

Hepatitis awareness among the general public in Cameroon: A survey study

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ABSTRACT: *Introduction:* Viral hepatitis affects millions of people around the globe. The burden of disease is significantly higher in developing countries such as those in Africa. Lack of awareness coupled with inadequate information about the disease amongst general public is the major reason for the spread of infection. Awareness of the disease can help in building advocacy and improving access to care. In order to assess the awareness levels of hepatitis among general public in Cameroon, we designed and conducted a cross-sectional study.

Materials and Methods: The objective of the study was to assess the awareness of hepatitis in a set population of Cameroon. A cross-sectional study was conducted in a small population in Cameroon. A total of 88 people aged between 18 to 70 years participated in the survey.

Results: On a scale of 0 to 10 the average awareness level of the survey respondents was 5.38. Although the results indicated that the survey participants had some knowledge about hepatitis, it was observed that there was lack of awareness in some key areas of the disease such as modes of transmission and vaccination. There is a need for initiatives at a population level to increase the awareness about viral hepatitis, modes of transmission, treatment and prevention in Cameroon.

KEYWORDS: Awareness, Hepatitis, Knowledge, Cameroon, Africa.

1 INTRODUCTION

Hepatitis refers to inflammation of the liver. Hepatitis is caused by various factors; however, viruses are the leading etiological agents. Viral hepatitis is mainly caused by Hepatitis A, B, C, D and E viruses. The World Health organization (WHO) and Centre for Disease Control (CDC) estimate that currently, over 500 million people are living with chronic viral hepatitis. Of these, nearly 1 million die every year of the consequences of hepatitis like cirrhosis or liver cancer. More exactly, an estimated 57% of liver cirrhosis and 78% primary liver cancer cases are believed to result from hepatitis B (HBV) or hepatitis C (HCV) infection [1], [2], [3], [4]. Individuals with chronic hepatitis are at risk of developing a wide range of liver related complications, worst being liver cancer and death.

The burden of viral hepatitis in Africa is not accurately known but is believed to be significantly high. The prevalence of HBV is estimated at 8% in West Africa and 5-7% in Central, Eastern and Southern Africa [2]. It is estimated that approximately 70-95% of the adult population in Africa show evidence of past exposure to HBV infection with an estimated HBsAg seroprevalence of 6-20% [5]. While the WHO estimates the prevalence of HCV in the African continent as 5.3%, it is markedly higher in some areas, reaching levels of up to 17.5% in Egypt [6].

Viral hepatitis continues to be a major threat in Africa. Cameroon in particular has a very high prevalence of HCV in West Africa ~13.8% [6]; while the prevalence of HBV in Cameroon stands at 8% [7]. However, these figures likely represent only a fraction of the true burden. Despite hepatitis affecting a considerable portion of Cameroon's population, it still does not receive the attention it deserves. Cameroon does not have a written national policy or a strategy to combat viral hepatitis [8]. Moreover, hepatitis is often a 'silent' disease; while most patients recover from acute infections, many of them progress to

the chronic stage and serious life-threatening complications. Often due to low awareness, most of the patients are diagnosed at a stage when the disease becomes irreversible.

Studies have been conducted earlier to assess awareness and level of knowledge among medical students of Cameroon [9]. But so far no study focusing exclusively on the general public has been reported. The knowledge and awareness of the disease amongst the public is important to assess and review the existing health care systems and implementing new strategies to fight against the disease. This study was therefore conducted, to assess the awareness among patients with viral hepatitis in Cameroon. In line with the WHO's intent to combat the widespread ignorance of hepatitis, FSRC as part of its continued efforts to create awareness for hepatitis, conducted a hepatitis awareness survey among the general public in Cameroon.

2 MATERIALS AND METHODS

2.1 STUDY SETTING

A cross-sectional study was conducted in a select population from Cameroon. The study was conducted in December 2013. A total of 88 people participated in the survey. The participation in the study was voluntary and the participants were included after obtaining informed verbal consent. Only completed survey results were evaluated. The study was performed after receiving the ethical clearance from the internal ethical committee of FSRC, Bangalore.

2.2 STUDY TOOL

To assess the patients' awareness about hepatitis, a set of simple multiple-choice questions were created. The questionnaire was based on the basic knowledge of viral hepatitis which an individual is expected to know, like etiology, modes of transmission, symptoms, vaccination, prevention and treatment for hepatitis etc. Following an extensive literature review the primary version of the questionnaire was developed [10]. The questionnaire was evaluated for its reliability and validity. Physicians and experts assessed the face, content and convergent validity of the questionnaire. The questionnaire was self-administered and the participants were requested to tick a single most appropriate response. The answers were grouped based on a score ranging from 0 (low awareness) to 10 (high awareness).

2.3 STATISTICAL ANALYSIS

The participants' demographic characteristics were illustrated using descriptive statistics. Categorical variables were shown as percentages while continuous variables were depicted as mean \pm standard deviation. In addition, frequencies of variables were calculated. The statistical software (SPSS) was used to compile and analyse the data.

3 RESULTS

A total of 88 people in Cameroon responded to the survey. All the participants included in the study were from the general public. Their ages ranged from 18 to 70 years. A greater part of the survey takers (~61.35% or 54/88) had the knowledge that hepatitis is mainly caused by the hepatitis viruses (A, B, C, D and E). However, 38.63% (34/88) of the survey responders believed that smoking and junk food were the main factors for hepatitis. According to the survey responses, a majority of the survey participants (~63.64% or 56/88) in Cameroon were aware of the fact that hepatitis is a disease that primarily affects the liver. About 43.18% (38/88) of the survey responders believed that the hepatitis A infection can lead to hepatitis B and C sequentially. Although some of the survey takers were familiar with the fact that Hepatitis A/E is commonly transmitted through contaminated food or water, it is important to note that a significant number of them (~68.18% or 60/88) lacked that knowledge. Less than half (~44.31% or 39/88) of the individuals who took the survey had the basic awareness on the methods of transmission of HBV and HCV.

The survey responses comprehended that there is a lack of awareness (~2.27% or 2/88 did not know if there was a vaccine and ~ 70.44% or 62/88 did not know for which hepatitis infection was the vaccine available) about vaccines for hepatitis infections. A substantial number of survey takers were aware of the fact that hepatitis B virus is more infectious than HIV (~79.54% or 70/88). As per the survey results around 69.32% (61/88) of the respondents were aware of the fact that Hepatitis C is treatable. A large number of people regarded that smoking and alcohol were the common causes of liver cancer (~60.23 % or 53/88). A good number of the respondents (~71.59% or 63/88) were aware that chronic hepatitis can lead to liver cancer.

Overall, on a scale of 0 to 10 the awareness levels of the survey takers was 5.38 showing lack of awareness in some key areas (Table 1 and Table 2).

Table 1: Awareness of hepatitis among the general public in Cameroon (continued in Table 2)

No		Number (n)	Percentages (%)
	Cause of hepatitis		
1	Which of the following is the most likely cause of viral hepatitis		
	Smoking	14	15.90
	*Hepatitis viruses (A, B, C, D and E)	54	61.35
	Junk food	3	03.41
	All of the above	17	19.32
	Adverse effects of hepatitis		
2	Hepatitis primarily affects		
	Kidney	8	09.09
	*Liver	56	63.64
	Heart	13	14.77
	Stomach	1	01.14
	Skin	10	11.36
	Don` t know	0	0
3	Hepatitis A leads to Hepatitis B, which then leads to Hepatitis C		
	True	38	43.18
	*False	49	55.68
	Don` t know	1	01.14
	Transmission of hepatitis		
4	Hepatitis A/E is most commonly transmitted through		
	Air	12	13.64
	*Contaminated food or water	28	31.82
	Blood transfusion/ Injection Drug Use	26	29.55
	Sexual Transmission	21	23.85
	Don` t know	1	01.14
5	Hepatitis B/C is most commonly transmitted through		
	Air	4	04.55
	Contaminated food or water	12	13.64
	Blood transfusion / Injection Drug Use	20	22.73
	Sexual Transmission	10	11.36
	*Blood transfusion, Injection drug use, sexual route	39	44.31
	Don` t know	3	03.41
Correct answers are marked with asterisk *			

Table 2: Awareness of hepatitis among the general public in Cameroon (continued from Table 1)

No		Number (n)	Percentages (%)
	Infectious nature of HBV		
6	Hepatitis B is more infectious than HIV		
	*True	70	79.54
	False	17	19.32
	Don't know	1	01.14
	Treatment of hepatitis		
7	Hepatitis C is treatable		
	*True	61	69.32
	False	25	28.41
	Don't know	2	02.27
	Vaccinations for hepatitis		
8	Vaccination is available for		
	Hepatitis A	14	15.90
	*Hepatitis A and B	24	27.29
	Hepatitis A, B and C	10	11.36
	All types of Hepatitis	38	43.18
	Don't know	2	02.27
	Complications of hepatitis		
9	Most common cause of liver cancer is		
	*Hepatitis B and C	29	32.95
	Hepatitis E	4	04.55
	Alcohol	16	18.18
	Smoking	37	42.05
	Don't know	2	02.27
10	Chronic hepatitis can lead to		
	*Liver cancer	63	71.59
	Heart attack	20	22.73
	HIV	3	03.41
	Don't know	2	02.27
Correct answers are marked with asterisk *			

4 DISCUSSION

The results indicate that there was some awareness (Table 1, Table 2 and Figure 1) about hepatitis and the basic information related to the disease. At the same time, we cannot ignore the fact that majority of the survey participants lacked knowledge (Figure 2) in areas such as modes of transmission and vaccination.

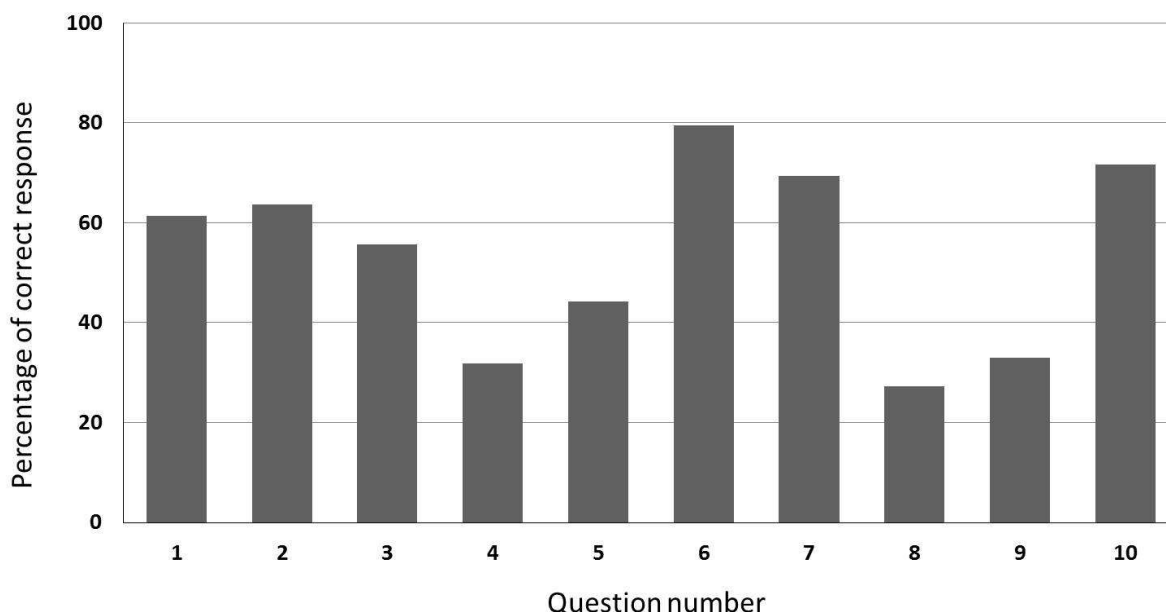


Fig 1. Percentage of correct responses for the survey questions

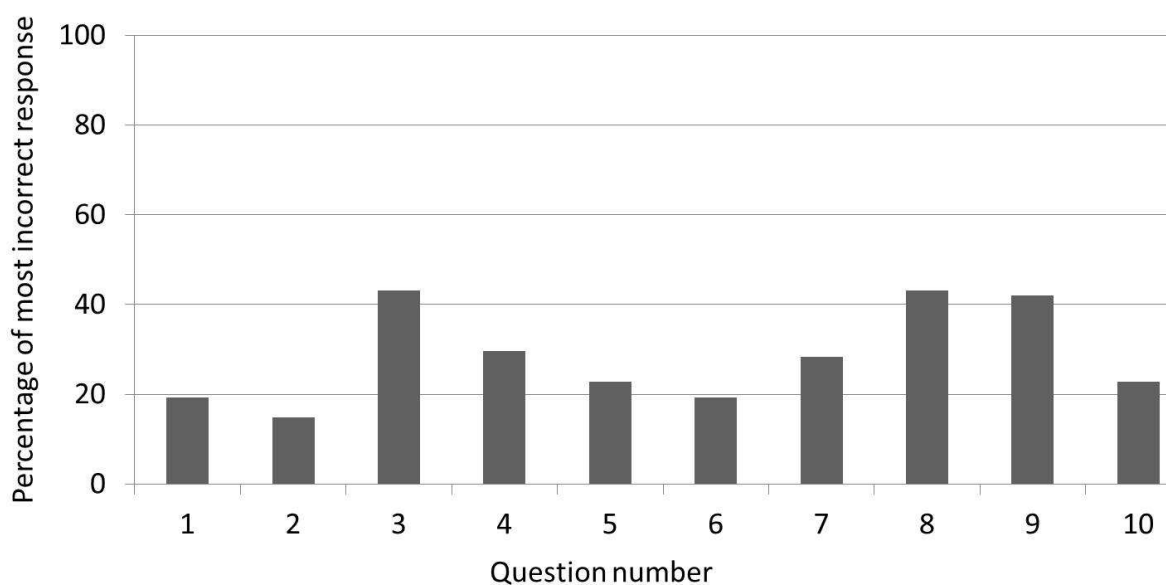


Fig 2. Percentage of most incorrect responses for the survey questions

Many survey respondents believed that smoking and consumption of junk food were the main causes for hepatitis. Although junk food and smoking might have a role in the prognosis of hepatitis they are not the leading cause of liver diseases. The media focus and various campaigns related to the spread of awareness on anti-smoking and alcoholism might have influenced this phenomenon. Hence, distinguishing the public health messages from one another may aid the spread the awareness about hepatitis in general.

According to the survey responses, a majority of the survey participants in Cameroon were aware of the fact that hepatitis is a disease that primarily affects the liver. All the five types of hepatitis viruses (A, B, C, D and E) can independently infect a person (although HDV requires co-infection with HBV). HAV and HEV viruses spread through contaminated food and water, practicing unhygienic methods and poor sanitation [11], [12]. Sexual transmission, blood transfusion and use of injecting drugs (through reuse and sharing of needles and syringes) are other insignificant routes of spread of HAV and HEV. On the other hand, Hepatitis B, C and D usually occur as a result of contact with infected body fluids like, receipt of

contaminated blood or blood products, invasive medical procedures using contaminated equipment, vertically from mother to child in pregnant women, horizontally among house-hold and peer contacts, and also by sexual route [12], [13], [14]. However, close to half of the survey responders believed that the hepatitis A infection can lead to hepatitis B and C sequentially. In a similar type of cross-sectional survey conducted in Cameroon amongst medical students who are at a higher risk of developing HBV, about 83.2% were aware about the risk factors of HBV infection [9]. This shows a discrepancy in the awareness of the disease amongst medical students and general public. This highlights the need for public awareness initiatives.

According to the cross-sectional survey amongst the medical students in University of Yaoundé, Cameroon, only 44.6% of them answered correctly on vaccinations and 17.5% acknowledged that their unvaccinated status was due to a lack of information on vaccines [9].

Licensed vaccines are available for HAV and HBV. According to CDC, children, adolescents and adults should be vaccinated against HAV and HBV. As per CDC guidelines, Hepatitis A vaccine is given between 12-23 months of age in children and at any age in the case of unvaccinated adults at risk [15]. Hepatitis B vaccine is given as 3 doses at birth, 1-2 months of age and 6-8 months of age [15]. A fourth dose is administered if a combination vaccine is used. Adults above 18 years who did not receive the HBV vaccine during childhood should get vaccinated [15]. Awareness about vaccination, the resulting advocacy and vaccine seeking behavior would help in controlling the spread of infection.

Currently there are no hepatitis specific programs in the country. Although recommended, HBV vaccination for at risk groups is not completely implemented in Cameroon [9]. HBV vaccination is currently given to children below 1 year as a part of the national program of immunization routine [16]. Apart from vaccination there are programs currently being run in Cameroon to prevent the spread of blood-borne infections among the general public and health care workers [17]. Therefore, significant strides taken to spread the awareness about vaccination against hepatitis and safe injection practices would go a long way in assisting prevention.

Although alcohol or smoking can contribute to liver cancer, HBV and HCV are the major causative factors. Both HBV and HIV have similar routes of transmission like; exposure to infected blood and body fluids via sexual route, blood transfusion, reuse of needle and syringes, tattooing and vertically from mother to child. As per CDC data, HBV is 50-100 times more infectious than HIV. The burden of viral hepatitis superimposed on the existing HIV epidemic in Africa leaves many at a risk of developing co-infection resulting in accelerated disease in HBV/HIV co-infected individuals [17].

Many survey respondents were aware of the fact that there is treatment available for HCV infection. In routine, patients are assessed on various grounds such as the viral load, the genotype, stage of the liver disease etc. Subsequently, the appropriate antiviral therapy is administered for the required duration. An early diagnosis and treatment of infection has a better prognosis. However, treatment options for HCV do not seem to be affordable to the majority of the population [18]. However, to enhance access to treatment of HCV patients, the Ministry of Public Health, Cameroon is negotiating a 35% cost reduction for interferons which are used for HCV treatment; while at the same time the Government of Cameroon is ensuring the free availability of another anti-HCV drug, Ribavirin [16].

As per a news report in "Cameroon Tribune", 13% and 10% of Cameroon's population suffer from HCV and HBV respectively, which amounts to 4,500,000 people battling against viral hepatitis [16]. The burden of hepatitis in Cameroon mandates immediate action. Hepatitis needs focus like HIV, malaria, or tuberculosis as the general public lack knowledge about the disease and its complications. There is a need to impart awareness among the general public about the viral infections, their modes of transmission and methods of prevention. There is a need to create awareness about vaccination among the general public.

The annual Health Survey for England (HSE) on the health of residents in England is used in planning National Health Service (NHS) facilities, formulating methods to improve people's health [4], [19]. This survey has given an insight about the current awareness of hepatitis among the general public in Cameroon. As the survey was conducted in a small population from Cameroon, it may not represent the true awareness of hepatitis in the entire region. Hence, further research in the area involving larger sample size need to be conducted. The data collected from such a research can be utilized in the formulation of plans and strategies to combat viral hepatitis.

5 CONCLUSION

The survey participants lacked the information on critical issues like vaccination, modes of transmission and preventive measures. This mandates the need for health education and awareness campaigns for the general public and at risk population. Improved access to treatment and hepatitis prevention initiatives will aid in controlling the spread of the disease.

More than focusing on what is known; we call attention to the most common errors that people make in the understanding of hepatitis. Hepatitis is a preventable disease and the public awareness campaigns should aim at not just dispelling the myths, stigma and mis-information associated with hepatitis, but the fact that safe practices can prevent hepatitis. Awareness campaigns should focus on developing content for various channels of communication and the content pedagogy should be aligned to achieve behavior change to ensure that the awareness campaigns are successful. There is clearly a need for awareness campaigns at the general public level and this needs the active involvement of not just patient groups, but also physicians, Ministry of Health and the media to empower the general public with trustworthy and actionable information.

REFERENCES

- [1] CDC. World Hepatitis Day – July 28th. [Online] Available: <http://www.cdc.gov/features/dshepatitisawareness/index.html#References> (March 10, 2014)
- [2] WHO. Prevention & Control of Viral Hepatitis Infection: Framework for global action, WHO. [Online] Available: http://www.who.int/csr/disease/hepatitis/GHP_Framework_En.pdf (March 10, 2014)
- [3] Perz JF, Armstrong GL, Farrington LA, Hutin YJ, Bell BP, “The contributions of hepatitis B virus and hepatitis C virus infections to cirrhosis and primary liver cancer worldwide,” *Journal of hepatology*, Vol. 45, no. 4, pp. 529-38, 2006.
- [4] UCL. Health Survey for England (HSE). [Online] Available: <http://www.ucl.ac.uk/hssrg/studies/hse> (March 10, 2014)
- [5] Ott JJ, Stevens GA, Groeger J, Wiersma ST, “Global epidemiology of hepatitis B virus infection: new estimates of age-specific HBsAg seroprevalence and endemicity,” *Vaccine*, vol. 30, no 12, pp. 2212-2219, 2012.
- [6] Karoney MJ, Siika AM, “Hepatitis C virus (HCV) infection in Africa: a review,” *The Pan African Medical Journal*, vol. 14, no. 44, 2013.
- [7] Fomulu NJ, Morfaw FL, Torimiro JN, Nana P, Koh MV, William T, “ Prevalence, correlates and pattern of Hepatitis B among antenatal clinic attenders in Yaounde-Cameroon: is perinatal transmission of HBV neglected in Cameroon,” *BMC pregnancy and childbirth*, vol. 13, no. 158, 2013.
- [8] WHO. Global policy report on the prevention and control of viral hepatitis in WHO member states. [Online] Available: http://apps.who.int/iris/bitstream/10665/85397/1/9789241564632_eng.pdf?ua=1 (March 10, 2014)
- [9] Noubiap JJ, Nansseu JR, Kengne KK, Tchokfe Ndoula S, Agyingi LA, “Occupational exposure to blood, hepatitis B vaccine knowledge and uptake among medical students in Cameroon,” *BMC medical education*, vol. 13, no. 148, 2013.
- [10] 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*, vol. 12, no. 692, 2012.
- [11] WHO. Hepatitis A. [Online] Available: <http://www.who.int/mediacentre/factsheets/fs328/en/> (March 10, 2014)
- [12] Arun Gowda BRG, Aravind Patil, Mahafroz Khatib, “Hepatitis awareness among students of a women’s college in Bangalore city, India: A cross-sectional study,” *Health Agenda*, vol. 2, no. 2, pp. 51-56, 2014.
- [13] WHO. Hepatitis B. [Online] Available: <http://www.who.int/mediacentre/factsheets/fs204/en/> (March 10, 2014)
- [14] Kiire CF, “The epidemiology and prophylaxis of hepatitis B in sub-Saharan Africa: a view from tropical and subtropical Africa,” *Gut*, vol. 38, Suppl 2, pp. S5-12, 1996.
- [15] CDC. Vaccine Information Statements (VIS). [Online] Available: <http://www.cdc.gov/vaccines/hcp/vis/> (March 10, 2014)
- [16] Cameroon tribune. Over Four Million Viral Hepatitis Cases In Cameroon. [Online] Available: https://www.cameroon-tribune.cm/index.php?option=com_content&view=article&id=75036:over-four-million-viral-hepatitis-cases-in-cameroon&catid=4:societe&Itemid=3 (March 10, 2014)
- [17] Modi AA, Feld JJ, “Viral hepatitis and HIV in Africa,” *AIDS reviews*, vol. 9, no. 1, pp. 25-39, 2007.
- [18] Hill A, Khoo S, Fortunak J, Simmons B, Ford N, “Minimum costs for producing hepatitis C direct-acting antivirals for use in large-scale treatment access programs in developing countries,” *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*, Vol. 58, no. 7, pp. 928-936, 2014.
- [19] Centre HSCI. Health Survey for England – 2012. [Online] Available: <http://www.hscic.gov.uk/catalogue/PUB13218> (March 10, 2014)