A SPOT CHECK ON THE PREVALENCE OF VIRAL HEPATITIS B ON THE PLATEAU

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Abstract

Hepatitis B is a disease which is present globally and over 2 billion people have been infected with hepatitis b according to the World Health Organization. In Nigeria hepatitis B, chronic infection: which is defined as persistence of infection in a human being greater than six months is present in an endemic proportion. In fact Nigeria is described as an area of hyper-endemicity, having a National Prevalence that is greater than 8% of the population.

Methodology

The study was carried as part of awareness campaign in a university community. Samples were taken from the participants via finger prick. Two drops of blood were placed on the strip and a buffer was added and read after five minutes.

Results

There were a total of 684 participants. Out of which 404 (59.06%) were males and 280(40.94%) were females. The mean age for the study participants was 26.169±.9. Those who were positive for hepatitis b surface antigen were 75(10.96%) while those who are negative were 609(89.04%).Those with history of previous immunization for hepatitis B were 152(22.22%).

Conclusion

There is still a very high prevalence of hepatitis with very low uptake of vaccination, these calls for an urgent public health intervention.

Keywords: *Prevalence, Hepatitis B, Spot check, virus*

Introduction

Hepatitis B is a disease which is present globally and over 2 billion people have been infected with hepatitis b according to the World Health Organization. The disease is endemic in sub-Saharan Africa with its sequalae; liver cirrhosis and hepatocellular carcinoma being among the leading cause of morbidity and mortality in this region of the world.

In Nigeria hepatitis B, chronic infection:which is defined as persistence of infection in a human being greater than six months is present in an endemic proportion. In fact Nigeria is described as an area of hyper-endemicity, having a National Prevalence that is greater than 8% of the population. This makes all Nigerians to be at risk of the diseases and so should be counseled and screened. This is however not common practice, and it's not unusual for a patient presenting with decompensated liver cirrhosis or liver cancer to be diagnosed with a viral hepatitis for the first time at presentation with a terminal disease.

This then means that a lot of people do not know their status and are therefore are not accessing healthcare, neither are they having surveillance for HCC.The availability of potent antiviral that are active against hepatitis B and C make screening an attractive public health intervention in Nigeria.

In this study, we aim to define the prevalence of Hepatitis B in a community survey. This will help with planning for future health interventions.

METHODOLOGY

The study is a community based study carried out in Plateau State,The study site was the University of Jos Bauchi road campus.

The study was carried as part of awareness campaign during an inaugural lecture at the University. Individual consent was obtained from each study participant.

Samples were taken from the participants via finger prick using lancet after repeatedly wiping with spirit soaked cotton wool. 2 dropsof blood were placed of the strip and a buffer was added and read after five minutes. The presence of two lines on each test strip was compatible with a positive result while a single line was negative. No line at all meant invalid test.The test was carried by using rapid test method using test kits made by Micropoint bioscience.

Result were recorded on sheets of paper and transferred to Excel spread sheet for analysis.Subject who were hepatitis b surface antigen positive were given specially prepared referrals to the medical outpatient unit of the Jos University Teaching Hospital, while those who were negative were given their results to go to their primary health care facilities for vaccination.

Results

There were a total of 684 participants. Out of which 404 (59.06%) were males and 280(40.94%) were females. The mean age for the study participants was 26.169±.9.The females participants had an average age of 25.28±10.1 while the males were averagely 26.79±.7 the difference between the means is significant p=0.05

Table 1: Distribution of the demographics of the participants

Sociodemographic characteristic	Frequency N	Percentage %
Occupation		
Applicant	2	0.29
Mechanic	1	0.15
Tailor	1	0.15
Student	560	81.87
Civil servant	116	16.96
Business	4	0.58
Marital status		
Divorced	1	0.15
Married	108	15.79
Single	573	83.77
Widow	2	0.29
Age groups		
10-29	534	78.2
30-49	107	15.6
50-69	41	5.9
70-89	1	0.15

Those who were positive for hepatitis b surface antigen were 75(10.96%) while those who are negative were 609(89.04%). Female who are positive were 23(30.67%) while males were 52(69.33%) there was no significant difference between males and females who were positive for hepatitis b P=0.06. There were 65(86.67%) of the positive patients in the age group 10-29 years, this was the group with the highest population while 9(12.00%) were in the age group 30-50.

Those who had a previous history of jaundice were 34(4.97%) while those who never had jaundice in the past 650(95.03%).Among those who have had jaundice, 6(8%) have positive surface antigen status while 69(92%) were not reactive .

Those with history of previous immunization for hepatitis B were 152(22.22%) while those who have not are 532(77.8%)

Table 2: showing the relationship of risk factors to outcome of test results

Risk factor	Surface antigen positive n (%)	Surface antigen negative (%)	P-value
Circumcision	99(86.09)	16(13.91)	0.25
Blood transfusion	37(84.09)	7(15.90)	0.30
Intravenous drug use	13(86.67)	2(13.33)	0.60
Unsafe injection	35(81.40)	8(18.60)	0.12
Uvulectomy	26(83.87)	5(16.13)	0.30

Discussion

The sero prevalence of hepatitis B in the studied population was 10.7%. This is a very high prevalence rate for a community, and according the WHO, regions with prevalence that is above 8% of the population are categorized as being in the endemic areas of the world. The national prevalence of hepatitis B is 13.6% this is also in the same category with the finding in this study. The highest prevalence was noted in those participants whose age is below 30years. This may be attributed to the large population below 30years in the studied population. This was a University community with a lot of young people within this age group. The mean age of the studied population is 26.2 years .Other studies have shown that there is an increase in prevalence as the age of patients increase in some community studies done in Nigeria. This was explained by the fact that most of the patients in our environment acquire hepatitis B horizontally and not vertically, while this may be true, the reason for our decrease prevalence with Increasing age in our study may be due to the study population we looked at; University community where the concentration of participants is within a particular age group.

Another interesting finding from this study is the observation that none of the risk factors we considered had significant association with the positive hepatitis B surface antigen status. We however did not consider horizontal transmission as risk factor in this study which is thought to be the predominant mode of transmission in Nigeria. Previous authors who considered possible risk factors have also not been able to find statistical significance in the relationship of risk factors to presence of positive surface antigen in our environment, whereas elsewhere outside sub-Saharan Africa this relationship exist. This we postulate to be due to fewer incidence of E-antigen positive hepatitis B, which has a higher infectivity.

The percentage of uptake for immunization is also low; the current national average is 41%, while in this study only 22% of the studied populations have taken immunization against hepatitis B. One would expect that an educated community should have a higher uptake rate, this was however not the case.

Just like in this study previous studies have also shown that there is no gender difference of infection, although there were more males who are infected in this study compared to females, the difference was not statistically significant.

Conclusion

There is still a very high prevalence of hepatitis with very low uptake of vaccination, these calls for an urgent public health intervention to stem the catastrophic future explosion of life threatening disease in patients infected.

Reference

1. WHO. Guidelines for the prevention, care and treatment of persons with chronic hepatitis B infection : http://www.who.int/hepatitis/publications/hepatitis-b-guidelines/en/. Accessed October2017.
2. Ladep NG, Lesi OA, Mark P, Lemoine M, Onyekwere C, Afihene M, et al. Problem of hepatocellular carcinoma in West Africa. World J Hepatol. 2014;6(11):783–92.
3. WHO . Hepatitis B . WHO: http://www.who.int/mediacentre/factsheets/fs204/en/.Accessed 2017 Nov 2.
4. Musa BM, Bussell S, Borodo MM, Samaila AA, Femi OL. Prevalence of hepatitis B virus infection in Nigeria, 2000-2013: A systematic review and meta-analysis. Niger J Clin Pract. 2015;18(2):163.
5. Emechebe GO, Emodi IJ, Ikefuna AN, Ilechukwu GC, Igwe WC, Ejiofor OS, et al. Hepatitis B virus infection in Nigeria - A review. Niger Med J. 2009 ;50(1):18.
6. Ikobah J, Okpara H, Elemi I, Ogarepe Y,

Udoh E, Ekanem E. The prevalence of hepatitis B virus infection in Nigerian children prior to vaccine introduction into the National Programme on Immunization schedule. Pan Afr Med J. 2016 ;23: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4885699/.Accessed Oct 26 2017

7. Chukwuka JO, Ezechukwu CC, Egbuonu I. Cultural Influences on Hepatitis B Surface Antigen Seropositivity in Primary School. Niger J Paediatr. 2003;30(4):140–142.
8. Odusanya OO. Hepatitis B Virus Vaccine: The Nigerian Story. J Obafemi Awolowo Univ Med Stud Assoc IFEMED. 2008 ;14(1):4–5.
9. Okonkwo UC, Ngim OE, Osim H, Inyama MA, Esu MK-AE, Ndoma-Egba R, et al. Knowledge of hepatitis B virus infection among traders. Niger J Clin Pract. 2017 ;20(4):415.