literature, and 10% of the calculated sample size was pretested among young adults in Ogun State. Feedback from the pre-test was used to refine the wording of questions,

eliminate ambiguities, and adjust sequencing to improve clarity and comprehension.

Data Analysis

Knowledge was scored two points for correct responses, one point for incorrect responses, and zero for "I don't know." Scores were converted to percentages, with 0–50% classified as poor knowledge and 51–100% as good knowledge. Perception was assessed using a Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree).

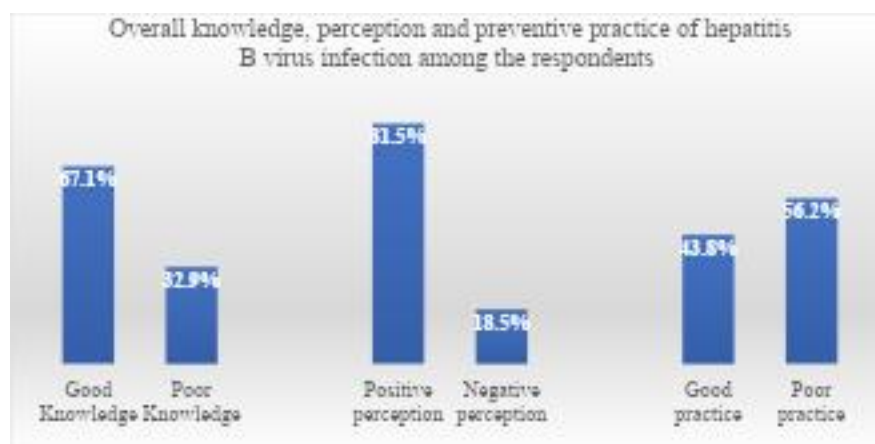


Figure 2: Overall knowledge, perception and preventive practice of hepatitis B among the respondents

Scores were converted to percentages, with 0-50% classified as negative perception and 51–100% as positive perception. Preventive practices were assessed using 8 questions, with 2 points for correct responses and 1 point for incorrect responses. Scores were converted to percentages, with $\leq 50\%$ classified as poor practice and $>50\%$ as good practice. Data were entered into Microsoft Excel and analysed using IBM SPSS Statistics version 30.0. Continuous variables, such as age, were summarised using the mean and standard deviation (SD). Associations between categorical variables were tested using Pearson's Chi-square, with Fisher's exact test applied where Chi-square assumptions were not met. Statistical significance was set at $p < 0.05$. To further explore relationships between variables, multivariate analysis was conducted to identify independent predictors of preventive practices among respondents. Variables with p -values ≤ 0.2 in the bivariate analysis were included in the logistic regression model to screen for potential predictors and to reduce the risk of missing important variables due to weak initial bivariate associations.

ETHICAL CONSIDERATIONS

Ethical approval was obtained from the Human Research Ethics Committee (HREC) of Lagos University Teaching Hospital (ADM/DCST/HREC/APP/434). Permission to conduct the study was secured from selected LGA

authorities and household heads. Informed consent was obtained verbally and in writing from each respondent. Participation was voluntary, and respondents were free to withdraw at any stage of the study.

RESULTS

Table 1 shows that the largest proportion of respondents (29.7%) was aged 26-30 years, with a mean age of 25.7 years (SD = 5.29). More than half were male (52.9%), single (75.5%), Christian (83.6%), employed (59.6%), had attained tertiary education (57%), and belonged to the Yoruba ethnic group (62.5%).

Most respondents (82.5%) were aware of HBV infection. More than half knew that HBV is a viral infection (55.8%) and that it affects liver function (56.5%). Half recognised that apparently healthy individuals could spread HBV.

However, only 40.4% knew that HBV can cause liver cancer. Regarding transmission, less than half identified mother-to-child transmission (44.1%), unsterilized medical instruments (48.5%), and tribal markings, tattoos, or piercings (47.6%) as risk factors. Almost 60% were aware of common symptoms. On prevention, 63% knew that a vaccine exists, but only 43.8% knew it was included in Nigeria's routine immunisation program (Table 2). Table 3 indicates that most respondents strongly agreed they would seek treatment if infected (66.7%) and that everyone should be screened (61.5%).

Table 3: Perception of Hepatitis B infection among the respondents (n=918)

Statement	SA n (%)	A n (%)	I n (%)	D n (%)	SD n (%)
I am bothered about being infected with hepatitis B virus.	321 (35.0)	254 (27.7)	106 (11.5)	145 (15.8)	92 (10.0)
Hepatitis B vaccine is safe and effective.	301 (32.8)	364 (39.7)	191 (20.8)	41 (4.5)	21 (2.3)
I will not feel comfortable living with a person with hepatitis B.	181 (19.7)	231 (25.2)	171 (18.6)	218 (23.7)	117 (12.7)
I will seek treatment if I know I have hepatitis B.	612 (66.7)	232 (25.3)	52 (5.7)	14 (1.5)	8 (0.9)
I am willing to receive hepatitis B vaccine.	499 (54.4)	290 (31.6)	82 (8.9)	28 (3.1)	19 (2.1)
I am willing to be screened for hepatitis B virus.	513 (55.9)	279 (30.4)	70 (7.6)	34 (3.7)	22 (2.4)
Everybody should be screened for hepatitis B virus.	565 (61.5)	248 (27.0)	66 (7.2)	26 (2.8)	13 (1.4)
Healthy people need to receive the hepatitis B vaccine.	443 (48.3)	260 (28.3)	123 (13.4)	52 (5.7)	40 (4.4)

More than half strongly agreed they were willing to be screened (55.9%) and to receive the HBV vaccine (54.4%). Additionally, 39.7% agreed that the vaccine is safe and effective. Fewer than half strongly agreed that healthy individuals should receive the vaccine, while 35% strongly agreed they were concerned about contracting HBV. Only 19.7% strongly agreed they would feel uncomfortable living with someone infected.

Among respondents aware of HBV, only 24% had been screened, and 15.1% vaccinated. Of those vaccinated, 74.3% had completed all three doses. Preventive practices included consistent use of new syringes (42.5%), condom use during sexual activity (53.3%), and willingness to undergo further investigation and treatment if screening was positive (85.2%). However, only 21.7% had participated in a health education program on HBV (Table 4).

Figure 1 demonstrates the reasons respondents were not vaccinated. This was highest (61.6%) among respondents who lacked knowledge about where to obtain the vaccine.

Overall, Knowledge, Perception, and Preventive Practices

Figure 2 shows that 67.1% of respondents demonstrated good knowledge, 81.5% had positive perceptions, and 43.8% reported good preventive practices.

Table 5 shows significant associations between overall knowledge and gender ($p < 0.001$), education ($p = 0.006$), occupation ($p < 0.001$), religion ($p < 0.001$), and ethnicity ($p < 0.001$).

Overall perception was significantly associated with age ($p < 0.001$), gender ($p < 0.001$), education ($p < 0.001$), occupation ($p < 0.001$), marital status ($p = 0.003$), and religion ($p < 0.001$) (Table 5).

Preventive practices were significantly associated with age ($p < 0.001$), education ($p < 0.001$), ethnicity ($p = 0.004$), overall knowledge ($p < 0.001$), and overall perception ($p < 0.001$) (Table 5). Table 6 shows that the predictors of preventive practices towards HBV infection among the respondents were knowledge and perception of the disease.

DISCUSSION

This study assessed the knowledge, perception, and preventive practices against hepatitis B virus (HBV) infection among young adults in selected LGAs of Lagos State.

Table 4: Preventive practices against hepatitis B among respondents (n=918)

Variable	Yes n (%)	No n (%)
Screening and vaccination of the respondents		
Ever been screened for hepatitis B	220 (24.0)	698 (76.0)
Been vaccinated for hepatitis B	139 (15.1)	779 (84.9)
Completed the three doses of hepatitis B vaccine (n=139)	104 (74.3)	35 (25.7)
Preventive practices towards hepatitis B		
Ensure the syringe is new before use	390 (42.5)	528 (57.5)
Sexually active	572 (62.3)	346 (37.7)
Use condom during sexual intercourse (n=572)	305 (53.3)	267 (46.7)
Previous blood transfusion	405 (44.1)	513 (55.9)
Request for blood screening before transfusion (n=405)	370 (91.4)	35 (8.6)
Willing to go for further investigation and treatment if screening test is positive	782 (85.2)	136 (14.8)
Participated in a health education program on hepatitis B	199 (21.7)	719 (78.3)

Findings revealed that 82.5% of respondents were aware of HBV infection, with 67.1% demonstrating good overall knowledge. More than half recognised HBV as a viral infection affecting the liver, and half understood that apparently healthy individuals could spread the virus. However, fewer than half knew that HBV could cause liver cancer or identified common transmission routes such as mother-to-child transmission, unsafe sexual practices, unsterilised instruments, and skin piercings.

Comparisons with other studies highlight these gaps.²⁵⁻³⁰ For instance, respondents in Macedonia demonstrated higher awareness (89%) and stronger knowledge of HBV's effects on the liver (83.7%), attributed to stronger healthcare systems and social security provisions.²⁵ Market traders in Lagos reported higher knowledge levels (79.9%), but only 10% recognised unsafe sexual activity as a transmission route.²⁶ Similarly, a study in Saudi Arabia reported higher knowledge (78%), but only one-third knew HBV could cause liver cancer.²² Overall, 81.5% of respondents had a positive perception of HBV infection. Most agreed they would seek treatment if infected and supported

universal screening. More than half expressed willingness to be screened and vaccinated, and 72.5% believed the vaccine is safe and effective. These positive perceptions align with findings from students in northwest Ethiopia (82%), Tanzanian university students (76%), and Nigerian market traders (80%). Such responses may reflect the impact of continuous campaigns encouraging vaccination.^{21,26,27} Despite this, fewer than half (45%) expressed discomfort living with someone infected, suggesting limited understanding of HBV's virulence and fatality. This was corroborated by another Nigerian study among market women (43%).²⁶ In contrast, higher proportions were reported among Tanzanian students (63%) and Ghanaian young adults (55%), possibly due to stronger awareness campaigns in those contexts.^{24,27} Concerns about contracting HBV were also relatively low in this study, consistent with similar findings elsewhere, but higher among Ethiopian medical students, reflecting their heightened occupational risk.²¹ This highlights a gap between general awareness and deeper risk perception, which may influence preventive behaviours.

Table 5: Association between respondents' socio-demographic characteristics and overall knowledge, Perception and Preventive practices.

Variable	Knowledge		Perception		Preventive practice	
	Good (n = 747)	Poor (n = 366)	Positive (n = 907)	Negative (n = 206)	Good (n= 488)	Poor (n = 625)
Age group (years)						
16 -20	161 (64.1)	90 (35.9)	184 (73.3)	67 (26.7)	92 (36.7)	159 (63.3)
21 – 25	203 (67.9)	96 (32.1)	239 (79.9)	60 (20.1)	118 (39.5)	181 (60.5)
26 – 30	222 (67.1)	109 (32.9)	285 (86.1)	46 (13.9)	170 (51.4)	161 (48.6)
31 – 35	161 (69.4)	71 (30.6)	199 (85.8)	33 (14.2)	108 (46.6)	124 (53.4)
Chi-square & p-value	1.634 & 0.652		19.119 & < 0.001		15.884 & 0.001	
Gender						
Female	387 (73.9)	137 (26.1)	451 (86.1)	73 (13.9)	245 (46.8)	279 (53.2)
Male	360 (61.1)	229 (38.9)	456 (77.4)	133 (22.6)	243 (41.3)	346 (58.7)
Chi-square & p-value	20.375 & <0.001		13.754 & < 0.001		3.406 & 0.065	
Highest level of education						
None	9 (69.2)	4 (30.8)	10 (76.9)	3 (23.1)	5 (38.5)	8 (61.5)
Primary	10 (47.6)	11 (52.4)	12 (57.1)	9 (42.9)	6 (28.6)	15 (71.4)
Secondary	278 (62.5)	167 (37.5)	320 (71.9)	125 (28.1)	155 (34.8)	290 (65.2)
Tertiary	450 (71.0)	184 (29.0)	565 (89.1)	69 (10.9)	322 (50.8)	312 (49.2)
Fisher’s exact test & p-value	12.037 & 0.006		58.805 & < 0.001		29.242 & < 0.001	
Employment status						
Employed	453 (68.2)	211 (31.8)	556 (83.7)	108 (16.3)	306 (46.1)	358 (53.9)
Unemployed	50 (68.5)	23 (31.5)	59 (80.8)	14 (19.2)	35 (47.9)	38 (52.1)
Student	244 (64.9)	132 (35.1)	292 (77.7)	84 (22.3)	147 (39.1)	229 (60.9)
Chi-square & p-value	1.273 & 0.529		5.898 & 0.052		5.295 & 0.071	
Occupation (n=664)						
Unskilled	89 (75.4)	29 (24.6)	99 (83.9)	19 (16.1)	58 (49.2)	60 (50.8)
Semi-skilled	74 (53.6)	64 (46.4)	96 (69.6)	42 (30.4)	54 (39.1)	84 (60.9)
Skilled	290 (71.1)	118 (28.9)	361 (88.5)	47 (11.5)	194 (47.5)	214 (52.5)
Chi-square & p-value	17.925 & < 0.001		27.093 & < 0.001		3.485 & 0.175	
Marital status						
Married	193 (70.7)	80 (29.3)	239 (87.5)	34 (12.5)	126 (46.2)	147 (53.8)
Single	554 (66.0)	286 (34.0)	668 (79.5)	172 (20.5)	362 (43.1)	478 (56.9)
Chi-square & p-value	2.101 & 0.147		8.791 & 0.003		0.783 & 0.376	
Religion						
Christianity	648 (69.6)	283 (30.4)	777 (83.5)	154 (16.5)	410 (44.0)	521 (56.0)
Islam	99 (54.4)	83 (45.6)	130 (71.4)	52 (28.6)	78 (42.9)	104 (57.1)
Chi-square & p-value	15.951 & < 0.001		14.608 & < 0.001		0.086 & 0.769	
Ethnicity						
Hausa	23 (67.6)	11 (32.4)	28 (82.4)	6 (17.6)	14 (41.2)	20 (58.8)
Igbo	285 (74.4)	98 (25.6)	319 (83.3)	64 (16.7)	194 (50.7)	189 (49.3)
Yoruba	439 (63.1)	257 (36.9)	560 (80.5)	136 (19.5)	280 (40.2)	416 (59.8)
Chi-square & p-value	14.394 & < 0.001		1.329 & 0.514		11.002 & 0.004	
Overall knowledge						
Good	-	-	-	-	431 (57.7)	316 (42.3)
Poor	-	-	-	-	57 (15.6)	309 (84.4)
Chi-square & p-value	-		-		177.031 & < 0.001	
Overall perception						
Negative	-	-	-	-	2 (1.0)	204 (99.0)
Positive	-	-	-	-	486 (53.6)	421 (46.4)
Chi-square & p-value	-		-		188.732 & < 0.001	

Preventive practices were weaker than knowledge and perception. Only 43.8% of respondents demonstrated good preventive practices, with just 24% screened and 15% vaccinated. Among those vaccinated, fewer than 80% completed the three-dose schedule. These figures are lower than those reported in Tanzania (screened – 42.6%, vaccinated – 35.6%), Saudi Arabia (screened – 30%, vaccinated – 42.2%), and Ghana (vaccinated – 38.5%).^{22,24,27} The relatively low uptake in Nigeria may be due to inadequate information about HBV, limited understanding of vaccine effectiveness, and lack of access among young adults born before the vaccine was introduced into routine immunisation schedules. The primary reasons for non-vaccination were lack of knowledge about where to obtain the vaccine (61.6%), lack of awareness of its existence (40.8%), perceived cost (26.1%), and the belief that vaccination was unnecessary. These findings mirror those of other studies, which reported similar barriers such as lack of awareness, perceived cost, and low risk perception.²⁴ This emphasises that awareness and positive perception do not necessarily translate into preventive action. The study findings show some statistically significant associations between demographic characteristics of the respondents and HBV knowledge, perception, and preventive practices. Females, Christians, Igbo respondents, and those with tertiary education consistently demonstrated good knowledge of HBV. This could be attributed to the influence of good health-seeking behaviour among females and tertiary educational exposure. Positive perceptions were statistically significantly associated with respondents aged 26–30, female, Christians, married individuals, skilled workers, and those with tertiary education. Pre-marital Church-based counselling, medical counselling and screenings before marriage play a notable role in exposing young newlywed individuals to health information and shaping their perception towards common infectious and non-infectious diseases. Preventive practices were statistically associated with age, younger respondents aged 16–20 with

poor knowledge had poor practices, while those with tertiary education and Igbo ethnicity showed good preventive behaviours. Overall, education emerged as the most consistent determinant across knowledge ($p = 0.006$), perception ($p < 0.001$), and practice ($p < 0.001$), underscoring its central role in shaping HBV-related attitudes and behaviours.

Importantly, knowledge and perception were identified as predictors of preventive practices, reinforcing the need to strengthen both domains to improve behavioural outcomes.

This study contributes important evidence on HBV awareness, knowledge, perception, and preventive practices among young adults in Lagos State, a population group critical to HBV transmission dynamics. A key strength is the large sample size, which enhances the reliability and representativeness of the findings. Limitations of this study are, firstly, responses were based on self-reported information, which may be subject to recall bias.

Secondly, vaccination was not verified through medical records. This may have led to over- or underestimation of vaccine uptake and completion rates.

CONCLUSION

This study showed that although young adults in Lagos State have relatively high awareness and positive perceptions of hepatitis B virus (HBV), their preventive practices, particularly screening and vaccination, remain poor. Knowledge gaps about HBV complications and transmission routes, coupled with weak risk perception and barriers such as lack of information on vaccine access, perceived cost, and misconceptions, contribute to low uptake. Education consistently emerged as the strongest determinant of knowledge, perception, and behaviour, highlighting its central role in HBV prevention. To address these challenges, continuous health education campaigns tailored to young adults are needed, with emphasis on HBV transmission, complications, and the benefits of vaccination. Youth-friendly interventions using peer educators and digital platforms should be prioritised, along-

Table 6: Predictors of preventive practices towards HBV infection

	Variable	AOR (95% CI)	p-value
Age			0.131
	16 – 20 Vs 21 - 25	1.155 (0.750 – 1.777)	0.513
	16 – 20 Vs 26 - 30	0.730 (0.443 – 1.204)	0.281
	16 – 20 Vs 31 - 35	0.953 (0.553 – 1.642)	0.863
Gender	Female Vs Male	1.037 (0.787 – 1.365)	0.797
Highest level of education			0.057
	None Vs Primary	1.006 (0.177 – 5.716)	0.995
	None Vs secondary	1.007 (0.274 – 3.699)	0.992
	None Vs tertiary	0.592 (0.163 – 2.149)	0.425
Employment status			0.307
	Employed Vs unemployed	0.715 (0.397 – 1.287)	0.263
	Employed Vs student	0.741 (0.476 – 1.153)	0.184
Occupation			0.254
	Unskilled Vs Semi-skilled	0.742 (0.449 – 1.226)	0.245
	Unskilled Vs Skilled	0.695 (0.425 – 1.135)	0.146
Ethnicity			0.027
	Hausa Vs Igbo	0.683 (0.307 – 1.520)	0.350
	Hausa Vs Yoruba	1.021 (0.464 – 2.245)	0.959
Overall knowledge	Poor Vs Good	0.343 (0.238 – 0.495)	< 0.001
Overall perception			
	Poor Vs Good	0.021 (0.005 – 0.087)	< 0.001

side improved access to affordable vaccination and screening services. Correcting misconceptions and strengthening risk perception will be critical, and embedding HBV awareness into broader health literacy initiatives can further enhance impact. By implementing these measures, Nigeria can bridge the gap between awareness and preventive action, reduce HBV transmission among young adults, and ultimately lower the national burden of infection.

IMPLICATIONS FOR FUTURE RESEARCH

Future studies should use longitudinal or mixed methods to examine how knowledge and perceptions influence preventive practices over time, and how cultural beliefs, stigma, healthcare access, and systemic barriers affect HBV awareness and behaviours.

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CONFLICT OF INTEREST

The authors did not declare any conflict of interest

AUTHORS CONTRIBUTION

LTW: Research conceptualisation, development of research protocol, literature search, study tool design, preparation of draft manuscript, analysis, manuscript writing

ATO: Research conceptualisation, study tool design, literature search, data collection, and manuscript review

NMC: Research conceptualisation, study tool design, literature search, data collection, and manuscript review

BDD: Research conceptualisation, study tool design, literature search, data collection, and manuscript review.

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