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# Analysis of the knowledge of and attitude to Hepatitis B virus among Students of the University of Ibadan, Nigeria

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**ABSTRACT**

*The objective of this study was to examine the extent at which the national policy on hepatitis (2016-2021) plan has been successful in increasing the awareness and knowledge of the virus among youth, with focus on undergraduate students of the University of Ibadan. The Health Belief Model (HBM) was used to frame this study. This study selected 395 non-health related students of the university, using stratified and purposive sampling techniques. The awareness, perceived susceptibility, perceived severity and practices of the students regarding the virus were investigated. The data gathered were analysed using descriptive and inferential statistics. Findings revealed low knowledge, perceived susceptibility and vaccination among the students. Major barriers to vaccination were poor accessibility to the vaccine, lack of time and knowledge about availability of the vaccine. We recommended that the health centre of the university should do more in educating the students and those who visit the hospitals on HB. Posters, billboards, awareness campaigns and other communication channels should be adopted to increase the knowledge of the students about the virus. There was need for government to pay more attention to the virus as it is done for HIV/AIDS. We also recommended the need for more orientation, sensitisation and education on hepatitis B virus on the conventional media and the social media across the country*

## INTRODUCTION

Hepatitis B Virus (HBV) is a virus that causes inflammation of the liver in the host (human). The disease is considered highly contagious and about 100 times deadlier than HIV (CDC, 2016). HBV has been reported to be the most responsible for liver cancer in the world (Lai & Sagnelli, 2018). According to World Health Organisation (WHO, 2017), about 325 million people are living with chronic hepatitis, with Africa accounting for 71 million of this infected population.

In 2016, The Federal Government of Nigeria launched a national policy programme to eradicate the disease (2016-2021) and several sensitisation programmes have been rolled put via various channels. It is imperative to examine the impact of various anti-HBV campaigns on the knowledge, attitude and practice among the youth; especially non-health related undergraduate students of universities, using the constructs of the Health Belief Model (HBM). This was to examine the extent

at which the various campaigns have been successful in raising awareness, knowledge and prompting people to act against the virus. This study has the following objectives:

(i) To determine the level of knowledge of undergraduates about Hepatitis B virus
(ii) To determine the level of perceived severity of HBV among the students
(iii) To determine risk perception of undergraduates about Hepatitis B virus
(iv) To assess the level of vaccination against Hepatitis B virus among undergraduates
(v) To assess factors preventing undergraduates from getting vaccinated against the Virus

**METHODOLOGY**

This study was carried out at the University of Ibadan, Nigeria. It has a population of 32, 228 students. It has the largest number of post-graduate students in Sub-Sahara Africa. The focus of this study was on the non-health science undergraduate students of the university. The major health centre available within the University Health is Jaja Clinic. The clinic offers medical services to the students, members of staff and members of the community.

Using the modified Leslie Fisher formula, 395non-health science undergraduate students of the University were selected for this study. The researchers adopted multi-stage sampling technique. There are ten (10) halls of residence for undergraduates in the university. Using simple balloting, the researcher selected four out of the 10 halls. Thereafter, two blocks from each of the selected halls were randomly selected through simple balloting. With the aid of a sample frame, rooms were selected using systematic random sampling while the selection of two respondents per room was done using simple balloting.

A semi-structured, self-administered and pretested questionnaire was used to collect data from the respondents. The questionnaire was structured to elicit adequate and appropriate responses from the respondents. At the end of data collection, 344 copies of questionnaire were completed and returned. For the analysis of data gathered, Statistical Package for the Social Sciences (SPSS) was used to analyse the KAP of HBV among the population of study. Tables, charts and chi-square were used for the analysis.

**RESULTS AND DISCUSSION**

The results of the data collected from the students are presented, analysed and discussed in this session. The respondents' demographic characteristics were first analysed before their responses were discussed.

**Analysis of Respondents' Demographic Characteristics**

**Table 1: Demographic Characteristics of the Respondents**

| | | **Frequency (N = 344)** | **%** |
|---|---|---|---|
| Gender | Male | 194 | 56.4 |
| | Female | 150 | 43.6 |
| Age | 16-20 | 210 | 61.0 |
| | 21-25 | 124 | 36.0 |
| | 26-30 | 10 | 2.9 |
| Marital status | Married | 20 | 5.8 |
| | Single | 324 | 94.2 |
| Level | 100 | 174 | 50.6 |
| | 200 | 100 | 29.1 |
| | 300 | 40 | 11.6 |
| | 400 | 22 | 6.4 |
| | 500 | 6 | 1.7 |
| | 600 | 2 | 0.6 |
| Religion | Christianity | 230 | 66.9 |
| | Islam | 114 | 33.1 |

Source: Field survey, 2019

Table 1 revealed that the two genders were adequately represented but the male students were more than the females. It also showed that most of the respondents were between ages 16 and 20 years (61%), followed by those between 21 and 25 (36%) while 26 and above had just 2.9%. As expected, majority (94.2) of the respondents were unmarried. As also revealed, half of the respondents were in their first year, followed by the 29.1% in the second year and the representation declines as the number of years in school increases. This may be due to the fact that hostels were usually reserved for new students while "stalites" do prefer to live off-campus. Lastly, more than half of the respondents (66.9%) practised Christianity while 33.1% were Muslims.

**Analysis of Responses**

The responses of the students to the items on the questionnaire are presented and discussed in relationship to the objectives of this study below:

**Table 2: Knowledgeable of Hepatitis B Virus**

| **Awareness of HBV** | **Frequency** | **%** |
|---|---|---|
| Yes | 308 | 89.5 |
| No | 36 | 10.5 |
| **Total** | **344** | **100** |
| **Awareness of HBV programme** | | |
| Yes | 64 | 18.6 |
| No | 244 | 70.9 |
| **Total** | **308** | **100** |
| **Sources of knowledge about HBV** | | |
| Radio | 34 | 11.0 |
| Television | 89 | 28.9 |
| News Paper | 50 | 16.2 |
| Internet | 46 | 14.9 |
| University health centre | 6 | 1.9 |
| Clinic/hospital | 14 | 4.5 |
| Friends/family | 50 | 16.2 |
| Others | 19 | 6.2 |
| **Total** | **308** | **100** |
| **HBV affects which organs** | | |
| Kidney | 69 | 22.4 |
| Intestine | 98 | 31.8 |
| Liver | 126 | 40.9 |
| Lungs | 15 | 4.9 |
| **Total** | **308** | **100** |
| **HBV can be transmitted through the following except** | | |
| Body contact with infected person | 34 | 11.0 |
| Sharing sharp objects with sufferer | 70 | 22.7 |
| Mother to child | 26 | 8.4 |
| Sexual intercourse | 37 | 12.0 |
| Blood transfusion | 10 | 3.2 |
| Contaminated blood or water | 131 | 42.5 |
| **Total** | **308** | **100** |

Source: Field survey, 2019

As presented in table 2, 308 (89.5%) of the total respondents wereaware of the existence of HBV. This implies that majority of the students were aware of the existence of the virus. Subsequent analyses in this study were based on the responses gathered from the 308 respondents that were aware of the existence of HBV.Despite the fact that majority (308) of the students were aware of HBV, only 64 (18.6%) of them were aware of government efforts to raise awareness and eradicate

the virus. This may be as a result of the poor communication about and attention given to the virus by government and the relevant stakeholders in the health sector.

Also, more than a quarter of the students got the knowledge of the virus through TV while 16.2% of them got the knowledge through newspaper and interpersonal communication with friends and family. Significantly, there was little education about the virus at the university health centre and hospitals, which should have provided the students with adequate information and education on the virus and its vaccination. HBV affects the liver of an infected person but less than half (40.9%) of the respondents were knowledgeable about this. Lastly, HBV cannot be transmitted through body contact with an infected person but only 34 (11.0%) of the respondents answered correctly. The implication of these findings is that despite the high level of awareness about HBV, the students' knowledge of the virus is very low.

**Table 3: Respondents' Perceived severity of HBV**

| Items | Yes | No | I don't know | Total |
|---|---|---|---|---|
| HBV is as deadly as HIV/AIDS | 221 (71.8) | 73 (23.5%) | 14 (4.5%) | **308 (100%)** |
| HBV can lead to liver cancer | 228(74%) | 62 (20,1%) | 18 (5.8%) | **308 (100%)** |
| HBV can lead to death | 234 (76%) | 56 (18.2%) | 18 (5.8%) | **308 (100%)** |

Source: Field survey, 2019

The table above showed the level of perceived severity of HBV by the respondents/students. The table shows that majority of the students perceived HBV as deadly (71.8%), HBV can lead to liver cancer (74.0%) and it can lead to death (76.0%). The implication of this is that there is high perceived severity of HBV among the respondents.

**Table 4: Respondents' perceived risk and susceptibility to HBV**

| Items | Yes | No | Total |
|---|---|---|---|
| Have you ever thought that those you are close to may have HBV | 60 (19.5%) | 248(80.5%) | 308(100%) |
| Do you have any worry about yourself been infected by HBV | 92 (29.9%) | 216(70.1%) | 308(100%) |
| Anybody can get HBV | 200(64.9%) | 108(35.1%) | 308(100%) |
| I can have it without signs and symptoms | 82 (26.6%) | 191 (62%) | 308(100%) |

Source: Field survey, 2019

The table above showed the level of perceived risk and susceptibility to the virus. As revealed, although more than half (200, 58.1%) of the respondents believed that anybody couldcontract the virus, majority of them never thought they may be infected with the virus (72%) or never thought they could have it without any sign or symptom (55.55%). The implication of this finding is that the students did not perceive themselves as being highly susceptible to contracting the virus, despite high perceived severity rate among them.

**Table 5: Vaccination against HBV**

| Responses | FREQ | % |
|---|---|---|
| Yes | 80 | 26.0 |
| No | 228 | 74.0 |
| **Total** | **308** | **100** |
| **Period of vaccine reception** | | |
| No response | 229 | 74.4 |
| Less than 1 month ago | 10 | 3.2 |
| 1 to 3 months ago | 16 | 5.2 |
| More than 6 months ago | 53 | 17.2 |
| **Total** | **308** | **100** |

Table 5 showed that out of the 308 respondents who were aware of the virus, only 80 (26%) of them said they had received the vaccination. This implies that the level of vaccination against the virus among the students is very low. This may be connected to low level perceived susceptibility to the virus among them. The table also revealed that out of the 80 respondents (26%), who said they had received the vaccine, only 10 of them received it less than a month before the study and majority of them (53) received the vaccine more than 6months before this study.

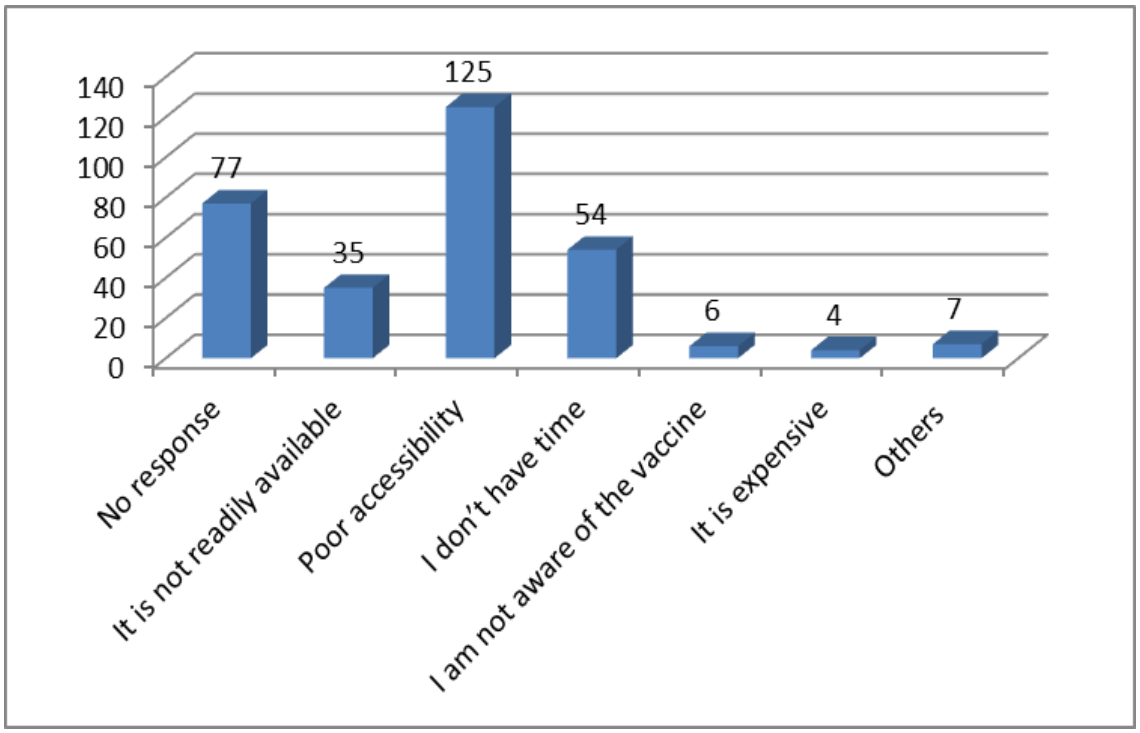



Figure 1: Reasons respondents were not vaccinated

Figure 1 showed the barriers to action on HBV vaccination. As shown in the table, most of the respondents who had not been vaccinated (125) said that the vaccine is not easily accessible. This is followed by those who said they do not have time and 35 (11.4%) of the respondents that said it is not readily available.

**Table 6: Respondents' practices in relation to HBV**

| | Yes | No | Total |
|---|---|---|---|
| Do you know your HBV status | 81(26.3%) | 227 (73.7%) | 308 (100%) |
| Do you have any plan to get screened for HBV soon | 114 (37%) | 194 (63%) | 308 (100%) |
| I plan to know my partner's status before marriage | 192 (62.3%) | 116 (37.7%) | 308 (100%) |

Source: Field survey, 2019

This table revealed that only 26% of the respondents know their HBV status but majority (63%) of them are not ready to get screened for the virus. This finding showed the need for more education and sensitisation on the need to get screened for the virus by the people.

**Chi-Square Analysis**

We examined if there exists any relationship between the demographic characteristics of the students their awareness and knowledge of the virus, programmes and vaccination against the virus.

**Table 7: Test of association between demographics data and awareness of HBV**

| Factors | Df | Chi square | p-value | Decision |
|---|---|---|---|---|
| Sex | 1 | 0.672 | 0.180 | Insignificant |
| Age | 2 | 0.005 | 10.585 | Significant |
| Education | 5 | 0.000 | 22.585 | Significant |

Source: Field survey data, 2019

This table revealed that there was no significant association between sex of the respondents and their awareness of the hepatitis B virus while there was significant association between age and educational level of the respondents and their awareness of the hepatitis B virus.

**Table 8: Test of association between demographics and awareness of HBV programme**

| Factors | Df | Chi square | p-value | Decision |
|---|---|---|---|---|
| Sex | 1 | 0.798 | 0.066 | Insignificant |
| Age | 2 | 0.061 | 6.139 | Insignificant |
| Education | 5 | 0.006 | 16.219 | Significant |

Source: Field survey data, 2019

This table revealed that only the level of education of the respondents was significant to their awareness of programmes to sensitise the people and prevent the spread of HBV.

**Table 9: Test of association between demographics and knowledge of HBV status**

| Factors | Df | Chi square | p-value | Decision |
|---|---|---|---|---|
| Sex | 1 | 0.962 | 0.002 | Insignificant |
| Age | 2 | 0.113 | 4.361 | Insignificant |
| Education | 5 | 0.005 | 16.868 | Significant |

Source: Field survey data, 2019

The information presented in table 9 revealed that as the respondents grow in terms of educational level, so also their knowledge about HBV grows.

**Table 10: Test of association between demographics and HBV vaccine reception**

| Factors | Df | Chi square | p-value | Decision |
|---|---|---|---|---|
| Sex | 1 | 0.083 | 3.000 | Insignificant |
| Age | 2 | 0.576 | 1.102 | Insignificant |
| Education | 5 | 0.050 | 17.707 | Significant |

Source: Field survey data, 2019

Similar to the previous finding, it was found that respondents' level of education was significant to their HBV vaccine reception.

From the above findings, it can be inferred that respondents' level of education was the most significant factor to their awareness, knowledge and vaccination of HBV. Sex had no significant relationship with any of the variables while age only showed significant relationship with the students' awareness of HBV.

**Relationship between sources of information on HBV on other variables**

We also inquired to test if any significant relationship exists between source of information on HBV and awareness of HBV programme, knowledge about their HBV status, screening for HBV and reception of HBV vaccine.

**Table 11: Test of Association with sources of information**

| | p-value | Df | Chi square | Decision |
|---|---|---|---|---|
| Awareness of HBV Programme | 9.231 | 7 | 0.237 | Insignificant |
| Knowledge of HBV status | 25.377 | 7 | 0.001 | Significant |
| Screening for HBV | 31.383 | 21 | 0.068 | Insignificant |
| Reception of HBV vaccine | 12.245 | 7 | 0.093 | Insignificant |

Source: Field survey data, 2019

From the above findings presented in table 11, we can conclude that the sources of information through which the students get to know about HBV shows significant relationship with their knowledge about their HBV status as other tests of association are insignificant.

**CONCLUSION**

From the analysis of data, this study can conclude that despite the high awareness level of HBV among the students, their knowledge about the virus is below average. This aligns with the findings of Okonkwo, Otu, Ameh and Okpara (2018) in Cross River state, Nigeria. It was expected that there would be high level of knowledge of HBV among university students but this study has proven otherwise. This is unconnected from the fact that majority of the students are not aware of any HBV awareness, sensitisation and prevention programmes.

Similarly, it was found that most of the students got to know about HBV majorly through television, newspaper and interpersonal interaction respectively; while very few of them got the information from clinics and university health centre. This shows that the university health centre and clinics around have not done enough to educate the people about the virus, a concern raised at the beginning of this study as we have observed that government do not give adequate attention to the virus as done for HIV/AIDs. This finding can also be related to the fact gap about HBV exists among health workers in Nigeria (Aderigbigbe, Salami &Babatunde, 2009; Samuel *et al,* 2009; Fufore, Cook & Kirfi, 2016)

This study also revealed that the virus has high perceived severity among the students. Despite this, majority of them do not perceive themselves as being susceptible to the virus. Furthermore, we found that a large percentage of the students are not vaccinated against the virus and this is majorly caused by poor accessibility to the vaccine (40.9%). Other factors are lack of time to go for the vaccine and lack of knowledge about availability of the vaccine. This confirms the finding of Breakwell et al. (2017) that HBV vaccination is not available everywhere in the country and does not represent the true burden of the virus among children in the country.

Additional findings revealed that the majority of the students, due to low perceived susceptibility to the virus, are not ready to know their HBV status anytime soon. Also, we found that respondents' level of education is significant to their awareness, knowledge and vaccination of HBV, their age only shows significant relationship with their awareness of HBV while gender shows no significant relationship with any of the variables. Lastly, the sources through which the students received information regarding the virus only show significant relationship with their knowledge about their HBV status but not with awareness, knowledge, vaccination and screening for HBV antigen.

**RECOMMENDATIONS**

From the above findings, we recommend that the health centre of the university should do more in educating the students and those who visit the hospitals on HB. Posters, billboards, awareness campaigns and other communication channels should be adopted to increase the knowledge of the students about the virus. Also, there is need for government to pay more attention to the virus as it is done for HIV/AIDS. There is also need for more orientation, sensitisation and education on hepatitis B virus on the conventional media and the social media across the country.

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