

Prevalence of viral hepatitis B and C in Sierra Leone—current knowledge and knowledge gaps: a narrative review

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There are no comprehensive data on viral hepatitis from Sierra Leone; however, a huge disease burden has been observed in different subpopulations. This review summarizes available data on hepatitis B and C virus (HBV and HCV) prevalence in Sierra Leone and identifies knowledge gaps. Despite the non-uniformity of the studies and the lack of systematic case recording, different reports published in recent decades yielded a hepatitis B prevalence of 8.7% among healthcare workers, 11.3% among pregnant women, 15.2% among blood donors and 16.7% in school-age children. The actual HBV prevalence in the general population was reported as 21.7%; similar to what was reported for people living with human immunodeficiency virus (PLHIV). HCV prevalence is 8% and 7% in male and female blood donors, respectively, 4.1% in PLHIV and 2.0% in school children. There are significant knowledge gaps regarding the prevalence of viral hepatitis B and C in Sierra Leone, despite the high burden reported in a few studies. There are limited programmatic interventions on the control and prevention of viral hepatitis in the country. Therefore, well-structured representative studies should provide a solid understanding of the true prevalence of hepatitis B and C to inform best possible public health measures in Sierra Leone.

Keywords: hepatitis B, hepatitis C, prevalence, review, Sierra Leone

Introduction

Globally, in 2015, an estimated 328 million people were living with chronic hepatitis B virus (HBV) and hepatitis C virus (HCV) infections, with >1 million deaths attributable to the sequelae of these infections. Africa and the Western Pacific are the main regions affected by the epidemic of HBV, with an estimated prevalence of 6.1% and 6.2%, respectively.¹

Five main types of viral hepatitis (A–E) have been described.¹ Hepatitis A virus (HAV) and hepatitis E virus (HEV), transmitted by the faecal–oral route, usually cause acute self-limiting inflammation of the liver.¹ Transmitted through exposure to blood, mother-to-child transmission (MTCT) or sexual intercourse, HBV and HCV can cause both acute and chronic liver diseases.² In contrast to HBV, sexual transmission of HCV is rare and is seen mostly in human immunodeficiency virus (HIV)-positive men who have

sex with other men.² Like HBV and HCV, hepatitis D virus (HDV) is transmitted through blood or blood products or sexual transmission and causes infection only in individuals co-infected with HBV.³

HBV and HCV, which account for 96% of all hepatitis-related mortality,³ are a global public health concern. While the epidemic caused by HCV affects all regions, the highest endemicity for HBV occurs in the African and Western Pacific regions, with recorded prevalences of 6.1% and 6.2%, respectively.⁴ According to a modelling study on the prevalence and genotypes of HCV, the prevalence in the West African subregion was estimated at 1.3% in 2015.⁵ Despite being a global health threat, <10% of patients with chronic HBV and 20% of patients with chronic HCV were diagnosed in 2015.³ With an estimated 1.34 million deaths attributable globally to viral hepatitis in 2015, comparable

to deaths caused by tuberculosis,³ and the availability of effective treatment for both HBV and HCV in high-income countries, an urgent programmatic response is needed to contain the epidemic in low- and middle-income countries (LMICs).

Sierra Leone is a low-income country in West Africa that has experienced a decade-long civil war⁶ and a devastating Ebola epidemic,⁷ with a huge impact on its health service delivery. Currently the country has no nationally representative data to guide the diagnosis, management, prevention and control of chronic viral hepatitis. However, data from small studies have demonstrated a substantial burden of viral hepatitis in various subpopulations of Sierra Leone. In this article we review the available literature on HBV and HCV epidemiology in Sierra Leone, identify knowledge gaps and suggest solutions to the viral hepatitis epidemic in Sierra Leone and similar countries.

Methods

A review of published articles on the prevalence of HBV and HCV was conducted through PubMed and Google Scholar using the search criteria 'Sierra Leone' AND 'hepatitis B' OR 'hepatitis C'. The search was conducted with the publication language restricted to English. Titles of articles were all reviewed, followed by the abstracts and the full articles. All articles with the prevalence of HBV, HCV or both in the relevant subpopulations were considered for inclusion.

Literature Search Results

Fifteen articles were published, 12 of which were retrieved through PubMed and 3 through Google Scholar. The literature search was initially conducted between September 2019 and November 2019. An updated search was performed between February and May 2020.

All articles primarily identified, although methodologically limited, were considered relevant. All articles were published between 1997 and 2019. Table 1 provides study characteristics and main prevalence findings for all studies included.

While nine articles focused on HBV, five articles assessed the burden of both HBV and HCV. One article assessed HCV only. All the articles were on cross-sectional studies, of which five were retrospective. The populations studied were blood donors (four articles), routine hospital patient population (four articles), healthcare workers (two articles), pregnant women (two articles), suspected Ebola cases (one article), people living with HIV (PLHIV; one article) and school children (one article). A total of 67 189 patients were enrolled in these studies. All but one study in school children was carried out in health facilities. While the location for eight of the research articles was Freetown, the capital of Sierra Leone, the research work for two articles was conducted in two of the provinces and the remaining five were conducted in both Freetown and selected provincial areas of Sierra Leone.

Findings

Viral hepatitis among healthcare workers in Sierra Leone

The prevalence of HBV, defined as a positive hepatitis B surface antigen (HBsAg) test conducted using a rapid lateral flow

assay and enzyme-linked immunosorbent assay (ELISA) was 8.7% (39/477) among 447 healthcare workers in two hospitals in Freetown. The prevalence was 9.7% (30/320) among participants who were ≥ 30 y of age compared with those < 30 y of age (7.1% [9/127]).⁸ Alanine transaminase (ALT) was twice the upper limit of normal in 34.6% (9/27) of these HBV-positive healthcare workers. A total of 14.3% of healthcare workers received at least one dose of HBV vaccine, but serologic evidence of past immunization was present in only 4.5% of this population.⁸ Adequate knowledge on clinical outcomes of HBV, its route of transmission and correct preventive measures was reported among 38.9%, 34.6% and 6.6% of the healthcare workers, respectively.⁹

Status of viral hepatitis among blood donors and non-pregnant patients attending health facilities in Sierra Leone

A retrospective review of 16 807 blood donors nationwide reported an HBV prevalence, defined as HBsAg positivity determined by a rapid diagnostic test, of 9.7% (1633/16 803) and an HCV seroprevalence, defined as anti-HCV positivity determined by a rapid diagnostic test, of 1.0% (159/16 802).¹⁰ The prevalence was higher among rural blood donors (11% vs 7% for HBV and 1% vs 0.3% for HCV).¹⁰ Similar findings were observed for blood donors in a rural hospital in northern Sierra Leone, where an HBV prevalence of 13% in women and 15% in men and an HCV prevalence of 7% in women and 8% in men were reported.¹¹ In eastern Sierra Leone, the overall HBV prevalence was 10.9% among blood donors and the general patient population that was tested using a rapid diagnostic test.¹² In this study, the prevalence was higher (20.5%) in male patients than male blood donors (7.4%). A similar trend of HBV prevalence was observed in female patients (20.6%) and female blood donors (9.1%).¹²

A study of 43 163 blood donors (utilizing diagnostic tests whose specifics were not described in the publication) in Freetown conducted over 5 y showed an HBV prevalence of 15.2% (6554/43 163). In this study, HBV prevalence was higher in males (5735/37 060 [15.5%]) than females (829/6103 [13.6%]).¹³ Compared with a military hospital (4.7%), the HBV prevalence was higher among blood donors in an emergency surgical centre (33.2%).¹³

In the general population, an HBV prevalence of 21.7% (43/198) was recorded in patients attending a private laboratory in Freetown.¹⁴ The overall prevalence of HBV was 13.7% (118/860) among febrile patients in a secondary hospital in southern Sierra Leone, with a prevalence among males and females of 15.5% (51/330) and 12.6% (67/530), respectively.¹⁵ In the southern regional hospital, the prevalence of HBV was 21.4% (66/308).¹⁶ The HCV and HBV prevalences in samples of febrile jaundice patients using Ion Torrent semiconductor sequencing with quantitative polymerase chain reaction were 34.38% and 1.04%, respectively.¹⁷ However, using ELISA, HCV antibodies were detected in 0.22% of samples of suspected Ebola cases during the 2014–2016 Ebola epidemic in Sierra Leone.¹⁸

Viral hepatitis among pregnant women

Among pregnant women in Sierra Leone, 6.2% (28/302) to 11.3% (20/179) had a positive hepatitis B serology conducted using immunochromatographic hepatitis B surface antigen test card,

Table 1. Articles on blood-transmitted viral hepatitis in Sierra Leone

Author	Study site	Study population	Design	Sample size	Age (years)	Type of test carried out	HBV	HCV	HIV
Lawrence et al. 2020 ¹²	Health facility-based study in the provinces	Patients and blood donors	Retrospective cross-sectional study	3548	All age groups	Serology (rapid diagnostic test)	10.9	-	-
Zhang et al. 2019 ¹⁷	Health facility-based study in Freetown and the provinces	Febrile patients with jaundice	Retrospective cross-sectional study	96	All age groups	Ion Torrent semiconductor sequencing using qPCR	1.04	34.38	-
Liu et al. 2019 ¹⁸	Health facility-based study in the peri-urban areas of Freetown	Suspected Ebola cases	Retrospective cross-sectional study	678	All age groups	ELISA	-	0.22	17
Zoker et al. 2019 ¹⁶	Health facility-based study in Freetown	Both in-patient and outpatient	Prospective cross-sectional	308	15-50	Serology (rapid qualitative rapid test)	21.7	-	-
Yendewa et al. 2018 ²¹	Health facility-based study in Freetown	PLHIV	Prospective cross-sectional	211	36	Serology (chemiluminescent microparticle immunoassay)	21.7	4.0	-
Qin et al. 2018 ⁹	Health facility-based study in Freetown	Health workers	Prospective cross-sectional	211	39	Serology (one-step rapid immunochromatographic test and qPCR)	10.1	-	-
Massaquoi et al. 2018 ⁸	Health facility-based study in Freetown	Health workers	Prospective cross-sectional	447	Most are ≥ 30	Serology (rapid lateral flow assay and ELISA)	8.7	-	-
Yambasu et al. 2018 ¹⁰	Health facility-based study in Freetown and the provinces	Blood donors	Retrospective cross-sectional	16 807	18-38	Serology (rapid diagnostic test)	9.7	1.0	2.0

Table 1. Continued

Author	Study site	Study population	Design	Sample size	Age (years)	Type of test carried out	HBV	HCV	HIV
Ngegba et al. 2018 ¹³	Health facility-based study in Freetown	Blood donors	Retrospective cross-sectional	43 163	18–55	Serology (not indicated)	15.2	–	–
Ansumana et al. 2018 ¹⁵	Health facility-based study in the provinces	Both in-patient and outpatient	Prospective cross-sectional	860	≥5	Serology (Standard HBsAg rapid diagnostic test)	13.7	–	–
García-Tardón et al. 2017 ¹¹	Health facility-based study in the provinces	Blood donors	Prospective cross-sectional	326	30.9	Serology (rapid diagnostic test)	Male: 15, female: 13	Male: 8, female: 7	–
Adesida et al. 2010 ¹⁴	Health facility-based study in Freetown	Both in-patient and outpatient	Prospective cross-sectional	198	Not recorded	Serology (slide agglutination test)	21.7	–	–
Wurie et al. 2005 ¹⁹	Health facility-based study in Freetown	Pregnant women	Prospective cross-sectional	302	Not recorded	Serology (ICT hepatitis B surface antigen test card, agglutination with coated latex particles)	28	–	–
Hodges et al. 1998 ³⁶	School-based in Freetown	School children	Prospective cross-sectional	66	8.32	Serology (Sanoh Pasteur Monolisa, organon HBsAg Uniform 11)	16.7	–	–
Torlesse et al. 1997 ²⁰	Health facility-based study in Freetown	Pregnant women	Prospective cross-sectional	179		Serology (reverse passive haemagglutination method)	11.3	–	–

ICT: immunochromatographic test; qPCR: quantitative polymerase chain reaction.

agglutination with coated latex particles and reverse passive haemagglutination.^{19,20}

HBV and HCV prevalence in HIV co-infection

A high prevalence of HBV (21.7%) and HCV (4.3%) was demonstrated in a cohort of 211 PLHIV.²¹ The prevalence of HIV–HBV co-infection was 6.6% (13/138) among patients attending a private laboratory in Sierra Leone.¹⁴ Among 26 healthcare workers with HBV infection, 1 (3.6%) was co-infected with HIV.⁸

Discussion

This review sought to highlight the knowledge and knowledge gaps on the viral hepatitis epidemic and recommend strategies for its prevention and control in Sierra Leone and other LMICs.

While, at the time of writing, there were no reported studies on the prevalence of HCV among healthcare workers in Sierra Leone, the prevalence of HBV is comparatively higher (8.7%) than reported in Tanzania (5.7%)²² and Brazil (0.8%).²³ Due to their occupational engagement, screening for HBV as well as routine vaccination of uninfected persons is recommended for healthcare workers.³ However, HBV vaccination coverage among healthcare workers in Sierra Leone is low, with only 14.3% having received at least one dose of HBV vaccine, and serologic evidence of past immunization is present in only 4.5% of this population.⁸ Unlike the very low immunization coverage observed among healthcare workers in Sierra Leone, 56.9% of healthcare workers in Tanzania had at least one dose of hepatitis B vaccine and 33.3% were fully vaccinated against hepatitis B.⁷ The low immunization coverage could be due to a lack of government policy on the provision of routine immunization services for healthcare workers in Sierra Leone, although it could also result from the limited knowledge related to ineffective behavioural change campaigns targeting chronic viral hepatitis. Evidently, a recent knowledge assessment of healthcare workers regarding viral hepatitis in Sierra Leone showed a significant knowledge gap, with only 38.9%, 34.6% and 6.6% having adequate knowledge on clinical outcomes of HBV, its routes of transmission and correct preventive measures, respectively.⁹

In the event of a healthcare worker's exposure to bodily fluids from an HBV-infected patient, booster vaccination and HBV immunoglobulins are recommended to prevent transmission.²⁴ Even though Sierra Leone developed a guideline on post-exposure prophylaxis for HIV and blood-transmitted viral hepatitis among healthcare workers in 2018, routine post-exposure prophylaxis against HBV is currently not implemented. Furthermore, local evidence on HBV post-exposure prophylaxis among healthcare workers is limited, as there are no published data on the status of viral hepatitis post-exposure prophylaxis among this population in Sierra Leone. This situation calls for more attention to the prevention and control of viral hepatitis among healthcare workers.

Because blood donation is a common route for their transmission, the Ministry of Health and Sanitation of Sierra Leone, through its National Blood Service Program, has been screening all blood donors for HIV, HBV, HCV and syphilis since 2005.²⁵ Four published articles on the prevalence of viral hepatitis among blood donors in Sierra Leone have demonstrated

a high prevalence of HBV (9.7%, 10.9% and 15.2%^{12–14}), unlike the lower prevalences reported in Ghana (43/576 [7.5%]),²⁶ Nigeria (1072/15 000 [7.15%])²⁷ and Burkina Faso (1365/14 886 [9.1%]).²⁸ This subregional variation in the prevalence of HBV could be attributed to the varying interventions in the prevention and control of the viral hepatitis epidemic or perhaps due to the behaviour of the studied population and methods applied for the detection of viral hepatitis. That notwithstanding, the significant burden of viral hepatitis demonstrated among blood donors in Sierra Leone has serious public health implications for the health and well-being of the population.

A disparity in the prevalence of HBV and HCV was observed between rural and urban residents and for gender. For example, the prevalence in one of the studies was high among rural blood donors (11% vs 7% for HBV and 1% vs 0.3% for HCV).¹⁰ This finding is congruent with the higher burden of HBV and HCV reported in a study on blood donors in a rural hospital in northern Sierra Leone, where an HBV prevalence of 13% in women and 15% in men and an HCV prevalence of 7% in women and 8% in men were reported.¹¹ However, the prevalence of HCV RNA-positive donors has not been established in any of these studies.

In all the studies, male blood donors (20.5%, 20.6% and 15.5%) were disproportionately more infected than female blood donors (7.4%, 9.1% and 13.6%).^{11–13} Similar disparities were observed between hospitals, with an emergency surgical centre reporting 33.2% and a military hospital reporting 4.7%.¹³ The lower prevalence of HBV in the military hospital could be due to routine testing of recruits for HBV infection and provision of treatment to HBV-positive persons entering the military. The lower prevalence could also be explained by preventive interventions for sexually transmitted infections in the military.

Despite the 100% coverage of screening services for transfusion-transmissible infections in Sierra Leone, the limited treatment services in the country pose a serious challenge to the prevention and control of viral hepatitis. More efforts are needed to establish links between infected patients and treatment and support services for blood donors with positive HBV and HCV results. Furthermore, concern about the increasing burden of occult HBV in donated blood²⁹ that is not usually detected by the currently used rapid screening assays warrants research on the prevalence of occult HBV among blood donors in Sierra Leone. Evidence from such research may inform the use of more sensitive nucleic acid assays for screening blood donors in the country.

Like the burden of HBV among blood donors, the prevalence of HBV in patients attending health facilities was high: 21.7% in a private laboratory in Freetown,¹⁴ 13.5% among febrile patients in a secondary hospital in southern Sierra Leone¹⁵ and 21.4% in patients attending the southern regional tertiary hospital in Bo.¹⁶ As a regional referral hospital, the southern regional hospital is expected to serve a population with higher infection rates, and this may explain the relatively higher prevalence of HBV in this facility. The HCV and HBV prevalences in samples of febrile jaundice were 34.38% and 1.04%, respectively.¹⁷ However, HCV antibodies were detected in 0.22% of samples of suspected Ebola cases during the 2014–2016 Ebola epidemic in Sierra Leone.¹⁸ This disparity in the prevalence of HBV and HCV among the various population groups indicates the need for a more structured study that will provide a solid definition of the prevalence of HBV and HCV among the general population of Sierra Leone.

Two published articles reported HBV prevalence rates of 6.2% and 11.3% among pregnant women in Sierra Leone,^{19,20} similar to rates in pregnant women in South Sudan (31/280 [11%]), Gambia (39/424 [9.2%]) and Uganda (47/397 [11.8%]).^{30–32} No data are available in Sierra Leone on HCV prevalence among pregnant women, indicating a significant knowledge gap.

To prevent HBV MTCT, routine screening and appropriate immunisation and treatment are recommended for all pregnant women.²⁴ Prevention of MTCT of HBV requires the use of immunoglobulins, the birth dose of HBV vaccine and infant HBV vaccination.²⁴ Some professional guidelines recommend the use of nucleoside/nucleotide analogues as additional tools in the prevention of HBV MTCT, particularly if the HBV viral load is high.^{33,34} However, the World Health Organization (WHO) guidelines do not establish any formal recommendation on the use of antiviral medication for the prevention of MTCT, as there was no consensus on widespread antiviral use in the pregnant population and the lack of conclusive evidence at the time of guideline development.²⁴

Nonetheless, interventions tackling prevention of MTCT of HBV in sub-Saharan Africa are crucial to achieve elimination targets. Low-resource countries should consider implementation of the birth dose of the HBV vaccine with or without immunoglobulins as recommended in the WHO and other guidelines for HBV-exposed infants within 24 h of birth.^{24,35}

Although Sierra Leone is among the countries that provides HBV vaccine to infants as part of its Expanded Program on Immunization (EPI), there are still gaps in the prevention of MTCT of HBV. Most pregnant women in Sierra Leone are not screened for viral hepatitis and infants are not provided with an HBV birth dose, which would be an important cornerstone to reduce future transmission. This situation may largely be due to the lack of policies on the prevention of MTCT of viral hepatitis in the country.

There are evident knowledge gaps regarding viral hepatitis in the community. Most published studies on HBV and HCV prevalence were carried out in health facilities, i.e. either in risk groups or inpatient populations, leading to a patchy and epidemiologically non-representative and distorted picture.

Hodges et al.³⁶ demonstrated an overall prevalence of 16.7% for HBV and 2% for HCV among school children in Freetown between the ages of 6 and 12 y in 1998, long before the introduction of HBV vaccine in the EPI program in 2007. The prevalence of HBV in this population was 13.7% in males and 4.5% in females. Compared with this high prevalence of hepatitis among children in Sierra Leone, a lower prevalence was observed among children in Nigeria (9/749 [1.2%]), Senegal (3/295 [1.1%]) and South Africa (2/450 [0.45%]).^{37–39} In contrast to the study on HBV prevalence among children in Sierra Leone, studies in other countries were carried out long after incorporation of the EPI services in those countries. This could explain the relatively higher burden of viral hepatitis demonstrated among children in Sierra Leone. However, prospectively collected up-to-date data are needed to understand the current state of viral hepatitis among this population in Sierra Leone.

Although a high prevalence of chronic HBV and HCV infections among sex workers and other high-risk groups has been demonstrated in other LMICs,^{40–42} data are currently lacking for these subpopulations in Sierra Leone.

In contrast, a high prevalence of HBV (21.7%) and HCV (4.3%) was found in a cohort of 211 PLHIV.²¹ The prevalence of HIV–HBV co-infection was 6.6% (13/138) among patients attending a private laboratory in Sierra Leone.¹⁴ Among 26 healthcare workers with HBV infection in Sierra Leone, 1 (3.6%) was co-infected with HIV.⁸

A systematic review of HCV prevalence among HIV co-infected individuals in four countries in sub-Saharan Africa reported an HCV prevalence of 0.4% (614/15 336) among HIV patients. The prevalence demonstrated in this review was higher in Mozambique (30/2600 [1.15%]) than in Malawi (2/385 [0.5%]), Uganda (18/7400 [0.24%]) or Kenya (10/4500 [0.22%]).⁴³ While an HBV–HIV prevalence of 32.0% (168/531) was demonstrated in Cameroon,⁴⁴ a systematic review reported that among 8162 participants in Ghana, there was a pooled prevalence of 13.6% for HBV–HIV co-infection.⁴⁵

As HBV co-infection in PLHIV is associated with decreased survival,⁴⁶ screening and appropriate vaccination of HBV-negative PLHIV is required for improving survival in HIV-positive populations.

In the 2016–2021 global health sector strategy on viral hepatitis, the WHO highlighted strategies for the detection, management and prevention of viral hepatitis to reduce chronic viral hepatitis by 90% from the 2015 baseline and to reduce viral hepatitis-related mortality from 1.34 million annual deaths in 2015 to fewer than 500 000 deaths by 2030.⁴⁷ The achievement of this elimination target requires a mix of preventive and treatment strategies, including prevention of MTCT, implementing universal HBV vaccination, early detection of viral hepatitis and linkage to care and support services.⁴⁸

Catch-up HBV vaccination for the general adult population is not routinely recommended since <5% of infections acquired in adulthood progress to chronicity. However, detection and vaccination of high-risk groups like healthcare workers, people who inject drugs, men who have sex with men, commercial sex workers, seronegative partners of persons with HBV, immunosuppressed persons and people with chronic liver disease are recommended as part of the HBV elimination strategy.³³ Detection of HBV and appropriate vaccination is also recommended for patients on haemodialysis, persons in correctional centres, patients requiring immunosuppressives or chemotherapy and persons with multiple sexual partners or sexually transmitted infections.³³ It is therefore prudent for hepatitis prevention programs to focus on the detection and vaccination of these risk groups. Strategies that enhance community-based screening and treatment of chronic HBV infection may provide a cost-effective solution.

HBV and HCV programs should also explore the contribution of traditional practices such as female genital mutilation to the growing burden of chronic hepatitis in LMICs, including Sierra Leone, where 90.9% of women 15–49 y of age have been genitally mutilated.⁴⁹

Conclusions

Despite the lack of nationally representative data on HBV and HCV prevalence, a substantial burden of has been demonstrated in some population groups in Sierra Leone, although most of

the studies are limited in extent and confined to healthcare facilities.

There is still a huge knowledge gap and high disparity in the burden of viral hepatitis among the various subpopulations in Sierra Leone. Prospective, nationwide, representative surveys are needed to understand the true burden of viral hepatitis in Sierra Leone and other LMICs. Efforts should also be directed towards understanding the prevalence of HBV and HCV among sex workers, men who have sex with men, people who inject drugs, genitally mutilated women, inmates of correctional services and patients on haemodialysis.

To achieve the 2030 Sustainable Development Goal elimination target for viral hepatitis, there is a need to establish sound elimination strategies. Pregnant women should be screened for HBV in their first trimester or the earliest antenatal contact and, where necessary, provided appropriate immunization services. PLHIV should be routinely screened for HBV and HCV at the time of HIV diagnosis and patients with a negative HBV result should be offered HBV vaccination. As with HIV, national programs on viral hepatitis should consider the implementation of a test-and-treat approach for all patients with HCV and implement universal screening and treatment programs for HBV infection.

Overall, Sierra Leone and other LMICs should develop and implement a policy framework that will aid mobilization of resources for universal access to detection using point-of-care tests and appropriate treatment of patients infected with viral hepatitis. Efforts to improve the traditional preventive measures, such as the use of barrier methods, water-based lubricants and safe handling of sharps, especially among high-risk groups, should be strengthened across LMICs, including Sierra Leone.

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