Assessment of Knowledge, Attitude and Practice towards Hepatitis B among Clinical Medical Students at Chukwuemeka Odimegwu Ojukwu University Teaching Hospital

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ABSTRACT

Hepatitis, a term used to describe liver inflammation has 5 identified strains (A, B, C, D and E). Hepatitis B infection, a disease caused by hepatitis B virus, is a major cause of cirrhosis and hepatocellular carcinomas. It is a highly infectious disease that is responsible for numerous deaths worldwide. It is transmitted through contact with infected body fluids like blood, semen, vaginal fluid and mucus membrane. This makes unprotected sex, blood transfusion and perinatal transfusion, the major means of transfusion. Medical students, who are part of health workers, are at greater risk of the infection than the general public. So, this research is to assess the knowledge, attitude and practices of Chukwuemeka Odumegwu Ojukwu University Medical students' towards hepatitis B.

Sample size was estimated based on the findings of knowledge regarding hepatitis B among Chukwuemeka Odumegwu Ojukwu University Teaching Hospital clinical medical students. A self-administered questionnaire that was written in English was used as instrument for data collection in this study. Descriptive analyses followed by normality test using statistical tests like Chi-square and Spearman's correlation were used to analyze the data.

The overall response rate was 86.91%. Out of 352 respondents, 199 (56.5%) were males and the 153 (43.5%) were females, all of which were within the ages of 20 and 40 years. There were significant positive correlation between knowledge and practice towards hepatitis B were 0.81 with P value <0.001 and 0.225 with P value <0.001 respectively. Correlation between attitude and practice towards hepatitis B is 0.312 p-value <0.004, thus, showing that more respondents have more knowledge of hepatitis B.

The results showed that the percentages of medical students who knew more about hepatitis B were generally typical. A little over half of the respondents have a good attitude towards the disease.

Keywords: *Hepatitis B; Clinical Medical Students; Chukwuemeka Odimegwu Ojukwu University Teaching Hospital*

Introduction

Hepatitis could be a term commonly utilized to portray viral illnesses that cause irritation of the hepatic cells and are clinically comparable but etiologically and epidemiologically unmistakable (1,2). Around five strains (A, B, C, D and E) of the illness causing infection to have been recognized (3). Hepatitis A and hepatitis B have been recognized as isolated substances since early 1940s and can be analyzed with particular serologic tests. Hepatitis D, or Delta hepatitis, is a disease subordinate on the hepatitis B infection (HBV). It may moreover happen as a co-infection with intense HBV disease or as super-infection of an HBV carrier (1). Hepatitis C, on the other hand, is an RNA viral disease autonomous of other genotypes of hepatitis (4).

Hepatitis B infection (HBV) is a wrapped *Hepadnavirus* that taints liver cells, coming about within the advancement of cirrhosis (2) and hepatocellular carcinomas (HCC) (5,6). HBV contamination is the foremost common viral hepatitis around the world and a driving worldwide open wellbeing issue (7). An evaluated 3.6% of the worldwide populace is influenced by inveterate HBV disease (5) with changing predominance over the globe (8). More than 2 billion individuals around the world are evaluated to have had hepatitis B infection (HBV) contamination, with 350–400 million being incessant carriers of the infection. HBV accounts yearly for an assessed 1 million patients around the world (8,9).

In Africa, roughly 60 million individuals live with constant HBV disease with an assessed predominance of 6.2% and mortality rate of 25% (5,9). Unused contamination rates are most noteworthy among children and transmission overwhelmingly happens through perinatal courses (mother to child through birth canal) (9). The worldwide predominance of unremitting HBV disease among children less than five a long time declined from 5% within the pre-vaccine period (1980s to early 2000s) to less than 1% in 2019 (5). Implies of transmitting the infection between individuals are through contact with contaminated blood, semen, vaginal liquids and mucous films, subsequently the foremost common ways of transmission are by unprotected sex, hazardous blood transfusions, hazardous utilize of needles, from mother to child at birth, near family contact and between children in early childhood (7). The infection is exceedingly infectious, 50-100 times more irresistible than Human Immunodeficiency Infection (HIV). Be that as it may, this virus is not at all like HIV, rather it can survive on an exterior surface for like 7 days, amid which it can still cause contamination on the off chance that it finds its way into the body of an uninfected individual (9).

Nigeria, a tropical nation, has been recorded as hyper-endemic for HBV disease with predominance of ≥ 8% (5) and around 75% of its populace is likely to have been uncovered to the infection at one time or the other in their live (9). In regions of HBV high-endemicity like Nigeria, HBV is primarily contracted at birth and early childhood. Almost 90% of those contaminated amid the pre-birth period, 30% of those contaminated in early childhood, and 6% of those tainted after 5 a long time of age create inveterate contamination (9). Around nine in ten Nigerians who live with unremitting HBV are ignorant of their disease status and are lost from the worldwide open wellbeing measurements due to a need of assets, mindfulness, and political will for tending to Nigeria's HBV situation (5).

The hazard of contracting HBV in Nigeria is considerable, not as it were due to moo immunization rates but moreover given that as numerous as 75% of the populace will be uncovered (10). Healthcare laborers have a 3-5 times higher predominance of HBV than the

common populace, with specialists and dental specialists having higher detailed cases with predominance rate of around 25.7% (7,11) indeed in spite of the fact that a really compelling and secure immunization has been accessible all-inclusive since 1982 and was presented in Nigeria in 1995 (11). HBV remains a word related hazard to wellbeing laborers and therapeutic understudies due to moo immunization (12). Around two million HCWs universally each year are at hazard of getting to be tainted with HBV through their schedule obligations in their working environments, and exceptionally few HCWs are immunized (11). A few considers in Nigeria uncovered moo rates (20–50%) of hepatitis B immunization among HCWs, with reasons for non-vaccination counting a need of opportunity, numbness and the tall fetched of the antibody (11). HCWs are uncovered to HBV disease day by day, taking a deadly course in numerous cases. This disease is exceptionally preventable. Subsequently, it is basic that the inoculation status and the predominance of HBV contamination among HCWs in all heath offices are set up (11).

Clinical medical students, constituting a major part of health care workers are also at high risk of HBV infection. Hence, this study which is aimed at assessing the knowledge, attitude, and practice of Chukwuemeka Odumegwu Ojukwu University Clinical medical students.

Methods
Sampling Population and Design
The data for this study was collected among clinical student of Chukwuemeka Odumegwu Ojukwu University Awka. A cross-sectional survey was carried out design approach which was carried out between 8th of August till 15th of August 2022. Samples were selected randomly. Because of the researcher's interest different department of the clinical medical students within the university were randomly selected based on the population size and average number of students per (level). Efforts were made to design the study such that the respondents are the true representative of the study population as much as possible. This was achieved by employing probabilistic sampling and reaching out to a reasonable number of respondents within a very short period of time to avoid further contamination. Participants of the study were completely voluntarily, and no incentives were given to the respondents.

Sample Size Determination
Sample size was estimated based on the findings of knowledge regarding hepatitis B among clinical medical students in Chukwuemeka Odumegwu Ojukwu University Teaching Hospital Awka, Anambra State using the below sample size formula

$$\text{Sample size} = \frac{N}{(1+N(d)^2)}$$

Where:
N= Population size (200)
d = Level of precision = 0.05

$$n = \frac{200}{(1+200(0.0)^2)} = 133.4$$

Considering the attrition of 10%, the sample size becomes approximately 147.

Study Questionnaire

A questionnaire, which was self-administered and written in English was used as instrument for data collection in this study. The reliability tests were conducted on the questionnaire before it was used for the study. The questionnaire had 39 items grouped into five sections: socio-demographic, history of hepatitis, knowledge, attitude, and practice sections.

Statistical Data analysis

SPSS version 28.0 was used for data analysis and P-value of equal to or less than 0.05 was taken as significant. Descriptive analysis was initially conducted, which was then followed by normality test. The data was not normally distributed as such the following statistical tests were conducted:

- Chi-square test was conducted to determine the association of predictors variables with the outcome variable of interest (knowledge, attitude and practice related to hepatitis B).
- Spearman's correlation was used to determine the correlation between knowledge hepatitis B, attitude, and practice.

Response rate result and normality test

The successfully completed and returned questionnaires were 142 and eligible respondents were 147 giving an overall response rate of 96.59%. About 5 students were not available during data collection. Most of them went to their respective homes for personal reasons as such they were excluded from the study. Normality test was conducted, and the data was not normally distributed with Kolmogorov-Smirnov and Shapiro-Wilk tests showing p-value of less than 0.001.

Distribution of the respondents by socio-demography and history of hepatitis

Table 1 shows the distribution of respondents according to their socio-demographic characteristics. A total of 142 students participated in the study out of which 80 (56.3%) were males, and 62 (43.5%) were females. The ages of the respondents ranged between ≤ 20 and ≥ 40 years.

Table 1: Distribution of respondents by demography

Demographic Characteristics	Freq	%	Demographic Characteristics	Freq	%
Gender			**Study Level**		
Male	80	56.3	4th level	38	26.8
Female	62	43.7	5th level	49	34.5
Age			Final year	55	38.7
$\leq$20 Years	15	11.0			
21-29 years	81	57.0			
30-39 years	32	23.0			
$\geq$40 years	12	9.0			
Marital Status					
Single	116	81.7			
Married	22	15.3			
Divorced	00	0.00			

Widowed	04	3.0	

Correlation of knowledge, attitude, and practice regarding hepatitis B.
There were significant positive correlations between combinations of these variables: with strongest correlation found between knowledge of hepatitis B as 0.81, p-value<0.001. knowledge of hepatitis B with practice as 0.225, p-value < 0.001. Correlation between attitude and practice towards hepatitis B is 0.312, p-value 0.004. The implication is that the relationships never occurred by chance. The strong and positive correlation found between the knowledge of hepatitis proved that the respondents have more knowledge about hepatitis.

Table 2: Distribution of respondents by history of hepatitis

History of hepatitis	Freq	%		History of hepatitis	Freq	%
Family				**Hepatitis B vaccination status**		
Yes	34	23.9		Vaccinated	52	36.6
No	108	76.1		Not Vaccinated	79	55.6
Symptoms				I have forgotten	11	7.7
Yellowness of eye	56	39.4		**Doses of vaccine received**		
Dark Urine	44	30.9		1	52	36.6
Weakness and Fatigue	34	23.9		2	===	
None of the above	08	5.6		3	===	
Personal				4	===	
Yes	54	38.0		5	===	
No	88	62.0		6	===	
				7	===	
				I cannot remember	90	63.4

Table 2 shows the distribution of the respondents according to past history related to hepatitis. From the results suggest that 23.9% of the respondents have a family history of hepatitis and 38% have had personal experience of hepatitis either directly or indirectly. However only 36.6% of the respondents were vaccinated and have been vaccinated just once.

Table 3: Socio-demographic factors associated with knowledge, attitude, and practice towards Hepatitis B

Variables	Knowledge HBV		Altitude		Practice	
	Good	Poor	Good	Not Good	Safe	Unsafe
Gender						
Male	54 [38.0]	89 [56.5]	63 [40.3]	51 [49.1]	40 [31.0]	72 [51.7]
Female	88 [64.0]	53 [44.5]	79 [59.7]	91 [50.9]	102 [69.0]	70 [48.3]
	X^2=13.98	P= 0.000	X^2=22.90	P= 0.001	X^2=21.22	P= 0.007

Age						
≤20 Years	30 [21.1]	09 [6.3]	21 [14.8]	11 [7.70]	25 [17.6]	27 [19.0]
21-29 years	44 [30.9]	20 [14.1]	42 [29.6]	10 [7.04]	43 [30.3]	02 [1.40]
30-39 years	13 [9.2]	07 [4.93]	22 [15.5]	14 [9.90]	20 [14.1]	07 [4.93]
≥40 years	15 [21.1]	04 [2.82]	17 [11.9]	05 [3.50]	06 [4.23]	12 [8.45]
	X^2=18.54	P= 0.001	X^2=33.38	P= 0.002	X^2=3.76	P= 0.071
Student Level						
4th Level	23 [16.2]	30 [21.1]	20 [14.1]	11 [7.75]	10 [7.04]	02 [1.40]
5th Level	25 [17.6]	22 [15.5]	41 [28.9]	14 [9.90]	31 [21.8]	14 [9.86]
Final Year	39 [27.5]	03 [2.11]	56 [39.4]	04 [2.82]	77 [54.2]	09 [6.34]
	X^2=12.13	P= 0.003	X^2=30.32	P= 0.001	X^2=10.31	P= 0.004
Marital Status						
Single	98 [69.0]	18 [12.9]	82 [57.7]	34 [23.9]	81 [57.0]	35 [24.6]
Married	21 [14.8]	01 [0.70]	15 [10.6]	07 [4.92]	14 [9.90]	08 [5.63]
Divorced	====	=====	======	======	======	=====
Widowed	04 [2.81]	0 [0.00]	02 [1.41]	02 [1.41]	03 [2.11]	01 [0.70]
	X^2=16.98	P= 0.004	X^2=22.14	P= 0.001	X^2=4.29	P= 0.091

Table 3 above shows the discussion of factors that is associated with knowledge, attitude, and practice among clinical medical students of Chukwuemeka Odumegwu Ojukwu University, Awka.

Table 4: Other factors associated with knowledge, attitude, and practice towards Hepatitis B

HBV Contamination Method	n = 142		Chi-Square
	Yes	No	
Mother to child transfusion	54 [38.0]	31 [21.8]	X^2=39.54 (P=0.011)
Contact with infected body fluids	49 [34.5]	08 [5.6]	
Mucus	19 [13.4]	23 [16.2]	
Needle stick injury and cuts	43 [30.3]	21 [14.8]	
Vaginal fluid	31 [21.8]	05 [3.5]	
History of Vaccination			
Vaccinated	52 [36.6]	=====	X^2=21.67 (P=0.027)
Not Vaccinated	79 [55.5]	=====	
Can't Remember	11 [7.7]	=====	

Table 4 outlines other factors that could be associated with knowledge, attitude, and practice towards Hepatitis B. The Chi- Square results indicates that HBV contamination method and history of vaccination is seen to have a significant association with knowledge, attitude, and practice towards Hepatitis B at 5% level of significance.

Discussion of Findings
The purpose of this study was to evaluate the knowledge, attitudes, and practices of Chukwuemeka Odumegwu Ojukwu University Teaching Hospital Clinical medical students on hepatitis B. The results showed that the percentages of clinical medical students who knew more about hepatitis B were generally typical. A little over half of the students reported having a good attitude about the disease, which indicates a rather high frequency of positive attitudes among the respondents. However, the majority of participants demonstrated better practices, which indicates that the proportion of participants with safer hepatitis B practices is good.

Gender was substantially linked to safer hepatitis B prevention methods. Compared to men, women were much more likely to undertake safer illness management. This might be accounted for by the fact that women are often more cautious than men in their daily activities. Similar to the findings of Khan et al., females made up a considerably higher proportion of respondents than males who had better awareness about hepatitis B.

The study's participants' ages were related to safer behaviors and a favorable attitude toward hepatitis B. Compared to other age groups, participants aged 20 to 29 had a higher proportion of individuals with stronger knowledge about Hepatitis B.

In this study, it was discovered that respondents' attitudes concerning hepatitis B and their marital status were related. Compared to singles and other categories, married respondents knew more about hepatitis B.

However, there was a correlation between study level and the degree of hepatitis B knowledge, with final year students having higher levels of knowledge than other categories of students. The finding can be reinforced by the fact that as a student moves forward in their studies, there is a greater likelihood that they will be more knowledgeable about their subject of study as well as other relevant knowledge and skills that can be learned through seminars.

Conclusion
Hepatitis B is a huge global public health challenge that has affected a great percentage of the world's population. It is also responsible for the high prevalence of cirrhosis and hepatocellular carcinoma. It is a highly infectious disease that is more infectious than HIV. However, this highly infectious disease is preventable by taking adequate measures and getting vaccinated against the virus. Hence, this study that assessed the knowledge, attitude and practice of Chukwuemeka Odumegwu Ojukwu University Medical students towards hepatitis B. This is because as medical students, they are at high risk of occupational exposure to the virus. The result of the study showed that the respondents possess a positive attitude and practice towards the disease. However, their attitude improves with advancement in age and study levels.
Medical students are hereby advised to develop a positive attitude towards the disease as it will help reduce spread of the disease.

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