Original Article

Knowledge of Hepatitis B Virus Infection Among Traders

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ABSTRACT

Introduction: Hepatitis B virus (HBV) is a public health problem in Nigeria, with 13% of its general population having evidence of a previous or current infection. Lack of awareness of HBV, its risk factors, and its consequences are recognized as major deterrents to adopting positive preventive behavior including immunization among HBV high-risk groups. **Objective:** The objective of this study is to evaluate the knowledge, attitude, and practice (KAP) of HBV infection among traders. **Materials and Methods:** A structured KAP questionnaire on HBV infection was administered to traders as part of the activities to mark the World Hepatitis Day in 2014. A score was created for the correct answer to 20 questions. **Results:** A total of 335 traders were interviewed for this study. The mean age was 33.08 ± 13.8 years and the median age was 29 years. There were 165 males and 170 females. Majority of the traders had secondary education (57.1%) and were of the Ibibio and Igbo tribes. Only 10.4% had HBV vaccination. Only 44.2% of the traders reported having any knowledge of HBV. The most common source for the knowledge was television/radio (25%) and hospitals (22%). The median (interquartile range) of the overall KAP score was low (11, 5–16). The score was least in persons aged 35 years and above, but the difference was not statistically significant (P = 0.33). **Conclusion:** The knowledge of HBV is low among traders in Calabar metropolis. There is need to intensify educational campaigns for the general public.

KEYWORDS: *Attitude and practice, hepatitis B virus, knowledge, traders*

INTRODUCTION

Infection with hepatitis B virus (HBV) is a serious global public health problem. It remains the major cause of liver-related morbidity and mortality, especially in developing countries such as Nigeria.[1] HBV is a DNA virus which is known to be 100 times more infectious than the human immunodeficiency virus (HIV). It can be transmitted through blood or other body fluids during sexual and nonsexual contacts. Mothers can also transmit it to their children in the perinatal period.[2] It is the second most common carcinogenic agent after tobacco and a major cause of liver cirrhosis and liver cancer, both of which have poor outcomes in terms of morbidity and mortality.

Worldwide, two billion people have been infected with HBV; 360 million have chronic infection, and 600,000 die each year from HBV-related liver diseases, especially liver cancer.[3] In developed countries of America and Europe, the prevalence of HBV infection ranges between 2 and 7%. However, in developing countries in Asia, Africa, and the Middle East, HBV prevalence rates are much higher, reaching 5–20% in the general population.[4] Such variations are related to geographical, social, and cultural factors that relate to the different modes of transmission in these areas.[5,6] The prevalence of HBV infection in Nigeria is high ranging between 7 and 22%.[7] The World Health Organization has estimated that 20 million Nigerians are infected with HBV and about 5 million die as a result of the consequences.[8]

Knowledge, attitude, and practice (KAP) survey is the most frequently used study tool in determining the health-seeking behavior of any population.[9] Knowledge is typically assessed to ascertain to what extent the individual/community knowledge corresponds to biomedical concepts. Attitude, on the other hand, has been defined as "a learned predisposition to

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think, feel, and act in a particular way toward a given situation."[10] Studies have shown a positive linear correlation between knowledge of a particular illness and attitude (health-seeking behavior).[11,12] Vaccination for HBV was introduced in Nigeria as part of the national immunization program about a decade ago and most hospitals and laboratories screen for HBV and hepatitis C virus before transfusion. Nonetheless, the prevalence of HBV has remained particularly high as a result of certain traditional/cultural practices and lack of knowledge about the modes of acquisition and prevention. This lack of awareness of HBV, its risk factors, and its consequences are recognized as major deterrents to adopting positive preventive behavior including immunization in HBV endemic populations.[11] Although a number of studies have assessed KAP of HBV in various categories of health workers in Nigeria, few has been done among healthy members of the general population. It is hoped that information from this study will be useful in developing need-based educational materials on HBV for the general population.

Aims and objectives

The aim of this study was to determine KAP of HBV infection among traders in a central market.

Materials and Methods

This was a cross-sectional, descriptive study. A structured KAP questionnaire on HBV infection was administered to traders in a central market after obtaining a written informed consent as part of the activities to mark the World Hepatitis Day in 2014. A score was created for the correct answer to 20 questions. Components of the questionnaire included questions on knowledge of nature of HBV (5 questions), transmission (12 questions), prevention and control (2 questions), and perception (1 question) [Appendix 1]. Before starting data collection, the research team thoroughly reviewed the questionnaire and received orientation training on communication skills and the administration of data collection instrument. Individuals were eligible for inclusion in the study if they were adults (aged at least 18 years) and willing to provide informed consent.

Data analysis

Data generated from the study were analyzed using the Statistical Package for Social Sciences (SPSS) Version 20. Continuous variables were presented as means and standard deviation while categorical variables were presented as percentages. KAP and its components' scores were treated as nonparametric data and compared between demographic variables using Wilcoxon–Mann–Whitney test. Statistical significance was established as $P < 0.05$.

Results

A total of 335 traders were interviewed for this study. The mean age was 33.08 ± 13.8 years, and the median age was 29 years. There were 165 males and 170 females.

Table 1: Overall knowledge, attitude and practice (KAP) scores by socio-demographic characteristics

Characteristics	*N* (%)	Overall kap score Median (IQR)	*P* value†
Age groups <25 years	51 (35.7)	12 (3-19)	
25-34 Years	38 (26.5)	11 (3-17)	0.335
35+Years	54 (37.8)	9 (3-18)	
Gender			
Male	70 (47.6)	11 (5-16)	0.919
Female	77 (52.4)	11 (5-16)	
Educational level			
Primary	9 (6.4)	9 (7-9)	0.391
Secondary	80 (57.1)	12 (3-19)	
Tertiary	46 (32.9)	11 (3-18)	
None	5 (3.6)	14 (7-16)	
Marital status			
Single	83 (56.5)	11 (6-16)	0.819
Married	59 (40.1)	9 (5-16)	
Widower	5 (3.4)	12 (9-14)	
Family size as a child			
≤4	30 (33)	11 (7-16)	0.486
5-9	49 (53.9)	12 (6-17)	
10+	12 (13.1)	14 (9-17)	

Table 2: Nature of HBV Knowledge, attitude and practice (KAP) scores by socio-demographic characteristics

Characteristics	*N* (%)	Nature kap score Median (IQR)	*P* value†
Age groups			
<25 years	51 (35.7)	3 (1-5)	0.04*
25-34 years	38 (26.5)	4 (1-5)	
35+years	54 (37.8)	1.5 (1-3)	
Gender			
Male	70 (47.6)	3 (1-4)	0.474
Female	77 (52.4)	2 (1-4)	
Educational level			
Primary	9 (6.4)	1 (1-3)	0.501
Secondary	80 (57.1)	2.5 (1-4)	
Tertiary	46 (32.9)	2 (1-4)	
None	5 (3.6)	3 (1-3)	
Marital status			
Single	83 (56.5)	2 (1-4)	0.829
Married	59 (40.1)	2 (1-4)	
Widower	5 (3.4)	3 (1-5)	
Family size as a child			
≤4	30 (33)	3 (2-5)	0.17
5-9	49 (53.9)	3 (1-4)	
10+	12 (13.1)	1 (1-2.5)	

Table 3: frequency of correct answers on transmission of HBV

Route of transmission	Yes(%)	No(%)
Sexual exposure	52.7	43.2
Sharps	57.8	38.1
Blood transfusion	62.6	33.3
1Ntravenous drug use	51.7	44
Sharing tooth brushes	49.3	46.6
Scarification/tattoo	43.8	52.7
Vertical	50	40.6
Horizontal	34.7	61.1

Table 4: Prevalence of risk behaviors associated with HBV acquisition

Prevalencve risk behavior associated with HBV acquisition	Yes(%)
Have multiple sexual partners	71.6
Shares sharps	51.7
Shares tooth brushes	11.5
Had female cicumscision	24.7
Received im/iv injection from quacks	44.6
Scarification/tattoo/tribal marks	14.2
Unvaccinated against hbv	87.6

A minority of the respondents were either divorced (3%) or widowed (2.4%) while majority were single (56%) or married (41%).The majority had formal education (97.2%), usually secondary education, and were of the Ibibio and Igbo tribes. Only 44.2% reported having any knowledge of HBV. The median (interquartile range) of the overall KAP score was low (11, 5–16) and showed no significant variation according to sociodemographic characteristics [Table 1]. Knowledge of the nature of HBV virus varied significantly with age with those aged 35 years and above having the least score (P = 0.04) [Table 2]. Most (66%) of the respondents believed that HBV is treatable, and even a greater majority (72.6%) responded that it can be prevented by immunization. Nonetheless, only 10.4% reported HBV vaccination and 2.3% actually received three doses of the vaccine. Sixty-three percent did not perceive themselves at risk of acquiring HBV infection while 19% believe it can cause liver cancer. Table 3 shows the frequency of correct answers to routes of HBV transmission. Table 4 shows prevalence of risk behaviors that can predispose to HBV acquisition, and the sources of information concerning HBV.

Discussion

KAP of HBV infection among different categories of health care workers in Nigeria has been widely documented,[13-15] but few data are available for the general population. It is hoped that this study which examined KAP of HBV infection among market traders will fill a gap. The awareness level of 44% for HBV reported in this study is much lower than the 96% reported among hospital workers in Nigeria.[15] This high awareness level was attributed to the frequent educational programs on hepatitis in the hospital environment as well as frequent contact with patients with chronic complications of hepatitis B, a common reason for hospital admission in Nigeria. We are reporting a low overall KAP (11, 5–16) level for HBV with no significant variation according to age, gender, or level of education (P > 0.5). This is comparable to a score of (16, 6–26) obtained among military personnel in Saudi and a mean score of 12 among Chinese immigrants in the USA.[16,17] Overall KAP scores on nature of HBV were much lower than KAP scores on transmission. Younger persons <35 years had higher KAP scores on nature of HBV compared to persons older than 35 years, and the difference was statistically significant (P = 0.04). Similar results were obtained in another study in Nigeria which reported that predictors of good knowledge of HBV included being <35 years among other variables.[15] This may be because of the relatively increasing awareness of HBV and other sexually transmitted diseases such as HIV in both electronic and social media over the last two decades. Common methods of HBV transmission such as blood transfusion, sexual intercourse, and vertical transmission acknowledged by the respondents were limited (62%, 53%, and 50%, respectively) but were higher than those reported among Saudi military (58%, 40%, and 30%, respectively).[16] The authors suggested that the low KAP scores reported in their study may be due to the highly conservative nature of the Saudi community who find it embarrassing to openly discuss issues such as sexually transmitted diseases or safe sex with partners and friends.

Participants in this study showed poor practice toward HBV. Majority of the participants admitted exposing themselves to risk behaviors that can predispose them to HBV infection such as having multiple sexual partners, sharing sharp objects/toothbrushes, and undergoing traditional female circumcision. Despite being aware of the availability of HBV vaccine, majority of the participants were not vaccinated against HBV. Similar results were reported even among health workers in Nigeria where only 18–65% had received and completed HBV vaccination in spite of a high vaccine awareness level and occasional vaccination program for staff in some of the hospitals.[15,18,19] Having a tertiary education, a previous hepatitis B surface

antigen test, and being male were identified as factors associated with HBV vaccination among healthcare workers although this was not assessed in this study. On the other hand, lack of awareness, nonavailability of vaccine, and high cost had been reported as some of the reasons for not being vaccinated.[15,19-21] Studies in far Eastern Asia, a region with high HBV prevalence, showed HBV vaccine coverage of 94–100% among medical specialists as a result of government policy.[22,23] ul Haq *et al*.[11] in their assessment of KAP toward HBV in a healthy population in Pakistan noted that participants tended to have poor practices toward HBV because of the poor knowledge of the nature and consequences of HBV infection. This study showed that 19% of the participants are aware that HBV can cause liver cancer. Even a greater percent did not perceive themselves at risk of having HBV infection.

On the contrary, Shalaby *et al*.[12] in Egypt reported good knowledge of HBV among barbers and their clients which was proportionately related to their attitude and practices including adequate knowledge of precautionary measures and better vaccine uptake.

Mass media and hospitals were the common sources of HBV knowledge in this study, and it differs from reports from Pakistan and Egypt which showed that friends and relatives were the major sources of information concerning HBV. This may be explained by the high level of stigmatization associated with being HBV positive in our environment and as such persons with a positive status tend to hide it from friends and relations.

Several studies have underscored the importance of public health education, vaccination of at-risk population, and early and adequate treatment of infected persons as means of controlling the scourge of viral hepatitis B in endemic populations.[7,24,25] The lack of awareness of HBV and poor preventive practices observed in this study are an impediment to its effective eradication.

Conclusion

This study showed there were poor knowledge and practices for HBV among traders, and this may be extrapolated to the general population. The findings are indicative of a lack of basic understanding of infection control and the prevention of transmission of HBV. There is need to intensify public awareness campaigns and possibly enforce a mandatory immunization policy amongst adults to improve the health behavior toward HBV prevention.

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Conflicts of interest

There are no conflicts of interest.

References

1. Eke AC, Eke UA, Okafor CI, Ezebialu IU, Ogbuagu C. Prevalence, correlates and pattern of hepatitis B surface antigen in a low resource setting. Virol J 2011;8:12.
2. Lavanchy D. Hepatitis B virus epidemiology, disease burden, treatment, and current and emerging prevention and control measures. J Viral Hepat 2004;11:97-107.
3. Shepard CW, Simard EP, Finelli L, Fiore AE, Bell BP. Hepatitis B virus infection: Epidemiology and vaccination. Epidemiol Rev 2006;28:112-25.
4. Zuckerman AJ. More than third of world's population has been infected with hepatitis B virus. BMJ 1999;318:1213.
5. Kiire CF. The epidemiology and control of hepatitis B in sub-Saharan Africa. Prog Med Virol 1993;40:141-56.
6. Stevens CE, Beasley RP, Tsui J, Lee WC. Vertical transmission of hepatitis B antigen in Taiwan. N Engl J Med 1975;292:771-4.
7. Bojuwoye BJ. The burden of viral hepatitis in Africa. West Afr J Med 1997;16:198-203.
8. World Health OrganizationDepartment of Communicable Disease, Surveillance and Response. CSR; 2002. Available from: http://www.WHO/hepatitis/200.htm. [Last accessed on 2014 Jul 10]
9. World Health Organization Advocacy, Communication and Social Mobilization for Tcontrol: A Guide to Developing Knowledge, Attitude and Practice Surveys. Available from: http://www.whqlibdoc.who.int/publications/2008/9789241596176_eng.pdf
10. Yoder PS, Negotiating relevance: Belief, knowledge, and practice in international health projects. Med Anthropol Q 1997;11:131-46.
11. ul Haq N, Hassali MA, Shafie AA, Saleem F, Farooqui M, Aljadhey H. A cross sectional assessment of knowledge, attitude and practice towards hepatitis B among healthy population of Quetta, Pakistan. BMC Public Health 2012;12:692.
12. Shalaby S, Kabbash IA, El Saleet G, Mansour N, Omar A, El Nawawy A. Hepatitis B and C viral infection: Prevalence, knowledge, attitude and practice among barbers and clients in Gharbia governorate, Egypt. East Mediterr Health J 2010;16:10-7.
13. Okeke EN, Ladep NG, Agaba EI, Malu AO, Hepatitis B vaccination status and needle stick injuries among medical students in a Nigerian university. Niger J Med 2008;17:330-2.
14. Okwara EC, Enwere OO, Diwe CK, Azike JE, Chukwulebe AE. Theatre and laboratory workers awareness of and safety practices against hepatitis B and C infection in a sub-urban university teaching hospital in Nigeria. Pan Afr Med J 2012;13:2.
15. Adekanle O, Ndububa DA, Olowookere SA, Ijarotimi O, Ijadunola KT. Knowledge of hepatitis B virus infection, immunization with hepatitis B vaccine, risk perception, and challenges to control hepatitis among hospital workers in a Nigerian tertiary hospital. Hepat Res Treat 2015;2015:439867.
16. Al-Thaqafy MS, Balkhy HH, Memish Z, Makhdom YM, Ibrahim A, Al-Amri A, *et al.* Improvement of the low knowledge, attitude and practice of hepatitis B virus infection among Saudi national guard personnel after educational intervention. BMC Res Notes 2012;5:597.
17. Taylor VM, Tu SP, Woodall E, Acorda E, Chen H, Choe J, *et al.* Hepatitis B knowledge and practices among Chinese immigrants to the United States. Asian Pac J Cancer Prev 2006;7:313-7.
18. Adebamowo CA, Odukogbe AA, Ajuwon AJ. Knowledge, attitude, and practices related to hepatitis B virus infection among Nigerian obstetricians and midwives. J Obstet Gynaecol 1998;18:528-32.

19. Kesieme EB, Uwakwe K, Irekpita E, Dongo A, Bwala KJ, Alegbeleye BJ. Knowledge of hepatitis B vaccine among operating room personnel in Nigeria and their vaccination status. Hepat Res Treat 2011;2011:157089.
20. Razi A, Ur Rehman R, Naz S, Ghafoor F, Khan MA. Knowledge attitude and practices of university students regarding hepatitis B and C. ARPN J Agric Biol Sci 2010;5:38-43.
21. Omuemu VO, Omuemu CO, Agboghoroma OF, Akofu AN, Benka-Coker AO. A kap study of hepatitis B virus (HBV) infection among medical students in university of Benin. Ann Biomed Sci 2008;7:[Abstract]
22. Kabir A, Tabatabaei SV, Khaleghi S, Agah S, Faghihi Kashani AH, Moghimi M, *et al.* Knowledge, attitudes and practice of Iranian medical specialists regarding hepatitis B and C. Hepat Mon 2010;10:176-82.
23. Alavian SM, Akbari H, Ahmadzad-Asl M, Kazem M, Davoudi A, Tavangar H. Concerns regarding dentists' compliance in hepatitis B vaccination and infection control. Am J Infect Control 2005;33:428-9.
24. Nwokediuko SC. Chronic hepatitis B: Management challenges in resource-poor countries. Hepat Mon 2011;11:786-93.
25. Okonkwo UC, Onyekwere CA. Challenges in the management of chronic HBV infection in West Africa: The clinician's perspective. Trop Doct 2016;46:16-20.

Questionnaire (Appendix 1)

Section A
Socio-demographic data/risk factors for virus acquisition

1. Age
2. Sex (a) Male (b) Female
3. Marital status (a) Single (b) Married (c) Divorced (d) Widow or Widower
4. Occupation
5. Phone number
6. Tribe
7 Level of education
8. Number in the family (while growing up)
9. Level of education of mother
10. Level of education of father
11. Alcohol intake Yes ☐ No ☐
    (b) If yes,
        (i) Type(s) of alcohol consumed
        (ii) Quantity (per day)
        (iii) Duration (in years)
    (c) Any history of blood or blood product transfusion?
        Yes ☐ No ☐
    (d) If yes, How many years ago
    (e) Past history of jaundice Yes ☐ No ☐

(f) Do you share sharps (razor blade, clippers, Needles with another person
    Yes ☐ No ☐
    (i) Do you share your tooth brush with another person? Yes ☐ No ☐
    (j) Do you have scarification/tattoo marks/tribal marks? Yes ☐ No ☐
    (k) Did you undergo female circumcision? Yes ☐ No ☐
    (i) Have you received IM/IV injections from quacks / patent medicine dealers Yes ☐ No ☐
    (m) Number of sexual partners? One ☐ Multiple ☐
    (n) Have you been vaccinated against HBV? Yes ☐ No ☐
    If yes, how many doses? One ☐ Two ☐ Three ☐

Knowledge of HBV virus (please answer True(T) or False(F)

1. Have you heard of a disease called hepatitis B
2. Most adults do not have any symptoms in the early stage of the disease
3. Early symptoms of HBV can be same as that of flu(headache, fever, cough, body aches)
4. Liver cancer is caused by HBV
5. Liver failure is caused by HBV

6. HBV can be transmitted through unprotected sexual intercourse with someone with the infection
7. HBV is transmitted through blood, semen, vaginal fluid and breast milk
8. HBV is commonly spread by sharing sharps(needle, syringes, razors, clippers) with someone who has the infection
9. HBV can be acquired through transfusion of unscreened blood
10. HBV can be acquired through intravenous drug abuse/ injection from quacks.
11. HBV can be transmitted through communal use of toothbrush in childhood
12. HBV can be acquired through scarification marks and tattoos.
13. HBV can be acquired during female circumcision.
14. HBV can be passed from an infected pregnant woman to the unborn baby during pregnancy, birth and breastfeeding.
15. HBV is transmitted through casual non-sexual contact like kissing, sharing water glasses, eating utensils, sharing of pre-chewed food substances.
16. HBV is transmitted by eating food/water contaminated by an infected person
17. One can get HBV through witchcraft or other supernatural means.
18. HBV is curable/treatable
19. HBV can be prevented by immunization
20. Do you perceive yourself at risk of getting HBV

Sources of information on HBV

a. TV/radio	b. parents	c. Hospital/doctors
c. magazine	d. peer educators	e. friends
f. relatives	g. teachers	h. Bill boards