

Infection with the Hepatitis B virus: Knowledge and attitudes among central Sudanese individuals

Abstract

Background: Hepatitis B is the most frequent blood-borne viral infection on the globe, with 2 billion infections, 350 million carriers, and 6 million deaths annually. Infections with the hepatitis virus are the leading cause of liver disease all over the world. Sudan is one of the countries with the highest seroprevalence of the hepatitis B virus. The incidence of hepatitis B surface antigen ranged from 6.8% in central Sudan to 26% in southern Sudan, indicating that exposure to the virus ranged from 47% to 78%.

Objective: Hepatitis B virus (HBV) infection is most common in Sub-Saharan Africa, including Sudan. However, there is a scarcity of published studies on the degree of awareness and attitudes concerning HBV infection among Sudanese people. The focus of this research was to determine the awareness and attitude levels of inhabitants in Almanagil, Gezira State, in Central Sudan regarding HBV infection.

Materials and methods: The current research is a cross-sectional, descriptive, community-based study. During the months of April and May 2021, 500 Sudanese people were recruited from the Almanagil was one of the eight localities that made up Gezira State, and it was located in the state's south-western section, data was collected by interviewing respondents through close ended questionnaire. The statistical package for social science (IBM SPSS version 20.0) for Windows software package was used to analyze the data.

Result: The participants in the research ranged in age from twenty to sixty, with 255 females and 245 males. More than 40% of the study's participants learned about hepatitis B via social media 205/500, with over 200 individuals participating. Respondents had a broad range of responses and were clearly mystified as to how viral hepatitis is contracted. Participants cited surgical operations 78%, blood transfusions 87%, mother-child transmission 70%, blood-contaminated devices 85%, needle stick injuries 94%, and sexual contact as examples 76%. According to some participants, virus hepatitis is communicated "through teeth brushing and handshakes 82%, 31% respectively," while others believe it is disseminated "via insect bite 38%." Others believed that viral hepatitis might be contracted and transmitted by sharing towels 54% and using nail clippers 68%. Others were skeptical about the hepatitis B virus's ability to be acquired and spread. Hepatitis B virus vaccine is believed to exist by more than 70% of the research participants.

Conclusion: According to the results of the current community-based study, a significant portion of the study participants had a sufficient understanding of the hepatitis B virus in terms of risk factors and transmission routes between communities, as well as the provision of vaccination to those who were most susceptible to diseases. Using the resources at hand, promoting health education and community awareness. In terms of disseminating information among society's members, social media is incredibly effective.

Keywords: attitudes, knowledge, hepatitis-b, almanagil, sudan

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Introduction

Infection with the hepatitis B virus (HBV) is a global public health issue that affects a considerable fraction of the world's population.¹ HBV has infected over 2 billion individuals globally, with an estimated 1 million people dying each year because of acute and chronic complications of HBV infection, such as cirrhosis, fulminant hepatic failure, and hepatocellular cancer.^{1,2} HBV infection is shown to occur in a wide range of incidences throughout the world. Low, moderate, and high prevalence areas are categorized into regions.^{3,4} Approximately 45% of the world's population lives in high-prevalence areas, which have an average of 8% of the population afflicted. Perinatal transmission of the virus is widespread in these areas, as are infections in children as young as six months old. The zones of intermediate prevalence, where infections occur in all age groups, are defined by HBV seroprevalence rates of between 2 and 7%. Low

prevalence is defined as an infection rate of less than 2%, which only accounts for 12% of the world's population.³⁻⁶ The seroprevalence of HBV is estimated to be approximately 4% in Mediterranean and Middle Eastern nations, which meets the requirements for moderate endemicity.⁵⁻⁹

Vaccination against hepatitis B is the most efficient way to prevent HBV infection and its potential effects.¹⁰ Long-term and consistent effectiveness of HBV vaccinations has been reported.¹¹ Upwards of 100 countries have adopted comprehensive HBV vaccination programs, which have substantially decreased acute and chronic infection rates in recent years.^{11,12} According to many publications, the Sudanese population has a prevalence of 16–20% of the hepatitis B surface antigen HBsAg.¹³ Sudanese blood donors, hemodialysis patients, kidney transplant recipients, HIV patients, and febrile patients were shown to have a significant occurrence of HBV.¹⁴

Materials and methods

Study design

The current research is a cross-sectional, descriptive, community-based study. During the months of April and May 2021, 500 Sudanese people were recruited from the Almanagil was one of the eight localities that made up Gezira State, and it was located in the state’s south-western section. Almanagil town, the locality’s capital, is 62 kilometers from Gezira State’s capital, Wadmedani, and 156 kilometers from Sudan’s capital, Khartoum Figure 1. A previously established questionnaire was used to gather and verify age and gender as sociodemographic characteristics as well as risk factors for HBV virus transmission.



Figure 1 The location of Almanagil locality in Gezira state

Data management and analysis

The statistical package for social science (IBM SPSS version 20.0) for Windows software package was used to analyze the data. The Chi-Square test was used to determine the frequency of a link between two numerical variables. P-values of less than 0.05 (p 0.05) were considered significant.

Ethical considerations

The research was authorized by the Ethical Review Committee of the Gezira State Ministry of Health. For the interviews, all individuals signed an informed consent form. To participate in this study, the respondents submitted their written informed consent.

Results

Participant characteristics

After being informed about the issue and the necessity of the study in protecting the community from communicable diseases, 500 individuals from Almanagil, west of El Gezira state, volunteered randomly. There were 255 females and 245 males in the study, with ages ranging from twenty to sixty. More than forty percent of the study’s sample got their information about hepatitis B from the means of communication, and their number exceeded two hundred respondents Table 1.

Knowledge about mode of transmission of hepatitis B

Participants had a wide variety of reactions and were clearly perplexed about how viral hepatitis is acquired. Surgical procedures, blood transfusions, mother-child contact, blood-contaminated instruments, needle stick injuries, and sexual contact were all highlighted by participants as instances. Virus hepatitis is obtained “through tooth brushing and handshakes,” according to some participants, while it is “spread through insect bite” according to others. Others were persuaded that viral hepatitis could be acquired

and spread through the use of nail clippers and towel sharing. Others weren’t sure that the hepatitis B virus could be acquired and transmitted Table 2.

Table 1 Study participants’ characteristics

Parameter	Indicator	Frequency n=500	Percent %
Gender	Male	245	49
	Female	255	51
Age group/ Years	20 - 30	140	28
	31 - 40	135	27
	41 - 50	95	19
	51 - 60	85	17
	61 and More	45	9
	Media	205	41
Source of knowledge	Friends and neighbors	140	28
	School or college	90	18
	Relatives	50	10
	Travelling	15	3
Total		500	100 %

Table 2 According to the participants’ awareness of HBV transmission risk factors

Parameter's	Yes	No	Don't know	Mean	Std deviation
Hand shaking	155	245	100	1.89	0.709
Surgical operation	390	65	45	1.31	0.63
Blood transfusion	435	30	35	1.2	0.55
Mother to child	350	75	75	1.45	0.744
Blood contaminated tools	425	30	45	1.24	0.605
Needle stick injury	470	5	25	1.11	0.447
Sexual contact	330	90	80	1.5	0.759
Insects bite	190	240	70	1.76	0.683
Nail clipper	340	100	60	1.44	0.701
Sharing towels	270	185	45	1.55	0.657
Tooth brusher	410	60	30	1.24	0.553
Vaccine availability	365	100	85	1.44	0.77
Total	500				

Discussion

The focus of this research was to document healthy Almanagil residents’ awareness of hepatitis B. The study’s findings indicated that while most individuals have a reasonable understanding of hepatitis B, a minority of people are still unaware of the infection. Despite the introduction of an efficient HBV vaccination, the infection continues to pose a significant potential risk to public health in Sudan. It’s conceivable that some of the research participants’ low level of awareness regarding viral hepatitis B infection contributed to their unfavorable attitude toward infectious illnesses, highlighting the need for health education intervention.

Although knowledge of viral blood borne infection transmission modes and prevention was established based on experiences in Western nations, its applicability in the context of the African population

requires more evaluation. In order to prevent future transmission of the viruses, health education of both infected and uninfected high-risk populations is the most efficient way to prevent HBV infection.^{15,16} Notably, study participants had positive attitudes regarding HBV infection, which was not the case in earlier Malawian studies.¹⁷ This disparity might be due to differences in research individuals' characteristics. This study emphasizes the continual need to minimize unfavorable attitudes towards HBV, as several of the participants in this study have observed.

The first step in enhancing health education and health care services to communities is to fully understand knowledge and attitudes regarding these infectious diseases among health care professionals and the general public. The study's findings can be employed to create treatments that target HBV-related knowledge and attitudes, thereby contributing to the prevention and management of HBV infection.

This research empirically indicated that a significant portion of the study individuals had a low degree of awareness about HBV and its vaccine. High-risk populations, such as babies from HBV-infected mothers, children with parents from an HBV-endemic area, health care professionals, and adults with high-risk behavior, are currently the pillars of HBV management. These initiatives, on the other hand, have had little impact on the health of the broader adult population, leaving a significant portion of the population both undiagnosed and unprotected against HBV. The high level of ignorance and lack of comprehension concerning vaccination should immediately engage authorities' awareness. Additionally, because of social desirability and underestimating of negative perceptions, the authenticity of attitudes about HBV infection evidence gathered by self-reporting is an issue. As a consequence, further research is needed to develop strategies for enhancing the precision of self-reported attitudes concerning HBV infection.

Strengths and limitations

This is the first study in western Gezira to look into people's knowledge and attitudes towards the hepatitis B virus. However, because of the limited sample size, the findings cannot be applied to the total population of the state. In particular, the findings of this study will contribute to the implementation of community surveys to estimate the level of people's understanding in order to create appropriate public health initiatives in Sudan. Because only adults aged 20 to 60 are eligible to participate, the study's reach is limited.

Conclusions

The conclusions of this community-based survey offered clarity on prospective fields of research. Establishing a research team made up of community members helps to create cooperation and build a common understanding of community goals. The study's findings incentivize the formulation of contextually meaningful interventions to minimize viral hepatitis discrepancies in such populations.

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Conflicts of interest

The authors disclose that they do not have any competing interests. For the study's completion, no funding or assistance was provided.

Authors' contributions

The authors have contributed equally to the study design and manuscript write-up. All authors read and approved the final version of the manuscript.

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