

ANALYSIS OF THE PREVALENCE AND FACTORS ASSOCIATED WITH HEPATITIS B INFECTION AMONG ADULTS SEEKING CARE AT MAKENI GOVERNMENT REGIONAL HOSPITAL, SIERRA LEONE

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ABSTRACT

This study aimed to determine the seroprevalence of Hepatitis B among adults seeking care at Makeni Regional Hospital, and factors influencing awareness, and attitudes towards the disease. The significance of this study lies in its potential to provide valuable information on the prevalence of Hepatitis B and its risk factors in the study population. This study used a facility-based cross-sectional design, which involved collecting data at a single point in time from a sample of individuals seeking care at the Makeni Regional Hospital. Blood samples were obtained from participants to evaluate seroprevalence, and questionnaires were distributed to collect relevant data. The study included 403 individuals who sought care at Makeni Regional Hospital. SPSS software was used to process, clean, and analyze the acquired data, which included descriptive statistics such as tables and pie charts. The results indicated an estimated 47% seroprevalence of viral hepatitis B infection among individuals attending Makeni Regional Hospital. Notably, despite widespread awareness of Hepatitis B infection, there were no matching actions or behavioral changes.

A troubling finding was that 64% of the participating individuals said that they were engaging in unprotected sexual intercourse and many partnerships, which has been associated with an increased frequency of sexually transmitted illnesses in previous research. Based on the findings of this study, several recommendations can be made to address the high seroprevalence of HBV and to improve public health outcomes. It is crucial to develop and implement comprehensive health education programs in Makeni to raise awareness of the risk factors that contribute to the high prevalence of HBV infection. These programs should focus on educating the population about the dangers of engaging in unprotected sexual intercourse, multiple relationships, alcohol consumption, and smoking.

Key words: Hepatitis B viral infection, seroprevalence, Knowledge and attitude, Makeni Regional Hospital, Sierra Leone

BACKGROUND

The hepatitis B virus (HBV), which attacks the liver and can cause both acute and chronic disease, is the cause of the potentially fatal viral illness known as hepatitis B. HBV transmission can occur through person-to-person contact, including sexual, blood-oral, and fecal-oral pathways (Gu et al., 2014). However, it is important to note that the relative importance of these pathways may vary by population and geographic region (Dallas & Drake, 2014). For example, in Africa, horizontal transmission during childhood is thought to be the primary mode of transmission, whereas perinatal transmission may play a larger role in other regions (Carmichael, 2014). Additionally, some studies have suggested that sexual transmission may be a more significant pathway in certain populations (Allen, 2008). While some occurrences of HBV infection may be explained by inoculation or transfusion of blood or blood products (Liu et al., 2019), research has shown that other mechanisms of transmission may also be implicated (Gong et al., 2015). HBV infection has been found in body fluids, such as urine, feces, saliva, and sperm, even when no measurable blood traces are present (Tavis & Chauhan, 2021).

Globally, HBV is responsible for approximately 600,000 deaths each year, primarily due to chronic complications of infection (Boot et al., 2010). More than 400 million people worldwide are currently infected with HBV, despite the availability of the hepatitis B vaccine (Boot et al., 2010). Individuals who become chronically infected with HBV during childhood face a 25% mortality risk (Locarnini, 2001), whereas those infected later in life also have a significant risk of developing cirrhosis or liver cancer

(Nierengarten, 2022). Although the hepatitis B vaccine is highly effective in preventing HBV infection, antiviral agents can be used to prevent serious liver complications in individuals already infected with HBV (Pollicino et al., 2013). The hepatitis B vaccine is highly effective in preventing HBV infection, with more than 90% of individuals developing protective immunity after completing the recommended series of doses (Spradling et al., 2013). However, the vaccine is less effective in individuals with impaired immune function, such as those undergoing chemotherapy or those with HIV infection (Igari et al., 2021). Additionally, antiviral agents can be used to prevent serious liver complications in individuals already infected with HBV (Vittal and Ghany, 2019).

In Africa, the prevalence of chronic HBV infection is estimated to be approximately 50 million, with a mortality risk of 25% (Surace et al., 2013). Unlike other regions, HBV transmission in Africa is thought to occur predominantly in childhood through horizontal transmission rather than perinatal transmission (Champredon et al., 2013). HBV infection can have significant economic and social consequences (Miller, 2020), particularly in low- and middle-income countries where the burden of the disease is highest (Mapping Disparities in Education Across Low- and Middle-Income Countries, 2019). Individuals with chronic HBV infection may experience reduced work productivity and increased healthcare costs (Su et al., 2010), whereas families may face financial hardship due to medical expenses and lost income (Daniels & Grinstein-Weiss, 2018). Additionally, stigma associated with HBV infection can lead to discrimination in

employment, housing, and social relationships (Juon et al., 2023).

The exact modes of transmission are not fully understood but may involve percutaneous infection through saliva or small amounts of blood (LEVINE et al., 2011), as well as unsterile needles and traditional practices such as scarification (Simbayi et al., 2014). African infants may have a lower susceptibility to perinatal HBV infection than their Asian counterparts (Babatunde et al., 2018), or they may be infected at birth but exhibit persistently negative test results for several years until the virus becomes reactivated (Peterman et al., 2013). Given the high carrier rates in the general population, universal immunization of infants is recommended (Moyle et al., 2016) and efforts are being made to incorporate the hepatitis B vaccine into national immunization programs (Abdel Fatah Mousa, 2020).

A few recent studies have been conducted on viral hepatitis in Sierra Leone. Serological surveys conducted in the early 2000s reported varying prevalence rates of hepatitis B, indicating a high burden of the disease (AYAR et al., 2021). Sierra Leone faces a number of challenges in addressing the burden of HBV infection, including limited healthcare resources (M et al., 2018), a weak health system, and inadequate funding for prevention and treatment programs (Gebreselassie H, 2015). Additionally, cultural beliefs and practices, such as the use of unsterile needles in traditional scarification practices, may contribute to the transmission of the virus (Swain et al., 2018). Addressing these challenges requires a multifaceted approach, including improving access to healthcare services, promoting vaccination and other prevention strategies, and addressing

cultural and social barriers to prevention and treatment (Kirwan & Jacob, 2016; Braun et al., 2013).

However, these studies were limited in scope and were not systematically recorded, highlighting the need for new and comprehensive data to confirm the true prevalence of HBV infection in Sierra Leone (Ucko, 2015). Existing studies also point to significant knowledge gaps and limited programmatic interventions for the control and prevention of viral hepatitis. Therefore, well-structured representative studies are necessary to establish a solid understanding of the seroprevalence, knowledge, and awareness of Hepatitis B among adults seeking care at Makeni Regional Hospital, and to inform effective public health measures in Sierra Leone.

METHODS

Research Design, Study Location

This study utilized a cross-sectional design and included all randomly selected adults who visited Makeni Regional Hospital during the data collection period of March 2022–August 2022. A total of 403 participants were included in the study. Data were collected using structured questionnaires and blood samples were collected for HBV screening. The possible research questions of this study were: What is the prevalence of hepatitis B among adults at Makeni Regional Hospital and what factors influence the awareness and attitude towards this disease?

Sample Size Determination

The sample size (n) was determined using the following formula: $n = (Z^2 * P * (1-P)) / e^2$. Where: n = population size e = margin of error (set at 0.05) Z = z-score for a confidence interval of 95% (1.96) P = estimated proportion (set at 0.5)

Applying this formula, the initial sample size was calculated as 384.16. To account

for a predicted non-response rate of 5%, the sample size was adjusted to $(384.16 \times 0.05) + 384.16 = 402.638$, rounding up to a total sample size of 403 participants deemed adequate to generate the required evidence for the study.

Study Population and Selection Criteria

This study aimed to investigate the health status of randomly selected adults who visited Makeni Regional Hospital during the data collection period of March 2022–August 2022. All selected adults were included in the study, while those who were critically ill or unable to answer were excluded. The selection criteria ensured that the study population was representative of the general adult population visiting the hospital. It is hoped that these insights will inform healthcare policies and interventions that can improve health outcomes in this population.

Data Collection Method

The three laboratory staff members who were recruited for laboratory processes were final-year public health laboratory students at the University of Makeni. They had received extensive training in laboratory procedures and were likely to have a high level of proficiency in collecting blood samples and administering questionnaires. However, it is important to note that their status as students may have introduced potential biases in the data collection process, such as social desirability bias or lack of experience in dealing with certain types of patients. The data were collected using structured questionnaires. The structured questionnaire used in this study was originally written in English and then translated into the local dialect 'Temne' for those who could not understand the English language. The questionnaire included questions on sociodemographic

characteristics, such as age, gender, and education level, as well as questions on awareness level and attitudes towards HBV screening. The data collectors introduced themselves, explained the purpose of the study, and emphasized the benefits of having been tested for HBV.

Blood Sample Collection

Blood samples were collected from each participant using a sterile needle and syringe. A total of 5 mL of venous blood samples were collected in the laboratory for HBV screening. The collected blood samples were then centrifuged to separate the serum from other components of the blood, such as red blood cells and clotting factors. Serum is a part of the blood that contains antibodies and other substances that are used for serological testing. The separated serum samples were tested for the presence of specific antibodies and antigens related to HBV using serological assays. Several serological markers can be used to monitor HBV infections. These markers include hepatitis B surface antigen (HBsAg), hepatitis B surface antibody (anti-HBs), hepatitis B core antibody (anti-HBc), and hepatitis B e-antigen (HBeAG). The presence of HBsAg is indicative of immunity or a successful vaccination. Anti-HBc is indicative of prior infection and can persist even after the virus is cleared from the body. HBeAG is a marker of active viral replication and high infectivity. By measuring these markers, health care professionals can determine a patient's HBV status, monitor disease progression, and evaluate treatment efficacy.

Data Quality Control

Data collectors and laboratory technicians responsible for sample processing were trained before the study. The questionnaire was pre-tested on 2 % of the adults sampled at the primary healthcare

facility in Yoni village before the actual study to identify issues, and necessary changes were made to the study tool. During data collection, the data collectors were supervised by the principal investigator, and data validity and completeness were checked by the principal investigator.

DATA ANALYSIS PLAN

After confirming the accuracy and consistency of the collected data, they were entered into SPSS version 16 for analysis. Descriptive statistical analysis was employed to determine the sociodemographic characteristics and prevalence of HBV among the study participants.

ETHICAL APPROVAL

The University of Makeni Ethical Review Board ensures that the research studies are conducted ethically, reviewed, and approved for the ethical aspect of this study (reference number 10/22). Participation in the study was voluntary and participants were informed that they had the right to withdraw or refuse to participate at any time during the study if they did not wish to participate. To ensure the confidentiality of participant information, a code was used, and no participant identifiers were written on questionnaires or test tubes. Participants were interviewed alone to protect their privacy. The testing was free, and blood samples were used for study purposes only.

RESULTS

The primary objective of this study was to assess the seroprevalence, knowledge, and attitudes toward Hepatitis B among adult patients seeking care at the Makeni Regional Hospital. Rigorous data processing, cleaning, and analysis using descriptive statistics were conducted on

the collected data by using SPSS version 16.0.

Table 1 shows the sociodemographic characteristics of the study participants and provides valuable insights into the sample composition. A total of 403 questionnaires were administered to adults at Makeni Regional Hospital, with a gender distribution of 55.3% women and 44.7% men. Age-wise, the study population demonstrated diversity, with 20.8% falling in the 15–19-year category and a significant proportion (46.1 %) belonging to the 20–29-year age group. The age categories of 30-39 years and 40-49 years constituted 22.2% and 10.9% of the participants, respectively. Educational attainment varied, as 42.5% of adults had no formal education, 14.6% completed primary school, 32.5 % achieved secondary education, and 10.4% obtained a college or university-level education.

Table 1: Socio-demographic Characteristics of Study Participants

Indicators	Category	Fre q	%
Gender	Male	183	44.7%
	Female	220	55.3%
	Total	403	100.0 %
Age	15-19	84	20.8%
	20-29	186	46.1%
	30-39	89	22.2%
	40-49	44	10.9%
	Total	403	100.0 %
Education Level	No Formal Education	171	42.5%
	Primary School	59	14.6%
	Secondary School	131	32.5%

Indicators	Category	Frequency	%
	College/University	42	10.4%
	Total	403	100.0%
Occupation	Civil/Government Worker	130	32.3%
	NGO Worker	87	21.5%
	Self-employed	186	46.2%
	Total	403	100.0%
Religion	Christianity	319	79.2%
	Islam	84	20.8%
	Total	403	100.0%
Marital Status	Single	80	19.8%
	Married	65	16.1%
	Divorce	116	28.7%
	Widow(er)	64	15.8%
	Co-habiting	78	19.6%
	Total	403	100.0%

Self-employment emerged as the most prevalent category in terms of employment status, accounting for 46.2% of participants. People in government or civil service positions accounted for 32.3%, and those working for non-governmental organizations accounted for 21.5%. Religious affiliation revealed that most participants identified as Christians, accounting for 79.2% of the sample, while Muslims constituted 20.8%. Marital status distribution showed that 19.8% of participants were single, 15.6% were married, 28.7% had experienced divorce,

15.8% were widowed, and 19.6% were co-habiting.

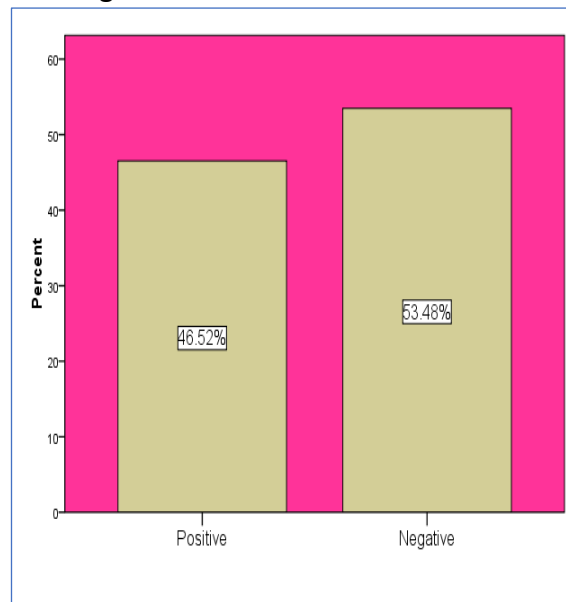


Figure 1: Seroprevalence of Hepatitis B virus infections among adults at Makeni Regional Hospital

As shown in Figure 1, the findings reveal that the current seroprevalence of Hepatitis B viral infection among adults seeking care at Makeni Regional Hospital is 46.5%. However, it is important to note that the majority of adults (53%) in the study population did not have viral hepatitis.

Table 2 presents the results of the knowledge assessment. This shows that a majority of adults (66.9%) had heard of the term hepatitis, indicating a reasonable level of awareness, while 33% reported not having heard of it. Among the participants, 72% correctly identified hepatitis B as a disease, demonstrating a good level of recognition, whereas 27.8% were unaware of the disease status.

Furthermore, 75.3% of adults recognized hepatitis B as a viral infection, indicating a solid understanding of its nature, whereas 24% were unsure of its viral nature.

The overall awareness level of hepatitis B was 59.4%, suggesting that a significant proportion of adults (40%) were unaware of viral infection. Interestingly, a substantial number of adults (60.7%) reported having knowledge of their HBV status, indicating some level of self-awareness, whereas 39.3% were uncertain about their HBV status.

Table 2: Knowledge of participants about Hepatitis B infection

Questions	Category	Frequency	Percentage
Heard of a disease termed hepatitis?	Yes	269	66.92 %
	No	134	33.08 %
Total		403	100.00 %
Heard of a disease termed Hepatitis B?	Yes	291	72.14 %
	No	112	27.86 %
Total		403	100.00 %
Is Hepatitis B a viral infection?	Yes	306	75.87 %
	No	97	24.13 %
Total		403	100.00 %
Are you aware about HB Virus?	Yes	239	59.45 %
	No	164	40.55 %
Total		403	100.00 %
Do you aware of your HBV status?	Yes	244	60.70 %
	No	159	39.30 %

Total		403	100.00 %
Can Hepatitis B affect liver functions?	Yes	276	68.41 %
	No	127	31.59 %
Total		403	100.00 %
Can Hepatitis B cause cancer?	Yes	87	21.39 %
	No	156	38.81 %
	I don't know	160	39.80 %
Total		403	100.00 %
Can Hepatitis B affect any age group?	Yes	219	54.23 %
	No	145	36.07 %
	Don't know	39	9.70 %
Total		403	100.00 %
Do you know how Hepatitis B can be transmitted?	Yes	122	30.35 %
	No	83	20.45 %
	Don't know	198	49.25 %
Total		403	100.00 %
Do you know treatment options for Hepatitis B?	Yes	221	54.98 %
	No	182	45.02 %
Total		403	100.00 %

Have you been taught about Hepatitis B?	Yes	236	58.60 %
	No	167	41.54 %
Total		403	100.00 %
Did you find the health information useful?	Yes	296	73.00 %
	No	107	27.00 %
Total		403	100.00 %

When asked about the effects of hepatitis B, approximately 68% of adults correctly indicated that it can affect liver function, demonstrating a good understanding of its impact. However, only 21.3% acknowledged its association with liver cancer, while a notable proportion (38%) held the incorrect belief that hepatitis B cannot cause liver cancer.

Regarding the age groups affected by hepatitis B, 54% of adults were aware that it can affect individuals of all ages, indicating a reasonable understanding, whereas 36% incorrectly believed that it only affects specific age groups.

Knowledge about the modes of transmission of hepatitis B varied among the participants. Approximately 30.3% demonstrated knowledge of how hepatitis B can be transmitted, suggesting a need for further education, whereas a significant proportion 54% lacked awareness of the modes of transmission. In terms of education, 58% of adults reported having received information about hepatitis B, indicating some level of educational outreach, whereas 41% stated that they had not received any information on the

topic. Among those who received education, 73.6% found health information very useful, highlighting the importance of providing accurate and valuable information. Finally, approximately 52% of the adults claimed to be aware of the existence of the hepatitis B vaccine, indicating a moderate level of awareness regarding preventive measures.

The study also investigated adults' attitudes toward hepatitis B viral infections by analysing their responses to a series of questions. Among the 403 respondents, a significant majority (87.8%) did not have a history of blood transfusions, whereas 12.2% reported having undergone a blood transfusion. Similarly, most participants (87.8%) did not have a history of abortion, with only 12.2% indicating previous abortion experiences.

Regarding risky behaviors, 26.1% of the participants reported a history of alcoholism, while a substantial proportion (73.9%) did not engage in such behaviors.

Table 3: Attitudes of adults toward hepatitis B viral infections

Questions	Category	Frequency	Percentage
History of blood transfusion?	Yes	49	12.2%
	No	354	87.8%
	Total	403	100.0%
History of abortion?	Yes	49	12.2%
	No	354	87.8%
	Total	403	100.0%
History of alcoholism?	Yes	105	26.1%
	No	298	73.9%
	Total	403	100.0%
History of Hospital	Yes	178	44.2%
	No	225	55.8%
	Total	403	100.0%

admissions?			
History of sharing sharps?	Yes	231	57.4%
	No	172	42.6%
	Total	403	100.0%
Involved in unprotected sexual intercourse?	Yes	258	64.2%
	No	145	35.8%
	Total	403	100.0%
Having multiple sex partners?	Yes	262	64.9%
	No	141	35.1%
	Total	403	100.0%
Involved in unsafe injection of drugs?	Yes	44	10.7%
	No	359	89.3%
	Total	403	100.0%
History of tattooed body?	Yes	96	23.6%
	No	307	76.4%
	Total	403	100.0%
History of nose piercing?	Yes	64	15.6%
	No	339	84.4%
	Total	403	100.0%
History of smoking?	Yes	109	27.2%
	No	294	72.8%
	Total	403	100.0%
What would be your reaction if you have HEP B?	Fear	133	33.1%
	Shame	172	42.6%
	Sadness	98	24.3%
	Total	403	100.0%

Who would you talk to about your illness?	Physician	121	30.1%
	Spouse	54	13.2%
	Parent	40	9.9%
	Children	76	18.9%
	Friends	74	18.4%
	Relatives	38	9.5%
	Total	403	100.0%
Aware of the HBV vaccine?	Yes	210	52.3%
	No	193	47.7%
	Total	403	100.0%
Where would you visit if you have symptoms of HEP B?	Health facility	289	71.7%
	Traditional healer	70	17.3%
	Church/mosque	44	11.0%
	Total	403	100.0%
If you have symptoms of HBV, at what stage do you seek assistance?	When my own treatments fail	152	37.8%
	After 3-4 weeks	49	12.2%
	Immediately I realize they are symptoms of HEP B	162	40.1%
	I will not go to a physician	40	9.9%
	Total	403	100.0%
How expensive can the HEP B treatments be?	Reasonable	141	34.9%
	Somewhat expensive	66	16.4%
	Expensive	128	31.9%
	I don't know	68	16.8%

	Total	403	100.0%
What worries you the most if you are diagnosed with HEP B?	Fear of spreading	166	41.3%
	Fear of costly treatment	89	22.1%
	Fear of isolation	148	36.6%
	Total	403	100.0%

Additionally, 57.4% of the respondents reported a history of sharing sharps, which is a potential risk factor for hepatitis B transmission. Conversely, 42.6% had no involvement with sharing sharps. The study found that 64.2% of adults engaged in unprotected sexual intercourse, whereas 35.8% reported no involvement in such activities.

Similarly, 64.9% of the participants admitted to having multiple sex partners, while 35.1% did not engage in such behaviour.

The study further revealed that 52.3% of the respondents were aware of the HBV vaccine, whereas 47.7% were unfamiliar with it. The study also explored how people with hepatitis B feel and what concerns them. Fear emerged as the most common reaction, with 33.1% of the respondents reporting feeling afraid. Additionally, 42.6% expressed a sense of shame, whereas 24.3% reported feelings of sadness. These emotional responses underscore the significant psychological impact of a hepatitis B diagnosis on individuals.

Regarding communication about the illness, a majority of the respondents (30.1%) indicated that they would discuss their condition with a physician. Spouses (13.2%) and children (18.9%) were also identified as important individuals with

whom respondents would share their diagnoses, emphasizing the role of healthcare providers in addressing patient concerns and providing the necessary support and information. While some (37.8%) respondents waited until their own treatment failed before seeking help, others (40.1%) sought assistance immediately upon recognizing the symptoms.

This study also examined financial concerns related to hepatitis B treatment. While 34.9% of the respondents considered the treatments to be reasonably priced, 31.9% perceived them as expensive. Furthermore, a notable proportion (16.8%) admitted to not being aware of the costs associated with hepatitis B treatment.

Finally, the survey examined the worries of respondents if they were diagnosed with hepatitis B. The fear of spreading the infection was the most common concern, expressed by 41.3% of the respondents. This was followed by concerns about the cost of treatment (22.1%) and fear of social isolation (36.6%). These concerns underscore the need for comprehensive support systems and educational initiatives to address the social and emotional impacts of hepatitis B.

DISCUSSIONS

Sero-Prevalence of Hepatitis B Viral Infection

The seroprevalence of hepatitis B infection among adults at Makeni Regional Hospital was found to be approximately 47% in this study. This rate is slightly higher compared to the seroprevalence of HBV infection among adults in Ghana, which stands at around 40% (Bricks et al., 2018). These findings highlight the significant burden of HBV infection in the adult Makeni population. In contrast, studies conducted

in Brazil have reported a lower seroprevalence of HBV infection, with approximately 3% of the population infected (Dell-Amico et al., 2016). Similarly, a study in Bolivia revealed a range of 1.7% to 16.2% of the population tested positive for HBV (Dell-Amico et al., 2016). Differences in vaccination rates, cultural attitudes towards health, and variations in healthcare infrastructure may have played a role in the observed differences. These disparities in prevalence rates among different countries emphasize the variations in HBV infection patterns and the need for localized approaches to address the disease.

Awareness of Hepatitis B Viral Infection

In many African countries, hepatitis B is a major public health concern because of its high prevalence and associated morbidity and mortality. Studies conducted in various African countries have reported varying levels of knowledge and awareness of hepatitis B among adults, reflecting differences in healthcare systems, educational campaigns, and cultural factors.

In terms of general awareness, the finding that 66.9% of adults had heard of the term hepatitis in the present study is consistent with findings from similar studies conducted in Africa. For example, a study conducted in Nigeria reported a similar level of awareness, with 68% of the participants having heard of hepatitis B (Odimayo et al. 2015). However, it is important to note that awareness levels vary across African countries and regions. The present study found that 72% of participants correctly identified hepatitis B as a disease. This level of recognition aligns with the findings of African studies. For instance, a study conducted in Ghana reported a similar level of disease

recognition, with 70% of the participants correctly identifying hepatitis B as a disease (Berghammer et al., 2016).

However, the finding that 27.8% of the participants in the present study were unaware of the disease status of hepatitis B indicates a need for further education and awareness campaigns. This finding is consistent with observations from other studies in Africa, where a significant proportion of participants were unaware of the disease status of hepatitis B (Bagulo et al., 2020). This highlights the ongoing challenge of addressing knowledge gaps and dispelling misconceptions regarding hepatitis B in the region.

Regarding knowledge about the modes of transmission, the present study found that approximately 30.3% of the participants demonstrated knowledge of how hepatitis B can be transmitted. This finding suggests a need for further education on this topic. Studies conducted in Africa have also highlighted gaps in knowledge about the modes of transmission of hepatitis B. For example, a study conducted in Cameroon reported that only 29% of participants had knowledge of how hepatitis B is transmitted (Nayak et al., 2017).

Regarding knowledge of the association between hepatitis B and liver cancer, only 21.3% of the participants acknowledged this association, while 38% held the incorrect belief that hepatitis B cannot cause liver cancer. This finding is consistent with observations from other studies conducted in Africa where misconceptions regarding the association between hepatitis B and liver cancer have been reported (Appelhans et al., 2012).

Regarding knowledge of the hepatitis B vaccine, the present study found that approximately 52% of adults were aware of its existence. This moderate level of

awareness aligns with findings from other studies conducted in Africa, where awareness levels of the hepatitis B vaccine have been reported to vary (Stanton, 2010). Vaccination campaigns and efforts to improve vaccine awareness have been ongoing in many African countries to address the burden of hepatitis B.

Attitudes Toward Hepatitis B Viral Infection
This study provides valuable insights into the perceptions and behaviors surrounding hepatitis B among adults. The findings indicate both areas of concern and potential areas for intervention to improve public health outcomes related to hepatitis B. Comparing these findings with other relevant literature helps contextualize and further understand the implications of the study.

In terms of knowledge and awareness, the present study found that (40%) adults were unaware of the presence of hepatitis B infection. This finding is consistent with that of previous studies conducted in different populations. For example, a study by Smith et al. (2018) on hepatitis B awareness among college students in the United States reported similar levels of low awareness, with approximately 43% of the participants lacking knowledge about hepatitis B. This lack of awareness highlights the need for comprehensive educational campaigns that target both the general population and specific high-risk groups.

Furthermore, the study revealed that a significant number of adults (64.2%) reported engaging in unprotected sexual intercourse and a similar percentage (64.9%) acknowledged having multiple sex partners. These findings are consistent with those of studies conducted in various countries, such as the study by Wang et al. (2019) in China, which reported high-risk

sexual behaviors among adults, including unprotected sex and multiple sex partners, contributing to the spread of hepatitis B. These behaviors underscore the importance of targeted interventions, such as sexual health education and promoting safe sexual practices, to reduce the risk of hepatitis B transmission.

Regarding healthcare-seeking behaviors, the study found that 74.4% of adults stated that they would visit a health facility if they experienced symptoms of hepatitis B. This finding aligns with the general recommendation of seeking medical assistance for diagnosis and appropriate management of the disease. However, it is worth noting that a significant proportion of adults (17.4%) mentioned considering traditional healers as an alternative option. This finding is consistent with studies conducted in different cultural contexts, such as the study by Osei-Tutu et al. (2019) in Ghana, which revealed the use of traditional healers to manage hepatitis B and highlighted the influence of cultural beliefs and practices on healthcare-seeking behaviors. This underscores the importance of culturally sensitive approaches and collaboration with traditional healers to ensure accurate information and to promote timely access to appropriate medical care.

In terms of social support, the study found that physicians were the most commonly mentioned person to talk to about the illness (30.1%), followed by spouses, parents, children, friends, and other relatives. These findings are consistent with studies that emphasize the pivotal role of healthcare professionals in patient education, counseling, and support for individuals diagnosed with hepatitis B (Bai et al., 2017; Ko et al., 2018). The inclusion of family and friends in the support

network further highlights the significance of social support in coping with the emotional and practical challenges associated with hepatitis B.

KEY RECOMMENDATIONS

Based on the findings of this study, several recommendations can be made to address the high seroprevalence of HBV and to improve public health outcomes. First, it is crucial to develop and implement comprehensive health education programs in Makeni to raise awareness of the risk factors contributing to the high prevalence of HBV. These programs should focus on educating the population about the dangers of engaging in unprotected sexual intercourse, multiple relationships, alcohol consumption, and smoking habits. Some community members may not have access to education or cultural beliefs that conflict with Western medicine. By increasing our knowledge and understanding of these risk factors, individuals can make informed decisions and adopt healthier behaviors to prevent HBV transmission.

Another important recommendation is to enhance physician-family relationships. The study revealed the positive impact of good relationships with healthcare providers, spouses, and family members on immunity and overall health. Therefore, efforts should be made to strengthen this relationship. Health organizations and institutions should prioritize training healthcare professionals to improve their communication skills and foster supportive relationships with patients. Furthermore, programs that promote family involvement and support should be implemented to provide a strong network of individuals diagnosed with HBV infection. This can help to improve patient outcomes and encourage adherence to treatment regimens.

Additionally, it is crucial to address the gap between awareness and action. Despite high levels of awareness, there was a lack of implementation of preventive measures among participants. To bridge this gap, it is recommended that health organizations working on HBV programs in Sierra Leone adopt a theory-practice approach. This involves providing practical guidance and resources to individuals, such as workshops, counseling sessions, and community-based interventions. By focusing on behavior change and addressing barriers to action, the theory-practice approach can effectively promote the adoption of preventive measures against HBV. This approach should be tailored to the local context and cultural beliefs and social norms should be considered to ensure its effectiveness.

LIMITATIONS

One potential limitation of the study is that it relied on a single facility-based cross-sectional design, which may not be representative of the general population in Sierra Leone. Additionally, the study only collected data from adults seeking care at Makeni Regional Hospital, which may not capture the prevalence and risk factors of Hepatitis B among individuals who do not seek medical care. Another potential challenge is that the study relied on self-reported data, which may be subject to bias and may not accurately reflect participants' actual behaviors and attitudes.

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