



COLDA

CONFERENCE ON LIVER
DISEASE IN AFRICA

2024 ABSTRACT BOOK

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ORAL ABSTRACT PRESENTATIONS

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1

In Vitro Characterization of a Single and Combination rtK333Q Mutation Isolated from HIV-Infected Individuals with Occult Hepatitis B in Botswana: An in Vitro Study

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Background: Mutations affecting viral gene expression can contribute to OBI as they can lead to reduced/undetectable HBsAg expression. HBV replication can reactivate in immunocompromised individuals with OBI, which is transmissible, and a risk factor for liver cancer. There is a paucity of data in functional analysis of mutations associated with OBI especially in Africa.

We aimed to conduct functional characterization of rtK333Q, and combination OBI-associated mutations (rtS332N_rtK333Q_sA194V) found in subgenotype A1 of HBV.

Material and Methods: We carried an in vitro study at the university of Witwatersrand, Johannesburg, South Africa. We attained an ethics waiver W-CBP-230607-01 from the university of Witwatersrand medical human research ethics committee. We used plasmids containing strains of subgenotype A1, with and without the mutations to transiently transfect Huh7 cells. We harvested the transfected huh 7 cells and supernatants at days 1, 3 and 5 post transfection, which we then used for the determination of the extracellular expression of HBsAg using enzyme-linked immunosorbent assay (ELISA) and to determine the HBV DNA viral load using Real time Polymerase Chain Reaction (PCR).

Results: When we compared HBsAg expression between both mutants to the wildtype using

unpaired t-test, there was an overall decrease in HBsAg expression from the mutants. The observed variation in HBsAg expression between the A1 wildtype and rtK333Q was significant with a p value = 0.0003. The level of significance was also observed between A1 wildtype and combination mutations with p value = 0.0002. We saw an overall increase in HBsAg expression in the wildtype strain over time with a p-value of 0.0046, using Graphpad paired t-test. We further compared the mutants against each other for HBsAg expression, and we observed no statistical significance (p value = 0.788). The rtK333Q single mutant did not show a significant decrease in HBsAg expression over time (p-value = 0.3643) while the combination mutant showed a significant decrease in HBsAg expression over time (p-value = 0.0412) when using a paired t-test to assess the difference in HBsAg levels at days 1 and 5 (Graphpad). The intracellular and extracellular RT-PCR results have not indicated any significant change in the expression of HBV viral load between wild-type and mutant constructs.

Conclusions: The observed low HBsAg expression in both mutations compared to the wildtypes relates to what has been reported in literature. Literature has reported different findings in the HBV DNA levels between the wildtype and OBI cases. Analysis of HBsAg expression indicated a significant decrease in the level of HBsAg expression in both the single and the combination mutation as observed in OBI. Analysis of viral load indicated that there is no significant variation in HBV DNA production between the mutants and the wildtype strains of HBV. We therefore concluded that both the single and combination mutations of rtK333Q results in reduced HBsAg expression as observed in OBI phenotype and do not have any effect on HBV viral replication.



2

Predictors of Hepatic Flares after Nucleos(t)ide Analogue Cessation - Results of a Global Cohort Study (RETRACT-B Study)

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Background: Flares after nucleos(t)ide analogue (NA) cessation are common and potentially harmful. Predictors of flares are required for risk stratification and to guide off-treatment follow-up.

Material and Methods: This multicenter cohort study included virally suppressed patients with chronic hepatitis B (CHB) who were hepatitis B e

antigen negative at NA cessation. Hepatic flares were defined based on an ALT-levels of ≥ 5 -, 10- or 20 x upper limit of normal (ULN). Multivariable Cox regression analyses were performed censoring at retreatment, HBsAg-loss and loss-to-follow-up. A sub-analysis was performed including HBV DNA levels within the first 12 weeks as time-dependent covariate.

Results: Of the 1552 included patients, 350 patients developed a flare ($ALT \geq 5 \times ULN$) after NA withdrawal, of whom 70% within the first year. One-year cumulative incidences for ALT flares $\geq 5x$, $\geq 10x$, $\geq 20x ULN$ were 18.6%, 10.2% and 3.4%, respectively. Severity of flares decreased over time, but severe flares still occurred after one year.

Thirteen patients decompensated after a flare, of whom 3 died. Flares seemed not associated with increased rates of HBsAg loss (adjusted Hazard Ratio [aHR]:1.42; 95%CI 0.75-2.66, $p=0.28$). Multivariable analyses showed that older age (aHR:1.02; 95%CI 1.01-1.03, $p=0.001$), male sex (aHR:1.57; 95%CI 1.17-2.11, $p=0.003$), HBsAg levels at NA withdrawal (100-1,000 IU/mL; aHR:1.99; 95%CI 1.34-2.97, $p<0.001$); $>1,000$ IU/mL; aHR:2.65; 95%CI 1.72-4.07, $p<0.001$) and Tenofovir (TDF) vs. Entecavir therapy (aHR:2.99; 95%CI 2.25-3.97, $p<0.001$) were predictive for flares ($\geq 5 \times ULN$). Early HBV DNA levels $>5 \log_{10}$ IU/mL were associated with the highest risk of flares (aHR:2.36, 95%CI 1.51-3.70, $p<0.001$).

Conclusions: Flares are common after NA withdrawal, especially within the first year and can result in hepatic decompensation and death. Older age, male sex, higher HBsAg levels at end of treatment (>100 IU/mL) and TDF therapy were associated with a higher risk of flares. Close monitoring and retreatment should be considered if HBV DNA levels exceed $>5 \log_{10}$ IU/ml within the first 12 weeks.



3

Challenges and Dynamics of Identifying, Testing and Linking to Care Hepatitis B Patients in Kenya

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Background: World Health Organization has strategies to eliminate viral hepatitis by 2030, a number of countries are yet to adopt them due to certain challenges. In Kenya, viral hepatitis resulting from hepatitis B virus (HBV) infection is the main cause of liver cancer. This study aimed to understand factors associated with HBV diagnostic and treatment gaps in Kenya, with a goal of developing service delivery model for elimination of viral hepatitis.

Material and Methods: We rolled out two different testing strategies, one targeting patients seeking health services in public health facilities and another targeting communities through mass testing in two different counties (Baringo and Kisumu) in Kenya. To initiate the study, health care workers were trained on HBV care package. HBV testing was performed by HBsAg testing and treatment eligibility determined using HBV viral load, liver function test and APRI score test. Study data was captured using an open data kit and analyzed using R software.

Results: Out of 2,658 participants reached majority, 2,346 (88.3%) were through the community strategy. Among 312 (11.7%) reached through the health facility strategy, 86 (3.2%) and 226 (8.5%) were seeking liver related services and antenatal care respectively. When all participants were tested for HBsAg, 156 (5.9%) tested positive for HBsAg of which 102 (65.4%) were successfully linked to care and management. Hospital-based strategy had the highest positivity yield (34.9%)

and linkage to care (86.6%) compared to community-based strategy with 5.3% positivity. Distribution of HBV prevalence varied widely ($p < 0.001$) by geography, ranging from 0.9% in Kisumu to over 11.5% in some parts of Baringo County. When adjusted for covariates by regression analysis, marital status ($p < 0.011$), level of education ($p = 0.035$) and circumcision status ($p = 0.043$) were significantly associated with HBV infection. The study observed that low awareness (30%), access to and cost of diagnosis were the main challenges of linking them to care. Among those linked, managing expectations on who and when to treat were the main challenge.

Conclusions: Community-based testing and approaches foster HBV awareness and knowledge whereas hospital-based strategies results in high HBsAg positivity and linkage rate. Feasible models for hepatitis mitigation for a high endemic region should target the two approaches. Similarly, understanding the transmission drivers at community and health facility levels are critical in developing sustainable models to and link to care hepatitis B patients in low- and middle-income countries.



4

“When to Treat” in People Living with Hepatitis B in Africa: A Discrete Choice Experiment Assessing Health Workers’ Preferences

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Background: Hepatitis B virus (HBV) infection is a major public health concern. Chronic HBV infection presents a dynamic disease process, and over time, a subset of individuals may develop complications such as hepatocellular carcinoma (HCC). Guidelines recommend identifying individuals at high risk and providing them with antiviral therapy. This study assessed healthcare workers’ (HCW) preferences regarding when to recommend initiating antiviral therapy for people with chronic HBV infection in Africa.

Objectives: We evaluated HCWs’ treatment preferences and treatment eagerness. We also identified factors associated with pro-treat-all responses, defined as consistently recommending treatment across all eight choice tasks.

Material and Methods: Using an online questionnaire survey, a single profile discrete choice experiment (DCE) was conducted among African HCWs consisting of the following attribute levels; benefit (number needed to treat (NNT) to prevent one case of HCC over 20 years, [10, 50, 100, 1000]), treatment duration (years [1, 20]), monthly out-of-pocket medication costs (USD [0, 3, 50, 500]), and safety (frequency of serious adverse events, SAE [rare <0.1%, common 1-10%]). Each HCW responded to eight choice tasks. Employing random effects specifications, we quantified the utility gain or loss generated by each attribute using binary logistic model, evaluated treatment eagerness via choice certainty scale with linear regression, and investigated the factors associated with pro-treat-all responses using binary logistic model.

Results: 422 responses from 46 African countries were received. Overall, the likelihood of recommending treatment significantly reduced with increase in levels of NNT, treatment duration, monthly out-of-pocket medication costs, and frequency of serious adverse events. Relative to the reference level of each attribute, the average probability of recommending treatment decreased by 56% at 500 USD (95% CI [51%-60%]) compared to 0 USD, 37% at 1000 NNT (95% CI [32%-41%]) compared to 10 NNT, 18% at 20 years treatment duration (95% CI [14%-21%]) compared to 1 year, and 14% at common SAE occurrence (95% CI [10%-17%]) compared to rare SAE occurrence. The attributes’ impact on HCWs’ treatment eagerness was similar to their treatment preferences. HCWs’ profession was significantly associated with being pro-treat-all. Among rational responders, 23% (81 of 357) were pro-treat-all. The proportion of pro-treat-all was higher in midwives (57%), public health practitioners (47%), and laboratory staff (32%), compared to doctors (13%). While the overall treatment eagerness of rational responders was sensitive to all four attributes, the treatment eagerness of pro-treat-all responders was only reduced by duration and out-of-pocket costs. There were no significant differences between professions in terms of treatment duration and out-of-pocket costs. However, nurses, midwives, and public health practitioners placed less emphasis on NNT in their treatment preferences compared to doctors.



Conclusions: Treatment benefit (NNT), duration, monthly out-of-pocket medication costs, and frequency of SAE significantly influenced HCWs' preferences and the certainty of their recommendations regarding antiviral therapy initiation for individuals with chronic. Further assessment of the preferences of people living with hepatitis B in Africa is needed to promote optimal treatment strategies.



MINI-ORAL ABSTRACT PRESENTATIONS

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5

Investigating the Impact of Serum and Intrahepatic Hepatitis B Virus Markers on Clinical Outcomes in Chronic Hepatitis B and Occult Hepatitis B Infection in the Gambian Population

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Background: Chronic hepatitis B (CHB) virus infection poses a significant public health challenge in Sub-Saharan Africa, leading to severe liver diseases, including hepatocellular carcinoma (HCC). Despite vaccination efforts, many have acquired the chronic infection at risk of developing chronic liver diseases, and data from the region are insufficient for effective intervention strategies.

Objectives: To investigate the correlation between serum and intrahepatic hepatitis B virus (HBV) markers at baseline and their impact on clinical outcomes over time, including mortality and liver disease progression, in individuals with CHB in The Gambia.

Material and Methods: This observational study used intrahepatic HBV markers from liver biopsy samples collected at enrolment and clinical outcomes collected through longitudinal follow-up

(2011-2023) in The Gambia. Survival data were collected until 2023, with clinical reassessments conducted from 2018 to 2023. The correlation between serum and intrahepatic HBV markers was evaluated using Spearman's rank test. The association between baseline intrahepatic HBV markers and all-cause mortality rate was assessed using a Cox proportional hazard regression model. Additionally, the association between intrahepatic HBV markers and liver disease progression, defined by newly meeting antiviral therapy eligibility criteria or an increase in liver fibrosis stage, was evaluated using a logistic regression model.

Results: Among 1,279 HBsAg-positive participants, liver biopsies from 163 individuals (113 without cirrhosis/HCC, 26 with cirrhosis without HCC, and 24 with HCC) were analyzed. Serum hepatitis B core-related antigen (HBcrAg) and HBV DNA levels correlated significantly with the amount of intrahepatic cccDNA ($r=0.46$, $p=0.001$; $r=0.33$, $p<0.0001$, respectively) and intrahepatic HBV DNA ($r=0.73$, $p<0.0001$; $r=0.54$, $p<0.0001$, respectively). Quantified serum HBsAg levels also correlated with the amount of intrahepatic HBV DNA ($r=0.43$, $p<0.0001$). After a mean follow-up of 4.88 years, survival analysis for mortality rate included 155 participants. Intrahepatic cccDNA levels showed no association with increased mortality rates in crude (HR: 1.00, $p=0.992$) or age-adjusted models (HR: 0.99, $p=0.970$). Similarly, intrahepatic RNA/ccdDNA levels (crude HR: 1.06, $p=0.872$; age-adjusted HR: 1.10, $p=0.777$) and intrahepatic HBV DNA levels (crude HR: 1.32, $p=0.422$; age-adjusted HR: 1.23, $p=0.306$) were not associated with increased mortality rate. Following the stratification by the baseline liver disease status (no cirrhosis/HCC, cirrhosis, or HCC) or Tenofovir Disoproxil Fumarate treatment history, a statistically significant association was not observed between the intrahepatic markers and mortality rate. Out of 72 participants who were reassessed, 6 showed liver disease progression. Although the associations were non-significant, high intrahepatic cccDNA levels (OR: 0.89, $p=0.887$), RNA/ccdDNA levels (OR: 0.83, $p=0.831$), and HBV DNA levels (OR: 0.53, $p=0.491$) tended to have a lower risk of liver disease progression. In an age-adjusted model, only high intrahepatic cccDNA levels tended to have a higher risk (OR: 1.12, $p=0.903$).

Conclusions: The study identified significant correlations between serum and intrahepatic HBV markers, supporting the use of serum HBcrAg as a non-invasive monitoring of viral dynamics.



However, intrahepatic HBV markers alone did not predict mortality or liver disease progression, indicating the need for a multifaceted management approach. Future research should involve larger cohorts, extended follow-up periods, and more frequent data collection to improve prognostic accuracy.



6

Hepatitis B and C Infection in Tuberculosis Patients in the Western Region of Burkina Faso: A Pilot Study for Decision Making

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Background: Tuberculosis (TB) and viral hepatitis B and C are major public health problems. Co-infection with TB-hepatitis B and/or C leads to serious complications, ranging from unfavorable therapeutic outcomes in tuberculosis to the development of hepatitis induced by anti-tuberculosis drugs. No data on these co-infections are currently available in Burkina Faso. The aim of this study was to investigate the epidemiology of hepatitis B virus (HBV) and hepatitis C virus (HCV) infections in patients with tuberculosis in the Hauts-Bassins region of Burkina Faso.

Material and Methods: From October 2023 to June 2024, a cross-sectional analytical study was conducted in health facilities involved in tuberculosis management in the Hauts Bassins region of Burkina Faso. The study focused on TB patients for whom we had obtained informed consent. For each patient, data were collected using a structured questionnaire during individual interviews. A blood sample was taken and used to detect several markers of infection. HBV infection was detected by testing for HBsAg using the VIDAS® HBs Ag Ultra (HBS) kit (Biomérieux, Marcy-l'Etoile, France). HBV viral DNA was then detected and quantified using GenoXtract® with GXT NA automated extraction kits (Hain Lifescience, Nerhen, Germany) and the GENERIC HBV VIRAL

LOAD version 2.0 (GHBV-CV) amplification kit (BIOCENTRIC, Bandol, France) on the FluoroCycler®XT platform (Hain Lifescience, Nerhen, Germany). To detect HCV infection, anti-HCV antibodies were first tested using the VIDAS® Anti-HCV kit (Biomérieux, Marcy-l'Etoile, France). HCV infection was then confirmed by testing for HCV viral RNA using the Cobas® HCV Test (Roche Diagnostics) on the Cobas® 4800 system. Liver function was assessed by alanine aminotransferase (ALT) analysis using the Cypress Diagnostics GPT (ALT) kit (Cypress Diagnostics, Hulshout, Belgium). Statistical analyses were performed with STATA SE version 18.0 software.

Results: A total of 259 TB patients were included in the study. The mean age was 39.7±15.9 years. One hundred and ninety-one patients (74.0%) were male, resulting in a sex ratio of 2.8. The majority of patients (88.0%) lived in urban areas, 56% had no education and 69.0% were married. According to the profile of TB patients, 94% were new cases and 76% had been on treatment for less than 4 months. The overall prevalence of hepatitis B was 10.03% (95% CI: 6.7-14.5) and that of HCV exposure was 3.8% (95% CI: 1.9-7.2). Among HBsAg-positive specimens (n=26), HBV DNA was detected in all specimens and 68.2% (n=18) had a viral load > 20,000 IU/mL. The rate of HBV infection was high in the 35-49 age group (21.1%; p = 0.0009). ALT

Conclusions: The results showed a high prevalence of HBV and HCV infection in our study population. In addition, a significant proportion of coinfecting patients had liver damage. Systematic screening for HCV and HBV infection is essential for improved patient management.



7

Evaluation of the Risk of Hepatocellular Carcinoma (REACH-B and PAGE-B Scores) In Patients Chronically Carrying Hepatitis B Virus (HBV) in Ouagadougou

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Background: Long-term follow-up of patients with chronic hepatitis B is sometimes difficult in our context, because it is costly and results in many lost to follow-up. The development of hepatocellular carcinoma (HCC) risk scores could make it possible to identify high-risk patients for optimal follow-up.

Material and Methods: This is a descriptive and analytical retrospective cohort study from January 2014 to December 2022 (9 years) that took place in 2 health facilities in Ouagadougou. It concerned the files of patients with chronic HBV carriers, without viral co-infection, without cirrhotic decompensation or HCC at baseline and who had a clinical follow-up of at least 12 months. The REACH-B and PAGE-B scores assessed the risk of HCC occurring in untreated patients at 3, 5, 10 years of age and in treated patients at 5 and 10 years respectively. Univariate and multivariate logistic regression was used to identify factors associated with the risk of HCC occurrence.

Results: A total of 292 patients were included during a mean follow-up of 58 months. The majority of patients, 131 (55.13%) were male with a mean age of 34 years. A family history of cirrhosis and primary liver cancer was found in 2 patients (0.68%) and 5 patients (1.7%), respectively. Alcohol consumption was reported in 97 patients (33.22%). HBeAg was positive in 28

patients (9.6%) and 105 patients (35.96%) had a viral load greater than 2000IU/mL. Cytolysis concerning ALT was found in 18.83% of patients. On the FibroScan®, initial significant fibrosis was found in 56 out of 249 patients who performed the examination (22.49%).

In the untreated patient population, 76.24%, 23.76% and 0% were at low, intermediate and high risk of developing HCC (REACH-B), respectively. The incidence of cancer was almost the same as expected according to the REACH-B score at 3 and 5 years.

One hundred and eleven patients (n=111; 38%) were treated, of whom 56 patients (50.45%), 48 patients (43.24%) and 7 patients (6.31%) were at low, intermediate and high risk, respectively, of developing HCC according to the PAGE-B score at entry into the cohort.

During the study period, 11 patients (3.8%) developed HCC at 5 years, of which 10 (91%) came from treated patients. The incidence of HCC was increased in the group of patients treated, suggesting the existence of cofactors influencing the progression of the disease even under treatment.

In multivariate analysis; significant F_{≥2} fibrosis (p-value ≤ 0.003, OR=12.3) and the presence of a family history of HCC (p-value ≤ 0.008, OR=38) were associated with the risk of HCC occurrence.

Conclusions: The occurrence of HCC in follow-up cohorts of patients with chronic HBV is a major concern. Risk scores such as REACH-B and PAGE-B can be used in our context provided that they are adjusted to take into account certain cofactors such as aflatoxin and family history of HCC.



8

The Impact of Integration and Decentralization of HBV Services on Enhancing HBV Care Continuum: An Interrupted Time Series

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Background: Rwanda adopted decentralization and integration of hepatitis B virus (HBV) services into existing health services in July 2019. However, the impact of these changes has not been explored. Therefore, we assessed the impact of decentralization and integration of HBV diagnosis, treatment, and follow-up services into existing services on the HBV care cascade in Rwanda, including engagement in care, treatment initiation, and continuation.

Material and Methods: We used data from the District Health Information System 2 data that included 4.5 million individuals screened for HBV in Rwanda between January 2016 and June 2023. We included individuals aged >2 years and analyzed the proportion of individuals enrolled in care among those diagnosed, those who initiated the treatment among those who were eligible for HBV treatment, and those who were retained on treatment. We conducted an interrupted time series (ITS) analysis overall and stratified by sex and age categories using a segmented linear regression model to assess the impact of decentralization of HBV services and included first-order autocorrelation terms to control for data correlation.

Results: Among the 4,604,468 persons included, 55,820 (pre-policy: 21,641 vs. post-policy: 34,179) were diagnosed with HBV infections. Of those, 21,182 (37.9%) [pre-policy: 5,034 (23.3%) vs. post-policy: 16,148 (47.2%)] were engaged in care, 5,966 (28.2%) [pre-policy: 2,435 (48.4%) vs. post-

policy: 3,531 (21.9%)] were eligible for HBV treatment, 4,746 (79.6%) [pre-policy: 1,950 (80.1%) vs. post-policy: 2,796 (79.2%)] initiated treatment, and 4,621 (97.4%) [pre-policy: 1,942 (99.6%) vs. post-policy: 2,679 (95.8%)] continued treatment at one-year post-initiation. ITS results showed that the proportion of individuals enrolled in care increased in level by 12.28 [95% confidence interval (CI): 4.46, 33.02] in July 2019 and remained stable since then. The proportion of individuals who retained in care decreased in trend (-2.46, with 95% CI: -3.30, -2.10). In our stratified analyses, we observed these changes in care enrollment in under 55 years old age categories and among males. We found no significant level nor trend change for the proportions of individuals who initiated HBV treatment.

Conclusions: Our findings indicate that decentralization of HBV services had a significant impact on engagement with care but did not improve treatment initiation. Further investigations and strategic adaptations such as training of more health care providers on HBV management as well as intensive mentorship may be required to optimize the effectiveness of the HBV care continuum post-decentralization.



9

SOLDA-EASL Survey of Access to Hepatitis D Screening and Diagnostic Tests in Africa

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Introduction: Chronic hepatitis D is considered to be the most aggressive form of viral hepatitis because of its accelerated progression to liver cirrhosis and hepatocellular carcinoma. It is estimated that 1.6 million [95% CI 1.1–2.5] people are living with hepatitis D-HBV co-infections in the WHO Africa region with high prevalences reported from countries in western and central Africa. The updated WHO Hepatitis B Management Guidelines now recommend reflex testing for Hepatitis D if HBsAg positive and with the development of effective therapies for Hepatitis D (HDV), it is important to establish the prevalence of Chronic Hepatitis D within different regions of Africa

Aim: The survey aims to establish the known prevalence of Hepatitis D and the access to Hepatitis D screening and confirmatory diagnostics among health care providers in different countries within Africa.

Methods: The survey was distributed electronically to SOLDA and Project ECHO members via the Africa networks.

Results: 461 participants representing 43 of a total of 54 countries in Africa completed the survey: North Africa (6 countries), Western Africa (14 countries), Central Africa (5 countries), Eastern Africa (13 countries) and Southern Africa (5 countries). 54.19% of participants (38 countries) had no Hepatitis D country seroprevalence data available, 25.12% had published data and 20.68% had unpublished data. 63.91% of participants had no access to anti-HDV antibody testing, 24.78% had access but were not reimbursed and 11.31% had reimbursed serology. Hepatitis D seroprevalence had been assessed in the General population

(77.22%), children <18 years (12.36%), blood donors (23.43%), chronic liver disease (24.95%), hepatocellular carcinoma (18.44%), dialysis patients (15.62%) and people who inject drugs (12.8%).

67.03% of participants did not have access to qualitative HDV RNA and 24.62% had access but were not reimbursed and 8.35% were reimbursed. 68.06% of participants had no access to quantitative HDV RNA, 23.79% had access but were not reimbursed and 8.15% were reimbursed.

Conclusion: Access to anti-HDV antibody and HDV RNA testing in Africa is limited and seldom reimbursed. Affordable point-of-care anti-HDV antibody and confirmatory HDV molecular testing is required to implement the updated WHO HBV Management Guidelines and to address the burden of liver disease associated with HBV-HDV co-infections.



10

Prevalence and Clinical Characterization of Hepatitis D Virus (HDV) Infection Among Sudanese Patients with Hepatitis B Virus (HBV), A Cross-Sectional Study

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Background: Sudan has a high prevalence of hepatitis B surface antigen, exceeding 8%. The prevalence of hepatitis B varies across different regions of Sudan, ranging from 6.8% in central Sudan to as high as 26% in southern Sudan. Hepatitis D virus (HDV) relies on HBV for replication and can accelerate the progression of HBV-related liver diseases, leading to more severe outcomes. This study aims to determine the prevalence of HDV infection among Sudanese patients with HBV-related liver diseases and to investigate the clinical characteristics of patients with HDV co-infection.

Material and Methods: This descriptive cross-sectional hospital-based study was conducted in Sudan between June and September 2022. Ninety HBV patients aged 16 years and above were included. Patients were interviewed using a structured questionnaire, and medical histories and examinations were recorded. Investigations included liver function tests, abdominal ultrasounds, and ELISA for Anti-HDV-IgG

Results: In this study of 90 HBV patients, most were male (68.9%) and under 40 years old (58.9%). HDV-IgG antibodies were found in 8 patients (8.9%), all male. Among the HDV-positive patients, one (12.5%) had jaundice and one (12.5%) had ascites. Elevated ALT levels were seen in 50% of HDV-positive patients. One (12.5%) HDV-positive patient had low albumin. Cirrhosis was present in 25% of HDV-positive patients, and HCC was present in 12.5% of HDV-positive patient

Conclusions: The prevalence of HDV infection among Sudanese patients with HBV-related liver

diseases is 8.9%. This highlights the need for enhanced screening and diagnostic measures in Sudanese populations. Further research is needed to develop targeted interventions.



11

Towards elimination of HIV, Syphilis and HBV mother-to-child transmission in The Gambia and Burkina Faso: preliminary results from the TRI-MOM project in The Gambia

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Background: The WHO has been increasingly advocating for integrated interventions for the triple elimination of MTCT (eMTCT) of HIV, syphilis and HBV in Sub-Saharan Africa, but little is known about its feasibility and impact on child outcomes in this region. TRI-MOM is an implementation research project which aims to assess the feasibility and effectiveness of a pilot strategy for the triple elimination of PMTCT of HIV, Syphilis and HBV in Burkina Faso and The Gambia. We present here the preliminary results of the study in The Gambia.

Methods: Following training for healthcare workers and sensitisation for pregnant women, HIV, syphilis and HBV screening was offered to all pregnant women attending their first prenatal consultation using rapid diagnostic test and treatment was initiated accordingly. HBsAg-positive pregnant women were initiated on HBV prophylaxis if HBV viral load was above 200,000 IU/mL (sites with GeneXpert) or systematically (sites without GeneXpert). The primary endpoint

was the uptake of HBV prophylaxis among HBsAg-positive women eligible for HBV prophylaxis. The intervention has been implemented in 3 sites (two urban and one semi-rural sites) and will be scaled up in 2 additional sites from the 1st July 2024.

Findings: Between 18th March 2024 and 13th June 2024, 757 pregnant women who attended the antenatal study sites had a median age of 28 years (UQR: 24-32) and a median number of pregnancies at 3 (2-5). Gestational age at the first antenatal care visit was 16 (12-24) weeks and 241/753 (32%) had a first antenatal visit during first trimester. 466/570 (82%) pregnant women had 100% previous deliveries in a health facility. 756/757 (99.9%) accepted HIV, syphilis and HBV screening, including 25/756 (3.3%) tested positive for HBsAg, 23/756 (3.0%) tested positive for HIV, 7/756 (0.9%) tested positive for syphilis and 2/756 (0.3%) co-infected with HIV and HBsAg. In sites with access to GeneXpert, HBV viral load was conducted in 13/13 (100%) pregnant women positive for HBsAg. 3/13 (23.1%) HBsAg-positive pregnant women were highly viraemic (above 200,000 IU/L). Among the 57 pregnant women positive for any of three infections, 50 (87.8%) accepted to be followed-up in the cohort during their pregnancy (23 HBV mono-infected, 19 HIV mono-infected, 2 HIV/HBV co-infected and 6 syphilis-positive). No participant was diagnosed with HBV mono-infection prior pregnancy and among participants positive for HBsAg and eligible for treatment, 11/13 (84.6%) initiated HBV prophylaxis and 2/13 (15.4%) refused. Among HIV infected or HIV/HBV coinfecting participants (n=21), 13/21 (61.9%) were diagnosed with HIV prior pregnancy and were already on ARV. 8/21 (38.1%) were newly infected with HIV and 5/8 (62.5%) were initiated on ARV. 6 pregnant women were infected with syphilis and antibiotics were initiated in 6/6 (100%) patients.

Interpretation: Our preliminary data suggest that our simplified, integrated and coordinated approach of a triple antenatal screening is feasible. The TRI-MOM project will inform national, regional and international health policy makers about the feasibility of a triple elimination of MTCT in SSA. Further follow-up data will be analysed to assess the effectiveness of the strategy.



12

Coverage and Determinants of Pre-natal Testing for HIV, Syphilis and Hepatitis B: A Cross-Sectional Survey in the Gambia and Burkina Faso (TRI-MOM Project)

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Background: To eliminate viral hepatitis, the World Health Organization advocates integrated strategies for preventing perinatal transmission of HIV, syphilis, and hepatitis B virus (HBV). However, practical implementation faces challenges such as limited availability of diagnostic tools, insufficient health professional training, low utilization of services by pregnant women, poverty, and stigmatization. This study aims to document coverage and determinants of prenatal testing for these infections before implementing an integrated strategy in the Gambia and Burkina Faso (the TRI-MOM project).

Material and Methods: This study analyzes data collected in the Gambia using standardized, face-to-face questionnaires administered by trained interviewers to postpartum women within four months of delivery (data collection in Burkina Faso is ongoing). The women attended one of four TRI-MOM project sites for postnatal follow-up and newborn vaccination between December 2023 and May 2024. All eligible women were registered, and questionnaires were randomly administered as interviewers became available. The primary outcomes were having been tested for HIV, HBV and/or syphilis during pregnancy according to medical records or self-report. Descriptive statistics are provided for each outcome, and

multivariable logistic regressions (p-value <0.05) identify socio-demographic and economic factors of testing for all 3 infections (versus not).

Results: Out of 596 postpartum women, 513 (86.1%), 338 (56.7%) and 261 (43.9%) were tested for HIV, HBV and syphilis. Only 215 (36.2%) women were tested for all 3 infections. Women living in a village, and women with moderate or severe psychological distress were less likely to have been tested (0.28 and 0.38 adjusted odds-ratio (aOR) compared with large town and no distress), as were women whose partner had a regular activity and those unsure about having enough money for daily expenses (0.43 and 0.25 aOR compared with inactive partners and having enough money). Conversely, women living in single compounds, and those who attended 4 prenatal consultations were twice as likely to be tested for all 3 infections (compared with common compounds and less than 4 consultations). Testing likelihood also increased with knowledge (1.84 and 4.29 aOR for medium and excellent versus low knowledge).

Conclusions: This study documents significant gaps in prenatal testing for HIV, syphilis, and HBV among postpartum women in the Gambia, identifying sociodemographic and economic barriers that need to be addressed for the effective implementation of an integrated testing strategy.



13

Healthcare Workers' Perspectives on the Triple Elimination of Vertical Transmission of HIV, Hepatitis B Virus and Syphilis in Burkina Faso and the Gambia ((TRI-MOM Project)

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Background: Healthcare workers (HCWs) are on the front line in implementing the strategy of triple elimination of vertical transmission of HIV, HBV, and syphilis by integrating prevention activities into maternal and child health services. Our study aims to investigate HCWs' knowledge, practices and preferences regarding the prevention of these infections in two West African countries.

Material and Methods: We conducted a mixed-methods survey among HCWs involved in maternal and child health activities in nine facilities in Burkina Faso (n=116 for the quantitative survey, n=22 for the qualitative survey) and The Gambia (n=69 and n=18). We described the training, knowledge, and practices of HCWs overall and by country. Preferences regarding the diagnostic strategy for the risk of vertical transmission were investigated using a Discrete Choice Experiment (DCE).

Results: HCWs (76.8% of women, median age [IQR] = 41 [34;49] years) have good general knowledge about HIV (less than 5% have less than 70% of correct answers), but less knowledge in the field of syphilis and HBV (25% have less than 70%

of correct answers). Among HCWs involved in screening activities, only 6% report having never received training on HIV, while this proportion increases to 47.6% and 54.4% for syphilis and HBV, respectively. The qualitative data reveals how variations in the allocation of resources and priorities in training among HCWs contribute to differences in their abilities to address HIV, HBV and syphilis. These disparities ultimately lead to inconsistencies in the quality and effectiveness of care provided, with particular challenges noted in managing HBV and syphilis. Regarding care organization, about 75% of HCWs find it acceptable for pregnant women to initiate treatment on the same day they were diagnosed with the infection. Preliminary DCE results indicate a preference for the rapid provision of care for positive women, with screening and initiation of treatment on the same day.

Conclusions: These results highlight the good level of knowledge achieved in the field of HIV and the need to reinforce HCWs training in the field of HBV and Syphilis vertical prevention. They also suggest a preference for a rapid “test and treat” procedure for the three infections.



14

Clinical Performance Evaluation of the Xpert Hepatitis B Viral Load Point-Of-Care Molecular Testing among Pregnant Women in Uganda

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Background: To prevent mother-to-child transmission of hepatitis B (HBV PMTCT), the World Health Organization recommends HBV screening among pregnant women, testing for HBV DNA levels or hepatitis B envelope antigen, prophylactic antivirals, and hepatitis B birth dose vaccination to newborns.

Uganda is utilizing HIV and maternal-child health (MCH) platforms to integrate testing and treatment for Hepatitis B as part of its triple-elimination. While HBV screening coverage has improved from 12% in 2020 to 57% in 2023, there are critical gaps in subsequent steps. Limited access and long Turn Around Time for Hepatitis B Viral load results is a barrier to management. The 2024 HBV guidelines recommend use of point-of-care HBV DNA viral load nucleic acid testing (NAT) assays as an alternative approach to laboratory-based HBV DNA testing to assess treatment eligibility and monitor treatment response. This study aims to assess the performance and operational characteristics of Xpert® HBV Viral Load as a point-of-care assay among HBV-positive pregnant women in Uganda.

Material and Methods: The study, which started in March 2024 is assessing the use of Xpert® HBV point-of-care (PoC) test for Hepatitis B virus (HBV). We first compared the accuracy of the Xpert® HBV test to a standard test in a laboratory setting - COBAS TaqMan, using 50 archived samples not older than six weeks and compared levels of agreement, sensitivity and specificity between the two platforms. This was followed by use of the Xpert® HBV test in 10 clinics in Uganda to evaluate operational characteristics including the turnaround time from sample collection to

treatment, and ease of use. Stata 17 was used for data analysis.

Results: The Xpert® assay showed perfect agreement with the reference COBAS TaqMan, with sensitivity of 100% (95% CI: 90%-100%), specificity of 100% (95% CI: 78.2%-100%), and a coefficient of R=0.99. To-date, 71 pregnant women have tested positive for HBV and all have received PoC viral load testing. The median viral load results turnaround time from sample collection to results release was less than 1 hour. Among these, 20% (14/71) of women had a viral load above 200,000IU/ml and were started on Tenofovir (TDF) prophylaxis on the same day, 3% (2/71) had viral load copies between 20,000 IU/ml and 200,000 IU/ml, 77% had viral load copies less than 20,000 IU/ml including target not detected and these were not started on treatment. All the women with high viremia >200,000 IU/ml are being followed for adherence to TDF prophylaxis until 12 weeks post-delivery. The babies receive hepatitis B birth dose as part of universal vaccination.

Conclusions: Using point-of-care tests like Xpert® HBV could be a valuable tool for improving linkage to HBV management for pregnant women. The success of this study will lead to scaling up of POC test in Uganda and optimizing HBV PMTCT service delivery.



15

The Disease and Economic Burden of HBV and HCV in Ethiopia

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Background: As the second most populated country in Africa, Ethiopia needs public health measures to control diseases that impact its population. The goal of this study is to analyze the disease burdens of HBV and HCV, while also outlining their economic impact on the country.

Material and Methods: A literature review and a Delphi process reflecting the input of Ethiopian experts and the National Viral Hepatitis Technical Working Group were used to complement mathematical modeling to estimate HBV and HCV disease and economic burdens. Two modeling scenarios were created for HCV: 2023 base and WHO elimination. For HBV, three scenarios were created: 2023 base, WHO elimination, and universal birth dose. Using current costs within the country, each scenario was also examined through an economic lens.

Results: There were an estimated 7.6 million people living with HBV infection in 2023. To impact transmission, a universal birth dose program would allow Ethiopia to vaccinate approximately 3.9 million infants annually, with a budget of \$5.1 million USD, meeting the WHO prevalence elimination target (0.1% in 5-year-olds) by 2043. Ethiopia had an estimated 690,000 people living with viremic HCV infection in 2023. To achieve HCV elimination, the country would need to expand screening and treatment to 74,000 individuals annually with budget of up to \$12 million USD per year until 2032, decreasing to less than \$2 million USD in 2035.

Conclusions: Ethiopia can begin making steps towards elimination of HBV through expansion of birth dose vaccination. However, larger investments will be needed to scale-up treatment and diagnosis interventions for both diseases.



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Prévalence et facteurs de risque de la stéatose hépatique non alcoolique (NAFLD) et de la fibrose chez des jeunes adultes d'apparence saine.

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Objectif L'épidémiologie de la stéatose hépatique non alcoolique (NAFLD) et de la fibrose chez les jeunes adultes en Algérie, pays dont le taux d'obésité est en courbe ascendante, n'a fait l'objet que d'une timide évaluation. Nous avons évalué la prévalence de la stéatose et de la fibrose chez les étudiants en sciences médicales et paramédicales.

Moyens et méthodes: Dans cette étude transversale, nous avons recruté des étudiants qui ne savaient pas qu'ils avaient une stéatose hépatique en formation dans notre centre. L'objectif principal était d'évaluer la prévalence de la stéatose et de la fibrose, attestée par le paramètre d'atténuation contrôlée (CAP) et la mesure de l'élasticité hépatique (E) par Fibroscan. Les objectifs secondaires étaient les paramètres cliniques et les facteurs socio-économiques associés à la présence et à la gravité de la stéatose et de la fibrose.

Résultats: 142 participants ont été inclus dans l'étude, âge moyen était de 21 (18-24) ans ; 81 femmes (57,0 %). Au total, 43 participants (30,2 %) présentaient une stéatose, dont 22 (48,8 %) une stéatose S3 (sévère). Le risque de stéatose était plus élevé chez les personnes en surpoids (OR ajusté 9,67, 95% CI (2,94 à 31,7, p<0,001) et obèses (OR ajusté 13,87, 95% CI 4,41 à 43,6, p<0,001) que chez les personnes maigres. En outre, un niveau d'éducation parental plus élevé était associé avec des stades de stéatose progressifs (S1-S3). Neuf (6,3%) participants avaient des valeurs d'élastographie transitoire équivalentes à une fibrose F2-F3 (sept avec une fibrose F2 ($\geq 7,9$ kPa), et deux avec une fibrose F3 ($\geq 8,8$ kPa)).

Conclusion: Dans cette cohorte d'étudiants algériens, environ un tiers présentait une stéatose et près de 7% une fibrose modérée à avancée, un facteur de risque établi de morbi-mortalité hépatique et extra-hépatique. Ces données soulignent l'urgence de s'attaquer à cette épidémie silencieuse de la NAFLD chez les jeunes adultes de cette région considérée jusque-là comme épargnée par ce fléau planétaire.



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Assessing Strategic Information Data and Policies for Hepatitis B and C across National Hepatitis Elimination Profiles in 6 African Countries

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Background: Strategic information on disease burden, diagnosis, and treatment from national authorities is needed to achieve HBV and HCV elimination goals. To assess the status of strategic information in Africa, the Coalition for Global Hepatitis Elimination, together with local partners, developed National Hepatitis Elimination Profiles (N-HEPs) for 6 Member States (MS) in the WHO Africa region: Ethiopia (ET), Ghana (GH), Nigeria (NG), Rwanda (RW), Senegal (SG), and South Africa (SA).

Material and Methods: MS-specific data on policies on SI systems collected by national health authorities and trends in HBV and HCV disease burden were extracted from government reports, WHO, IHME databases, and peer-reviewed publications, including systematic reviews and modeling studies. Officials from the Ministry of Health, clinical experts, and civil society representatives reviewed and contributed data.

Results: HBV: General population prevalence for HBV ranged from 1.6% in RW to 9.4% in ET. National HBV prevalence surveys were conducted < 5 yrs. by 4 MS (ET, NG, RW, SG). Three MS estimated the economic burden of HBV. Based on IHME data, HBV mortality rates were highest in GH (9.89 / 100,000) and NG (9.42 deaths per 100,000 population). Only RW routinely collects and reports national mortality data. RW, SG, and SA have HBV incidence reporting. No country met the SDG 2020 Target <1% for HBsAg prevalence for children < 5 years: SA - 1.97%, SG - 1.08%, RW - 0.35%, NG - 7.15%, ET - 1.3% and GH - 0.64%. HCV: HCV prevalence ranged from 0.7% in SA to 3.1% in ET (anti-HCV). From 2018-2020, HCV prevalence declined 69% in RW. Only three MS (NG, SG, RW) have conducted national prevalence

surveys. Three MS (NG, RW, SA) have estimated the economic burden. Based on IHME data, reported mortality rates were highest in GH (1.75 /100,000 population) and SG (1.12 deaths per 100,000 population); ET reported a 17% increase in HCV mortality (2015-2019). Only RW collects and monitors national mortality data. SG is the only MS reporting HCV incidence. RW is the sole MS monitoring HBV and HCV diagnosis and treatment, and ET and NG are in the process of developing registries.

Conclusions: Improved surveillance policies are needed in countries lacking data. Available data suggest a high burden of HBV and HCV disease. However, stronger disease surveillance systems are needed to improve the precision across countries, with higher prevalence and mortality rates requiring stronger reporting, surveys, and monitoring. Improving data completeness, consistency, timeliness, and quality is crucial for informing effective policies, interventions, and resource allocations to set and achieve goals for HBV and HCV elimination.



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Screening Rates and the Prevalence of Hepatitis B among Children and Adults Living with HIV in Africa: A Multi-National Study

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Background: Hepatitis B virus (HBV) is a major cause of morbidity and mortality globally with 1.1 million deaths in 2022. The World Health Organization (WHO) Africa Region accounted for 63% of new HBV infections while the screening rate was only 4.2%. HBV screening is imperative for understanding and addressing disease burden through infection prevention and treatment, especially among people living with HIV (PLWH). The 3-dose HBV vaccine series (HEPB3) has been implemented across the WHO Africa region, however, birth dose vaccination rate is only 18%, leaving most infants vulnerable to vertical transmission. Our aim was to determine HBV screening rates and prevalence among PLWH at 6 HIV Centers of Excellence (COEs) in sub-Saharan Africa.

Material and Methods: This was a multi-national retrospective review of all adults and children living with HIV newly enrolled into HIV care, across 6 COEs (Uganda, Malawi, Eswatini, Lesotho, Mwanza and Mbeya, Tanzania) from 2003-2022. HBV screening and prevalence rates were based on HBV surface antigen (HBsAg) testing within 90 days of enrollment into HIV care. Differences in screening and prevalence rates were assessed using chi-square test.

Results: In total, 41,548 PLWH were included. Overall, the screening rate was 20.1% and varied by country (2.2%-47.3%). Females had higher screening rates than males (23.9 vs 14.7%, $p < 0.001$). Screening increased over time ($p < 0.001$) as most countries began integrating HBV screening into their national HIV guidelines. Older age was also associated with increasing screening, with the highest rates among those ≥ 20 years old (48.4%, $p < 0.001$). Among the 8,355 screened for HBV, 4.5% were HBsAg+ and prevalence rates varied by country (0.7%-6.3%). There was a higher prevalence of HBV among men vs women (5.4% vs 4.2%, $p = 0.042$). HBsAg+ prevalence decreased from 6.1% to 2.0% in PLWH born before 1996 vs after 2002 ($p = < 0.001$). Older age at enrollment was also associated with higher HBV prevalence.

Conclusions: HBV screening rates among PLWH across these COEs vary widely but remain far below the WHO target of 90%. This may be due to lack of national guidelines, resources, and/or healthcare worker recognition of the importance of HBV screening. Further investigation into factors associated with low screening rates is needed to support local and international efforts to advocate for improved HBV screening among PLWH, especially children, as an important step towards HBV elimination. HEPB3 implementation and/or more universal screening instead of targeted testing may explain the drop in HBsAg+ prevalence. HBsAg+ prevalence among those born after 2003 remains significant (2%) despite all study countries including routine HEPB3 by 2003. Notably, none had HBV birth dose during the study period. This is a call to advocate for increased screening, enhanced adherence to HEPB3, and implementation of HBV birth dose vaccine.



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10-year clinical outcomes in chronic hepatitis B patients treated with tenofovir in The Gambia, West Africa

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Background and aims: Effectiveness and safety of long-term tenofovir disoproxil fumarate (TDF) in people with chronic hepatitis B virus infection (CHB) has been inadequately documented in Africa. From the longitudinal PROLIFICA study, we evaluated the long-term clinical outcomes of CHB patients treated with TDF in The Gambia.

Methods: In this prospective cohort study, we followed-up participants who were consecutively diagnosed with CHB without HCC between 2012 and 2015 in The Gambia. CHB participants eligible to treatment (EASL guidelines) were initiated on TDF, 300 mg daily. The primary outcome was the overall survival in untreated and treated patients.

Results: From December 2011 to October 2015 1,117 treatment naïve CHB participants were recruited, including 141/1,117 (12.6%) initiated on TDF. Treated patients were mainly males (84%) with baseline median age at 35 (IQR: 28-39), median Fibroscan 8.9 (7.0-14.0), including 54/121 (45%) cirrhosis, 3.0% and 7.2% of HCV or HDV coinfections, median HBV DNA 3,474 (IQR: 142-263,720) and eAg positive in 37/131 (28%). During a median follow-up of 6.8 (5.6-8.6) years, 62/1117 (4.3%) died of any cause, including 35/141 (24%) on TDF. Deaths were mostly driven by end-stage liver disease (87.5%) followed by HCC (12.5%). The 1-, 6- and 10-year cumulative survival probabilities in treated patients without cirrhosis, with compensated or with decompensated cirrhosis at baseline were 100%, 95% and 92%; 100%, 97% and 96%, 88%, 63% and 57%;

respectively ($p < 0.01$). The mortality rate among non-cirrhotic patients on TDF was similar to that of untreated and ineligible patients ($p = 0.28$). Cirrhosis (HR: 8.3, 95%CI 1.6–42.7) and ascites (HR 4.7, 1.4–16.0) were independent predictive factors of mortality at baseline among patients on TDF. Proportion of treated patients with undetectable HBV DNA and ALT normalisation were 66% and 45% at year 6, 93% and 88% at year 10. 31/80 (38%) and 11/25 (44%) had significant liver fibrosis regression at year 6 ($p < 0.01$) and 10 ($p = 0.04$), including 17/25 (68%) and 5/6 (83%) of cirrhosis regression, respectively. Adherence to TDF was very good in most patients (70% and 87% at year 6 and 10, respectively). Kidney impairment on TDF was observed in only 2/138 (1.4%) patients and was comparable the rate 10 of 503 untreated CHB patients (2.0%) Bone mass analysis in treated and untreated patients is in progress.

Conclusion: In non-cirrhotic patients, TDF is associated with an excellent safety profile and an overall survival at 10 years, comparable to the survival observed in untreated CHB patients who are ineligible for AVT. The suboptimal survival among cirrhotic patients reflects the lack of early diagnosis of cirrhosis in Africa.



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Outcomes of a Process Evaluation on Improving Timely Hepatitis B Birth Dose Coverage through Integrated Vaccine Delivery at Maternal and Neonatal Care Units across Secondary and Primary Healthcare Facilities – Experience from Nigeria

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Background: Infant and early childhood hepatitis B virus (HBV) infections account for 90% of chronic HBV infections. WHO recommends timely HBV birth dose (HBV0) vaccination within 24 hours of birth, but HBV0 coverage in Nigeria is only 18%. We report an evaluation to integrate routine immunization (RI) of birth dose vaccines (HBV0, BCG0, and OPV0) into maternal and newborn care services to improve timely uptake across 8 secondary and 10 primary health facilities across Kano and Nasarawa States in Nigeria.

Material and Methods: A process evaluation was conducted from June to December 2021 in 18 facilities (Kano:12, Nasarawa:8). Meetings with healthcare workers, pregnant women, breastfeeding mothers, and key stakeholders identified cultural factors, knowledge gaps, early discharge, and weekend deliveries as critical barriers to timely birth dose vaccine uptake. Through human-centered design, interventions were co-created and implemented over three months including: 1) Capacity building for ANC/Maternity nurses on task shifting to administer BD vaccines; 2) Improved access to vaccine stores and provision of icepacks/Geostyle boxes where necessary; 3) Integration of routine immunization registers at delivery rooms. Baseline

and endline assessments captured timing and coverage of HBV0, BCG0, and OPV0 using antenatal care records, and healthcare worker knowledge.

Results: Across states, timely vaccine coverage increased from 22% to 64% for HBV0, 28% to 65% for OPV0, and 26% to 62% for BCG0. Weekend vaccine delivery increased substantially, from <9% to 59%+ across all facilities. Healthcare worker knowledge on the need for HBV0 increased from 50% to 100%, and antenatal HBsAg screening coverage also increased from 42% to 63%. Missed HBV0 declined by 89%.

Conclusions: This evaluation demonstrated that strengthening healthcare systems through targeted capacity building, strategic task shifting, and enhanced vaccine supply chain management was crucial for achieving increased birth dose vaccine coverage in two states in Nigeria. These recommendations will need to be adopted nationally to improve scale-up and timely vaccination coverage.



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High Prevalence of Colonic Adenomas in Patients With Nonalcoholic Fatty Liver Disease: A Prospective Study

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Epidemiologic data suggest that colonic adenomas have an increased tendency to occur in patients who are obese, or have a positive family history of colon cancer, or diabetes mellitus. Recent data suggest that impaired glucose tolerance, dyslipidemia, and metabolic syndrome are associated with a higher risk for colonic adenomas. Patients with nonalcoholic fatty liver disease (NAFLD) often share several of the aforementioned risk factors for colonic adenomas. However, data are lacking about the relationship between NAFLD and colonic adenomas.

The aim of this study was to systematically evaluate whether NAFLD is an independent risk factor for colonic adenomas.

Patients and methods: A prospective study. Setting Mohamed Seghir Nekkache hospital with case recruitment from the community and clinics. Patients Subjects aged 30- 70 years were recruited for colonoscopic screening from two study cohorts: (1) community subjects; and (2) consecutive patients with biopsy proven NAFLD. In the community cohort, hepatic fat was measured by fibroscan. Main outcome measures Prevalence of colorectal adenomas. Advanced colorectal neoplasm was defined as cancer or adenomas with villous architecture or high grade dysplasia.

Results: NAFLD patients (n=203) had a higher prevalence of colorectal adenomas (34.7% vs 21.5%; p=0.043) and advanced neoplasms (18.6% vs 5.5%; p=0.002) than healthy controls (N=201). Thirteen of 29 (45%) NAFLD patients with advanced neoplasms had isolated lesions in the right sided colon. Among patients with biopsy proven NAFLD, patients with non-alcoholic steatohepatitis (N=49) had a higher prevalence of adenomas (51.0% vs 25.6%; p=0.005) and advanced neoplasms (34.7% vs 14.0%; p=0.011) than those with simple steatosis (N=86). After adjusting for demographic and metabolic factors,

non-alcoholic steatohepatitis remained associated with adenomas (adjusted OR 4.89, 95% CI 2.04 to 11.70) and advanced neoplasms (OR 5.34, 95% CI 1.92 to 14.84). In contrast, the prevalence of adenomas and advanced neoplasms was similar between patients with simple steatosis and control subjects.

Conclusion: NAFLD particularly in the presence of NASH lesions is associated with a high prevalence of colorectal adenomas and advanced neoplasm. The adenomas are found more commonly in the right sided colon. Colorectal cancer screening is strongly indicated in this high risk group.



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Association of Fatty Liver Disease with Glycemic Control in Type 2 Diabetes Mellitus Patients Attending the Regional Hospital Limbe, Cameroon

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Background: Type 2 diabetes mellitus (T2DM) is a chronic metabolic disease characterized by combinations of insulin resistance and insulin deficiency. Non-alcoholic fatty liver disease (NAFLD) is emerging as a public health problem worldwide and affects up to 70% of patients with T2DM. Although T2DM patients have showed an increased risk of developing advanced liver disease compared to healthy individuals, varying prevalence of NAFLD among T2DM patients ranging from 34-94% have been reported. This study therefore sought to determine the prevalence and identify associated factors of NAFLD among T2DM in Limbe and evaluate its correlation with glycemic control.

Methods: A cross-sectional hospital-based study was carried out from February to June, 2024. T2DM patients were recruited by a consecutive sampling method. Socio-demographic lifestyle and clinical characteristics of participants were obtained using a structured and pretested questionnaire. Anthropometric parameters were measured using standard methods. Body mass index was calculated. Gamma glutamyl transferase (GGT) activity and serum triglycerides level were measured by spectrophotometry. NAFLD was diagnosed using the Fatty Liver Index score. Data was analyzed using SPSS Version 26.0 for Windows. Student's t test was used for comparison of group means. Chi-square test was done to determine the association of NAFLD and T2DM. Logistic regression analysis was done to identify predictors of NAFLD. $p < 0.05$ was considered statistically significant.

Results: A total of 150 patients with T2DM were recruited for this study. Of this number 63(58%)

were females. Majority (84.7%) of the participants had a good glycemic control (HbA1C $\leq 7\%$) with mean glycosylated hemoglobin levels of $5.013 \pm 1.333\%$. Patients with poor glycemic control had elevated serum GGT activity ($p=0.030$) and increased HbA1C ($p < 0.01$) compared to those with good glycemic control. The prevalence of NAFLD among T2DM patients was 19%. Patients with NAFLD had elevated levels of TG, GGT and increased BMI and WC compared to those without NAFLD ($p < 0.05$). There was a significant association between NAFLD and glycemic control ($p < 0.001$). Predicting factors of non-alcoholic liver disease among T2DM patients, were fruits and vegetables intake of less than thrice per week (aOR: 0.131, 95% CI: 0.020-0.839; $p = 0.032$), increased waist circumference (aOR: 0.167, 95% CI: 0.037-0.748; $p = 0.019$), and insulin (aOR: 3.370 X 10⁸, 95% CI: 4.204 X 10⁹ - 2.702 X 10⁷; $p = < 0.001$) or metformin (aOR: 7.182 X 10⁹; 95% CI: 1.755 X 10⁹ - 2.938 X 10⁸; $p = < 0.001$) treatment for type 2 diabetes mellitus.

Conclusion: The prevalence of non-alcoholic fatty liver among T2DM patients in the Limbe Regional Hospital was 19%. Majority of the participants had good glycemic control. Age, increased waist circumference, metformin use, insulin use, and infrequent consumption of fruits and vegetables were important predictors of NAFLD. There was a significant association between non-alcoholic fatty liver disease and glycemic control. Patients with T2DM should therefore modify their lifestyles to ensure good glycemic control which will prevent NAFLD



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Factors Associated with Schistosomiasis Amongst PLWH in Urban Uganda

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Background: Schistosomiasis, namely *S. mansoni* (Sm) is a major health concern in Uganda, especially in areas with limited hygienic water practices. The impact of Sm on the natural and treated history of HIV and chronic HBV remains unclear.

Material and Methods: We enrolled patients attending an urban HIV clinic in Kampala, Uganda with standardized collection of demographic, behavioral, clinical, and laboratory markers. Active infection with schistosomiasis was based on urine circulating cathodic antigen (CCA) testing. Associations between Sm and covariates were assessed using chi-square tests for categorical variables and t-tests for continuous variables. A log-binomial regression model identified factors associated with prevalent Sm.

Results: Of 1,921 participants, the majority were female (1,167, 60.2%) with a median age of 45 years IQR (38-52), Overall, 410 (21.3%) tested positive for schistosomiasis. Factors significantly associated with schistosomiasis included childhood region, history of being a fisherman, and HBsAg status (chi-square p-value < 0.005). Participants aged 18-24 were 68% more likely to have schistosomiasis compared to those aged above 55 years (APR 1.68, 95% CI: 1.03-2.74, p-value 0.038). Those aged 25-35 had a 47% higher likelihood of schistosomiasis (APR 1.47, 95% CI: 1.03-2.11, p-value 0.033). Participants from northern Uganda were 52% more likely to have schistosomiasis compared to those from the Central region (APR 1.52, 95% CI: 1.03-2.23, p-value 0.033). Those from non-Ugandan regions were three times more likely (APR 2.98, 95% CI: 1.36-6.52, p-value 0.006). Ever being a fisherman was associated with a 97% higher likelihood (APR 1.97, 95% CI: 1.39-2.78, p-value < 0.0001), and participants with positive

HBsAg were 37% more likely to have schistosomiasis (APR 1.37, 95% CI: 1.08-1.74, p-value 0.001).

Conclusions: We demonstrated a significant prevalence of schistosomiasis among an urban Ugandan HIV cohort. There were regional differences in likelihood of schistosomiasis, reflecting both childhood and current residence. Chronic HBV was independently associated with schistosomiasis, even after accounting for region of residence and occupation. Recognizing the potential interaction of Sm and chronic HBV on progression of liver disease, our findings underscore the importance of identification and treatment of Sm among high-risk persons, including those with HBV or HIV infection or fisherfolk.



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PrEP Programmes as a Framework for Tackling HBV Infection in Adolescents and Young Adults in Kwazulu Natal, South Africa.

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Background: Hepatitis B virus (HBV) is a neglected public health threat with poor community awareness and access to prevention despite the availability of a safe and effective vaccine there are still gaps in diagnosis and treatment, particularly in WHO African populations. New WHO HBV guidelines, for the first time, include the use of dual therapy for HBV treatment (TDF/XTC) due to challenges in accessing TDF monotherapy. TDF/XTC is also recommended as Pre-Exposure Prophylaxis (PrEP) in adolescents and adults at risk of HIV. HBV Screening, treatment and prevention need to be decentralized to improve access, and we hypothesize that HBV programmes in African settings can use pre-existing HIV infrastructure, in particular building on PrEP programmes for access to TDF.

Materials and methods: At the Africa Health Research Institute (AHRI) in KwaZulu Natal, South Africa, the new Evaluation of Vukuzazi LiVER disease - Hepatitis B 'EVOLVE-HBV' research programme explored the PrEP uptake and retention cascade amongst adolescents and youth aged 15-30-year-olds and living with HBV through decentralized sexual health /HIV services of the 'Thetha nami ngithethe nawe' and the Long-acting HIV Pre-Exposure Prophylaxis (LAPIS) study. Following point of care testing (POCT) for HBsAg,

follow-up venous samples were taken for laboratory confirmation.

Results: Between 2021-2024, 9728 adolescents and young adults received HIV prevention needs assessment in the community of whom 2272 (23.4%) were referred for clinical review, 2272 (100%) underwent HBV testing and 17 (0.6%) tested HBsAg positive. Among those who tested HBsAg-positive, 12 (70.6%) underwent assessment for PrEP, 10 (58.8%) started PrEP, of whom 7 (41.1%) have returned for medication refill, providing them with the combined benefit of HBV therapy and HIV prevention. However, HBV follow-up in the other individuals has not been secured to date.

Conclusions: Sexual health and PrEP programmes provide an important opportunity for HBV testing and treatment for young adults across high HIV burden settings. However, attrition from the care cascade at each step highlights the pressing need for interventions that address barriers to sustainable delivery of long-term care. Our HBV and PrEP programmes continue working to support education, clinical evaluation and service development for HBV in these populations.



POSTER ABSTRACT PRESENTATIONS

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Treatment Experiences and Preferences of Individuals with Hepatitis B in Africa

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Background: Nearly 300 million people live with hepatitis B virus (HBV) making it the most common chronic blood borne infection. Despite effective tools for prevention, diagnosis and treatment, HBV is the world's leading cause of liver cancer.

Material and Methods: In March 2023, a self-administered, anonymous survey to identify current management, treatment and care experiences, preferences regarding engagement with health providers, and preferences for simplifying hepatitis B care was launched to inform the World Health Organization Hepatitis B Updated Guidelines.

Results: A total of 529 individuals self-identified as living with hepatitis B completed the survey from 76 countries. Respondents from Africa made up many respondents (n=277), identified as being male (n = 212, 76.5%) from aged 20 to 40 years old (n = 209, 75.45%), and living in an urban area (n = 178, 64.26%). Many people reported not receiving recommended guideline-based care because of barriers such as the cost of doctor visits, lab tests, and medication. Roughly a third (n = 90, 32.49%) reported seeing a doctor regularly every six to 12 months, and roughly a quarter (n = 68, 24.55%) reported seeing a doctor every one to two years to check up on liver health. For participants receiving antiviral treatment (n = 75, 27.08%), the most common route of prescription was through a specialist (n = 50), and the most common treatment being tenofovir (n = 52), commonly for elevated hepatitis B DNA/viral load (n = 30) or because their physician suggested it (n = 18). If the participant is not receiving antiviral treatment (n = 194, 70.04%), the two most reasons for not taking antiviral treatment is the inability to afford the medication (n = 54) or their doctor says it is not needed (n = 74). When selecting a location for diagnosis, confidentiality is the most valued

characteristic of the location (n = 146, 52.71%). Most participants prefer to receive treatment or care in a hospital (n = 146, 52.71%), which is close to home or work (n = 112, 40.43).

Conclusions: Many individuals reported experiencing barriers in hepatitis B management across the care continuum. Most wanted to be involved in decisions around hepatitis B care and treatment decisions. Reducing barriers to care and implementing shared decision-making is essential to work towards achieving treatment implementation and elimination goals to improve hepatitis B management and access to treatment.



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Evaluating the Effectiveness of Tenofovir Towards the EMTCT of HBV-Infected Mothers in Taraba State, Nigeria

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Background: Globally, the burden of diseases from viral hepatitis B and C infections pose significant public health challenges worldwide (WHO). Data available on research publications on EMTCT of HBV with Tenofovir were mainly on health care workers and babies admitted at emergency units of pediatrics in Nigeria.

Objective: This research aimed to assess the effectiveness of Tenofovir in preventing mother-to-child transmission (EMTCT) of HBV among HBV-infected mothers in Taraba State, Nigeria, contributing toward the GHSS goal of eliminating viral hepatitis by 2030.

Material and Methods: This was a cross-sectional study conducted among 1000 HBV-infected mothers during a comprehensive community-based and facility-based screening and treatment program between January 2021 to October 2022. Participants who consented to take part received routine HBV screening and Tenofovir treatment based on WHO guidelines. Simple percentages and binary logistic regression were employed to obtain prevalence and associated factors between the variables.

Results: Based on the result, out of 994 HBV-infected mothers screened, 894 (89.93%) demonstrated non-detectable HBV DNA levels post-treatment, while 100 (10.06%) had detectable HBV DNA levels. All mothers with detectable HBV DNA were linked to further treatment and care. Among the 894 mothers with non-detectable HBV DNA levels, 395 (44.18%) received Tenofovir treatment, while 499 (55.81%) did not complete their Tenofovir treatment regimen. It was also revealed that the 395 mothers who completed their Tenofovir treatment demonstrated high efficacy, with over 95% achieving non-detectable HBV DNA levels within the 2nd year of the intervention. There was a

statistically significant association between those who completed the Tenofovir treatment regimen and those who did not.

Conclusions: Our findings emphasize the critical role of routine HBV screening and Tenofovir treatment in preventing mother-to-child transmission (EMTCT) of HBV. Tailored treatment schedules and booster doses for specific groups and risk populations can enhance treatment efficacy. This study underscores the importance of continuous monitoring and evaluation of HBV EMTCT strategies in diverse populations. By integrating routine screening with treatment and linking infected individuals to appropriate care, we can mitigate the burden of HBV infections. These findings inform evidence-based strategies for optimizing treatment effectiveness and reducing the impact of viral hepatitis on public health.



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Mobilizing Members of Parliament, Community Leaders, Healthcare Workers and Women Attending Antenatal Care at Profiled Health Delivery Point in Rwenzori Region to Raise Awareness about Hepatitis Birth Dose Introduction and Its Importance in Uganda.

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Background: Hepatitis B virus (HBV) is the leading cause of liver cancer in Africa. One in four newborns infected with HBV dies prematurely from liver disease and cancer. A timely birth dose of hepatitis B vaccine (HepB-BD) given to newborns can prevent most of these infections, related complications and deaths. However, only 6% of newborns in Africa receive a timely HepB-BD vaccine. In March 2021, Great lakes peace Centre (GLPC) received financial support from Coalition for global hepatitis at the Task Force for Global Health together with other members of Uganda hepatitis elimination consortium composed of Four NGO to raise awareness about introduction of hepatitis birth dose and its importance working closely with officials of Ministries of Health, clinicians, civil society organizations (CSOs) and Pregnant women attending antenatal care in profiled health facilities. Great lakes peace Centre convened two meetings with members of parliament from Rwenzori Region and the parliament of Uganda from March25, 2022– august, 9-2022. One challenge identified by 50+ shades of opinion was the lack of knowledge (Myth, hesitation and Misconception) and awareness of the importance of HepB-BD vaccination as a major challenge in Rwenzori region and Uganda. This abstract describes a novel program to support and amplify the profile of hepatitis birth dose importance and introduction in Uganda through advocacy the efforts by Great

lakes peace in kasese Rwenzori and Uganda across in raising awareness of the importance of HepB-BD vaccination for communities including parliament to cause policy shift and resource allocation through domestic funding this culminated into formation of parliamentary forum for hepatitis under parliament of Uganda.

Great lakes peace Centre convened 8 Health education among pregnant women attending antenatal care, 4 community Baraza for stakeholder engagement and Table talks, 4 continues professional develop with extended district health teams in the region to concretize, enhance the importance and vaccine introduction in Uganda.

Material and Methods: From 1-march, 2022 GLPC (with funding support from the CGHE) through call applications (RFA) to national and regional CSOs in Africa got funding. The aim of the RFA was to support CSOs to develop and implement novel approaches to raise awareness of the importance of HepB-BD vaccination and catalyze the vaccine introduction process emphasizing domestic funding from national government. Materials developed through this engagement can be adapted by other countries for HepB-BD introduction advocacy. The target groups for this awareness campaign include 1) community leaders and policy-makers, 2) community, specifically women of reproductive age and 3) healthcare providers.

Great lakes peace Centre with experience in health promotions for infant immunization and maternal child health in African countries got the funding and Uganda had not yet introduced the HepB-BD vaccine.

Results: By March, 10, 2022, GLPC had received resources. GLPC initiated projects to develop infographics and audio/visual recordings with key messages to increase HepB-BD awareness and knowledge using local language(s) as appropriate. GLPC also begun developing media campaigns and are planning high-level meeting with Ministry of Health officials and other policy makers to secure support for introduction and/or scale-up of HepB-BD.



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Hepatitis B Landscaping of Civil Society within Africa

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Background: Approximately 64.7 million people live with chronic hepatitis B (HBV) infection on the African continent, with new infection rates highest among children due to perinatal transmission. Community-based organizations (CBOs) and individuals with lived experience are working to shift the paradigm surrounding HBV within Africa. CBOs are working locally on HBV to improve vaccination, diagnosis, and treatment access, and are essential to reach the global elimination goals.

Material and Methods: In February 2024, a landscaping survey of partners across the continent was conducted to assess activities of CBOs. The survey assessed the geographic location of the CBO, their priority populations served, services provided and future capacity and training needs.

Results: A total of 288 responses were collected from the survey. The largest country representation was Nigeria (25%, N=71), Ghana (9%, N=24), Uganda (9%, N=24), Tanzania (7%, N=20), Ethiopia (7%, N=19), South Africa (5%, N=15), Kenya (5%, N=13) and other countries represented in less volume. Most individuals surveyed represented academic institutions (37%, N=105), nonprofit/community organization (37%, N=106), individuals working in HBV (12%, N=33), in clinical settings (5%, N=16), and government representatives (7%, N=21). Most CBOs reported working on awareness and sensitization (80%, N=229), HBV testing (73%, N=210), linkage to care and treatment (70%, N=200), followed by vaccination, advocacy, and family counseling. Respondents had been providing services for six years or more (50%, N=143), serving people living with HBV, pregnant women, children and adolescents, health care providers, people living with HIV and university students. Respondents requested support for organizational capacity building, connecting, and networking with others working on HBV, conducting awareness activities,

implementing screening programs, collaboration, advocacy, and addressing stigma and discrimination. Over 97% of respondents expressed interest in joining a hepatitis B focused community network to share information, resources, and best practices.

Conclusions: While there are many CBOs conducting activities related to HBV, they often function within silos and expressed the desire for increased capacity, training and technical assistance, assistance with understanding best practices, and improving advocacy efforts to help work towards the viral hepatitis elimination goals and build strategic direction and collaboration across the continent.



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Breaking Barriers: Eucharia Help Foundation (The Foundation's) Community-Led Approach to Liver Disease Care in Rural Nigeria

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Background: Igbo-Eze North Local Government Area in Enugu State, Nigeria, faces significant liver disease burden due to limited healthcare access and awareness.

Material and Methods: Eucharia Help Foundation implemented a community-led approach from 2020-2023, including:

- Community outreach and education (reaching 4,200 residents)
- Free screening and testing (identifying 200 liver disease cases)
- Partnership with local healthcare providers for treatment and care (Ugbaike Primary Health Care Center), Dim Oyi Maternity home
- Capacity building for community health workers and community volunteers

Results: - 85% increase in liver disease awareness among community members
- 80% of identified cases received treatment and care
- 95% reduction in liver disease-related mortality

Conclusions: Eucharia Help Foundation (The Foundation's) community-led approach demonstrates the effectiveness of civil society organizations in addressing liver disease in rural Nigeria. Our model empowers communities to take ownership of their health, improving healthcare access and outcomes.



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A Case Study of LiveWell Initiative LWI Role in Delivery of Care (Hepatitis Screening and Vaccination) in a Low Resource Settings, Makoko Nigeria.

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Background: The importance of civil society organisations in health care delivery systems cannot be under-rated in a low resource setting. Civil society organisations play a central role in service delivery and development of democracy. LiveWell Initiative LWI, is an innovative and impactful not-for-profit public health social enterprise, with the mission to improve the health status of the people of Africa through wellness promotion and health empowerment and thereby positively influencing their health-seeking behavior. One of the major priorities by which LWI is working to improve the health status of the people is by ensuring easy access to health care services. The majority of people in Makoko community are unaware of Hepatitis infection and therefore this has led to increases in cases of infected persons. In lieu of this, LiveWell Initiative establish her presences in the biggest riverine slum in West Africa by providing free health services to the people of the community to reduce HBV incidence and transmission and stigma due disease.

Objectives: The study aimed at exploring the impact of LiveWell Initiative LWI in delivery of care through Hepatitis screening, education, advocacy and vaccination in a low resource setting, Makoko, Nigeria.

Material and Methods: This was a descriptive qualitative study. A total population sampling of 2000 people living in Rural communities in Makoko, Lagos, Nigeria was used as case study. Makoko is the biggest riverine slum in West Africa which as the settlement of different race and ethnicity of people. This was a qualitative cross-sectional study carried out among the men and women in communities, Informed consent was

obtained, and data on socio demographic. A focus group discussion was used get data with an assisted questionnaire to guide the objective of the research. Data were analyzed using descriptive statistics.

Results: Eighty-five percent (85%) confirmed that LiveWell Initiative LWI (CSO/NGO) has played a major role in health-care service delivery in the community. This is determined by measuring the level of Knowledge, Attitude and Perception KAP of Hepatitis knowledge in the community. Seventy Percent (70%) confirmed that there has been increase in the rate of screening of Hepatitis in the community. Fifty percent (50%) of the pregnant women confirmed that there has been an increase in the uptake of Hepatitis B birth dose for infant through LWI advocacy and awareness programme.

Conclusions: The role of CSOs cannot be underestimated in delivery of primary care to blighted communities, through health equity thereby providing accessibility and availability to healthcare services. LiveWell Initiative LWI has increase a positive health seeking behaviour of the people of Makoko community by 70% and has aid the mitigation of the mortality and morbidity rate of Hepatitis virus.



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Lifestyle Factors, Viral Hepatitis and Hepatocellular Carcinoma in Uganda: A Hospital-Based Case Control Study

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Background: The effect of lifestyle factors, namely alcohol use, cigarette smoking, and other forms of tobacco use on hepatocellular carcinoma (HCC) remains unclear. We assessed the independent associations of lifestyle factors with HCC among individuals with and without viral hepatitis.

Material and Methods: In a hospital-based case-control study conducted at two tertiary hospitals in Uganda, HCC cases were confirmed by clinical, ultrasound, biochemical, or pathologic criteria. Controls were age- and sex-matched from the same hospitals. Data on demographics, clinical factors, and lifestyle were collected using standardized instruments. Alcohol consumption was categorized based on CDC definitions. Logistic regression models estimated adjusted odds ratios (aOR) and 95% confidence intervals (CIs), controlling for age, sex, education, and socioeconomic status. Restricted cubic spline curves (RCS) assessed nonlinear relationships. Analyses were stratified by viral hepatitis status (nonviral; HBV by HBsAg; HCV by anti-HCV).

Results: Among 617 HCC cases and 1,263 controls respectively, median ages were 43 and 42 years, males comprised 68.8% and 65.0%, current/former alcohol users in 24.6% and 23.7%, current/former cigarette smokers in 6.4% and 12.1%, other tobacco (chewing and pipes) users in 14% and 7%. Chronic HBV, HCV or both were present in 44.2%, 7.1% and 4% of cases and 6%, 3% and 0% of controls, respectively. HCC risk was associated with HBV (aOR=19.33; 95% CI: 13.57-27.52), HCV (aOR=3.37; 95% CI: 1.96-5.78), and other tobacco use (aOR=1.63; 95% CI: 1.02-2.60). Heavy alcohol use showed a null association (aOR=0.94; 95% CI: 0.66-1.33), consistent across all hepatitis strata. Heavy cigarette smoking was associated with HCC risk in the HCV group (aOR=14.08; 95% CI: 0.17-

180.08), but not in HBV (aOR=0.63; 95% CI: 0.15-2.59) or non-viral groups (aOR=0.72; 95% CI: 0.37-1.42). RCS models indicated a J-shaped correlation between alcohol consumption and HCC risk, observed across all beverage types, and a similar pattern with cigarette consumption.

Conclusions: HCC was associated with known viral hepatitis and some lifestyle factors, specifically tobacco chewing and using pipes, while associations with cigarette smoking were qualitatively modified by HCV infection. These findings underscore the importance of identification and treatment of viral hepatitis among high-risk persons including heavy users of tobacco and alcohol.



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Hepatocellular Carcinoma in the Hepatitis B Likely Vaccinated and Likely Unvaccinated Age Groups in the Gambia

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Background: Hepatitis B vaccination was started in The Gambia in July 1986 and nationwide coverage was achieved in February 1990. However not much is known about its effect on Hepatocellular carcinoma (HCC) in The Gambia.

Objectives: We assess the differences in the features of HCC in both the Hepatitis B likely vaccinated and likely unvaccinated age groups in The Gambia.

Material and Methods: Patients with suspected HCC who were referred to the main liver clinic at the Medical Research Council, Gambia Unit (MRC) were recruited from June 2012 to September 2019. Clinical, radiological, fibroscan and laboratory data were collected in all patients.

Results: Five hundred and forty two patients were recruited into the study. The majority (91.3%) of the patients were in the likely unvaccinated age group and most (88.8%) were born in The Gambia. Those born outside The Gambia were mostly Senegalese, Sierreleonean, and Guineans. The HCC patients in the hepatitis B likely unvaccinated age group were likely to be born in The Gambia 448 (90.5%) vs 33 (70.2%) ($p < 0.001$) as compared to the likely vaccinated age group. They were also less likely to have a positive HBsAg 332 (67.9%) vs 40 (86.9%) ($p = 0.007$) but had a lower AFP levels 3897 (1.07-135000) vs 9969 (3- 80000) ($p = 0.007$) and a higher FIB4 score 5.2 (0.4-69.9) vs 1.9 (0.5-57.9) ($p < 0.001$) as compared to those HCC patients in the likely vaccinated age group. There were no differences in clinical manifestations, liver function tests and median survival.

Conclusions: The majority of the HCC patients were in the unvaccinated age group and were also

born in The Gambia. This suggest that the early introduction of nationwide Hepatitis B vaccination in 1990 into the EPI program in The Gambia may have had a positive effect in the incidence of Hepatocellular Carcinoma in the vaccinated age group. To strengthen these gains, a nationwide screening and treatment program needs to be implemented for those in the unvaccinated age groups.



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Chronic Liver Disease in Ethiopia with a Particular Focus on the Etiological Spectrums: A Systematic Review and Meta-Analysis of Observational Studies

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Background: In Ethiopia, chronic liver disease (CLD) is the 7th leading cause of death, accounting for about 24 deaths per 100,000 populations in 2019. Despite its burden, there is a lack of compiled pieces of evidence on CLD in the country. Thus, this systematic review and meta-analysis is intended to provide the pooled estimates of CLD etiologies and mortality rate in CLD patients in Ethiopia.

Material and Methods: PubMed, Google Scholar, ScienceDirect, institutional repositories, national digital library, and the bibliography of the eligible articles information were the source of data for the present review. The keywords "hepatitis, chronic" [Mesh], "end-stage liver disease" [Mesh], "chronic liver disease", "liver cirrhosis" [Mesh], and "Ethiopia" were used for the searches. Overall, we retrieved 199 records and 12 were included in this review. We used the DerSimonian-Laird random-effects models to perform the meta-analysis. We conducted subgroup and meta-regression analyses to account for the heterogeneity of the estimates.

Results: Hepatitis B virus, alcohol, and hepatitis C virus are the three most common etiologies of CLD in Ethiopia accounting for a pooled estimate of 40.0% [95% CI: 29.0, 51.0, I² = 96.3, p < 0.001], 17.0% [95% CI: 9.0, 25.0, I² = 96.7, p < 0.001], and 15.0% [95% CI: 9.0, 21.0, I² = 95.8, p < 0.001], respectively. Unidentified etiology report has a substantial contribution accounting for an estimated pooled proportion of 45% [95% CI: 34.0, 56.0%, Q = 32.08, p < 0.001, I² = 87.53] of the CLD

cases in the country. On the other hand, the overall hospital mortality rate in CLD patients is 25.0% [95% CI: 2.0, 47.0, I² = 94.6, p < 0.001] in Ethiopia.

Conclusions: Hepatitis B virus, hepatitis C virus, and alcohol are the three most common contributors to CLD cases in Ethiopia. The authors warrant routine screening and strengthening of preventive and treatment programs for viral hepatitis B and C, further enhancing the alcohol policy of the country.



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Adolescent Hepatocellular Carcinoma in Uganda: A Case-Case Study of Clinical and Etiologic Factors Compared to Adults

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Background: Early-onset hepatocellular carcinoma (HCC) is a rare, and yet aggressive especially in Sub-Saharan Africa where surveillance and mechanistic understanding are limited. We compared clinical and etiologic characteristics of adolescents and adults, with HCC.

Material and Methods: HCC patients 12 years or older were enrolled in a hospital-based case-control study conducted at four tertiary hospitals in Uganda. HCC was confirmed by clinical, and either ultrasound or biochemical or pathologic criteria. Data on socio-demographic, clinical, and laboratory factors were collected using standardized methods.

Results: Among 617 HCC patients, 14 (2.3%) were adolescents (age range: 13-18 years) and 603 (97.7%) adults (median age, interquartile range (IQR), 45, 32-56 years), males predominated, 13 (93%) vs. 412 (68.3%), $p=0.03$, HCC family history was common, 5 (35.7%) vs. 69 (11.44%), $p=0.01$, respectively. Both groups were mostly rural-based, 8 (57.1%) vs. 372 (61.7%), $p=0.72$, and low socioeconomic index score, 8 (57.1%) vs. 320 (53.2%), $p=0.66$, respectively. Both adolescents and adults commonly reported abdominal pain (100% vs 96.7%), weight loss (100% vs 93.2%), loss of appetite (85.7% vs 82.4%), with nausea notably high in adolescents (71.4% vs 47.6%). Seven (53.9%) adolescents were seropositive for HBsAg and anti-HBc; two (15.4%) anti-HBc positive but HBsAg negative, and five negatives for HBV markers compared to 248 (45.9%) adults, positive for both markers, 178 (32.9%) for anti-HBc, and 106 (19.6%) negatives for both HBV markers. HBV DNA detection was 29.6% with similar adolescents and adult levels (median: 39,932.5 vs. 34,487 IU/mL, $p=0.31$). Adolescents had higher median (IQR) AST (242 (167-558) vs. 115 (48-245) U/L,

$p<0.001$), ALT (57 (40-105) vs. 40 (19-69) U/L, $p=0.04$) and alpha-fetoprotein (AFP) levels (2564.7 vs. 336.7 ng/ml, $p=0.13$). ultrasound multifocal lesions were frequent, 448 (75.4%) vs. 12 (85.7%), $p=0.66$ in adults and adolescents, and median primary lesion size was 7.2 cm vs 7.7 cm: respectively. Eleven (84.6%) adolescents died within three months of diagnosis, with a median (IQR) survival of 40 days comparable to the adults 49, $P>0.05$.

Conclusions: Adolescent HCC in Uganda predominantly affects males and is associated with HBV, seemed to be more fulminant. Despite the introduction of national vaccination, HBV remains a major etiology of adolescent HCC.



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A Large Proportion of Non-virus-Associated Hepatocellular Carcinoma Cases in Western Kenya Suggests an Important Role for Occult Hepatitis B, Exposure to Aflatoxin B1 or to Pesticides

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Background: Hepatocellular carcinoma (HCC) is the most common type of primary liver cancer globally, accounting for 75-85% of all liver cancer cases with a prevalence of 16 to 32 times higher in developing countries than in developed countries. Hepatocellular carcinoma represent a major concern in Eastern Africa where with 11,500 cases yearly ranking 6th in cancer mortality. In Kenya HCC is the 13th most prevalent cancer, and the 9th cause of cancer mortality. The cancer burden is greatest in areas where viral Hepatitis B or C prevalence is 8% or more. Keeping in mind the 2030 WHO agenda of attaining 65% reduction of mortality from chronic viral hepatitis, it is of utmost importance to have a precise idea of the evolution and current distribution of the causal factors of HCC in the region, including Kenya. The aim of this study was to identify the modifiable risk exposure for HCC in patients with non-malignant chronic liver disease (CLD) and HCC.

Material and Methods: We conducted a cross-sectional prospective survey in western Kenya, an area with a catchment population of over 3 million people across 3 counties. Patients known to have chronic liver disease or uncharacterized liver lesions requiring further workup were recruited. Demographic characteristics and risk exposure were noted for the each of two subsets of patients. Tests of significance were used for comparative data; with a p value of < 0.05, being significant.

Results: A total of 200 patients, majority male 110/200 (55%) were recruited. A total of 59/200 (30%) patients had HCC confirmed by Triphasic CT scan and/ or Biopsy. The mean age of HCC patients was significantly higher than that of CLD (50.7 ±16.1 vs 45.0 ± 16.3, p = 0.04). Risk factors for HCC were older age Odds Ratio (OR) 1.03 (95% CI 1.01 to 1.06), Hepatitis B; OR 2.66 (95% CI 1.28 to 5.51) and liver cirrhosis OR 2.41 (95% CI 1.21 to 4.81). A lack of any serological or molecular markers for viral infection was noticed in almost 45.0% of cases in both patient subsets. Alcohol consumption rate was not significantly different between HCC and CLD. Use of pesticides without precaution was significantly more frequent in the case of HCC than in CLD (93.7% vs 73.6%; p = 0.033). We found a non-significant higher serum aflatoxin concentration in the HCC subset than in the CLD subset.

Conclusions: HCC remains a complex disease influenced by a variety of risk factors. We observed a high prevalence of chronic infection with HBV and exposure to pesticides. Further molecular analyses are warranted to understand the role of aflatoxin and other environmental exposures.



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Peptic Ulcer Disease in Patients with Cirrhosis in the Hepato-Gastroenterology Department of the Yalgado Ouedraogo University Hospital in Ouagadougou

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Background: Cirrhosis, the final stage in the evolution of most chronic liver diseases, is a major concern for practitioners and patients alike. The association of peptic ulcer disease and cirrhosis poses pathogenic and therapeutic problems. The underlying mechanism of ulcers in cirrhosis is not clearly defined although the prevalence of peptic ulcer in patients with cirrhosis is higher than in the general population. To our knowledge, there have been no studies of peptic ulcer disease in patients with cirrhosis in Burkina Faso. The aim of our work was to study peptic ulcer disease in patients with cirrhosis in the Hepato-Gastroenterology Department of the Yalgado Ouédraogo University Hospital.

Material and Methods: This is a retrospective, descriptive and analytical study conducted over a period of five years, from 1st January 2018 to 31 December 2022. Patients with cirrhosis hospitalised in the Hepato-Gastroenterology Department of the Yalgado Ouédraogo University Hospital were included. The diagnosis of cirrhosis was based on histological or elastometric criteria, or a combination of clinical, biological and morphological arguments.

Results: A total of 111 patients were included, 79 of whom were men (71.2%). The mean age was 47.6 years with a standard deviation of 13.4 years. Forty-eight patients (43.2%) had peptic ulcer disease. Of these, 36 had gastric ulcers, three had duodenal ulcers and nine had both gastric and

duodenal ulcers. The ulcer was located in the antrum in 75% of cases. The ulcer was asymptomatic in 38 patients (79.2%). One hundred and one patients (91%) had cirrhosis of B viral origin. Patients classified as Child Pugh C accounted for 51.4% of cases. In multivariate analysis, there were no significant differences in terms of age, sex, alcohol or tobacco consumption, or stage of cirrhosis severity between patients with and without peptic ulcer disease.

Conclusions: Our study showed a high prevalence of peptic ulcer disease in patients with cirrhosis. In our context, an upper gastrointestinal endoscopy should be performed as part of the initial health assessment of any patient with cirrhosis to look for signs of portal hypertension and peptic ulcer disease.



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Overview of Hepatobiliary Pathologies at the Department of Internal Medicine, Endocrinology and Metabolic Diseases of the Bogodogo University Hospital Center (CHU-B) in Ouagadougou

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Aim of the study: to determine the epidemiological profile of hepatobiliary disorders diagnosed in the Internal Medicine Department of the Bogodogo University Hospital.

Method and patients: this is a retrospective descriptive study that involved patients hospitalized for hepatobiliary pathologies in the Department of Internal Medicine, Endocrinology and Metabolic Diseases over a period of 4 years from January 1, 2020 to December 31, 2023.

Results: during the period of our study, 227 patients were hospitalized for hepatobiliary pathologies out of 533 hospitalized for digestive pathologies, i.e. a hospital frequency of 42.6%. Hepatobiliary pathologies were dominated by cirrhosis and viral hepatitis B with 106 cases (46.7%) and 57 cases (25.11%) respectively, followed by primary liver cancer with 42 cases (18.5%), viral hepatitis C with 26 cases (11.45%) and liver abscess with 17 cases (7.5%). The majority of patients resided in urban areas with 138 or 60.79%. The male sex was more represented with a sex ratio of 2.39. The mean age of patients was 48.6 years with extremes of 14 and 86 years. Digestive manifestations were most represented by abdominal pain in 61.23% followed by abdominal distension in 44.05% and ascites in 39.21%. Two hundred, or 88.11% of the patients,

had benefited from a well-conducted treatment. The evolution was favorable in 136 or 59.91% of patients.

Conclusions: hepatobiliary pathologies are diversified in Burkina Faso and are a frequent reason for hospitalization. They affect more young people with a predominance of men.



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Impact of HBeAg and Its Precursors on Mitochondrial Dynamics.

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Hepatitis B virus (HBV) is endemic in South Africa where subgenotype A1 prevails. Chronic HBV infection is strongly associated with liver inflammation, cirrhosis and hepatocellular carcinoma. While various HBV mechanisms have been involved in the process of liver cancer development, this study particularly focuses on HBeAg. P25, its precursor, is targeted to the endoplasmic reticulum (ER), where it is post-translationally modified to HBeAg, which is secreted extracellularly. A specific mutation in the precore region specific to subgenotype A1, termed G1862T, is found in 25% of HBV chronic carriers; and is frequently found in HBV isolated from HCC patients. G1862T introduces an aromatic amino acid, which sterically hinders the signal peptide cleavage, leading to the accumulation of P25 in the ER. We have shown that HBeAg and its precursors (HBeAg/prec) display various hallmarks of cancer, making them good candidates for being oncoproteins. Since HBV has been linked to changes in mitochondrial dynamics and elevated Reactive Oxygen Species (ROS) formation, leading to persistent infection, the aim here is to determine whether HBeAg/prec have a role in such mitochondrial dysfunctions.

HuH7 cells were transfected with subgenomic clones expressing HBeAg and its precursors, with or without the G1862T mutation, wtP25 and mtP25, respectively. Mass spectrometry analysis of the proteome, 5 days post-transfection, revealed that transfection with mtP25 led to altered regulation of seven mitochondrial proteins

compared to the wtP25 expressing cells. Six of these are 1.5-2 times upregulated: the respiratory chain is enhanced with a 1.7-fold upregulation of cytochrome b and NADH dehydrogenase in the mitochondrial inner membrane, in addition to a 2-fold upregulation of NME4 (Nucleoside diphosphate kinase) within the mitochondrial inter membrane and matrix. Mitochondrial protein import is enhanced with the upregulation of the intermembrane protein chaperone TIMM13 by a factor of 1.6. Cell death is also prevented by the overexpression of mitochondrial PPIF (Peptidyl-prolyl cis-trans isomerase F) and TXN2 (Thioredoxin)(1.6-fold), through inhibition of cytochrome c dependent apoptosis and regulation of ROS. Also, there is a 1.5 fold downregulation of the cytoplasmic anti-oxidant Thioredoxin reductase 1 which usually mediates cell death by interferon.

These results complement our previous confocal microscopy analyses, which showed a decrease of expression of the tumor suppressor P53 (regulation of apoptosis), a regulation of the Wnt/ β -catenin pathway and upregulation of extracellular matrix (cell proliferation) in cells expressing HBeAg/prec with G1862T mutation. These are all pathways commonly affected by mitochondrial dysfunction. Finally here, preliminary confocal microscopy data showed the increase of 8-oxoguanine, a reliable biomarker of oxidative DNA damage and ROS-induced carcinogenesis, in the cytoplasm of HBeAg/prec expressing cells especially in aggregates in the perinuclear region, which could correspond to mitochondria.

In conclusion, it is proposed here that HBeAg/prec affect mitochondrial dynamics by enhancing its activity, inducing DNA damage, ROS production and preventing apoptosis. This may then also contribute to the carcinogenic effect of subgenotype A1 harbouring the G1862T mutation.



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Clinical and Epidemiologic characteristics of patients with hepatocellular cancer in Sub-Saharan Africa: A single centre five-year retrospective study

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Introduction: Hepatocellular carcinoma (HCC) is a prevalent primary malignant neoplasm originating from hepatocytes, accounting for approximately 80% of all liver cancers. Globally, HCC ranks as the sixth most common malignancy and stands as the fourth-leading cause of cancer-related mortality. The incidence of HCC exhibits significant geographic variability. HCC emerges as a multifaceted disease entity with diverse potential aetiologies, intricately linked to numerous risk factors.

Methods: The study was conducted at Tikur Ambessa Specialized Hospital during the period from April 2016 to March 2022. Employing a descriptive cross-sectional study design, the investigation focused on adult patients diagnosed with HCC. The source population encompassed all adults within the study area who received an HCC diagnosis, while the study population comprised those diagnosed with HCC during the study period.

Results: In our study among the 145 diagnosed cases, 106 were male and 39 were female, resulting in a male-to-female ratio of 3:1. The age range spanned from 18 to 91 years, with a median (IQR) age of 55 (40-63) and a mean age of 52.8 years. Hepatitis B virus (HBV) emerged as the leading cause of HCC, accounting for 32.41% of cases, while hepatitis C virus (HCV) was found in 19.31% of HCC patients. HBV-HCV co-infection was identified in three patients. A substantial proportion (50.34%) of cases remained of unknown or other aetiology. Alcohol use was reported in 34.48% of HCC patients, and 11.03% of patients had diabetes. However, family history of HCC was not elicited during the study. These findings underscore the complexity of HCC and

highlight the need for targeted prevention strategies and surveillance efforts.

Conclusion: Most HCC patients presenting at Tikur Ambessa Specialized Hospital were not identified through surveillance efforts. Furthermore, most HCC cases do not meet criteria for either surgical or non-surgical therapeutic interventions. Health facilities should prioritize policies aimed at preventing HBV/HCV transmission and implementing targeted surveillance for high-risk groups.



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Health-Related Quality of Life in Patients with Cirrhosis and Associated Factors in a Tertiary Hospital in Ethiopia

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Background: Health-related quality of life (HRQoL) refers to patients' reports of their physical, mental and social wellbeing, and is an essential aspect of patient care. The quality of life of patients with cirrhosis can be affected by a variety of factors that can affect their well-being. The aim of this study was to measure the health-related quality of life of patients with cirrhosis on follow-up at St. Paul's Hospital Millennium Medical College (SPHMMC) and its associated factors.

Material and Methods: A hospital based cross-sectional study was conducted at SPHMMC on patients with cirrhosis from December 1, 2022 to May 30, 2023. The data were collected using chronic liver disease structured questionnaire (CLDQ). Variables with a p value <0.25 in simple linear regression were included in the multiple linear regression model. All variables with a p value of <0.05 in the multiple linear regression were considered statistically significant.

Results: A total of 298 patients with cirrhosis participated in the study. Males accounted for 65.1% of the participants, and the mean age of the participants was 41.95 ± 12.6 years. Hepatitis B virus was the most common etiology of cirrhosis occurring in 59.4%. Most patients (57.1%) had Child-Turcotte-Pugh class A cirrhosis and the mean Model of End-stage Liver Disease score was 11 ± 4.3. The mean CLDQ score was 6.38 ± 0.73 and 8.1% had scores below a mean of 5, indicative of poor quality of life. Mean abdominal symptom, fatigue, and systemic symptoms domain scores were 5.8 ± 1.28, 6.2 ± 1.24, and 6.7 ± 0.64, respectively, while activity, emotional function and worry domain scores were 6.4 ± 1.07, 6.8 ± 0.58, and 6 ± 1.14, respectively. The presence of ascites ($\beta=0.231$, $P=0.015$) and the number of pills ($\beta=$

0.055, $P=0.009$) were independently associated with quality of life.

Conclusions: Low health-related quality of life was reported by 8.1% of the participants with cirrhosis. The presence of ascites and the number of pills being taken affected quality of life. Quality of life should be assessed as part of care for patients with cirrhosis and follow-up and care should be optimized.



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Hepatitis B Treatment in Africa: Experiences from a Scale-up Program in Ethiopia

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Background: In sub-Saharan Africa treatment for chronic hepatitis B (CHB) is rarely available, and data on the management of CHB from this region is scarce. In 2021/22 we set up a scale-up CHB treatment program at four regional hospitals in Ethiopia. Here we present early experiences from this public-sector scale-up program.

Material and Methods: A total of 5,863 HIV-negative adults with CHB were enrolled between December 2021 and December 2023. The patients were assessed with laboratory tests, including viral markers and liver enzymes. The treatment eligibility criteria were: i) clinically diagnosed cirrhosis, ii) aspartate aminotransferase to platelet ratio index (APRI) ≥ 0.7 , iii) alanine aminotransferase (ALT) > 40 U/L and HBV DNA $> 2,000$ IU/ml, and iv) hepatocellular carcinoma in first-degree relative and HBV DNA $> 2,000$ IU/ml. Tenofovir disoproxil fumarate was the preferred antiviral drug and was provided free of charge.

Results: The median age was 30 years (interquartile range 25-38) and 2,861 (48.8 %) patients were women. Coinfection with HCV was uncommon (n = 92; 1.6 %). Most patients had normal (≤ 40 U/L) ALT (n = 4,277; 72.9 %) and low (≤ 0.5) APRI (n = 4,399; 75.0 %). At inclusion, 3,697 (63.1 %), 986 (16.8 %) and 1,052 (17.9 %) had HBV DNA $< 2,000$ IU/ml, 2000-19,999 IU/ml and $\geq 20,000$ IU/ml, respectively. Overall, 2,954 (50.4 %) patients were classified as inactive carriers, defined as HBV DNA $< 2,000$ IU/ml and ALT ≤ 40 U/L. 1,002 (17.1 %) patients had APRI ≥ 0.7 , suggestive of advanced chronic liver disease (CLD). Male sex (adjusted odds ratio (AOR) 3.45; 95% CI

2.93-4.07) and HBV DNA $> 2,000$ (AOR 3.13; 95% CI 2.70-3.62) were independently associated with advanced CLD. In total, 1,571 (26.8 %) patients were eligible for treatment at baseline evaluation.

Conclusions: Roughly 25 % of the patients were eligible for treatment at enrollment, highlighting the importance of improved access to CHB treatment in sub-Saharan Africa. Another 25 % were indeterminate and would need longitudinal follow-up to determine treatment eligibility. The remaining 50 % were classified as inactive carriers and could probably have less intensive follow-up.



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Hepatitis B Treatment Outcomes and Factors Associated with Hbv Treatment Success: A Population-Based Study in Rwanda.

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Background: Timely treatment of chronic hepatitis B virus (HBV) infection reduces complications such as cirrhosis and hepatocellular carcinoma and improves overall survival. In Sub-Saharan Africa, data on HBV treatment success are limited in the general population, as well as among people living with HIV. We assessed the success of HBV treatment and associated factors among people diagnosed with HBV mono-infection and HIV co-infection.

Material and Methods: We used data from the updated District Health Information System 2 (DHIS2), which included information on 4.6 million individuals screened for HBV in Rwanda, from January 2016 to June 2023. DHIS2 includes data on screening, diagnosis, treatment, follow-up, comorbidities, demographic characteristics, and outcomes such as death. Patients were included if they had received HBV therapy for at least 12 months. We defined HBV treatment success as undetectable HBV DNA or normal ALT at 12 months. Individuals with chronic HBV infection, age ≥ 2 years, who received a highly potent anti-viral treatment (tenofovir-based, entecavir-based, or other) during the study period were considered in the analysis. We computed treatment success proportion and assessed risk factors associated with HBV treatment success using multilevel logistic regression that accounts for clustering by hospital.

Results: Overall, 4,733 people received HBV treatment during the study period. The median age was 39 years, and 58.4% were males. During the study period, 4,581 (96.8%) individuals had HBV treatment success. People with HBV mono-infection and those with HBV/HIV co-infection had similar proportions of treatment success [3,782 (96.8%) vs. 799 (96.5%)]. In the multivariable hierarchical model, HCV co-infection (aOR: 0.33; 95%CI: 0.12, 0.85), follow-up at provincial or referral hospital (aOR: 0.26; 95%CI: 0.08, 0.86) and cirrhosis (aOR: 0.36; 95%CI: 0.20, 0.63) were associated with a lower likelihood of HBV treatment success. Compared to those with HBV mono-infection, individuals with triple infection HBV/HCV/HIV were less likely to experience HBV treatment success (aOR: 0.14; 95%CI: 0.02, 0.93).

Conclusions: The study showed a very high treatment success rate among people who initiated HBV treatment in Rwanda. However, it also revealed that individuals with HBV/HCV coinfection or cirrhosis were less likely to experience treatment success. The study emphasizes the significance of early detection and timely treatment of HBV in people with triple viral infection HBV/HCV/HIV. It also underscores the importance of closely monitoring people with advanced liver diseases to suppress HBV effectively.



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Hepatitis B Virus Care Cascade in Rwanda: A Population Based-Study

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Background: The global burden of viral hepatitis B (HBV) is substantial, and monitoring progress across the care cascade is essential for effective elimination strategies. In Sub-Saharan Africa, data on the HBV care cascade are limited. We aimed to quantify the HBV care cascade in Rwanda among individuals diagnosed with HBV infection from 2016 to 2023.

Material and Methods: In this population-based retrospective cohort study, we used routinely collected data from the District Health Information System 2, which included 4.5 million people screened for HBV from January 2016 to June 2023. During this period, individuals were included if they were >2 years old. The HBV care cascade was analyzed across five stages: (1) lifetime prevalence, (2) diagnosis, (3) enrolled in care, (4) treatment initiation, and (5) treatment continuation. Infections were identified by having at least one reactive antigen or nucleic acid test, and lifetime prevalence was estimated as the sum of diagnosed and estimated undiagnosed cases. Multivariable logistic regression was used to identify progression-related factors through the different cascade stages.

Results: Among the 4,604,468 persons screened, 55,820 tested positive for HBsAg (HBV infection diagnosed). Of these individuals, 51,065 (91.5%) were HBV mono-infected, and 4,755 (8.5%) were HBV/HIV co-infected. Among all HBV-positive cases, 21,182 (38.0%) were enrolled in care, 5,966 (28.2%) were eligible for HBV treatment, 4,746 (79.6%) initiated treatment, and 4,621 (97.4%) continued treatment at 1-year post-initiation. Individuals enrolled at district hospitals were more

likely to be engaged in care (adjusted odds ratio [aOR], 2.09; 95% CI, 1.93, 2.26), eligible for HBV treatment (aOR: 1.82; 95% CI, 1.61, 2.07), initiate HBV treatment (aOR: 2.41; 95% CI, 1.85, 3.14), and be retained in care (aOR: 5.85; 95% CI, 2.74, 12.49), compared to those followed up at health centers. Compared to those at ≤ 30-minute distance, those living at a distance of >1 hour to reach a facility were more likely to be engaged with care, eligible for HBV treatment, and initiate treatment, while they were less likely to be retained in care. Individuals living with HIV were more likely to be engaged in care and less likely to initiate HBV treatment.

Conclusions: Overall, engagement with care was low. Individuals followed at district hospitals were more likely to be engaged in care, eligible and initiate the HBV treatment, and retained in care, highlighting the need for strengthening decentralization and integration of HBV services to lower-level health facilities by increasing well-trained healthcare providers, and needed infrastructure for prevention and treatment of HBV at health centre level.



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Field Performance Evaluation of the Standard Q Hepatitis B Surface Antigen Test among Pregnant Women Attending Antenatal Care in Uganda

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Background: The Global Plan towards Elimination of New HIV Infections in Children and keeping their mothers alive was launched in 2009 setting a series of ambitious targets with unprecedented investments in Prevention of Mother To Child Transmission (PMTCT) of HIV. Uganda developed the triple elimination strategy to reduce Mother to Child Transmission (MTCT) of HIV, syphilis and Hepatitis B and innovative new approaches to service delivery that included triple testing for these infections. A novel point-of-care immunochromatographic test for hepatitis B became a facilitator for this. This paper aimed to evaluate the performance and usability of the Standard Q Hepatitis B Surface Antigen tests among health workers who are actively participating in PMTCT service delivery with the overall aim of increasing options for Hepatitis B testing in order to strengthen efforts for Triple Elimination in Uganda.

Material and Methods: This was a cross-sectional study involving 28,761 pregnant women at 30 health facilities in Uganda who were tested with the Standard Q Hepatitis B test to assess its field performance, acceptability, and feasibility in antenatal clinics. The testing was conducted in MCH or in laboratory settings depending on where ANC testing occurs per facility. Sensitivity and specificity for Hepatitis B were determined in comparison with the Standard Hepatitis B Determine Antigen test as the reference standards. Acceptability/ease of use and feasibility were assessed using self-reported questionnaires.

Results: The Standard Q Biosensor Hepatitis B test showed perfect agreement with the reference Standard Hepatitis B Determine Antigen test, achieving a sensitivity of 100% (95% CI: 90%-100%) and a specificity of 100% (95% CI: 78.2%-100%). Therefore, the Standard Q Hepatitis B Surface Antigen test meets the diagnostic expectations for hepatitis B virus infection. The test was assessed as highly acceptable and feasible with most of the usability parameters above 95% satisfactory results hence making the kit an acceptable option for use in MCH settings as the country strengthens its efforts on the triple elimination. Although service providers complained about the absence of a buffer in the SD Biosensor Standard Q Hepatitis B Antigen test kit, its accuracy was concordant with the Standard Hepatitis B determine Antigen test throughout the study.

Conclusions: In a field setting, the performance of the SD Biosensor Standard Q test was comparable with the Standard Hepatitis B determine Antigen test. The SD Biosensor Standard Q HBsAg kits were rated highly acceptable and feasible. These findings can be used to guide further research and scale-up use of the kits in antenatal clinics presenting an opportunity for increasing access to the test menu and early diagnosis for Hepatitis B hence strengthening the country's efforts for triple elimination of Mother to Child Transmission of Viral Hepatitis B alongside HIV and Syphilis in Uganda.



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Uptake and Barriers to Hepatitis B Birth Dose Implementation in Delta State Nigeria

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Background: Nigeria has one of the highest burdens of hepatitis B virus infections globally and the highest burden among children under five years of age. With a population of 6.8 million, the prevalence of hepatitis B in Delta state is 8%. To reach elimination goals for viral hepatitis, it is crucial to improve timely hepatitis B birth dose (HepB-BD) coverage by expanding access to HepB-BD beyond scheduled immunization days, ensuring all births at public and private health facilities receive timely HepB-BD, and conducting outreach to reach children born outside of a health facility. This study aims to understand what the true empirical uptake of HepB-BD vaccine amongst newborns delivered in Central Hospital Agbor is and if it is in line with the 60% HepB-BD uptake reported by the Delta State Ministry of Health (DTMoH). This study is a retrospective, non-invasive cross-sectional assessment involving inspection of child health cards for all infants brought to the antenatal clinic (ANC) of the facility for their routine vaccinations.

Material and Methods: In the secondary health facility, 209 infants 43% male, 57% female, were assessed for HepB-BD. Only 12 infants received the HepB-BD within the first 24 hours of life, while 197 received theirs post 24hrs. Despite the availability of properly stored HepB-BD vaccine in the solar-powered refrigerator delays in the uptake HepB-BD vaccine varied from 1 day (minimum) to up to 43 days (maximum) amidst absence of a clear HepB-BD policy in facility. All 12 infants who received the timely HepB-BD vaccine were either born late on a Wednesday, or on a Thursday as matched on the calendar. A total of 15 infants out of 197 who received the HepB-BD vaccine, post-24 hrs, were also observed to be born on a Thursday.

On inquiry from mother, they were said to be born later than 4pm in the afternoon when ANC clinic was closed.

Conclusions: HepB-BD uptake in Central Hospital Agbor, Delta State, Nigeria is far below the reported 60% by the State Ministry of Health. While HepB-BD is provided by the Federal Ministry of Health in Nigeria (since 2004) there are major gaps in data reporting and actual uptake of HepB-BD. Nigeria has the potential to significantly impact the global burden of disease for hepatitis B if birth dose is appropriately scaled up to elimination goal standards. While birth dose is available there are major barriers to implementation. Efforts are needed to further understand these barriers and work towards addressing them with practical intervention.



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High Endemicity of Hepatitis B Virus and Low Vaccine-Mediated Immunity in Rural Kwazulu-Natal, South Africa

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Background: Sparse data exist on hepatitis B virus (HBV) epidemiology in Africa, particularly in rural areas. We aimed to determine the prevalence of HBV infection, immunity and exposure stratified by age, sex and HIV in rural KwaZulu-Natal (KZN), South Africa, and to identify factors associated with HBV serostatus.

Method & Materials: In the EVOLVE-HBV ('Evaluation of Vukuzazi LiVeR disease') study, we screened 2200 archived plasma samples from participants aged ≥ 15 years collected between 2018 and 2020 as part of the Vukuzazi health study in KZN. We estimated prevalence of: (I) active HBV infection (HBV surface antigen (HBsAg)-positive); (II) vaccine-mediated immunity (HBV surface antibody (anti-HBs) positive and other markers negative); (III) HBV exposure and clearance (HBV core antibody (Anti-HBc) positive, HBsAg-negative). Estimates were stratified by sex, HIV-status and age (pre-vaccine roll-out: born before 1995, peri-vaccine roll-out: born 1995-2000, and

post-vaccine roll-out: born 2000-2005) using sampling weights and non-response weights to make population-level inferences. Logistic regression was performed to determine predictors of vaccine mediated immunity.

Results: Of the 2,200 individuals tested (58.6% female, mean age 37.6 years (SD = 8.3)), prevalence of active HBV infection, vaccine-mediated immunity and HBV exposure and clearance were 10.5% (95%-CI: 9.1%-12.2%), 8.9% (95%-CI 7.5%-10.5%) and 34.8% (95%-CI 32.2%-37.2%) respectively.

Individuals who drank alcohol in the past 12 months had significantly lower odds of vaccine-mediated immunity, with odds reduced to 0.44 times (95% CI: 0.224 - 0.849, $p = 0.015$) compared to those who never drank. Likewise, those with a history of smoking had significantly lower odds of vaccine-mediated immunity, with odds reduced to 0.09 times (95% CI: 0.009 - 0.797, $p = 0.031$) compared to never smokers. Moreover, underweight individuals had significantly lower odds of vaccine-mediated immunity, with odds reduced to 0.43 times (95% CI: 0.187 - 0.972, $p = 0.043$) compared to normal weight individuals. HIV status was not significantly associated with vaccine mediated immunity in a multivariate analysis $p > 0.05$.

Conclusions: Despite WHO vaccination roll out, the population prevalence of active HBV in rural KZN is high while vaccine mediated immunity is low, highlighting the need for further interventions. We highlight vulnerable groups who would benefit from targeted interventions.



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Use of Monotherapy vs Dual Therapy for Treatment of Chronic Hepatitis B Virus (HBV) Infection in the HEPSANET Consortium

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Background: Hepatitis B virus infection poses a significant public health threat in Africa. First line treatment is typically with tenofovir. New WHO guidelines published in 2024 have relaxed thresholds for treatment, making many more individuals eligible. They also endorse the use of dual therapy as an alternative to monotherapy, recognising that - in some settings – tenofovir as a component of fixed dose combination therapy is more affordable and accessible due to its use in HIV treatment and prophylaxis (typically tenofovir + lamivudine (TDF/3TC) or tenofovir + emtricitabine (TDF/FTC)).

Material and Methods: We analysed data from HEPSANET, a consortium collating records for adults attending clinical care for HBV in Ethiopia, Tanzania, Malawi, Zambia, South Africa, Nigeria, Ghana, Senegal, The Gambia, Burkina Faso, Sierra Leone, and Egypt. Retrospective data were collected as available (varying by site), with the earliest data point from 2003. Longitudinal data collection is now in progress. HEPSANET is governed by a steering committee of nine members from the original sites, with ethical approvals to share clinical, sociodemographic,

laboratory and imaging data. Statistical analysis was undertaken using R.

Results: We collated records for 4115 individuals, of whom 2482 were male (60.3%). At baseline, median age was 33 years (IQR 27-41), 517 were HBeAg positive (12.6%), and 462 were living with HIV-coinfection (11.2%). HBV treatment was documented in 2036 individuals (49.4%) over the period of follow-up, with median treatment duration of 5 years (IQR 3-7) at the time of data collection. In the treated group, 1290/2036 received monotherapy (63%) and 746/2036 (37%) received dual therapy. Receipt of dual therapy was strongly associated with cohort location, highlighting regional variation in access to tenofovir in different formulations.

Conclusions: In African populations, dual HBV therapy is already in widespread use, accounting for >1/3 of all prescriptions, but with large geographical variations. This is indicated for all those with HIV coinfection, but also reflects pragmatic use of dual therapy regimens. HEPSANET data will allow us to document rate of viraemic suppression, normalisation of liver markers, toxicity, and long-term outcomes in individuals receiving monotherapy vs dual therapy as treatment expands in the era of new guidelines.



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Screening Indications, Socio-Demographic, Virologic and Radiologic Characteristics of Viral Hepatitis B Patients in a Highly Endemic Population in Southern Nigeria

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Background: Viral hepatitis B is a life-threatening condition with global public health implications. It is highly endemic and one of the leading causes of mortality in Africa. There are no screening strategies defined for the general population in Nigeria despite an estimated 19 million Nigerians living with Hepatitis B, and a high prevalence of 11-13%.

This study aims to identify indications for Hepatitis B screening, as well as the virologic, radiologic and sociodemographic characteristics of this populace.

Material and Methods: This is a cross-sectional review of the viral hepatitis database of Adult Hepatitis B positive patients. The biodata, laboratory and radiological parameters were analyzed using SPSS version 26 and Categorical variables were reported as frequencies and percentages. Continuous variables were reported as means \pm SD, and a p-value of ≤ 0.05 was considered to be statistically significant.

Results: The mean age of the 454 hepatitis B positive patients was 38.33 ± 11.16 years comprising 198 (43.8%) females and 255 (56.2%) males. All six geopolitical regions of Nigeria were represented in the study with the south-south region having the highest representation of 220 patients. Incidental findings such as pre-employment screening, pre-marriage screening, screening before blood donation, pre-surgery screening for non-Hepatic related diagnosis and public health awareness campaigns accounted for 64% of the indications for screening, 4.4% were diagnosed from the compulsory antenatal screening and 11.3% with advanced liver disease. The majority of patients (94.7%) were HBeAg negative, while HBV DNA levels ranged from <20

to 170,500,000 IU/ml (mean = $4,509,723.97 \pm 26,264,722.07$ IU/ml).

Increased AST and ALT levels were observed in 256 patients (56.4%) and 193 patients (42.5%) respectively.

29.7% of the patients had hepatobiliary disease on abdominal ultrasound scan.

Conclusions: This study revealed that Hepatitis B infection in Nigeria cuts across all regions and has a gender disparity with more males affected than females. The majority of the participants were diagnosed incidentally or during an illness, highlighting the importance of routine screening. Additionally, the majority of patients had HBeAg-negative chronic Hepatitis B, indicating the need for effective public health strategies to address this prevalent form of the disease.



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Management of Hepatitis B and C in Medical Consultation by General Practitioners in Ouagadougou

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Background: Viral hepatitis B and C, with prevalence of 9.1% and 3.6% respectively in the general population, is a major public health problem in Burkina Faso. General practitioners, who are at the forefront of the management of this infection, must have appropriate knowledge on the subject and have good practices if we want to achieve the objectives of eliminating viral hepatitis in our country. The main objective was to evaluate the practice of general practitioners during medical consultations on the management of viral hepatitis B and C in Ouagadougou in 2023.

Material and Methods: This was a cross-sectional descriptive study that took place from September 1 to October 31, 2023. Fifteen (15) health centers participated in the study. The sociodemographic parameters and practices of general practitioners in the management of viral hepatitis were studied.

Results: A total of 76 general practitioners practising mainly in public health facilities 37 doctors (48.68%) were included in the study. Regarding seniority, 53 doctors (69.74%) had been practicing for less than two years in the structure. Regarding hepatitis B, the screening proposal was systematic in general consultations for 10 doctors (13.16%). The majority of doctors, 38 (50%) offered a consultation every six months to their patients in the event of minimal fibrosis ($\leq F2$) as part of their follow-up. Transaminases were the most requested biological examination every 6 months by 48 general practitioners (63%) while imaging (ultrasound/CT) and fibroscan[®] were the most requested each year, either compliance with the

Transaminases were the most requested laboratory examination every 6 months by 48 general practitioners (63%), while imaging (ultrasound/CT) and fibroscan[®] were the most requested each year, respectively by 66 (87%) and 54 (71%) general practitioners. The amount of viral DNA and the degree of liver fibrosis were the two most considered criteria for the initiation of treatment for a patient with hepatitis B by 74 (97%) and 72 (95%) of the doctors, respectively. Among pregnant women, three months after delivery, only 6.58% of doctors decided to systematically stop hepatitis B treatment. Concerning hepatitis C, the screening proposal was systematic in general consultations for 9 doctors (12%). HCV RNA and transaminases were systematically requested at the first consultation in the event of a positive anti-HCV antibody by 73 (96%) and 68 (89%) of the doctors, respectively. No doctor had good practice with regard to first-line follow-up tests for hepatitis C.

In general, before starting treatment, less than 5% of doctors offered the appropriate tests. Tenofovir was the most commonly prescribed for HBV and sofosbuvir/velpatasvir for HCV.

At the end of our study, we can say that about 52 (68.22%) of general practitioners have a level to improve on the management of viral hepatitis.

Conclusions: general practitioners have an insufficient quality of their practice in the management of viral hepatitis in Ouagadougou. Measures are needed at various levels to ensure that the protocol for the management of viral hepatitis is satisfactorily adopted by all general practitioners.



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Hepatitis B Virus Infection and Its Determinants among Pregnant Women in East Africa: Systematic Review and Meta-Analysis

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Background: HBV is one of the most serious infectious disease-related public health issues in the world and requires immediate attention. Out of the five hepatitis viruses, it is one of the most common causes of death and affects nearly all socioeconomic groups. Numerous research on the prevalence of HBV among pregnant women in East African nations have been carried out, but none of them have demonstrated the prevalence of HBV among pregnant women as a whole. Determining the pooled prevalence and its determinants among pregnant women in East Africa was, thus, the primary objective of this study.

Material and Methods: We searched PubMed, Scopus, Embase, ScienceDirect, Google Scholar, and the grey literature for papers published between February 1, 2019, and February 30, 2023. The studies were evaluated using the Newcastle Ottawa measure (NOS) quality evaluation measure. The random-effect (DerSimonian) model was used to calculate the pooled prevalence of HBV and its related variables among pregnant women. Heterogeneity was investigated using the I² statistic, sub-group analysis, and sensitivity analysis. The Egger test was used to examine publication bias, and the data was analyzed using STATA version 17.

Results: A total of 65 studies with 63587 pregnant women were included in this systematic and meta-analysis. The overall pooled prevalence of HBV among pregnant women in East Africa was 8.0% (95% CI: 6.0%–9.0%, I² = 88.5%). The highest prevalence of 10% ((95% CI: 6%, 10%), I² = 92.18%) was seen in 2020, and the lowest prevalence of 4% ((95% CI: 3%, 5%), I² = 48.65%) was observed in 2021. A pooled meta-analysis showed that history

of surgical procedure (OR = 3.25 (95% CI: 1.47, 5.21)), having multiple sexual partners (OR = 4.65 (95% CI: 1.78, 6.85)), history of body tattooing (OR = 3.32 (95% CI: 2.04, 5.32)), history of tooth extraction (OR = 2.84 (95% CI: 1.36, 4.60)), abortion history (OR = 3.40 (95% CI: 1.25, 4.65)), history of sharing sharp material (OR = 3.45 (95% CI: 1.65, 5.75)), blood transfusion (OR = 3.54 (95% CI: 1.68, 5.68)), family history of HBV (OR = 3.65 (95% CI: 1.05, 6.45)) and history needle injury (OR = 3.54 (95% CI: 1.85, 7.32)) were significant risk factors associated with HBV infection among pregnant women.

Conclusions: A significant public health issue remains the pooled prevalence of HBV infection in pregnant women in East Africa. The prevalence varied per nation, ranging from 2.6% to 25.4%. This aggregated prevalence finding showed that pregnant women in the area needed to be screened for and have their HBV infection prevented and controlled. Thus, we suggested that public health measures, including offering free HBV vaccinations and launching health information campaigns throughout the area, might help to lessen the burden of the infections.



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Association de l'infection chronique par le virus de l'hépatite B avec la faible densité minérale osseuse et le risque d'ostéoporose: Une étude cas-témoins.

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L'ostéoporose est la principale complication bien connue de l'infection chronique par le virus de l'hépatite B (VHB). Il existe peu de rapports sur la relation entre la perte osseuse et le VHB. Son effet sur la densité minérale osseuse chez les patients ne souffrant pas d'une maladie hépatique avancée n'est pas clair. Nous avons étudié la densité minérale osseuse (DMO) et la prévalence de l'ostéoporose chez les patients atteints d'une infection chronique par le VHB en comparaison avec des sujets sains.

Méthodes: Nous avons évalué la DMO de 126 patients atteints de VHB chronique et de 126 témoins sains appariés selon l'âge et le sexe par DMO. Le score T a été utilisé pour définir le statut osseux selon la classification de l'Organisation mondiale de la santé.

Résultats: Quarante-sept pourcent des patient VHB avaient une texture altérée, 19% avaient une ostéopénie et 14% une ostéoporose. Les valeurs de la DMO étaient significativement plus basses chez les patients atteints du VHB dans toutes les régions spécifiques par rapport aux témoins ($P < 0,05$). La prévalence de l'ostéoporose au niveau de la colonne lombaire (LS), de la hanche totale (TH) ou du col du fémur (FN) était significativement plus élevée dans le groupe des patients atteints du VHB par rapport aux témoins sains. Le taux d'ostéopénie et d'ostéoporose chez les patients VHB était significativement plus élevé que chez les témoins sains. Après ajustement en fonction de l'âge, du sexe, de la fréquence des visites médicales et des comorbidités telles que le diabète, l'hypertension, l'hyperlipidémie, l'insuffisance cardiaque, la cirrhose, les maladies

rénales chroniques, les maladies thyroïdiennes, la prise de stéroïdes, d'IPP, de warfarine, d'aspirine et d'œstrogènes de substitution. Les patients atteints d'une infection par le VHB présentaient un risque d'ostéoporose 1,13 fois plus élevé (IC à 95 % = 1,03-1,25), mais le risque de fracture ostéoporotique était comparable entre les patients atteints d'une infection par le VHB et le groupe témoins.

Conclusions: L'infection chronique par le VHB est associée à une faible DMO et augmente le risque de développer une ostéoporose ultérieure, mais l'infection par le VHB peut être moins influente que d'autres facteurs de risque. De plus, le VHB n'a pas d'effet néfaste sur les fractures ostéoporotiques dans cette étude.



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Comprehensive Strategies for Hepatitis B Virus (HBV) Prevention, Testing, and Treatment in Nairobi, Kenya

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Background: Hepatitis B Virus (HBV) remains a significant public health challenge in Nairobi, Kenya, contributing to high morbidity and mortality rates. Despite global advancements, effective prevention, testing, and treatment strategies tailored to the local context are essential for mitigating the HBV burden. This study aims to evaluate the current state of HBV prevention, testing, and treatment in Nairobi, identifying gaps and proposing actionable solutions.

Material and Methods: A mixed-methods approach was employed, combining quantitative data from hospital records, national health surveys, and epidemiological studies with qualitative insights from healthcare providers, patients, and community health workers. Key metrics included HBV vaccination coverage, testing rates, and treatment uptake. Qualitative data were gathered through semi-structured interviews and focus group discussions and analyzed using thematic analysis to identify barriers and facilitators in HBV management.

Results: The study revealed that HBV vaccination coverage among infants in Nairobi is at 85%, though adult vaccination rates remain critically low at 30%. Routine HBV testing is underutilized, with only 45% of at-risk populations receiving regular screenings. Major barriers identified include limited public awareness, stigma, inadequate healthcare infrastructure, and financial constraints. Treatment uptake among diagnosed individuals is also suboptimal, with only 50% of those eligible receiving antiviral therapy. Healthcare providers highlighted the need for

better training and resources to manage HBV effectively.

The findings underscore the necessity for a multifaceted approach to HBV management in Nairobi. Enhanced public education campaigns are crucial to increasing awareness and reducing the stigma associated with HBV. Expanding vaccination programs to include at-risk adults, improving access to affordable testing, and ensuring consistent treatment for diagnosed individuals are imperative. Strengthening healthcare infrastructure and training for providers can facilitate better disease management and patient outcomes.

Conclusions: Addressing HBV in Nairobi requires a comprehensive strategy encompassing prevention, testing, and treatment. Policymakers and healthcare providers must collaborate to implement these strategies, tailored to the local socio-economic and cultural context, to effectively reduce the HBV burden and improve population health.



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Unveiling the Silent Threat: A Focus on Hepatitis B Screening at Queen Elizabeth Central Hospital, Umodzi Family Centre Clinic, Blantyre, Malawi

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Background: Hepatitis B is a potentially life-threatening liver infection often lacking initial symptoms. Effective screening programs are crucial for early detection and intervention. This study aimed to evaluate the current status of hepatitis B screening at Queen Elizabeth Central Hospital (QECH) in Malawi.

Material and Methods: A retrospective analysis of medical records among recipients of care who were referred for hep B management at Umodzi family centre clinic was done. Data was collected from hepatitis B registers, laboratory registers and patient charts.

Results: This study evaluated Hepatitis B (HBV) prevalence among 2908 clients screened in Blantyre, Malawi, from January to May 2024. A total of 102 (3.5%) clients tested positive for HBV. Positive cases were predominantly adults (99%) with a higher prevalence among males (60%) aged 35-39 years. While 71% of positive cases were eligible for TDF/3TC treatment, limitations in diagnostic equipment (HBV DNA monitoring and liver biopsy) hindered further evaluation. Additionally, 34 clients presented with concerning signs (high APRI score or cirrhosis) and 4 confirmed cases of Hepatocellular Carcinoma (HCC) were identified.

Conclusions: The study highlights the significant burden of Hepatitis B at Queen Elizabeth Central Hospital, with a notable proportion of clients testing positive and requiring further management. The findings underscore the importance of robust screening programs for early detection and intervention. The initiation of treatment in many of the enrolled clients,

particularly those with high APRI scores and cirrhosis, demonstrates the critical need for continued efforts in Hepatitis B management. Overall, the study emphasizes the urgent need for enhanced screening, timely treatment, and effective management strategies to combat Hepatitis B in Malawi.



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Discrimination against people with chronic hepatitis B infection in Ibadan? Real or imaginary?

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Discrimination against people with hepatitis B infection could thwart the current global efforts at eliminating the infection as a public health threat in 2030. There is paucity of information on the frequency and nature of discrimination against people with chronic hepatitis B infection in Nigeria. The aim of this study was to determine the frequency and forms of discrimination against people with Hepatitis B infection in Ibadan.

This is a preliminary report of a mixed method cross-sectional study of subjects with chronic hepatitis B infection attending the University College Hospital, Ibadan. An interviewer administered questionnaire was used to obtain information on patients' biodata, frequency, and types of discrimination at home, workplace, and health facilities.

One Hundred and Sixteen subjects with chronic hepatitis B whose ages ranged from 22 to 74 years (mean 43 ± 10) were recruited. They comprised of 48% (n=56) males and 52% (n= 60) females. Of them, with 80% (n=91), 14% (n=16) and 6% (n=7) had tertiary, secondary and primary education respectively. While 55% (n=64) were on anti-viral medications, 45% (n=52) were not. Of the subjects, 29% (n=32) got to know of their status through antenatal screening, 17% (n=20) through attempt at blood donation, 13% (n=15) through periodic medical examination, 12% (n=14) through illness related investigations and 9.5% (n=11) through pre-employment medical screening.

Discrimination was reported by 17% (n=20) of the respondents and these included job denial in 6% (n=7), office discrimination in 2.5% (n=3), spouse sexual denial in 2.6% (n=3), divorce in 1.7% (n=2),

being jilted by suitors in 5.2% (n=6), discrimination from siblings in 2.6% (n=3), denial of school admission in 0.9% (n=1) and refusal of treatment in health facilities in 6% (n=7).

Discrimination against people with hepatitis B is common in Ibadan. Efforts should be made to reduce it so as not to discourage people from knowing their status and coming out for treatment.



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Promoting Access to Hepatitis Screening through Integrated Health Services Accessed by Underserved Communities at Health Posts through a Hub and Spoke Model in Central and Copperbelt Provinces of Zambia.

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Background: The USAID DISCOVER-Health project, implemented by JSI, supports the Ministry of Health (MoH) in providing equitable access to sustainable quality integrated health services for underserved communities in Zambia, by expanding the range of services available at the community health post level. Health posts are the smallest service delivery points providing basic unspecialized primary health services at the community-level. This observational study investigated the feasibility of sustainable integration of hepatitis screening and treatment services into primary health care services at the health post level in Zambia through the hub and spoke model.

Material and Methods: The project hired specialized health care professionals to work in a hub and spoke model, offering expanded integrated health services at health posts, while also transferring skills to their MoH counterparts to promote sustainability. A team comprises of healthcare workers trained in hepatitis screening and treatment, pre-exposure prophylaxis (PrEP) for HIV and maternal health services. Data collection and analysis was collected using Microsoft Excel.

Results: Prior to 2017 communities surrounding 66 observed health post were not able to access quality integrated hepatitis screening and treatment services in primary health care. By September 2023, communities around 66 health posts were able to access a range of quality integrated health services. 152,382 accessed PrEP

were also screened for hepatitis and 256,970 antenatal women were screened for Hepatitis. On sustainability 95% of services accessed were sustainable.

Conclusions: Sustainable quality integrating HIV prevention and treatment services into primary healthcare services at health post level is possible with support from skilled personnel through a hub and spoke model. This can lead to the provision of equitable and cost-effective health services closer to communities. The limitation of the study was data capture of those found having hepatitis and treated. It is recommended to mobilize resources to strengthen this since Zambia is an endemic country.



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Evaluation of Viral Replication in People Infected with Hepatitis B Virus in Bamako, Mali

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Background: The hepatitis B virus (HBV) is a hepatotropic recognized as a major public health problem worldwide and particularly in sub-Saharan Africa with thousands of early deaths linked to the consequences of liver disease. Since 2016, the WHO has adopted strategies for elimination by 2030, including diagnosis of the virus. In this context, it is important to have data on the level of viral replication in patients in order to direct their management as well as that of their entourages.

Material and methods: We assessed HBV viral load (VL) in HBsAg-positive patients recruited from 2 departments (CESAC, ambulatory and community health center and CHU-Point G). VL quantification was performed on plasma using a previously validated "in-house" qPCR technique.

Results: A total of 252 HBsAg-positive people benefited from this evaluation. Socio-demographic data showed that the average age was 36.46 years, with a majority age group (20-40) of 53.57%, 49.60% were women and 68.65% were married. Co-infected persons were 25.40% with HIV and 1.20% with HCV. Among the samples tested, 80.56% were successfully quantified by our in-house qPCR. The results showed that 58.62% had a VL < 2000 IU/mL, 21.18% with VL [2000-20000 IU/mL] and 20.19% with VL > 20000 IU/mL. A statistically significant relationship was observed between VL level and gender (66% in men and 34% in women with Pvalue = 0.0053). The 20-40 age group was more representative in all VL Categories.

Conclusions: Our study showed high HBV viral replication with VL > 20000 IU/mL in 34% of women and 66% of men. The 20-40 age group was the most important; this young, sexually active and mostly immunotolerant population is a vector of HBV transmission, hence the importance of targeted actions (adequate care, screening and/or vaccination of their entourages) in this population.



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Prevalence and Factors Associated with Liver Fibrosis among Adults with Chronic Hepatitis B Infection at Mbarara Regional Referral Hospital

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Background: The prevalence of chronic hepatitis B is high in low- and middle-income countries, with rates exceeding 8% in Sub-Saharan Africa. Liver fibrosis is a crucial stage in the progression of hepatitis B-related liver disease, leading to severe complications like cirrhosis and hepatocellular carcinoma. Transient elastography, a non-invasive test for detecting liver scarring, has improved liver fibrosis assessment, providing a practical alternative to liver biopsy. However, there is limited local data on the prevalence and determinants of liver fibrosis among adults with chronic hepatitis B infection using transient elastography.

The aim of this study was to determine the prevalence and factors associated with liver fibrosis among patients with chronic hepatitis B infection at Mbarara Regional Referral Hospital (MRRH).

Material and Methods: We conducted a cross-sectional study from November 2023 to March 2024 at the MRRH hepatitis clinic. We consecutively consented and enrolled patients aged ≥ 18 years who had persistent positive HepBsAg test for more than 6 months. Data on socio-demographic, comorbidities, laboratory parameters were collected and transient elastography was performed. Liver fibrosis was considered in patients who had liver stiffness measurement above 7 kPa. The prevalence of liver fibrosis was expressed as a percentage. We used logistic regression analysis to determine the factors associated with liver fibrosis.

Results: A total of 96 participants were consecutively enrolled. The median age was 33.5 (IQR 26-42.5) years, and 58 (69.4%) were males.

The median liver stiffness measurement was 6 (IQR 4.8-8.0) kPa. The prevalence of liver fibrosis was 35.5% (95% C.I, 26.4-45.5). Having hepatitis B viral load $\geq 20,000$ IU/ml (aOR, 10.9; 95% C.I, 3.2 - 37.2; $p < 0.001$), elevated ALT ≥ 42 IU (aOR, 9.5; 95% C.I, 2.2 - 39.4; $p < 0.002$), and duration of hepatitis B infection for 2 years or more (aOR, 5.0; 95% C.I, 1.6-15.2; $p < 0.004$) are the factors that were independently associated with liver fibrosis.

Conclusions: At MRRH, the prevalence of liver fibrosis among patients with CHB is 35.5% by transient elastography. Hepatitis B viral load $\geq 20,000$ IU/ml, elevated ALT ≥ 42 IU, and duration of hepatitis B infection for 2 years or more was associated with liver fibrosis. We recommend screening and close follow-up for liver fibrosis among patients with chronic hepatitis B with a viral load $\geq 20,000$ IU/ml and a duration of disease of 2 years and above.



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Insights from Implementation of Healthcare Worker HBV Vaccination in Kilifi, Kenya

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Background: Healthcare workers (HCWs) in Kenya have a high risk of exposure to Hepatitis B virus infection (HBV), however HBV vaccination coverage of HCWs is low with little central oversight. Kilifi County Hospital (KCH) is a referral hospital on the Kenyan coast, with no routine assessment of HBV vaccination status upon employment and many HCWs being unvaccinated. Objectives: We set out to i) assess current staff HBV vaccination levels at KCH, ii) provide top up HBV vaccination and iii) identify challenges in order to inform future programmes.

Material and Methods: Initial data on staff vaccination levels were collected from individual departments at KCH to guide procurement. All staff were invited to sign up for vaccination, aiming to prioritise patient facing HCWs. A vaccine clinic team was established, and a database created to record those attending. Non-clinical staff were employed to complete the database and schedule subsequent vaccine doses.

Results:

i) Vaccine rates were low: 234/315 (74%) staff reported never being vaccinated previously, 40/315 (13%) had one previous vaccine, 16/315 (5%) 2 previous vaccines and 25/315 (8%) reported being fully vaccinated.

ii) Between February - May 2024 inclusive, 315/588 (54%) staff received at least one HBV vaccine. Median age was 35 years (IQR 30 – 41 years) and most were female (195/315 (62%). The programme is ongoing, but by the time of reporting, 257/315 (82%) staff had received their first and second doses and are waiting for their third dose, and 39 people (12%) received third or booster doses.

(i) 19 staff (6%) did not attend for their scheduled dose, individual follow up is ongoing.

(ii) Of 253/315 staff with their department recorded, 203 (80%) were patient facing.

We encountered supply shortages for multidose HBV vaccines which delayed the programme and may lead to some staff being unable to complete their full vaccination course on schedule.

Conclusions: At KCH, we demonstrated HCW HBV vaccination is feasible within existing hospital infrastructure. Vaccination clinics were well attended, and dropout rates were low. Future similar programmes can build on our experience to ensure HCW protection against HBV. Secure HBV vaccine supply must be a priority for Kenya.



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HBV Screening and Vaccination for Partners and Children of HBsAg-Positive Pregnant Women Taraba State, North-East Nigeria

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Background: Hepatitis B virus (HBV) infection remains a significant public health concern in Nigeria, with a high prevalence rate in many regions. Pregnant women positive for hepatitis B surface antigen (HBsAg) pose a risk of transmitting the virus to their partners and newborns. This study aimed to assess the prevalence of HBV infection in partners and children of women who tested positive for HBsAg during antenatal care in Taraba State, Nigeria, and to evaluate the effectiveness of a targeted screening and vaccination program.

Material and Method: A cross-sectional study was conducted by Center For Initiative and Development in Taraba State from October, 2022 to August, 2023. Pregnant women attending antenatal clinics across 2 selected hospitals were screened for HBsAg. Partners and children of HBsAg-positive women were invited to undergo screening for HBV infection, including Hepatitis B e antigen (HBeAg), and HBV DNA. Hepatitis B vaccination was administered to susceptible individuals. Data were collected through interviews and laboratory testing, and statistical analysis was performed to determine prevalence rates and assess the impact of the screening and vaccination program.

Results: About 100 pregnant women tested positive for HBsAg participated in the study, 150 partners and children were also screened, 44% of partners and 16% of children were successfully screened, with HBsAg detected in 10.8% of partners and 12.5% of children. Among the pregnant women, 86 disclosed their HBV status to their partners. Adjusted analysis revealed that partner screening uptake was higher in married

couples (adjusted odds ratio [OR]: 2.71 [95% CI: 1.01-10.01]), those who attended women first post-test consultation (1.20 [1.01-1.90]), and partners informed of the women's HBV status (1.71 [1.32-3.88]). In children, HBsAg carriage was more prevalent in those born before the introduction of HBV vaccination in Taraba State (adjusted OR: 3.3 [95% CI: 0.40-11.00]), those whose mothers tested positive for HBV e antigen (HBeAg) (10.12 [3.21-12.95]), and those with HBV DNA levels $\geq 200,000$ IU/mL (12.05 [3.80-21.00]).

Conclusion: These findings emphasize the importance of improving awareness and access to HBV screening services, promoting open communication within families, and expanding vaccination coverage to reduce the burden of Hepatitis B transmission among the populations in Taraba State, Nigeria. Targeted interventions are crucial for high-risk populations, particularly children born before the introduction of vaccination.



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Empowering Communities in Nigeria: Overcoming Barriers to Hepatitis B Clinical Trial Participation to Facilitate Clinically Meaningful Treatment Outcomes

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Background: Across the World Health Organization's (WHO) regions, the African region accounts for 63% of all new hepatitis B virus (HBV) infections. Within this region, Nigeria has the highest prevalence, with over 14 million HBV infections, constituting 5.7% of the global disease burden. Despite this, Africa is significantly under-represented, with <1% of global HBV clinical trials (CTs) based in Africa. People living with hepatitis B (PLHB) in Nigeria must have the opportunity to participate in CTs to ensure the drugs developed are clinically effective and appropriate for affected populations. There are barriers impeding Nigerian PLHB's participation in CTs. This quantitative study aimed to identify existing barriers PLHB in Nigeria face regarding CT participation, and strategies to reduce identified barriers.

Material and Methods: A global online survey was available for 8 months in 2023. PLHB and those ≥ 18 years old were eligible to participate. The survey assessed knowledge about CTs, willingness to participate, and factors considered for CT participation. Using a subset of data, this study provides insights from 292 Nigerian respondents. Analysis utilized SPSS.

Results: Despite a high willingness to participate in CTs among Nigerians (65.4%), respondents identified multiple barriers. Barriers included difficulty contacting CT teams (30.1%), lack of trials in Nigeria (28.4%), perceived ineligibility to participate (2.7%), and low awareness of participation opportunities (1.3%). Of the 12.7% of respondents who had previously received information about CTs, < 1% received this information from community-based organizations.

Most received CT information from the internet (3.4%), followed by social media (1.7%), and healthcare providers (1.4%).

Conclusions: Educational interventions are needed to increase participation in CTs among PLHB in Nigeria. Targeted dissemination of CT information via the internet, social media, and health care providers can help address identified barriers. Strategies focusing on community-based involvement may also be effective and should include community health workers conducting on-ground engagement. Improving access to information and expanding tailored communication channels are important steps towards ensuring that CTs are inclusive and beneficial for PLHB in Nigeria, ultimately contributing to better management and potential cures for hepatitis B.



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Real World Clinical Experience of Chronic Hepatitis B Treatment in Ethiopia, Sub-Saharan Africa

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Background: About three hundred fifty to four hundred million people are infected chronically with hepatitis B worldwide and about 780,000 people die annually of its complications. Ethiopia is located in the region of hepatitis B hyper-endemicity ranging from, 8–12%. However, up to 17% of HBV, infected patients present for care late with liver cirrhosis in sub-Saharan Africa (SSA). Fortunately, antiviral therapy of CHB has shown to be effective in preventing complications and improving survival even at stage of early cirrhosis. Tenofovir disoproxil fumarate (TDF) is among the oral antiviral approved for the treatment of CHB. TDF treatment has shown to be effective in a wider pool of the CHB populations. Literatures indicate long-term TDF treatment was associated with sustained virologic, biochemical, and serologic responses.

Objectives: This study aimed to assess the outcome of TDF treatment of Chronic Hepatitis B patients at Adera Medical center in Addis Ababa, Ethiopia.

Material and Methods: A hospital-based retrospective cross-sectional study was employed. Hundred forty-four CHB patients on TDF treatment were enrolled from January 2021 to March 2022. Sociodemographic, clinical, and laboratory parameters were collected. The data was entered and analyzed using SPSS (SPSS, Version 23).

Results: The mean age of the participants is 35.52 ± 10.34 . Three fourth of the patients (76.4%) were males. Fifteen patients progressed to decompensation at the end of the study period. 93.1% of the participants were HBeAg negative, while 5.6% had attained loss of HBsAg on TDF. A significant association ($p < 0.01$) between APRI improvement, with the duration of treatment, and baseline viral load was found. Paired sample t-test

showed an improvement in the mean APRI score of 0.2 (CI: 0.07–0.367; $p < 0.01$).

Conclusions: TDF is safe and effective in reducing viral load and complications among our patients. Not only did it show benefits in improving liver parameters and suppression of viral load, but also it has attained a functional cure in some patients.



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Knowledge of Hepatitis B Viral Infection, Stigmatizing Attitude and Health Seeking Behaviour towards Hepatitis B Viral Vaccination among Women in Pregnancy

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Background: Hepatitis B Virus (HBV) is a highly infectious disease and a major global public health challenge among pregnant women, emerging evidence suggests poor knowledge and stigma are influencing HBV control efforts among pregnant women in Taraba State university community Nigeria. The study aimed to assess knowledge, stigmatizing attitude and health seeking behaviour towards HBV vaccination among pregnant women in Taraba State university community.

Material and Methods: A descriptive cross-sectional survey method was used to assess knowledge, stigmatizing attitude and health-seeking behaviors regarding HBV among 233 pregnant women in accessing ANC at the Taraba State University Clinic, Jalingo. Selection was through a simple random sampling where each pregnant woman who agree to participate in the survey had equal chance of being selected. Data was collected via well-structured Knowledge, Stigmatizing Attitude and Health-Seeking Behavior Self-Administered Questionnaire. A p-value of less than 0.05 was considered as statistically significant.

Results: Overall 49.8% had poor HBV knowledge while 51.3% expressed stigmatizing attitude. Results from Binary logistic regression identified predictors variables such as HBV knowledge and related stigma from the pregnant women enrolled (8.2% HBV positive and 10.3% vaccinated). Result also shows that 68.3% of the pregnant women were willing to receive HBV vaccine if offered while 78.1% were also willing to attend clinic

regularly. Poor HBV knowledge was associated with HBV negative status (aOR 2.23; $p = 0.012$) and being vaccinated against HBV (aOR 3.12; $p = 0.004$). HBV-related stigma was associated with secondary or higher level of education (aOR 1.90; $p < 0.001$), poor HBV knowledge (aOR 2.5; $p = 0.006$) and university community setting (aOR 2.03, $p = 0.007$).

Conclusions: Although many pregnant women expressed interest and willingness to receive HBV vaccine and attend clinic regularly, however, the overall pregnant women of Taraba State university community had poor HBV knowledge. However, most pregnant women with HBV expressed stigmatizing attitude. We therefore recommend improved health education on HBV among the university community pregnant women to increase their knowledge about HBV and stigma reduction to enhance health seeking behavior.



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The Role of People with Lived Experience in Supporting Hbv Prevention, Testing and Treatment

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Background: According to the World Health Organization's (WHO) 2024 Global Hepatitis Report, the fight against viral hepatitis is becoming increasingly challenging. Every day, there are 3,500 people dying globally due to hepatitis B and C infections, especially in Africa, where many people living with chronic hepatitis B and C reside. Tanzania exemplifies this challenge, with over 10% of its population affected. The need for comprehensive awareness, testing, and treatment efforts is paramount. In this critical context, the advocacy of individuals like Shaibu Issa, who have personally experienced the impact of hepatitis, plays a vital role.

Objective: Shaibu's advocacy had two primary objectives. First, he aimed to raise awareness about hepatitis through social media platforms, sharing personal stories and factual information to dispel myths and reduce stigma. Second, through physical campaigns in local communities, he sought to increase access to testing and treatment, particularly in underserved areas.

Material and Methods: a) Sharing Shaibu's Hepatitis Journey: Emphasize the importance of testing and early detection.
b) Community Outreach
c) Patient Support Groups Including Medical Personnel for Immediate Assistance When Concerns Arise
d) School and University Awareness Campaigns

Results: The social media awareness campaign impacts more than 1 million people across different social media channels such as twitter, Instagram, facebook linkedin and thread. School and college workshops influence people/students to get tested for hepatitis B, providing support to access vaccines and treatment.

Conclusions: This campaign highlights the power of a multidimensional approach. Social media effectively raised awareness on a large scale, The physical campaign such as school and universities, gained great impacts in hepatitis elimination. The Shaibu's personal story likely fostered connection and reduced stigma, while including medical personnel in support groups offered immediate aid for concerns.

The case of Shaibu Issa highlights the invaluable role of people with lived experience in driving change towards hepatitis elimination. His advocacy through social media and physical campaigns has not only increased awareness but also translated into tangible improvements in testing and access to treatment in Tanzania, Africa and entire world. This abstract underscore the broader significance of people with lived experience as powerful tool in global fight against hepatitis.



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Innovative Approaches to Improve Hepatitis Screening and Diagnosis in Underserved Communities

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Background: Hepatitis remains a significant public health challenge globally, affecting millions of individuals, particularly in underserved and resource-limited communities. Limited access to healthcare infrastructure, financial constraints, and low awareness of the disease contribute to delayed diagnosis and treatment in these populations. To address these challenges, innovative approaches to improve hepatitis screening and diagnosis are essential.

Objectives: This extended abstract outlines the critical importance of innovative approaches in enhancing hepatitis screening and diagnosis in underserved communities. The primary objectives are to explore various innovative strategies, assess their effectiveness through real-world case studies, and consider the broader implications for public health.

Material and Methods: A comprehensive assessment was conducted to identify innovative approaches to hepatitis screening and diagnosis in underserved communities. Studies and reports from the past decade were analyzed, encompassing research in areas such as point-of-care testing (POCT), telemedicine, community health worker programs, and mobile health units. The methods employed in these studies were assessed to understand their potential impact on improving hepatitis early diagnosis rates and reducing transmission.

Results: The research revealed several innovative approaches and their outcomes:

1. Point-of-Care Testing (POCT): POCT devices have been successfully deployed in resource-limited settings, offering rapid and cost-effective diagnosis. These devices have shown promise in increasing the early detection of hepatitis cases.
2. Telemedicine: Telemedicine platforms have facilitated remote access to healthcare

professionals for consultation, guidance, and interpretation of test results. This approach has bridged geographical barriers, enabling timely diagnosis.

3. Community Health Workers: Community health workers have played a pivotal role in raising awareness about hepatitis, conducting screenings, and facilitating linkage to care in underserved areas.

4. Mobile Health Units: Mobile health units equipped with screening and diagnostic tools have reached remote and marginalized communities, extending healthcare access where it was previously limited.

The results also demonstrated the effectiveness of these approaches in increasing hepatitis diagnosis rates, reducing transmission, and improving patient outcomes in various underserved communities. Moreover, cost-effectiveness analyses and scalability assessments were conducted to evaluate the long-term viability of these interventions.

Conclusions: In conclusion, innovative approaches to hepatitis screening and diagnosis are crucial for reducing the burden of this disease in underserved communities. By leveraging technology such as artificial intelligence (AI) and tailored healthcare delivery models, significant progress can be made in identifying cases early, providing timely treatment, and ultimately working towards the elimination of viral hepatitis in vulnerable populations. Lessons learned from successful implementations highlight the need for investment in these innovative strategies and AI and emphasize the importance of collaborative efforts among healthcare providers, researchers, and policymakers to address the unique challenges posed by hepatitis in underserved communities.



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Prevention, Testing and Treatment on Mother to Child Transmission of Viral Hepatitis B in Lagos State, Nigeria

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Background: Women in Hepatitis Africa WIHA, is a foundation set up with the mission to impact Women, Children and People of Africa with Awareness, Knowledge and Skills to enhance the Prevention, Detection and Treatment of Viral Hepatitis aimed towards the elimination agenda. WIHA has since inception screened 60,000 subjects of which 90% constitute women and children in the urban poor areas of the Country for hepatitis and facilitated linkages to care of patients who require care to various government hospitals. WIHA has consistently facilitated linkages to care by referring patients to Government facility who then administer missed vaccines to newborns and neonates in various suburbs of Makoko, Iwaya Lagos state, Nigeria. Through partnerships with various LCDA/Local Governments who provide the vaccines who are administered by delegated Nurses especially the Yaba LCDA and Iwaya. Women's Wellness Centre for Hepatitis WWC-H manages the PMTCT and referral to the Health System where necessary. WIHA is Empowering Women, Promoting Awareness, and Preventing Mother to Child Transmission and Assisting with Linkages to Care in Hepatitis.

Objective: To increase knowledge, awareness of prevention, treatment of hepatitis among different communities.

- To reduce liver cancer-associated death rates among babies and mother.
- To reduce mortality, morbidity and associated socio-economic impact of viral hepatitis in Africa.
- To increase literacy and improve health-seeking behavior community.

Material and Methods: This was a descriptive quantitative study. A total population sampling of 3,000 people living in Rural and Urban communities at different locations in Lagos, Nigeria was used as case study. A self-completion

Research Awareness Questionnaire (RAQ) was directed towards the number of screenings to determine the positively and negatively tested patients and measuring the level of advocacy and awareness of the communities about Hepatitis.

Results: Three thousand (3,350) persons tested for hepatitis in Lagos State, they were all within the age range of 10-40 years. This is in consonance with the reports of percentage of those tested positive on the mainland and Island in Lagos state. 12 of the participants from the mainland were positive with the total of 2,900 participants, 8 of the participants screened were positive out of 450 participants. The highest prevalence was among the people within the age range of 20-25 pregnant women in the community.

Conclusions: This abstract presents finding from multiple studies highlighting the effectiveness of vaccines and maternal screening in reducing the risk of "mother to child transmission" of about 60,000 for hepatitis B and 50,000 for hepatitis C. Additionally, we discuss the impact of breastfeeding recommendations for mothers with hepatitis.

The Prevention of Mother to Child Transmission of viral hepatitis PMTCT and hepatitis in children is an achievable goal through the implementation of evidence-based strategies which includes health education on how to prevent viral hepatitis and prevent the transmission from mother to child. Targeted maternal screenings are vital components of comprehensive promotion programs. Furthermore, proper breastfeeding counseling and education are crucial for infants born to mothers with hepatitis.



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Comorbidities Among People Living with HIV Attending HIV Clinics in Cameroon and Uganda

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Background: The burden of viral hepatitis infections alongside non-communicable diseases (NCDs) among Sub-Saharan African countries is likely substantial, but understudied. This study aimed to report the acceptability and feasibility of using plasma separation cards (PSCs) to screen for hepatitis B (HBV) and hepatitis C (HCV) infections and describes the prevalence of self-reported comorbidities among people living with HIV (PLVIH) in Cameroon and Uganda.

Materials and Methods: This is a cross-sectional study including 192 PLVIH recruited in Cameroon

(n=104) and Uganda (n=88) who attended HIV clinics and participated in an acceptability and feasibility study of PSCs to screen for HBV and HCV between 06/2021 and 03/2023. Basic sociodemographic information, including self-reported comorbidities, and whole blood samples were collected from all participants. Data were analysed using standard descriptive statistics with Stata v14.0.

Results: The overall HBsAg+ and anti-HCV+ prevalence was 11.1% and 1% among participants living with HIV, respectively. Twenty-five participants living with HIV (13.2%) self-reported being diagnosed with other diseases besides their HIV diagnosis, most of which were women (56.0%, p=0.705). Comorbidity with other diseases were significantly reported among PLVIH more frequently in Uganda than Cameroon (20.0% vs. 7.7%, p=0.013). The prevalence of self-reported NCDs was 8.47% among all participants living with HIV, corresponding to two thirds of all self-reported comorbidities. Reported NCDs included hypertension, diabetes mellitus, asthma, and migraine. The most prevalent NCD was hypertension, reported by 11 people (5.8% of all participants). Hypertension was reported by 75% of all participants living with HIV and self-reporting at least one comorbidity in Cameroon (N=6/8), and 31.3% in Uganda (N=5/16). The second most reported comorbidities were diabetes mellitus (DM) and ulcers, both reported by three participants in Uganda (N=3/16, 18.75%). Multimorbidity affected three people co-infected with HIV and HBV, of which one reported being also diagnosed with hypertension and two reported having ulcers. Further, one person living with HIV reported being diagnosed for both hypertension and diabetes.

Conclusion: Comorbidities were prevalent among PLVIH in Cameroon and Uganda, particularly with non-communicable diseases, and hypertension, which highlights the need to take a person-centred multi-disease approach to address overall health in resource limited settings.



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Hepatitis B Serology Testing and Vaccination for Healthcare Workers in the Gambia: A Pilot Study

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Background: Hepatitis B infection is a significant global health threat that contributes to the loss of healthcare workers (HCWs), threatening already precarious health systems.

Objectives: To determine the prevalence of hepatitis B among a subset of high-risk HCWs in a tertiary care hospital in Banjul, The Gambia.

Material and Methods: This was a cross-sectional pilot study conducted from the 12th -16th of June 2023. Participants were HCWs at high risk for blood exposure who completed a health history interview prior to serology testing for hepatitis B surface antigen (HBsAg) and hepatitis B surface antibody (anti-HBs) and vaccination.

Results: The pilot study enrolled 70 HCWs. They were primarily female 44 (62.9%) and Gambian 67 (95.7%). The majority of the participants 43 (61.4%) reported having taken at least one dose of the hepatitis B vaccine in the past. The overall prevalence of HBsAg positivity in this study was 3 (4.3%), all in the older (>33 yrs) cohort. Importantly, 42 (60%) of the participants had no anti-HBs detected.

Conclusions: This pilot study confirms a high prevalence of hepatitis B among the older cohort of healthcare workers. Among the majority of participants, no anti-HBs was detected. This suggests a serious vulnerability both for the individual health workers and collectively for the health system. This indicates the need for clear hepatitis B screening and vaccination policies among healthcare workers throughout The Gambia, especially those at the highest risk of exposure to blood or other potentially infectious material.



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Prevalence of Hepatitis B Infection among Pregnant Women at a Tertiary Hospital in Zambia

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Background: Hepatitis B virus (HBV) infection is one of the world's most serious public health problems causing significant morbidity and mortality. In 2022, an estimated 1.1 million deaths and 1.2 new infections were reported globally. Viral hepatitis in pregnancy poses a high risk of mother-to-child transmission and accounts for half of the transmission routes of chronic hepatitis. A newborn infant whose mother is positive for HBV has a 90% chance of developing chronic hepatitis b infection by age of 6. HBV infectivity is 100 times that of HIV, however; there is limited data on the prevalence of HBV among pregnant women in low- and middle-income countries. Therefore, we aimed to determine the prevalence of hepatitis B infection among pregnant women at Levy Mwanawasa University Teaching Hospital.

Material and Methods: We conducted a laboratory-based retrospective cross-sectional study involving 663 hepatitis B test records of pregnant women between January 2022 to December 2023. Demographic and clinical data were collected using a data collection form. Data was analyzed using STATA version 21 and descriptive statistics were the statistical methods employed.

Results: The median age among pregnant women was 28 years. The prevalence of hepatitis B infection was 2.7% (18/663) (95% confidence interval (CI) 1.6% to 4.3%). The majority (61.1%; 11/18) of pregnant women with hepatitis B were between the age of 18-34 years while 33.3% (6/18) were above 35 years of age and 5.6% (1/18) were below 18 years.

Conclusions: The prevalence of HBV at LMUTH in pregnant women was 2.7%; our finding was classified as medium according to the WHO classification. Thus, there is a need to increase HBV

screening and vaccination coverage for all pregnant women to reduce mother-to-child transmission. Further, there is a need to monitor newborn babies from HBV-positive mothers to reduce the chance of developing chronic hepatitis which might result in hepatocellular carcinoma.



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Assessment of the Regulatory and Technical Landscape of Clinical Trials in Nigeria: Insights to Improve Access to HBV Clinical Trials

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Background: Participant diversity in clinical trials contributes to holistic understanding of effectiveness and safety of new therapeutics. Despite the high burden of hepatitis B (HBV) infection in Africa, people living with the virus lack access to HBV clinical trials (CTs), and the continent is significantly under-represented in HBV clinical trials worldwide, accounting for < 1% of global HBV CTs. This hinders full assessment of the impact of new therapeutics on African populations and slows access to medical innovation. This study assesses the regulatory landscape of CTs in Nigeria, barriers to conducting CTs in Africa more broadly, and potential solutions to the identified barriers.

Material and Methods: A landscape assessment involving literature review, one-on-one interviews with key stakeholders in Nigeria, and review of the clinical trial registries in Nigeria was conducted. The assessment focused on identifying bottlenecks to conducting clinical trials in Nigeria, as well as potential facilitators.

Results: The assessment revealed clear regulated pathways for conducting CTs in Nigeria and highlighted the availability of well-equipped health and academic institutions to conduct those trials. Despite these capabilities, a review of the clinical trial registry in Nigeria revealed that no HBV CTs have been conducted since 2019.

Conclusions: Understanding the specific regulatory and technical environment in Nigeria is crucial for developing effective strategies to increase stakeholders' interest and participation in clinical trials. Nigerians have demonstrated a high

willingness to engage in HBV CTs, yet they currently do not have adequate opportunities to participate. Forming partnerships with international research organizations to facilitate knowledge transfer and technical support while utilizing existing medical and healthcare institutions can enhance the representation of Nigerian populations in HBV clinical trials, ensuring more inclusive and effective medical innovations.



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Management and Outcome of Hepatitis B Virus Infection at Livingstone University Teaching Hospital, Zambia

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Background: Hepatitis B is a leading cause of death, morbidity, and economic burden globally. As of 2018, Zambia had a 5.6% Adult Prevalence of Hepatitis B surface antigen (HBsAg)-positivity. However, the prevalence may be much higher than this figure seeing that there are usually no routine screening methods employed. Therefore, the main objective of this study was to evaluate the management and outcome of management of Hepatitis B infection at Livingstone University Teaching Hospital (LUTH), Zambia in the year 2021.

Material and Methods: The study recruited serologically confirmed 82 cases of HBV infection who were being attended to at LUTH as of 2021. The data was collected retrospectively using a data collection tool and statistical software used to analyze the data. Ethical approval was sought from the Cavendish University Zambia Research Ethics Committee and Livingstone University Teaching Hospital Administration.

Results: The study recruited 82 cases of confirmed Hepatitis B infection in the year 2021. Of the 82 37(45.1%) were females and 45 (54.9%) were males. This study also found that 47 (57.7 %) were co-infected with HIV while the other 37(42.3%) had no HIV co-infection. Additionally, the majority of the cases of HBV were asymptomatic (45.1%) at the time of diagnosis. Regarding the management of Hepatitis B infection, it was noted that 26% of the patients who were found with HBV infection were not offered test for host liver injury (ALT) for undocumented reasons. Viral Load testing was only offered to 4% of the total cases sample in this study while HBeAg was only offered to 2% of cases. On the other hand, the fibroscan was offered to 99%.

It was also observed that TDF based regimen was superior in preventing development of cirrhosis

compared to active surveillance. The risk of developing cirrhosis was lower in those that lived less than 10 years from the time of diagnosis compared to those that lived more than 10 years. Patients subjected to active surveillance had 2-fold risk of developing cirrhosis compared to those that were started on TDF based regimen.

Mortality in patients living the hepatitis B was more common in cases complicated with portal hypertension and hepatocellular carcinoma. It was noted in this study that portal hypertension increased mortality by 1.8 times compared to the patients without portal hypertension. HIV infection on the other was found to be protective against death related to HBV infections when compared to HIV negative patients (RR: 0.17).

Conclusions: It was found that TDF based regimen was superior in preventing development of cirrhosis compared to active surveillance. Additionally, this study showed that patients that have HIV coinfection were relatively protected against cirrhosis, and that cirrhosis in itself was a precursor for further complications like hepatocellular carcinoma and portal hypertension. The two complications, portal HTN and HCC are contributor to mortality in patient living with HBV. It is recommended that routine screening and appropriate management is put in place.



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Assessment on the Prevalence, Knowledge and Risk Factors Associated with Hepatitis B Infection among Adults at Nyasubi Ward, Kahama District in Shinyanga: A Cross-Sectional Study

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Background: Hepatitis B is a significant unaddressed clinical complication, primarily affecting low socio-economic groups in most African developing countries like Tanzania. Kahama District is among the high-risk areas. This research assesses the prevalence, knowledge, and awareness of Hepatitis B virus infection among adults in four streets within Nyasubi Ward of Kahama District in May 2024.

Material and Methods: I conducted a cross-sectional study among 895 individuals (27.9% males and 72.1% females) aged 18 and above. A detailed questionnaire, designed using KOBO TOOLBOX software and translated into Swahili, smart phones, pen, notebooks, and special numbered cards were main tools used to collect data from one household representative. The representative then underwent a Hepatitis B Virus rapid test using the finger prick technique at the nearest ward office. Testing center locations were chosen based on the geographical distribution of respondents. Although the CDC recommends a triple panel screening (HBsAg, anti-HBs, and total anti-HBc), only the HBsAg rapid test was conducted due to limited resources.

- Inclusion Criteria

- All adults willing to participate in the study living in any of the four respective streets within Nyasubi Ward.

- Exclusion Criteria

- Adults with a history of severe mental illness hindering participation.
- Individuals living in Kahama District for less than six months.

Results: The study showed that the overall prevalence of Hepatitis B viral infection was 2.3% among the 478 who arrived at the testing centres, out of the 895 respondents. 11 individuals tested positive (2.3%), while 467 tested negative (97.7%).

Recommendation: The findings call for interventions from governmental and non-governmental institutions to promote mass education, increase awareness, and spread knowledge about Hepatitis B viral infection. Additionally, more free screening programs should be initiated.

Conclusions: This research provides valuable insights into the general societal awareness and knowledge of the prevalence and risk factors for Hepatitis B viral infection. Among the 895 respondents interviewed, only 478 arrived at the testing centres. This indicates a lack of awareness, scarcity of nearby testing centres, and personal trust issues regarding the research, all of which are setbacks for the study's success.



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Introducing Sofosbuvir/Velpatasvir+Ribavirin as a Generic Retreatment Regimen for Hepatitis C: Evaluation of a Government Program in Rwanda

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Background: Approximately 5% of HCV patients fail initial direct-acting antiviral (DAA) therapy. The World Health Organization recommends sofosbuvir/velpatasvir/voxilaprevir for retreatment, but this costly drug is not available in low- and middle-income countries (LMIC). Retrospective data suggest high cure rates when retreating with sofosbuvir/velpatasvir+ribavirin (SOF/VEL+RBV). We describe results from a government SOF/VEL+RBVx24 weeks retreatment program in Rwanda, including feasibility, effectiveness, side effects, and patient outcomes.

Material and Methods: HCV patients with treatment failure following DAA-based regimens were eligible for Rwanda's retreatment program (November 2021-October 2022). Given ribavirin's teratogenicity, participants were counseled on pregnancy prevention. Clinical/laboratory assessments were performed at initiation/throughout treatment to assess drug safety. Trained clinicians monitored patients through sustained virologic response (SVR12) testing. Data were downloaded from routine government systems for analysis.

Results: 231 patients were included in the analysis: 149 (64.5%) were female, 166 (71.9%) were 60+ years, 21 (9.2%) were living with HIV, 16 (6.9%) were cirrhotic (defined by APRI and/or ultrasound). 84.4% were initially treated with sofosbuvir/daclatasvir. Using an intention-to-treat analysis, 174 participants were cured (75.3%), and per protocol analysis, 80.6% were cured. The most commonly reported side effects were fatigue (26, 11.3%), nausea (20, 8.7%), and headache (19, 8.2%) while the most commonly reported laboratory abnormality was anemia (decline in

hemoglobin by >2g/dL; 24, 10.4%), which has been previously described in the literature. 10 (4.3%) patients discontinued treatment due to anemia or other side effects.

Conclusions: SOF/VEL+RBV was safe and demonstrated relatively high effectiveness for HCV retreatment. This regimen may be considered as an alternative for retreatment in LMIC.



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Prevalence, Trends, and Distribution of Hepatitis C Virus among the General Population in Sub-Saharan Africa: A Systematic Review and Meta-Analysis

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Background: Although the evidence is uncertain, existing estimates for hepatitis C virus (HCV) in Sub-Saharan Africa (SSA) indicate a high burden. We estimated HCV seroprevalence and viraemic prevalence among the general population in SSA.

Material and Methods: We searched Ovid Medline, Embase, Web of Science, APA PsycINFO, WHO Africa Index Medicus, and reference lists of published systematic reviews. We included cross-sectional, cohort, and case-control community-based studies. Article quality was assessed using the Joanna Briggs Institute critical appraisal tool. Heterogeneity was evaluated using the index of heterogeneity statistic (I²). Two analytical approaches were deployed. Firstly, random-effects meta-analysis was used to pool overall and subgroup prevalence. Secondly, to derive representative overall and subregional estimates for SSA, we weighted each country's HCV

seroprevalence using 2021 United Nations country population sizes, using imputed seroprevalence estimates for countries with missing data.

Results: We synthesized 130 studies (129 for seroprevalence and 32 for viremia). Overall HCV seroprevalence from the random-effects model was 4.17% (95% confidence interval [CI]: 3.71-4.66, I²=99.30%). There were no significant differences between males (4.31%) and females (4.03%). Seroprevalence was 2.25%, 3.31%, and 16.23% for ages <20, 21-64, and >65 years, respectively, and was higher in rural (6.63%) versus urban (2.93%) populations. There was indication of a seroprevalence decrement overtime from 5.74% to 4.35% to 3.03% in the years 1984-2000, 2001-2014, and 2015-2023, respectively. The overall weighted SSA HCV seroprevalence was estimated to be 2.30% (95%CI: 1.59-3.00) with regional variation: Southern-Africa (0.79%), Central-Africa (1.47%), Eastern-Africa (2.71%), and Western-Africa (2.88%). HCV viremia was 54.77% (95%CI: 47.80-61.66) among HCV seropositives.

Conclusions: HCV seroprevalence in SSA remains high. Populations aged >65 years, rural communities, Western-Africa, and some countries in the Africa-Central and Africa-Eastern appear disproportionately affected. These results underline the need for high governmental commitment to achieve the 2030 global HCV elimination targets in SSA countries. Roles of the funding source: This research was funded by the NIHR (NIHR133208) using UK international development funding from the UK Government to support global health research. The views expressed in this publication are those of the author(s) and not necessarily those of the NIHR or the UK Department of Health and Social Care.



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Hepatitis C Missed Diagnostic Opportunities: The Role of Reflex Viral Load Testing in the Era of DAAs, a Descriptive South African Study 2017 – 2022

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Background: The hepatitis C virus (HCV) testing algorithm used in South African laboratories involves two tests; a serology test to detect anti-HCV antibodies and a confirmatory test to detect the presence of HCV viral RNA. These guidelines form part of the WHO strategy to achieve Hepatitis C Virus (HCV) elimination targets by the year 2030. These tests require the extraction of blood samples from patients from more than one hospital visit, consequently, patients are left with an inconclusive diagnosis for weeks. Data shows that approximately one-fifth of HCV-infected individuals know of their status. Ongoing risks to those unaware of their infection status include onward transmission and increased risk of cirrhosis, hepatocellular carcinoma, and liver failure. This study aimed to describe the proportion of HCV missed diagnostic opportunities at Charlotte Maxeke Johannesburg Academic Hospital from 2017 to 2022.

Material and Methods: This retrospective descriptive study was conducted using laboratory data obtained from the National Health Laboratory Services Corporate Data Warehouse within the public health sector in South Africa. Criteria for inclusion in this study were all HCV antibody-positive samples reported at CMJAH from the years 2017 – 2022 that received/had not received a follow-up HCV follow-up test. Ethical clearance was obtained from the Human Research Ethics Committee of the University of the Witwatersrand (M201074).

Results: A total of 25 676 patients were tested in the 6 years, and 677 tested anti-HCV positive

reporting (2,6% prevalence). The majority (68.24%) of the positive HCV antibody patients were males, and 2.06% of the patients were under the age of 16. The 17-35 age group reported the highest amount of HCV antibody patients. Noteworthy, only 3.54% of the patients with a reported anti-HCV positive result had a linked HCV RNA quantitative PCR test result, while 96.45% of HCV seropositive patients, did not receive a confirmatory PCR test. This supports our hypothesis that in clinical practice, the HCV diagnostic algorithm recommended by the WHO and by the South African Hepatitis Guidelines national guidelines are not adhered to.

Conclusions: This study proved that a large portion of patients are often lost to follow-up following serologic testing in the two-step diagnostic protocol. Reflex viral load testing is a feasible approach to simplify the HCV diagnostic process to achieve the elimination targets set by the World Health Organization for 2030. To note is the 2.6% HCV prevalence among people of all ages South African population.



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Treatment of Patients Undergoing Hemodialysis With Generic Sofosbuvir-Based Regimens for Chronic Hepatitis C

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Introduction, aims: Hepatitis C virus (HCV) infection is still frequent in the dialysis setting. Direct acting antivirals (DAAs) provide good results for the treatment of HCV in patients with end stage renal disease (ESRD) requiring maintenance hemodialysis (MHD), and they are well tolerated. The aims of this study was to assess the efficacy and the safety of locally manufactured generic SOF-based regimens in the treatment of CHC in patients with ESRD on MHD.

Patients and methods: We have conducted a retrospective multicenter study including patients on MHD treated with SOF-based regimens for HCV infection between 01/01/2017 and 09/30/2021 in 3 centers in Algeria. After a baseline assessment and management of drug-drug interactions, patients were treated 12/24 weeks, with SOF 400 mg+ Ledipasvir (LED) 90 mg in coformulation, 3 times /week after HD, or SOF 3 times /week + Daclatasvir (DCV) 60 mg/d, or SOF+DCV in coformulation, 1 tablet 3 times/week after HD. Patients with compensated cirrhosis or with G 1a pre-treated with Interferon-based therapy received DAAs for 24 weeks. Patients were regularly monitored, by clinical examination and lab tests, to assess the tolerance and the virological response. Sustained virological response (SVR) was defined as a negative HCV RNA test 12 weeks after the end of DAAs. The occurrence of serious adverse events (SAEs) during treatment defines intolerance to treatment. Statistical analyses were performed using SPSS software (version 25).

Results: One hundred twenty patients (n=120) were treated in the study period: mean age 50±14.17 y [18-78], 50% (n=60) were male.

Patients were previously treated (perylated interferon-ribavirin) in 18.3% (n=22). Lab test revealed: elevated ALAT 41.3%, thrombopenia 20.3%, HBV-coinfection in 3 patients. Mean eGFR: 6.93±1.98 ml/mn/1.73m². Genotype 1 was predominant (n=68; 82%) and the mean baseline HCV viremia was 2.161.294±4.864.542 IU/ml. Mean liver stiffness: 8.14±3.45 KPa. Most of the patients (n=53; 44.2%) had no significant fibrosis, 24 (20%) had cirrhosis. The SVR rate was 93.3% (95% CI: 88.8-97.8), (n=112), and SAEs rate 10.8% (95% IC: 0,054-0,166), (n=13), leading to treatment discontinuation in 5 cases. SAEs reported were unrelated to the antiviral treatment: Oesophageal variceal bleeding, malignant hypertension, septic arthritis and septicemia, pertrochanteric fracture, stroke, dyspnea/chest pain, in one patient each, and anemia ≥ grade III (n=10). Early treatment discontinuation (SAEs or lost of follow up) occurred in 5.8% (n=7) and relapse in one case (0.8%). there were 2 deaths unrelated to treatment.

On multivariate analysis, risk factors (RF) for SAEs were advanced liver fibrosis, thrombocytopenia, hypoalbuminemia, high bilirubin level and pre-treatment with Peg-INF. We could not identify non response RF (only one case).

Conclusion: locally manufactured generic SOF-based regimens are found to be safe and effective in ESRD patients on MHD, even if given three times a week. However, these patients must be closely monitored to manage the comorbidities and complications related to ESRD during the treatment.



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Viral Hepatitis B and C in Chronic Hemodialysis Patients in Cotonou and Abomey-Calavi in 2023: Epidemiological and Diagnostic Aspects

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Introduction: Hemodialysis patients constitute a population at risk of hepatitis B and C due to exposure to parenteral transmission. The aim of this study was to investigate the characteristics of viral hepatitis B and C among chronic hemodialysis patients in Cotonou and Abomey-Calavi.

Methods: This was a descriptive and analytical cross-sectional study conducted over a three-month period from September to December 2023 among chronic haemodialysis patients in three different haemodialysis centers in southern Benin. Subjects aged at least 18 years, treated by iterative hemodialysis for at least 3 months and having given their consent were included. All patients meeting the inclusion criteria were recruited. A rapid test was used to diagnose hepatitis B or C, and PCR was used to determine viral load. Results: A total of 205 patients were included in the study. The mean age of chronic hemodialysis patients was 52.1± 12.2 years, with extremes ranging from 23 to 85 years. They were predominantly male (65.9%), with a sex ratio of 1.9. Most patients had vascular (95.1%) and diabetic (15.5%) nephropathy. The prevalences of HBsAg and anti-HCV antibodies were 7.3% (15/205) and 10.2% (21/205) respectively. HBV DNA was detectable in all 15 patients with HBsAg, and HCV RNA in 14 of the 21 with HCV antibody. In multivariate analysis, the only factor associated with HBsAg was digestive hemorrhage ($p=0.046$), and that associated with anti-HCV Ac was the number of hemodialysis centers attended ≥ 3 ($p=0.049$).

Conclusion: This study shows that the frequency of viral hepatitis B and C remains high in chronic hemodialysis patients, especially those with a

history of digestive hemorrhage or who have attended at least 3 hemodialysis centers.



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A Decade Retrospective Study of the Genetic Diversity of Hepatitis C Virus in Cameroon 2013-2023

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Background: While treatment options for HCV have expanded considerably over the past decade thanks to the development of pan-genotypic therapies, genotype testing remains a prerequisite for treatment in sub-Saharan African countries, including Cameroon, where several HCV genotypes and subtypes exist. The main objective of the present study was to outline the trend in the distribution of HCV genotypes and subtypes from 2013 to 2023 in the Cameroonian population.

Material and Methods: Viral loads were determined using the Abbott Real Time assay, and genotyping/subtyping was based on nested and semi-nested RT-PCR of the core and NS5B regions, respectively, followed by sequencing and phylogenetic analysis.

Results: A total of 512 patients with NS5B and core sequencing results were included in our study. Genotyping revealed a predominance of both genotype 4 (38.48) and genotype 1 (37.11%), followed by genotype 2 detected in 22.46% of patients. Interestingly, ten samples (1.95%) had discordant genotypes in both regions, suggesting the presence of putative recombinant forms of HCV. Twelve different subtypes were detected during the study period, with a predominance of subtypes 4f (18.95%) and 1e (16.02%). Furthermore, phylogenetic analyses failed to assign a subtype to a relatively high proportion of sequences (38.67%) for the two genomic regions, and their classification was limited to genotypes. The frequency distribution of HCV genotypes showed no statistical difference according to year or sex.

Conclusions: These results confirm the genetic diversity of HCV in Cameroon. Further studies using new sequencing techniques are needed to better describe the molecular epidemiology of HCV in Cameroon.



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Hepatitis C Treatment Experiences and Risk Behaviour Changes among People Who Inject Drugs in Kenya: A Qualitative Study

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Background: Hepatitis C (HCV) disproportionately affects people who inject drugs (PWID). Despite availability of safe and effective treatment, HCV treatment access and uptake among PWID in low- and middle-income countries (LMICs) has been limited. Understanding the lived experiences of PWID in these settings who have undergone treatment offers insight on treatment implementation programs that best meet the needs of this population.

Material and Methods: We conducted in-depth semi-structured interviews from August to September 2019 with 35 PWID (Nairobi N=12 and Coast N=23) who received HCV treatment in Kenyan methadone clinics and drop-in centres (DICs). All the interviews were recorded and then transcribed in Swahili before being translated into English. Translated and transcribed interviews were coded for emerging themes by four coders.

Results: Three overarching themes emerged in our thematic analysis: 1) Financial constraints as a barrier to HCV treatment, “Sometimes I used to lack the fare and sometimes I used to feel so hungry that I could not take the medication;” 2) HCV-related stigma, “Initially people used to say that is only prevalent among the drug users. ... when we got the treatment slowly people started trusting us;” and 3) HCV treatment impacts on health and risk behaviours, “Other changes are on my body, got energy. ... I feel there are great changes because I work and earn my own living and be able to eat;” “You know when I started the treatment I stopped using drugs and I was told that sex is one mode of transmission and I started using condoms frequently not like before.” Despite

these barriers, treatment provided at no cost through our study, peer case manager support, and improved health and reductions in risky behavior's emerged as facilitators to and benefits of treatment.

Conclusions: These data signal unique challenges faced by PWID seeking HCV treatment in this LMIC setting and highlight the importance of interventions to reduce barriers to treatment. Sustainable and impactful HCV treatment programs must address the barriers patients face at multiple levels and implement system-level changes.



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An Evaluation of a Hepatitis C Core Antigen (HCV cAg) Test so To Simplify HCV Diagnostics

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Countries, worldwide, are improving on screening and diagnosing hepatitis C virus (HCV) infection so to eliminate hepatitis C by 2030. Considering that HCV antibody tests cannot differentiate between a current or past infection and usually a viral load or PCR is needed to confirm active viremia, there is a need to simplify diagnostics to get more people tested and less loss to follow-up. Hence, the aim of the study was to evaluate the HCV core antigen (HCV-cAg) assay as a marker of a current HCV infection.

Plasma samples from a retrospective patient study and proficiency samples were tested on a chemiluminescence immunoassay (CLIA) using the Architect HCV-cAg assay (Abbott Diagnostics, Wiesbaden, Germany). Performance (accuracy, sensitivity, specificity) of the Architect HCV-cAg assay was compared to the gold standard, real-time viral load assay (COBAS AmpliPrep/COBAS TaqMan HCV Quantitative test v2.0, Roche, Switzerland). Relationships between quantitative variables (viral load on CAP/CTM HCV and Fmol/L on HCV core Ag) were generated by linear regression, Bland-Altman and ROC curve analyses (MS Excel 2016).

HCV-cAg sensitivity, specificity and accuracy were 73%, 88% and 77%, respectively. Good correlation was seen between the two tests ($R^2 = 0.85$), with correlation for prevalent genotypes in the country ranging from 0.72 (genotype 1b) to 0.99 (genotype 1a). The ROC analysis showed an AUC value of 0.52415. Samples that were Gray-zone reactive (3–10 fmol/L), with viral load results of under 5000 IU/ml, were excluded from analyses.

In our setting of low HCV prevalence in the general population, HCV-cAg demonstrated a moderate sensitivity and good specificity as a marker for active HCV infection. Reflex testing using the HCV-

cAg assay can aid to confirm an active infection on an anti-HCV positive sample, using the same laboratory instrument.



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Identification of NS5B Resistance-Associated Mutations in Hepatitis C Virus Circulating in Treatment Naïve Cameroonian Patients

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Background: NS5B polymerase inhibitors form the basis of current treatment for hepatitis C virus (HCV) infection. Direct-acting antivirals (DAAs) offer high efficacy, low risk and short treatment duration. However, the existence of resistance-associated mutations, notably at the NS5B polymerase level, may attenuate the efficacy of DAAs. The aim of this study was to identify possible natural direct-acting antiviral (DAA) mutations in the HCV NS5B gene linked to DAA resistance in treatment-naïve Cameroonian patients with chronic hepatitis C.

Material and Methods: Blood samples and treatment data were collected from 925 HCV-infected patients at the Cameroon Pasteur Center between January 2013 and December 2023; plasma was then isolated and stored at -80°C for molecular analysis. NS5B gene fragments from 925 samples were amplified with specified primers and nucleotide sequences were obtained using the Sanger sequencing system. The drug resistance profile of the NS5B gene was analyzed using Geno2pheno [hcv] 0.92.

Results: A total of 925 HCV isolates from patients were classified into three genotypes, including genotypes 1, 2 and 4. Analysis of the NS5B sequence revealed numerous amino acid mutations. The significant S282T mutation, which induces a high level of resistance to SOF, was detected in one genotype 1 patient, while the NS5B C316N polymorphism, associated with resistance to HCV including SOF, was found in 16 genotype 1 sequences, the mutation associated with ribavirin resistance at positions Q309R was

detected in 19 genotype 1 sequences, and the polymerase inhibitor L320F mutation was found in one genotype 4f sequence. The following mutations were found to be linked to DAA resistance: E237G, M289L, A333V, D310N, V321A and V321I were found in our study in different genotypes. In addition, several other mutations were found in different positions of our sequences, such as 241, 300, 310, 316, 329, 330 and 333, whose clinical characteristics have not yet been studied.

Conclusions: Our study showed several different mutations in the NS5B gene in HCV patients who had not previously received DAA therapy. These mutations could increase the risk of therapeutic failure in the future.



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Hepatitis C Virus Infection in Pregnant Women in Mogadishu Somalia: A Seroepidemiological Study

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Background: Hepatitis C Virus (HCV) infection is serious global health concerns, affecting both developed and developing countries. The world estimated rate among pregnant female of HCV infection is between 1 – 8% with 3–10% perinatal HCV transmission to their offspring. Consequently, the pediatric HCV infection rate is very low in developed countries (0.05–0.36%), it increases to 1.8–5.8% in some developing countries. In 2018, a meta-analysis study showed that the overall prevalence of HCV infection among Somali people has been estimated at 4.84%, while recent studies of HCV infection are estimated 1.9% and 1.4%. No prior research exists on HCV in pregnant women that are available in Somalia after discovered HCV infection. Therefore; the aim of study is to determine the seroprevalence of HCV infection among pregnant women attending the largest tertiary care hospital in Somalia.

Material and Methods: This retrospective study was conducted between January 2017 and December 2021 on pregnant women who attended the Somalia-Mogadishu Recep Tayyip Erdoğan Training and Research Hospital, the largest tertiary hospital that provides referral-level care to Mogadishu and its catchment areas. The study was conducted following the Declaration of Helsinki and was approved by the Research Ethics Committee. The study reviewed electronic medical records of pregnant women at the hospital. The study variables included age, blood sampling year, and HCV antibody results. Those with missing /incomplete variables, who had a history of liver disease, diabetes, and HELLP syndrome were excluded from the study with descriptive statistical analysis. The detection of Anti-HCV was measured using Enzyme-Linked Immunosorbent Assay (ELISA) (VITROS® 3600) in the hospital's laboratory.

Results: Over a 5-year period, hepatitis C virus infection were requested from 7874 of pregnant women. 7791 pregnant women were tested for anti-HCV infection. The overall prevalence of HCV infection among pregnant women was 0.4% (33/7791).

Conclusions: This is the first study of hepatitis C virus infection among pregnant women in the country and it showed a low level HCV infection among pregnant women in the country. The risk of mother-to-child transmission (MTCT) is one of the most serious consequences of HCV infection in pregnancy. We advocate the need of screening policy and integrate with antenatal health care services as well as raising awareness about HCV virus infection.



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Une approche anthropologique des déterminants de la non observance thérapeutique chez les personnes vivant avec l'Hépatite B au Sénégal

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Contexte: Malgré les avantages d'un traitement antiviral régulier sur la progression de l'infection par le virus de l'hépatite B, l'observance semble sous optimale dans de nombreux contextes. L'objectif de cette étude était d'identifier et d'analyser les difficultés liées à l'observance au traitement antiviral chez les personnes vivant avec l'hépatite B dans la cohorte SEN-B au Sénégal.

Matériels et méthodes: Nous avons mesuré l'observance au traitement antiviral (TAV) chez les participants de SEN-B sous traitement depuis 6 mois et plus à l'aide d'un questionnaire. Des entretiens semi directifs ont été réalisés avec un échantillon de 26 participants ayant déclaré avoir manqué au moins 1 dose/semaine de TAV et qui ont été sélectionnés en fonction de l'âge, du sexe et de la durée du TAV. Nous avons procédé à une analyse thématique déductive des déterminants de l'observance, basée sur le modèle socio écologique de la santé, à l'aide du logiciel Atlas ti (v22).

Résultats: Sur les 26 personnes interrogées sur une période de 3 mois, 15 étaient des hommes. L'âge moyen était de 31 ans et la durée moyenne du traitement était de 19 mois. Près d'1/3 des participants (27%) étaient sous Ténofovir avant d'intégrer la cohorte SEN B.

Les difficultés d'observance au traitement étaient liées à des facteurs individuels, psychosociaux et structurels. Au niveau individuel, la non observance du traitement résultait de la non-acceptation du statut positif, de la crainte de la toxicité d'un traitement à long terme ainsi que le manque de moyens financiers pour l'achat de médicaments. Certains participants considéraient que leur état de santé n'était pas suffisamment grave pour justifier un traitement à long terme. Sur le plan psychosocial, la peur de la stigmatisation par le cercle familial et les amis, le manque de soutien émotionnel du conjoint/entourage ont conduit quelques participants à reporter la prise du médicament lors d'événements sociaux ou de voyages. À cela s'est ajouté les inquiétudes concernant la dépendance au médicament, les effets indésirables et l'oubli occasionnel. La charge de travail domestique évoquée par les femmes, les préoccupations concernant les effets du traitement pendant la grossesse, ont aussi été décrits comme facteurs d'interruption de prise de médicaments. Au niveau structurel, le processus de renouvellement de l'ordonnance, le remboursement des coûts et la non disponibilité du médicament dans la structure de santé représentaient des obstacles à l'observance. Enfin, une mauvaise communication soignant soigné sur les résultats des analyses biologiques ainsi que sur l'importance de la prise quotidienne ont été reportés.

Conclusion: L'analyse de la question de l'observance du traitement de l'hépatite B montre que les obstacles sont liés aux perceptions des personnes vivant avec l'hépatite B mais aussi aux pratiques des soignants et du système mis en place. Un traitement au long cours est porteur d'incertitudes de la part des personnes infectées. Pour favoriser l'observance thérapeutique, il est nécessaire de développer une communication claire sur le sujet, de former les soignants sur l'exigence de la position d'écoute dans la relation thérapeutique.



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Hépatite B-delta : aspects diagnostiques et thérapeutiques au Centre Hospitalier Universitaire Yalgado Ouédraogo de Ouagadougou (Burkina-Faso)

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Contexte: L'hépatite D est la moins fréquente mais la plus sévère des hépatites virales chroniques. Le VHD (virus de l'hépatite D) est un satellite du virus de l'hépatite B (VHB). L'infection par le virus de l'hépatite B est un problème majeur de santé publique. Dans le monde, on estime à 296 millions le nombre de porteurs chroniques de l'Ag HBs. Vingt pour cent des hépatites virales B chroniques évoluent vers une cirrhose. Cependant ce risque est augmenté en cas d'infection B-delta. La recherche du VHD est recommandée dans le suivi de tout patient ayant une infection chronique par le VHB. Le but de ce travail était d'étudier les aspects diagnostiques et thérapeutiques de l'infection B-delta.

Matériel et Méthode: Il s'agit d'une étude rétrospective réalisée de Janvier 2006 à Mars 2017. Ont été inclus, les patients porteurs du VHB et ayant une sérologie delta positive. La quantification de l'ADN du VHB a été réalisée par PCR (seuil de détection de 10 UI/mL) et celle de l'ARN du virus Delta par RT-PCR (seuil de détection de 100 UI/mL).

Résultats: Au total 499 patients porteurs du VHB ont réalisé une sérologie delta, elle était positive chez 11 patients (2,2%) dont 7 hommes. L'âge moyen était de $42,5 \pm 7,9$ ans. Tous les patients ont réalisé une charge virale B : elle était détectable chez 09 patients. La quantification de l'ARN Delta était détectable dans 06 cas sur 10.

Cinq patients (45,4%) avaient une répllication simultanée des virus B et Delta. Une cirrhose a été découverte chez 02 patients. Quatre des cinq patients traités par ténofovir, avaient une durée de traitement ≥ 03 ans et la réponse virologique complète (VHB) était obtenue chez tous (100 %). Un patient a été traité pendant 58 semaines contre le VHD. A l'arrêt du traitement, il avait une réponse virologique et biochimique partielle.

Conclusion: Notre étude a mis en évidence une prévalence faible de l'infection B-Delta. Les difficultés liées à la non disponibilité sur place des tests diagnostiques, à leur coût élevé ainsi qu'au coût de l'interféron pégylé constituent un véritable handicap pour la prise en soin de cette infection.



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Séroprévalence des hépatites B et C en République du Congo: Revue systématique et méta – analyse

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Contexte: L'objectif de cette étude est de déterminer la séroprévalence groupée de l'hépatite B et C en République du Congo.

Matériel et Méthode: Les études publiées rapportant la prévalence des hépatites B et C en République du Congo, ont été recherchées dans les bases de données de Google Scholar, PubMed et Scopus. Une équation de recherche a été bâtie à partir des termes suivants : 'prévalence', 'hépatite B' et 'Congo – Brazzaville'. Cette recherche a été complétée par une recherche manuelle en scrutant les références bibliographiques des articles sélectionnés. Les études observationnelles et transversales publiées entre 1982 et 2023 ont été incluses. Une méta – analyse utilisant le modèle random – effects a été utilisée pour déterminer la prévalence groupée des hépatites B et C.

Résultats: Au total 330 études ont été screenées, 47 études et 136569 patients étaient inclus. La prévalence globale de l'hépatite B était de 9% (IC95% : 8 – 11). La prévalence de l'hépatite B était de 9% (IC95% : 7 – 10) et 19% (IC95% : 13 – 25) respectivement à Brazzaville et Pointe – Noire. Chez la femme, pendant la grossesse la prévalence était de 6% (IC95% : 3 – 9) à l'accouchement 10% (IC95% : 7 – 13) et dans le post – partum de 7% (IC95% : 3 – 13). Parmi les donneurs de sang, la prévalence était de 8% (IC95% : 5 – 10) et la co – infection HBV/HIV était de 5% (IC95% : 3 – 7). Chez les patients hospitalisés pour maladie du foie, la prévalence était de 46% (IC95% : 29 – 63) pour l'hépatocarcinome et 41% (IC95% : 32 – 49) pour la cirrhose. La prévalence globale de l'hépatite C était de 5% (IC95% : 3 – 6). La prévalence de l'hépatite C était de 6% (IC95% : 4 – 9) et 5% (IC95% : 2 – 7) respectivement à Brazzaville et Pointe – Noire.

Conclusion: La prévalence de l'hépatite B et C est élevée en République du Congo. Ces données

incitent à des mesures de santé publique comme le dépistage systématique chez les femmes en âge de procréer qui fréquentent une structure de soins de santé primaire et les patients nouvellement dépistés VIH positive.



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Prévalences élevées des hépatites virales B et C dans la population générale du Haut-Ogooué, au Sud-Est du Gabon : difficultés pour l'élimination de ces infections d'ici à 2030 suivant les objectifs de l'Organisation Mondiale de la Santé (OMS)

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Contexte: Les hépatites virales (B et C) constituent un problème majeur de santé publique appelant à une réponse de toute urgence. C'est ainsi que l'OMS appelle à éliminer ces infections d'ici à 2030. Pour atteindre cet objectif, il faut d'abord dresser un état des lieux de ces infections virales selon l'OMS. Nous avons mené une étude dans le Haut-Ogooué au Gabon afin d'obtenir de nouvelles données sur la circulation et la prévalence de ces virus pour une meilleure prise en charge par les programmes nationaux.

Matériels et Méthodes: Les participants à l'étude étaient des personnes venues réaliser un examen de dépistage des infections aux hépatites virales au Laboratoire d'Analyses Médicales du Centre Interdisciplinaire de Recherches Médicales de Franceville, de Janvier 2019 à Mai 2021. Des échantillons de sang ont été prélevés et testés pour la présence de bio-marqueurs (anticorps et antigènes) à l'aide des TDR tel que Determine AgHBs 2 et des tests ELISA. La comparaison des infections en fonction du sexe a été faite à l'aide du test Chi-2.

Résultats: Au total, nous avons recruté 1410 participants avec un âge médian de 37 ans, IQR [29,47] dont 782/1410 (55,46%) étaient des hommes et 628/1410 (44,53%) étaient des femmes. Les prévalences des hépatites virales étaient 9,42% (133/1410) pour l'AgHBs et 2,83% (40/1410) pour les anticorps-anti VHC. La prévalence de la co-infection était 0,14% pour

AgHBs/VHC. La prévalence de l'AgHBs était plus élevée chez les hommes avec 11,1% ($p>0,01$) que chez les femmes. Tandis que, la prévalence des anticorps anti VHC était plus élevée chez les femmes avec 5,2% ($p>0,01$) que chez les hommes.

Conclusion: Notre étude a démontré une augmentation considérable de ces infections dans la population générale du Haut-Ogooué. Ces résultats montrent l'importance de revoir les stratégies de dépistage et de prévention au niveau du Gabon.



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Prévalence et caractérisation virale de l'hépatite B occulte chez les patients adultes en hémodialyse d'entretien dans un hôpital de référence au Cameroun

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Contexte: L'hépatite B occulte se caractérise par la présence d'ADN du virus de l'hépatite B (VHB) dans le sang ou le foie malgré l'absence d'antigène de surface du VHB (AgHBs) détectable par les tests sérologiques. Cette forme occulte de l'infection est encore peu étudiée au Cameroun. Les patients hémodialysés chroniques ont un risque élevé d'infection occulte par le VHB. Cette étude avait pour objectifs d'évaluer la prévalence dans ce groupe à risque au CHU de Yaoundé, capitale du Cameroun, et en étudier les caractéristiques virales, notamment les mutations du déterminant "a" de l'AgHBs.

Matériel et Méthode: Des patients en hémodialyse d'entretien au CHU de Yaoundé ont été recrutés. Les marqueurs sérologiques de l'infection par le VHB ont été détectés par immuno-chromatographie et par la méthode immuno-enzymatique ELISA. Les échantillons des patients AgHBs-négatifs ont été testés pour l'ADN du VHB par amplification d'une portion d'environ 786pb des régions Pré-S/S du génome du VHB par PCR nichée. Les échantillons positifs à la détection de l'ADN viral ont été séquencés par électrophorèse capillaire sur un analyseur génétique (3500 Genetic Analyzer, Applied Biosystems ; Life Sciences, Foster City, CA ; 08 capillaries. Les mutations du déterminant "a" de l'AgHBs ont été identifiées grâce à l'algorithme CLUSTAL W du logiciel BioEdit version 7.7.1

Résultats: 7,3 % (3/41) des échantillons étaient positifs pour l'AgHBs. L'ADN viral du VHB a été détecté chez 26,32% (10/38) des individus AgHBs-négatifs. Le génotype E prédominait dans les séquences analysées, et les mutations identifiées dans le déterminant "a" de l'AgHBs étaient P127L, Y134F et T140S.

Conclusions: Il semblerait que la prévalence de l'hépatite B occulte soit élevée chez les patients en hémodialyse de maintenance au CHU de Yaoundé, et que trois mutations du déterminant "a" de l'AgHBs, nécessitant une description plus approfondie, ont été identifiées.

Contribution: Les données d'incidence et de prévalence de l'hépatite B pourraient être sous-estimées en raison de l'accès limité au diagnostic par les techniques d'amplification des acides nucléiques dans notre contexte, en particulier chez les patients à haut risque de contamination.



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Prévention, dépistage, traitement de l'hépatite B : cas des personnes vivant avec le VIH et les travailleuses de sexes suivis à la SWAA littoral cameroun

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Contexte: L'hépatite virale est devenue un véritable problème de santé publique à l'échelle mondiale. L'infection chronique par les virus de l'hépatite B ou C, deux types des cinq types d'hépatite (A B C D E° est à l'origine de 95% des maladies et des décès prématurés liés à l'hépatite. On estime que 80% des personnes vivant avec ces virus qui sont couramment associés au VIH et aux IST, ne sont toujours pas diagnostiquées et n'ont pas accès à des traitements d'un prix abordable. Bien que la maladie soit évitable, l'OMS estime que 254 millions de personnes vivaient avec l'hépatite B chronique en 2022 et l'on dénombre 1.2 million de décès chaque année principalement par cirrhose ou par carcinome hépatocellulaire. En Afrique 91 millions de personnes vivent avec le virus de l'hépatite. AU Cameroun, selon le Ministère de la santé publique ,1.3% de la population souffre de l'hépatite C contre 8.3% pour l'hépatite B, faute de prévention et de compréhension de l'importance de la vaccination. D'où l'objet de notre étude Agir contre l'hépatite B et C, faire le dépistage et le traitement chez les adolescents et adultes vivant avec le VIH ; des travailleuses de sexes, suivi à la SWAA (society against Aids in Africa) littoral Cameroun.

Matériel et Méthode: Lors des causeries éducatives faites chez les personnes vivant avec le VIH et les travailleuses de sexes, des échanges ont été faits sur la définition de différentes hépatites, l'importance du dépistage . Une étude transversale a été menée sur 355 personnes vivantes avec le VIH âgé de 15 à 50 ans, de même que chez 70 travailleuses de sexe, de Janvier 2015 à Décembre 2023. Ceux sélectionnés ont subi le test de dépistage de l'hépatite et des infections sexuellement transmissibles. Ceux

déclarés négatif étaient accompagnés pour la vaccination et ceux positifs étaient initiés au traitement.

Résultats: Le dépistage de l'hépatite B et C a été fait auprès de 355 PVVIH et 70 travailleuses de sexe

-Travailleuses de sexe 70 ont été dépistées négatives seules 65 ont acceptées se faire vacciner pour un pourcentage de 92.85% de couverture vaccinale dans cette population.

-Personnes vivant avec le VIH, 355 personnes ont été dépistées :

* 05(01 homme et 04 femmes) soit 1.4% de cette population présente 02 Co infection VIH – HEPATITE C, suivi par le gastro entérologue, ont trouvés leur guérison totale.

*17(08 hommes et 09 femmes) soit 4.78% de cette population présente une Co infection VIH/HEPATITE B. Ils sont sous traitement ARV . -73 hommes (20.56%); 158 femmes (44.50%) ; 109 adolescent(e)s (30.70%) ont accepté une couverture vaccinale .

Conclusion: Nous constatons que les hépatites virales restent un véritable problème de santé publique et pour cela, des stratégies de sensibilisation et de dépistage doivent être mises en place au sein de la population pour baisser le taux de contamination. L'hépatite B est évitable par la vaccination. Les femmes devraient être vaccinées afin d'éviter la contamination néo fœtale. Pour réduire les risques d'infection et de propagation de l'hépatite B, il convient d'adopter des pratiques sexuelles à moindre risque .



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Portage and Screening for Viral Hepatitis B in Pregnant Women in Kinshasa, Democratic Republic of the Congo

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Background: Viral Hepatitis B remains a major public health problem because of its frequency and the costs involved. Objective: To determine the carriage and compare the different screening methods for hepatitis B infection in our environment.

Methods: This work is a descriptive cross-sectional study carried out in collaboration with four health institutions in Kinshasa: the Maternity of Kintambo, the General Hospital of Matété, the General Hospital of Makala and the General Hospital of Kinkole. The choice of centers was made randomly on the basis of women's attendance at the Prenatal Consultation (PNC) and the accessibility of the centers. All women who came to PNC during the period from June 1 to August 30, 2019 in the centers were included in the cohort after signing informed consent. The blood samples were collected by the technical team of the centers and transported in accordance with the cold chain at 4°C to the Laboratory for analysis. Each sample was tested for serological research for HBsAg antigen and ELISA Sandwich at the Central Veterinary Laboratory of Kinshasa.

Results: 204 consenting women participated in this study. The most represented age group is 19 to 25 years with 95 women (46.6%). 65 women (31.9%) were housewives. 70 women (34.3%) had the primary school education. 79 women (38.7%) were positive for HBV by HBsAg serology while 102 (50%) were positive by ELISA. The most infected age group was 19 to 25 years (42.1% by RDT and 52.6% by ELISA). More cases of infection were found among housewives (49.2% by RDT and 63% by ELISA) compared to other professions. 186 women had tattoos (91.2%) of which 38.7% were positive by HBsAg and 51% by ELISA. On the other

hand, 18 women did not wear a tattoo (8.8%) of which 38.9% were positive by HBsAg and by ELISA. 134 women had a history of blood transfusion (65.7%) of which 41% were positive by HBsAg and 56% by ELISA. On the other hand, 70 women had no history of blood transfusion (34.3%) of which 34.2% were positive by HBsAg and 38.6% by ELISA.

Conclusion: The study shows that hepatitis B does represent a public health problem among pregnant women in the city of Kinshasa. The seroprevalence of viral hepatitis B in pregnant women remains very high. ELISA appears to be a better technic for the diagnosis of HBV.

other hand, 18 women did not wear a tattoo (8.8%) of which 38.9% were positive by HBsAg and by ELISA. 134 women had a history of blood transfusion (65.7%) of which 41% were positive by HBsAg and 56% by ELISA. On the other hand, 70 women had no history of blood transfusion (34.3%) of which 34.2% were positive by HBsAg and 38.6% by ELISA.



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Caractéristiques diagnostiques, thérapeutiques et évolutives de l'infection chronique à VHB : étude transversale descriptive dans un hôpital de niveau tertiaire à Ouagadougou (Burkina Faso)

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Contexte: l'infection par le virus de l'hépatite B, avec une prévalence de 9,1% en population générale, responsable de cirrhoses et cancers du foie, demeure un problème de santé publique au Burkina Faso. Son élimination requiert des stratégies diagnostiques et thérapeutiques efficaces.

Objectif: décrire les caractéristiques diagnostiques et thérapeutiques de l'infection par le virus de l'hépatite B chez des patients suivis au centre hospitalier universitaire de Bogodogo.

Matériel et Méthode: il s'est agi d'une étude transversale descriptive conduite du 1er Août 2018 au 30 Septembre 2019. Les patients ont été recrutés au sein des services de Consultation externe et de Médecine Interne du CHU-B à Ouagadougou à l'aide d'une fiche de collecte des données sociodémographiques, diagnostiques et thérapeutiques. Ont été inclus les patients pris en charge pour une hépatite virale B diagnostiquée depuis au moins 6 mois.

Résultats: Sur quatorze mois, 192 patients ont été inclus. L'âge moyen était de 33 ans [18 et 77 ans] et le sex-ratio de 0,7. Les principales circonstances de découverte étaient le bilan étiologique d'une maladie chez 90 patients (46,9%), la consultation prénatale chez 67 femmes (34,9%) et le dépistage de masse pour 15 patients (7,8%). Les formes asymptomatiques, de découverte fortuite représentaient 51,7 % soit 101 patients. Ces bilans

ont été demandés à l'occasion d'une consultation prénatale (66,3%), d'un don de sang (10,3%) et d'un dépistage familial (8%). Il y avait une co-infection avec les virus de l'hépatite C et de l'immunodéficiência humaine, respectivement chez 5 (5,6 %) et 2 (3,2%) patients. Le traitement antiviral par ténofovir a été prescrit à 29,9% des patients.

Conclusion: le diagnostic et le traitement de l'hépatite virale B demeurent des défis à relever pour réussir la lutte contre cette infection. La prévention par la vaccination reste la méthode la plus efficace.



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Poor Performance of Quantitative Hepatitis Delta Virus Real-Time Polymerase Chain Reaction Assays

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Background: Despite the World Health Organization (WHO) establishing an international standard for hepatitis delta virus (HDV) RNA quantification in 2012, few commercial HDV RNA assays exist, and many in-house tests have shown poor performance. Conformance to CE-certified commercial assays effectively quantify HDV genotype-1, but there is limited data on HDV clades circulating in sub-Saharan Africa (SSA). Therefore, we aimed to compare the performance of four commercially available HDV qRT-PCR assays (Altona Diagnostics, PrimerDesign, Creative Bio Gene, and BioPremier).

Methods: The assays were selected based on: (1) responsiveness to requests (2) documented compatibility with the LineGene 9600 real-time PCR platform (3) accessible information in English. All the assays that were analysed in this paper were purchased and none of the manufacturers were involved in the evaluation and interpretation of the results. Anti-HDV testing was performed using the General Biologicals HDV Ab assay. Total nucleic acid was extracted from anti-HDV positive (n = 9) and negative (n = 10) plasma samples using the Daan Gene extraction kit. Sequencing was performed using the Oxford Nanopore Technology (ONT) platform, and HDV clades were identified using the Basic Local Alignment Search Tool (BLAST). We evaluated the sensitivity and specificity of the different qRT-PCR assays by

testing HDV positive and negative samples. Positive standards of each assay were diluted 10-fold and tested in duplicates to determine the PCR efficiency.

Results: We report good PCR efficiency ($\geq 96\%$) for $\frac{3}{4}$ of the assays, which is further supported by high R² values for all assays (Altona Diagnostics RealStar=0.9996, Biopremier=0.9976, Creative Biogene= 0.9963, and PrimerDesign=0.9943). Furthermore, $\frac{3}{4}$ of the assays correctly detected no HDV (100%) while the PrimerDesign HDV qRT-PCR assay recorded 20% false positives among anti-HDV negative samples. Sequence analysis revealed that all tested samples belonged to HDV-8. Sensitivity results show that only the Altona Diagnostics RealStar HDV qRT-PCR assay reported 100% sensitivity, while other assays recorded sensitivity values <20%.

Conclusion: The Altona Diagnostics RealStar HDV qRT-PCR assay recorded excellent sensitivity and specificity compared to the other assays hence can be used for HDV diagnosis. Future studies should focus on optimizing the detection rates of the qRT-PCR assays that recorded poor specificity and sensitivity values and include other HDV clades.



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Hepatitis B and C Viral Coinfections and Their Association with HIV Viral Load Suppression among Adolescent Girls and Young Women HIV Patients on Art in Ethiopia, 2023

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Background: Hepatitis B and C viral coinfections posed serious public health risks, especially in places where HIV was common. Understanding the frequency and risk factors of co-infections was critical for designing effective prevention and treatment methods in Ethiopia, where HIV and hepatitis were both widespread. Data that could inform population-specific treatments is scarce. In this study, we examined the seroprevalence of hepatitis B virus (HBV) and hepatitis C virus (HCV), as well as their relationships with HIV viral load suppression among adolescent girls and young women HIV-infected patients on antiretroviral therapy (ART) in Ethiopia.

Material and Methods: Blood samples were taken from 865 individuals from January to April 2023. The immunochromatographic test was used to screen samples for HBsAg and anti-HCV, which were then verified using the Enzyme-Linked Immunosorbent Assay (Beijing Wantai Co., China). The Abbott platform was used to quantify HIV-1 viral load via reverse transcription-polymerase chain reaction (RT-PCR). Potential predictors were identified using both binary and multivariable logistic regression.

Results: Overall, 15% and 7.3% of the patients had both HBV and HCV infections. A multivariate analysis found that illiteracy (AOR = 3.48; 95% CI 1.12-5.36), history of sexually transmitted infections (AOR = 5.23; 95% CI 2.13-9.12), and several sexual partners (AOR = 4.8; 95% CI 2.25-8.23) were associated with HBV infection. Participants with a history of chronic non-

communicable diseases (AOR = 4.21, 95% CI 2.61-9.23) and sexually transmitted infections (AOR = 4.34, 95% CI 1.63-8.25) were more likely to test positive for HCV. HCV infection was linked to a lower viral load suppression rate (AOR = 3.43; 95% CI 1.14-6.13), whereas no significant association was observed with the HBV infection.

Conclusions: In our study, the HBV coinfection rate is high, indicating a hyperendemic level according to WHO standards. The HCV coinfection rate is also very high, which warrants consideration considering its impact on viral load suppression in HIV patients on ART at our research location. Our findings highlight the importance of universal screening and vaccination of HIV-positive patients against HBV, as well as screening for HCV at our study site and throughout Ethiopia, to help Ethiopia meet the 2030 worldwide target of lowering HBV infection.



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Impact of Hepatitis on the Liver Health of People Living with HIV in Niger State, Nigeria

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Background: HIV-positive clients without ARV adherence are susceptible to Hepatitis B and Liver infection, Hepatitis B (HB) is the most common co-infection that can cause chronic liver inflammation, leading to liver fibrosis, cirrhosis, and liver cancer. Despite the foregoing, there is a paucity of data on Hepatitis B co-infection on HIV in Niger State, North Central Nigeria. Therefore, we sought to determine the prevalence of hepatitis B virus amongst HIV co-infected adults on ART based on data gathered from 11 treatment facilities across 10 LGAs where we implemented the Integrated Child Care and Social Services Award 3 (ICHSSA3) Project.

Material and Methods: A retrospective analysis of 300 HIV-positive adults with HB co-infection was conducted using data (2022-2024) from 11 healthcare facilities in Niger State. Demographic, clinical, and laboratory data were collected, including liver function tests (LFTs), viral load measurements, and CD4 counts. The people living with HIV were screened for HBsAg antibodies using a rapid enzyme-linked immunosorbent assay (ELISA) system, the reactive patients were further confirmed using third-generation ELISA.

Results: The study reveals a significant correlation between HBV and advanced HIV disease (CD4 count <200 cells/ μ L). Co-infection with hepatitis B virus (HBV) was common (40%), and TB/HIV co-infection was linked to increased liver enzyme levels. Notably, 60% of participants with liver disease had no symptoms, highlighting the need for regular monitoring.

Conclusions: This ex-post facto analysis of the ICHSSA3 project data highlights the complex relationship between HIV and HB Co-infection in Niger State. The findings underscore the importance of integrated care and monitoring for individuals with advanced HIV disease, HBV co-infection, and those receiving anti-TB treatment.

Regular screening and early intervention are essential to prevent liver disease progression and related mortality. The study's results inform strategies to mitigate the burden of HB co-infection among people living with HIV and improve health outcomes in this vulnerable population.



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The Impact of HIV Infection on All-Cause Mortality among Individuals Treated for HBV in Rwanda: A Population-Based Cohort Study.

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Background: Chronic hepatitis B virus (HBV) infection increases the risk of severe liver diseases such as cirrhosis, hepatocellular carcinoma, non-liver complications, and mortality. HIV co-infection contributes to the acceleration of liver disease progression, leading to greater mortality risk compared to HBV mono-infection. We evaluated the crude all-cause mortality rates among people with chronic HBV on treatment and assessed the impact of HBV/HIV co-infection on all-cause mortality.

Material and Methods: A retrospective cohort study was conducted using data extracted from the Rwandan District Health Information System 2, which includes information on HBV screening, diagnosis, treatment, follow-up, and treatment outcomes. Rwandans diagnosed with HBV infection, age ≥ 2 years, who received treatment between January 2016 and June 2023 were considered in the analysis. Individuals were followed from the HBV testing date until death or the end of the study period (June 30, 2023). We computed crude mortality rates and used multilevel Cox proportional hazard regression accounting for clustering by hospital adjusting for socio-demographic, and clinical characteristics to assess the impact of HBV/HIV co-infection on all-cause mortality.

Results: Overall, 4,849 people received HBV treatment during the study period (4,011 with HBV

mono-infection and 838 with HBV/HIV co-infection) and were followed for a median of 3.8 (interquartile range 2.8) years. During follow-up, 58 deaths occurred, yielding an overall crude mortality rate of 2.76 per 1,000 person-years (PY). The mortality rate for people with HBV/HIV co-infection was higher than that for those with HBV mono-infection (4.30 vs 2.30 per 1,000 PY, respectively). In the multilevel model, HBV/HIV co-infection was associated with a higher hazard of all-cause mortality (adjusted hazard ratio 2.00, 95% confidence interval: 1.02, 3.92).

Conclusions: Among people in Rwanda who received HBV treatment, HBV/HIV co-infection was associated with mortality risk. Moreover, HIV co-infection was associated with increased mortality risk. These findings underscore the critical importance of closer follow-up of individuals with HBV/HIV co-infection. Further studies could explore the role of HIV viral load suppression on all-cause mortality among individuals with HBV/HIV co-infection.



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Assessing the Association of HIV Coinfection Status on HBeAg Positivity in Persons Living with Chronic Hepatitis B in Africa: Evidence from HEPSANET

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Background: Co-infection of human immunodeficiency virus (HIV) and hepatitis B virus (HBV) occurs most commonly in sub-Saharan Africa and represents a clinically significant public health challenge characterized by increased risk of liver-related complications. One important aspect of HIV and HBV co-infection is its impact on the presence of hepatitis B e antigen (HBeAg), a viral marker associated with increased viral replication and immunotolerance. Further, compared to other regions, HBV in Africa commonly stops producing HBeAg in early adulthood for unclear reasons. Within a multi-regional African cohort, we assessed the association of HBeAg positivity with HIV status among persons with chronic HBV.

Material and Methods: Baseline data used in this study were collected across multiple sites within the HEPSANET collaborative network. Persons with chronic HBV living with HIV were matched 1:1 to persons with chronic HBV without HIV using propensity score matching. Sex, age, region, recruitment source, BMI and harmful alcohol use were included in the propensity score model. Nonparametric missing value imputation using random forest was used to impute missing data before matching. Persons were matched on the logit of the propensity score using nearest-neighbor matching and the propensity scores were estimated using a generalized additive model. Matching was performed without replacement. To estimate the association of HIV status with HBeAg positivity, we performed a logistic regression adjusting for sex, age and recruitment source (community versus hospital). Cluster-robust variance was used to estimate the standard errors.

Results: Our analysis included 148 persons living with HIV/HBV co-infection matched to 148 persons with HBV mono-infection. At baseline, the majority of participants (95%) were from Southern Africa, with a male representation of 52%. The median age was 38 (IQR: 34-40), with 74% falling within the 30-49 age range and 84% were recruited from hospital settings. Stratifying by HIV status; 73/145 (50%) of people with HIV had elevated ALT (≥ 30 IU/L (men) and ≥ 19 IU/L (women)) compared to 75/142 (53%) of people without it ($P = 0.76$), 27/121 (22%) of people with HIV had elevated HBV DNA level (≥ 2000 IU/ml) compared to 43/126 (34%) without ($P < 0.06$) and 29/136 (21%) of persons with HIV had cirrhosis based on LSM ≥ 9.5 kPa compared to 32/106 (30%) of HIV- persons ($P = 0.29$). Notably, HIV status was associated with increased odds of HBeAg positivity (AOR: 5.1, 95% CI: 2.6-10.2, $P < 0.00$). Furthermore, the average marginal effect of HIV on HBeAg positivity increased by 24% (95% CI: 15%-33%, $P < 0.00$) in persons with HIV/HBV co-infection.

Conclusions: People with HIV coinfection had increased HBeAg positivity in HEPSANET. Further understanding of how HIV modulates the natural course of HBV infection in Africa is needed.



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Immuno-Virological Status of People Living with HIV and Co-infected with Hepatitis B Virus under Antiretroviral Treatment

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Background: HIV co-infection can accelerate the progression of HBV disease. The objective of this study was to evaluate the immuno-virological characteristics of HIV-HBV co-infected individuals on ART six months after HBV diagnosis.

Material and Methods: This was a cross-sectional study conducted from September 2021 to April 2022 among people living with HIV followed at the Centre d'Écoute, de Soins, d'Animation et de Conseils (CESAC) in Bamako. It involved 78 adults with HIV who were screened for HBsAg. Immuno-virological analysis was performed on confirmed HIV-HBV co-infected cases who received therapeutic education about their co-infection. Variables such as age, sex, HBV and HIV viral load, and CD4 count were measured. The t-test or Mann-Whitney test was used to compare CD4 counts and treatment duration, and the Chi-square or Fisher's exact test for association measures.

Results: The average age of the patients was 45 ± 11 years. Females were predominant, accounting for 74.4% (58/78). The majority were on a first-line regimen based on Tenofovir, Lamivudine, and Dolutegravir (TLD), representing 84.6% (66/78). The treatment duration for patients on ART was > 12 months for 84.8% (66/78). The CD4 count was > 500 cells/mm³ in 74% of patients, with no statistically significant difference in CD4 count based on treatment duration ($p > 0.05$). HIV and HBV viral loads were undetectable in 89.8% (44/49) and 100% (56/56) of cases, respectively.

We found an association between treatment duration and the detection of HIV viral load at 6 months after HBsAg screening ($p > 0.05$).

Conclusion: This study demonstrated immuno-virological control in this cohort of patients six months after therapeutic education and awareness of their dual infection, crucial practices for improving clinical outcomes.

Keywords: HBsAg, HIV/HBV co-infection, CESAC of Bamako.



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High Seroprevalence and Factors Associated with Hepatitis B Virus Infection: A Snapshot from HIV-1 Infected Pregnant Women Population in Mtwara Region, Tanzania

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Background: Hepatitis B virus (HBV) infection is still a global public health problem. As of 2019, there were 296 million people chronically infected with HBV, resulting in nearly 1 million deaths from decompensated cirrhosis or hepatocellular carcinoma. Seroprevalence of HBV among pregnant women in Tanzania ranged between 3.8% and 8.03%. However, data on HBV infection in HIV-infected pregnant women is limited. We determined seroprevalence and factors associated with hepatitis B virus infection among pregnant women living with HIV (LWHIV) attending Prevention of Mother to child transmission (PMTCT) in selected health facilities in Mtwara region, Tanzania.

Material and Methods: A health facility-based quantitative cross-sectional study was conducted among pregnant women LWHIV attending PMTCT in selected health facilities in the Mtwara region. A structured questionnaire was used to collect socio-demographic characteristics, clinical, socio-cultural, and laboratory information (including syphilis, HIV viral load, and CD4 count results tested within 6 months). Blood specimens were screened for HBV and confirmed using rapid diagnostic tests and automated ELISA test (Abbot ARCHITECT-PLUS®i2000SR immunoassay analyzer, U.S.A.) respectively. Variables with p-value<0.05 were considered significantly associated with HBV infection in pregnant women LWHIV.

Results: We enrolled a total of 220 pregnant women LWHIV, with a median age of 32.7 years (IQR: 27.6-37.6). The seroprevalence of HBV infection was 10.5% (Chronic infection (10.0%), and acute infection (0.5%)). Multiparous women [aOR=11.99; 95%CI 1.11-129.01, p=0.040], being infected with syphilis [aOR=27.65; 95%CI 9.07-84.30, p<0.001], and having HIV-1 viral load of 1000 copies/ml and above [aOR=16.00; 95%CI 1.70-150.63, p=0.015] were associated with HBV infection.

Conclusions: Seroprevalence of HBV infection of 10.5% showed high endemicity. We recommend scaling up screening and vaccination programs including; routine HBV screening, and other opportunistic infections including syphilis at PMTCT clinics, instituting HBV prophylaxis, and introducing HBV vaccine birth dose in neonates born from infected mothers to prevent perinatal transmission.



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Acute Liver Failure Due to Complicated Dengue Infection in Resource-Limited Settings: A Case Report and Management Challenges

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Background: Dengue fever, a global arthropod-borne viral disease, poses a significant public health threat. Dengue-related acute liver failure (ALF), although rare, has been increasingly reported, particularly in regions affected by war and humanitarian crises. This case report presents a distinctive case of a 36-year-old female with ALF secondary to a complicated dengue virus infection, shedding light on the emerging complexities of dengue-related hepatic complications in Sudan.

Case Presentation: A 32-year-old female, post-cholecystectomy, exhibited confusion, fever, jaundice, and ecchymotic patches. Laboratory findings indicated elevated liver enzymes, coagulation abnormalities, and positive dengue virus antibody IgM. Managed in the High Dependency Unit, the patient responded positively to supportive measures, emphasizing the critical importance of early intervention.

Discussion: Despite ALF being a leading cause of death in dengue fever, its true incidence and underlying risk factors remain inadequately explored. Proposed mechanisms contributing to dengue-associated ALF encompass direct viral-induced apoptosis, ischemic hepatopathy, and hypoxia damage. The complex interplay of these factors and the absence of specific antiviral treatments underscore the challenges in managing dengue-related hepatic complications. Notably, the unavailability of N-acetyl cysteine (NAC) in the region raises questions about potential therapeutic interventions. NAC, with its antioxidative properties, has demonstrated efficacy in mitigating complications associated with dengue-related ALF in various cases. The absence of its administration in this case prompts consideration of regional disparities in therapeutic

options and underscores the need for broader access to potentially beneficial interventions.

Conclusions: This case highlights the potential for severe hepatic complications associated with dengue infection, emphasizing the need for early recognition and prompt management of acute liver failure in dengue patients. Supportive measures, including fluid management, electrolyte correction, and liver support, remain essential, while further exploration of N-acetyl cysteine (NAC) as a potential therapeutic agent is warranted



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Prevalence of HIV, Hepatitis B and Hepatitis C Viral Infections and Co-infections among Patients at Muhimbili National Hospital

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Background: Human Immunodeficiency Virus (HIV), and viral hepatitis (B and C) infections are significant public health problems worldwide, particularly in developing countries. In most cases these infections range from being subacute to asymptomatic, leading to late presentation to health facility, late diagnosis resulting into poor outcomes in terms of increased costs of management, morbidity and mortality. Early detection and interdisciplinary management are crucial in managing these infections and also reducing the transmission rate.

The study aimed to determine the prevalence of HIV, Hepatitis B and C viral co - infections among patients at Muhimbili National Hospital.

Materials and methods: This was a Hospital based cross sectional study, conducted among patients whose blood samples were processed at Central Pathology Laboratory at Muhimbili National Hospital. The study was conducted from May to July 2023. It was conducted among 355 patients attending the Muhimbili National Hospital for different reasons and different clinics. Serum was collected and tested for HIV, HCV and HBV using ARCHTECT ELISA machine platforms. Demographic information was extracted from Hospital Information Management System (JEEVA). Data entry and data analysis were done by IBM-SPSS version 26 and frequency distribution tables were used to present the results.

Results: A total of 355 participants were enrolled in the study, majority of participants fell within the 31 - 45 years age range 24.5%, while age group of 6 - 14 years was the least group with 5.4% of the participants. Male patients constituted 54.9% of the participants. Majority of the participants 59.2% hailed from Dar es Salaam. The overall prevalence of HIV infection was found to be (41/355) 11.5%,

the prevalence of Hepatitis B viral infection was (55/355) 15.5% while Hepatitis C infection had the least prevalence of (12/355) 3.4%. We also analyzed the prevalence based on residence, patients from Dar es Salaam showed a higher prevalence of these Viral Infections compared to those from outside the city, 27 patients tested positive for HIV infection, 32 HBV positive, and 9 for HCV infection, while for residents outside Dar Es Salam was 14, 23 and 3 for HIV positive , HBV positive and HCV positive infections respectively. Among participants who tested positive for HIV (18/41) 43.9% also tested positive for HBV infection, also among HIV positive (1/41) 2.4% tested positive for Hepatitis C. (1/18) 5.5% Among the participants who tested positive for both HIV and HBV, also tested positive for HCV. It was also found that patients who tested HIV positive had 5.86 times higher odds of testing positive for HBV, compared to those who tested negative, this association was analyzed and found to be significant with a p-value of <0.001.

Conclusions: Based on the results of this study, it is crucial for healthcare systems to focus on implementing strategies to reduce the transmission of these infections and to provide adequate care and support to those affected. This study emphasizes the necessity of several approach involving public education, mass screening and testing and access to appropriate medical interventions.



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Seroprevalence and Associated Risk Factors of HIV, Hepatitis B, HIV/Hepatitis B Co-infection among the Population Aged 15-64 Years: Evidence from the 2018 Cameroon Population-Based HIV Impact Assessment (Camphia).

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Background: Hepatitis B virus (HBV) can lead to both acute and chronic liver infections, especially among people living with HIV. Despite the availability of an HBV vaccine, there remains no cure for HIV. Thus, it is imperative to have data on the prevalence of Hepatitis B infection at the national level, especially among the sexually active population to inform and implement pertinent strategies that address the Hepatitis B related burden. This study aims to estimate the national prevalence of HIV, HBV, and HIV/HBV co-infections among adults aged 15-64 years and to identify associated risk factors.

Material and Methods: We used data from CAMPHIA, a national survey with two-stage cluster sampling and cross-sectional household-based approach, conducted between July 2017 and February 2018. The survey aimed to estimate national HIV and HBV prevalence and assess the uptake of HIV care and treatment services. Eligible participants were interviewed and tested for HIV using the national serial algorithm, with seropositive samples confirmed in a reference laboratory. A representative subsample was tested

for chronic active HBV. We estimated the prevalence of HIV, HBV, and HIV/HBV co-infection and explored associated risk factors using multinomial logistic regression.

Results: Of the 27,264 adults aged 15-64 years enrolled, the median age was 29 years [IQR: 21-40], and 50.9% were women. HIV prevalence was 3.7% (95% CI: 3.3-4.0), HBV prevalence was 8.3% (95% CI: 6.5-10.2), and HIV/HBV co-infection prevalence was 0.3% (95% CI: 0.2-0.4). Compared to people without any infection, males were more likely to have HBV (aOR: 2.2; 95% CI: 1.3-3.7) and less likely to have HIV (aOR: 0.5; 95% CI: 0.4-0.6) and HIV/HBV co-infection (aOR: 0.6; 95% CI: 0.3-1.0). Additionally, uncircumcised males had a lower likelihood of HIV infection (aOR: 0.4; 95% CI: 0.1-0.9). People who did not use a condom during their last sexual intercourse with a non-marital, non-cohabitating partner in the past 12 months were significantly more likely to be HIV/HBV co-infected (aOR: 4.5; 95% CI: 1.1-19.1). Furthermore, adults over the age of 45 were less likely to be infected with HBV (aOR: 0.3; 95% CI: 0.1-0.8) compared to adolescents aged 15-24 years.

Conclusions: The prevalence of HIV/HBV co-infection is low, while the prevalence of HBV alone is high. These findings highlight the significant burden of HBV in the general population of Cameroon and emphasize the urgent need to reinforce prevention strategies, including vaccine to fight HBV, specifically among adolescents. These efforts should complement current HIV prevention initiatives, especially in resource-limited settings similar to Cameroon.



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Determinants of Steatotic Liver Disease Among People With Hepatitis B With or Without HIV in Senegal and Uganda

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Background: The growing burden of steatotic liver disease (SLD) and its interplay with hepatitis B virus (HBV) and HIV infections remains poorly understood. We investigated SLD determinants among people with HBV (pwHBV), with or without HIV coinfection, from Senegal and Uganda.

Methods: HBV surface antigen (HBsAg)-positive individuals referred to tertiary clinics in urban Senegal and Uganda underwent vibration controlled transient elastography for liver stiffness measurement (LSM) and controlled attenuation parameter (CAP). SLD was defined as CAP ≥ 248 dB/m. Significant liver fibrosis and cirrhosis were defined as LSM ≥ 7.1 -11.0 and ≥ 11.0 kPa, respectively. Multivariable logistic regression estimated odds ratios (OR) and 95% confidence intervals (CI) for SLD.

Results: A total of 1,411 pwHBV were enrolled, including 910 in Senegal (54% female, median age 32 years and 13% with HIV-coinfection) and 501 in Uganda (52% female, median age 37 years and 52% with HIV-coinfection). Overall, 241 (27%) participants were overweight/obese (BMI ≥ 25 kg/m²) in Senegal, and 201 (40%) in Uganda. The median CD4 counts were >500 cells/uL, and the prevalence of diabetes was 3% at both sites. In Senegal, SLD prevalence was 11.8% in persons with HIV-coinfection and 8.5% in those without HIV, whereas in Uganda, it was 16.8% in those with

HIV and 11.8% in those without HIV. Among pwHBV with SLD, 14.4% had liver fibrosis or cirrhosis, compared to 15.7% without SLD. In multivariable analysis, factors independently associated with SLD included age ≥ 30 years (Senegal: OR 2.28, 95% CI 1.16-4.48; Uganda: OR 3.60, 95% CI 1.30-12.83) and overweight/obesity (Senegal: OR 7.43, 95% CI 4.24-13.02; Uganda: OR 8.88, 95% CI 4.46-19.17). In Senegal only, male sex was associated with SLD (OR 1.77, 95% CI 1.03-3.02).

Conclusions: SLD prevalence was low in Senegal and Uganda, and seemed slightly higher among persons with HIV coinfection. Obesity was a strong risk factor for SLD in both countries. Regional differences in anthropometrics and metabolic risks should be considered in evaluating SLD etiology and natural history in SSA.



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HIV and Hepatitis B and C Co-Infection among Members of the Key Population Attending One Stop Shop in North-Eastern Nigeria.

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Background: This study assessed co-infection of HIV and Hepatitis B and C among members of the key population attending One Stop Shop (OSS) in North Eastern Nigeria. Hepatitis A and B co-infection among people living with HIV are public health challenges that account for an increasing degree of morbidity and mortality. The new data from UNAIDS show that around 70% of new HIV infections occur among key populations and their partners (WHO, 2022). In most countries, limited access, inadequate coverage and poor quality of services for key populations continue to undermine responses to HIV, viral hepatitis and STIs. Understanding the changing epidemiology, clinical manifestations, and new approaches to treatment and prevention continues to be important in the care of people living with HIV.

Materials and Method: A cross-sectional study to assess co-infection of HIV and Hepatitis B and C among 96 members of key population enrolled in care at Taraba State was analyzed. Data for the 96 enrolled members of the key population were obtained from DHIS2 management software system from January 2024 to April 2024. Chi square test was conducted to assess relationship between demographic variables and screening outcomes.

Results: From the data obtained, the prevalence rate of hepatitis B and C stood at 6.2% and 5.2% respectively. PWID typology had the highest prevalence rate of hepatitis B and C with 2.0%. Hepatitis B and C is more prevalent among male with 4.2% and 4.2% respectively.

Conclusion: The study shows that there is a co-infection of HIV and Viral Hepatitis existing among members of the key population.

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Prevalence of HIV/HBV/HCV and Risk Factors Associated with HIV in PWID, Maputo-Mozambique, 2023-2024

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Background: The Bio-Behavioral Survey (IBBS) on People Who Inject Drugs (PWID) is the second to be carried out in Mozambique after the first round in 2014. One of the main objective of this survey is to bring the Prevalence of HIV (Human Immunodeficiency Virus), HBV (Hepatitis B Virus) and HCV (Hepatitis C Virus) and risk factors associated with HIV.

Material and Methods: Cross-sectional quantitative study composed of 500 participants using reference chain sampling (RDS). Rapid testing (HIV, HBV and HCV) was carried out on site using algorithms approved by MISAU. The data were organized in Excel and analyzed using R statistical package.

Results: 1496 invitations were distributed to participants, of which 533 were screened for eligibility (36% return rate) and of those, 522 were written for the survey (98% eligibility rate). The average age was 29 years old and the majority were male (77%) Portuguese was the main language, representing around 69%. Almost all had Mozambican nationality (98.1%) and 89.7% had Maputo City as their main residence. 57.7% had secondary education and 72.2% were single. The prevalence of HIV, HBV and HCV were 28.16%, 4.42% and 18.11%, respectively. 1.15% were co-infected with HIV/HBV, 9.42% with HIV/HCV and 0.19% with HIV/HBV/HCV. Of the HIV-Positive participants, 63.64% said they had ever shared a needle/syringe and of those, 41.76% had shared it in the last 30 days (36.84% very often and 44.73% sometimes). Regarding condom use, 46.43% stated that the last time they had sex they did not use a condom.

Conclusions: The Prevalence of HIV, HBV and HCV were 28.16%, 4.42% and 18.11%. About co-infection, 1.15% had HIV/HBV, 9.42% HIV/HCV and 0.19% HIV/HBV/HCV. More than half of the HIV-Positive participants (63.64%) had ever shared a needle/syringe and 46.43% and sex without condom.



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Hepatitis Co-infections and Liver Disease in Kisumu, Kenya: A Comprehensive Assessment

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Background: Hepatitis co-infections, particularly with hepatitis B virus (HBV) and hepatitis C virus (HCV), significantly exacerbate the burden of liver disease globally. Kisumu, Kenya, faces unique challenges due to high prevalence rates of both HBV and HCV, compounded by socio-economic factors and limited healthcare resources. This study aims to comprehensively assess the impact of hepatitis co-infections on liver disease in Kisumu and identify key interventions to mitigate their effects.

Material and Methods: A cross-sectional study was conducted involving participants from diverse demographic backgrounds in Kisumu. Serum samples were collected and tested for HBV surface antigen (HBsAg) and anti-HCV antibodies using standard serological assays. Clinical data, including liver function tests and medical history, were also collected. Statistical analyses, including chi-square tests and logistic regression, were performed to assess the association between hepatitis co-infections and liver disease outcomes.

Results: The study revealed a high prevalence of hepatitis co-infections among participants in Kisumu, with a substantial proportion exhibiting evidence of liver dysfunction. Notably, co-infection with HBV and HCV was associated with more severe liver disease manifestations compared to mono-infections. Additionally, socio-economic factors such as poverty and limited access to healthcare services were identified as significant determinants of disease progression.

Conclusions: The findings underscore the urgent need for targeted interventions to address hepatitis co-infections and liver disease in Kisumu. Strategies should focus on enhancing access to affordable diagnostic and treatment services, implementing vaccination campaigns, and promoting community-based interventions to

improve awareness and prevention efforts. Furthermore, addressing underlying socio-economic disparities is crucial for reducing the burden of liver disease in this population. Future research should explore innovative approaches to improve screening and management of hepatitis co-infections, as well as evaluate the effectiveness of integrated care models in resource-limited settings like Kisumu.

This study highlights the complex interplay between hepatitis co-infections, socio-economic factors, and liver disease outcomes in Kisumu, Kenya, and provides valuable insights for informing public health policy and practice in similar settings worldwide.



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Is HBV Care and Control among HIV-HBC Co-infected Patients Attending HIV Treatment Centres in Nigeria Optimal?

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HBV-HIV co infection is common in Nigeria. While the care of mono-infected HBV patients largely resides in the tertiary hospitals, that of the co-infected patient resides largely in the HIV national treatment centres which are domiciled in different tiers of healthcare. There is paucity of information on the quality care and control of HBV infection in the HIV treatment centres in Nigeria.

The aim of this study was to determine the quality of care and control of hepatitis B infection among HIV/HBV co infected patients attending two HIV treatment centres in southwest, Nigeria.

This was a cross-sectional study conducted in two HIV centres who have been involved in HIV care since 2003. Information on the duration in the HIV programme, type and date of commencement of ART, biodata, awareness of their hepatitis B status, Hepatitis B evaluation, screening, and surveillance for hepatocellular carcinoma were obtained. Each patient had e antigen, antibody to e and HBV DNA quantification done.

100 subjects with HBV/HIV co infection were recruited, 40% were from a centre domiciled in a mission hospital while 60% were from the centre domiciled in a tertiary government owned hospital. They comprised of 42 % (42) males and 58% (58) females. Their ages ranged from 23 to 69 years with a mean of 43.9± 0.9, median of 42.80 and mode 37 years.

The subjects have been in the HIV program for duration ranging from 1 to 18 years with a mean of 8.35± 0.4 years. Of them, 77% were on tenofovir disoproxil fumarate, lamivudine and dolutegravir while 12% were on tenofovir disoproxil fumarate, lamivudine, and atazanavir/ritonavir. All of them had either tenofovir and or lamivudine in their

drug combination. While all the subjects knew they were positive for HIV, only 24% knew they were positive for HBV. Out of the 24% of subjects that knew about their HBV infection, only 14% got to know through the HIV program. The remaining 10% got to know outside of the HIV program.

While all the participants knew they were taking medications for HIV, only 22% knew that the medications were also effective against the HBV. The majority (85%) had never received any HBV related counsel. Only one subject has ever done HBV DNA quantification. None of the participants has ever had screening or surveillance for HCC. Hepatitis e antigen was found in 11% while its antibody was found in 59% had antibody. There was no significant relationship between sex ($p=0.7$), drug regimen ($p=0.8$), duration in the program ($p=0.8$) and the HBeAg status. HBV DNA quantification was undetectable in 77%, detectable but less than 2000 IU/ml in 15% while in it more than 2000 UI/ml in 8%. There was no significant relationship between HBV DNA count and sex ($p= 0.9$), HBeAg antigen ($p=0.6$), drug combination regime ($p=0.5$).

HBV care and control in HIV/HBV patients attending two HIV program centres in Nigeria are suboptimal. There is a need to step up HBV care among HIV/HBV co infected patients in HIV treatment centres in Nigeria.



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Sero-Prevalence of Hepatitis B and Hepatitis C among Adults with HIV at Livingstone Teaching Hospital Zambia

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Background: Globally, about 400 million and 180 million people are infected with Hepatitis B (HBV) and Hepatitis C (HCV) infections respectively. Both infections account for 60% of liver cirrhosis and 80% of hepatocellular carcinoma and cause one million deaths worldwide mostly in poor countries. It has been estimated that about 30% of people with HIV are infected with HBV or HCV worldwide; however, there is limited data on the burden of HBV or HCV among adults with HIV in sub-Saharan Africa. The objective of the study was to determine the sero-prevalence of HBV and HCV infections among people living with HIV (PLWH) at Livingstone University Teaching Hospital, Livingstone Zambia.

Material & methods: We conducted a cross-sectional among 265 PLWH. A structured questionnaire was used to collect demographic characteristics and blood samples were collected for analysis of Hepatitis B surface antigen (HBsAg) and HCV antigen. Data were analyzed using STATA version 15. Descriptive statistics were used.

Results: The study participant age ranged from 21 years to 78 years with a median age of 47 years and the majority was females (63%). The prevalence of HBV and HCV was 3.8% (n=10, 95% confidence interval (CI) 1.8% to 6.8%) and 1.1% (n=3, 95%CI 0.2% to 3%) respectively.

Conclusions: There was moderate prevalence of 3.8% HBV and 1.1% HCV among people PLWH. However, if left untreated increases the risk of liver cirrhosis and hepatocellular carcinoma. There is need to regularly monitor the Hepatitis profile among HIV individuals so that antiretroviral therapy that also targets HBV and HCV is given to those with the hepatitis virus and avoid liver complications.



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Knowledge and Awareness of Hepatitis Viruses among Adolescents and Young Adults on Lifelong Antiretroviral Therapy in Keffi, Nasarawa State, Nigeria

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Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV), and Hepatitis C Virus (HCV) are blood-borne pathogens that commonly lead to chronic infections. Coinfections with these viruses are prevalent due to their shared modes of transmission, particularly among vulnerable populations such as People living with HIV (PLWHIV). The impact of coinfections is compounded by the hepatotoxic effects of antiretroviral therapy (ART), which can exacerbate liver-associated morbidity and mortality in these patients.

This cross-sectional study aimed to evaluate the knowledge and awareness levels of hepatitis B and C viruses among adolescents and young adults (15-24 years old) on lifelong antiretroviral therapy in Keffi, Nasarawa State, Nigeria. A total of 127 participants from three major healthcare facilities were surveyed using a structured questionnaire.

Results revealed a concerning trend, with 103 (81%) respondents exhibiting poor knowledge scores regarding hepatitis co-infections. Additionally, only 36% of participants demonstrated awareness of hepatitis B and C. Significant associations were found between awareness of hepatitis B & C and factors such as educational background, previous participation in health screenings, and vaccine awareness (p -values < 0.05). Notably, respondents with good knowledge scores of hepatitis B expressed a preference for social media as a platform for health information dissemination ($p=0.03$). Furthermore, only 4 (3.1%) of participants had completed the three doses of the hepatitis B vaccine, with 9 (7.1%) yet to receive full vaccination.

These findings underscore the urgent need for targeted educational interventions, increased healthcare engagement, and enhanced vaccination coverage to mitigate the burden of hepatitis co-infections among this vulnerable population in Keffi, Nasarawa State. Effective strategies for health communication, leveraging digital platforms, and strengthening vaccination programs are essential for improving knowledge, awareness, and preventive behaviors in this context.



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Hepatitis B Awareness in Niger State, Nigeria: A Critical Public Health Concern

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Background: Hepatitis B virus (HBV) infection is a significant public health concern in Nigeria, particularly among young adults. Hepatitis B is a preventable infection with transmission of the virus through sex, by blood and from mother to child during childbirth. Young adults are prone to some of these risk factors, yet data on awareness and knowledge of hepatitis B among them is still limited in Nigeria and none from our locality. Despite the availability of effective vaccination, HBV transmission continues to occur, largely due to poor awareness and knowledge.

Material and Methods: A cross-sectional survey was conducted among 250 young adults aged 18-35 years in Niger State, using a structured questionnaire to assess their awareness, knowledge, and vaccination status.

Results: The study revealed a concerning lack of awareness and knowledge about Hepatitis B among young adults in Niger State. Of the 250 respondents studied, only 70 (28%) of participants knew hepatitis B was a viral infection. 20 (8%) of the respondents knew HBV could be prevented through vaccination 70% of the respondents were unaware of the importance of vaccination. Alarmingly, 48 (69%) of participants believed that HBV was solely a sexually transmitted disease. 80% thought it was a minor health issue and did not about the available treatment options. 85% had never been screened for HBV. Only 5% had received the complete three-dose vaccination, and 10% were yet to get fully vaccinated. The educational background of the respondents significantly correlated with the level of awareness of HBV. Awareness was high among persons of higher education. HBV awareness and knowledge were also associated with previous participation in health screening and vaccination. Also, 98% of the respondents believed that public education campaigns, community engagement and

integrated healthcare services are necessary to improve HBV awareness in the State.

Conclusions: The findings indicate a significant knowledge gap regarding Hepatitis B among young adults in Niger State, Nigeria. Urgent public health interventions, including awareness campaigns, education programs, and vaccination drives, are necessary to address this critical public health concern. Healthcare providers, policymakers, and community leaders must collaborate to improve HBV awareness and control in the state.



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Epidemiological Shift of Hepatitis a Causing Diagnostic and Treatment Challenges in Ethiopia: A Need for Guideline and Vaccine

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Background: Hepatitis A is an acute viral infection of the liver caused by hepatitis A virus (HAV) that is acquired through the feco-oral route. It is ranked first in terms of incidence rate among the four major acute forms of viral hepatitis (A, B, C, and E) and usually occurs in early childhood. However, the prevalence acute hepatitis A has recently increased among teenagers and young adults, and it is usually misdiagnosed. This study emphasizes the significance of awareness among healthcare workers about the increasing incidence of acute hepatitis A among this group to ensure accurate diagnosis and appropriate management.

Material and Methods: A hospital-based retrospective cross-sectional study was employed. Fifty-eight confirmed acute HAV patients who visited Adera Medical and Surgical Center (AMSC) between August 2023 and January 2024 were enrolled. Sociodemographic, clinical, and laboratory parameters and documented management data, including hospitalization and any trial of antibiotic treatment before considering HAV or in the course of the illness, were collected. The data were entered and analyzed using SPSS (SPSS, Version 26.0).

Results: The sex ratio was similar, with a slight male predominance (M/F = 1.07). The mean age [\pm SD] of the patients was 19.3 [\pm 8.8] years. Thirty-nine (67.2%) of the patients were students, and all of the patients were from Addis Ababa. Vomiting (82.8%), anorexia (70.7%) and yellowish discoloration of the eyes (62.1%) were the most common presenting symptoms, while icteric sclera 44 (75.9%) and epigastric tenderness 17 (29.3%) were the most common physical findings. More than half of the patients (55.2%) were initially misdiagnosed with typhoid fever (TF) (46.8%),

peptic ulcer disease (PUD) (31.2%) or urinary tract infection (UTI) (15.6%). All patients recovered fully, and liver function tests (LFTs) normalized with supportive care within 2-4 weeks.

Conclusions: This study revealed a high incidence of HAV among adolescents and young adults (mean [\pm SD] age 19.31 [\pm 8.8] years), with more than half of the patients (55.2%) initially being misdiagnosed with TF, PUD or UTI, causing diagnostic and treatment challenges. This necessitates heightened awareness among healthcare workers and the public. Early HAV diagnosis through targeted laboratory investigations and avoiding unnecessary antibiotics are crucial for effective management and prevention via hygienic and immunization strategies.



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Uptake of Hepatitis B Vaccination among Health Care Workers within Rangwe Sub County, Homabay County, Kenya .

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Background: Hepatitis B Virus (HBV) infection affects the liver and can result to acute or chronic liver disease. Health care workers (HCW) are more likely to acquire infection than the general population. It is transmitted by exposure to infectious blood, through mucosal splashes or needle stick injuries. An effective vaccine is available and recommended for the primary prevention of HBV among all HCWs.

Objective of the study was to determine proportion of health care workers vaccinated against Hepatitis B as well as factors associated with adequate vaccination coverage in health facilities within, Rangwe Sub county Homabay County, Kenya.

Material and Methods: A cross sectional descriptive study was conducted among consenting HWCs working in 27 Health facilities between March 2024 and April 2024. A google form questionnaire was designed to capture data on social demographic characteristics, vaccination history, cadre. Information of possible factors for access such as risk perception, availability of the vaccine, cost, policy and management support were also collected.

Results: Of the 263 expected responses, 209 (79.5%) responses were received. Majority, 142 (67.9%) males with median age of 30 years. Only 2(1%) were medical officers ,125(59.8%) were nurses,17(8.1%) were lab officers, 37(17.7%) were clinical officers,10(4.7%) were pharmtechs,5(2.4%) were public health officers,9(4.3%) were HTS 9(4.3%) and remaining were social workers. All (100%) agreed that they were at risk of infection but only 23 (11%) were fully vaccinated. All (100%) they noted lack of policy guidelines on hepatitis B infection and no hospital management support in availing the vaccine. Further,

194(92.8%) noted that the vaccine was not available at the facility while 204(97.6%) indicated that the vaccine was expensive.

Conclusions: Hepatitis B vaccine coverage among HCWS was low, an indication that a large proportion of them are at risk of getting infected with hepatitis infection when they have contact with potentially infected patients.



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Knowledge, Attitude, and Behaviour of Healthcare Workers Towards Hepatitis B Vaccination at a Children Hospital, Lagos Nigeria

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Background: Hepatitis B is a major global health problem with associated short and long-term sequelae with consequential increased risk of end-organ liver damage and untimely death. It is caused by hepatitis B virus (HBV) which is a DNA virus and highly contagious. Hepatitis B vaccine has been identified as a safe and effective tool with 98% to 100% protection following complete vaccination. In Africa, chronic hepatitis B affects over 60 million with at least 200,000 deaths a year despite the availability of diagnostic tools and effective treatment. Sub-Saharan Africa is endemic for HBV with an overall estimated seroprevalence of 6.1% HBsAg positivity.

Healthcare workers are at risk of infection through exposure to blood or contaminated body fluids and should be vaccinated. Measures reducing the global burden of the disease and the aftermath entails continuous evaluation of knowledge, attitude, and behaviour about Hepatitis B infection. Thus, the study aims to assess the knowledge, attitude, and behaviour of healthcare workers (HCWs) toward Hepatitis B infection and vaccination.

Material and Methods: This descriptive cross-sectional observational study was carried out at the Massey Street Children's Hospital in Lagos State, Nigeria involving consenting healthcare workers (HCWs) providing services to the Paediatric population using a stratified structured online survey questionnaire. The responses were reported in percentages and proportions.

Results: Seventy-three healthcare workers were recruited across the different cadres. The mean age of the participant was 35 years with a male-to-

female ratio of 1:4. 83.6% of the participants have heard of hepatitis B infection before the study. The route of transmission identified for acquiring the disease among the participants was described as blood and blood products, sharing of sharp objects, and sexual intercourse were 89%, 57.5%, and 45.2% respectively while 16.4% and 15.1% were incorrectly identified as fecal-oral and drinking contaminated water routes of transmission respectively. Concerning the prevention of hepatitis B infection, 90.4% identified vaccination as the main strategy. However, 47.9% have ever received the hepatitis B vaccine, out of which only 27.4% completed the vaccination schedule.

Conclusions: The knowledge of hepatitis B infection and awareness of the hepatitis B vaccine among participants was high with less than a quarter of the HCWs completing the two doses of vaccination. Therefore, there is a need for health education and information dissemination to help improve health and promote efforts at reducing the global burden of hepatitis B infection.



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Measuring Stigma Associated with Hepatitis B Virus Infection in Sierra Leone: Validation of an Abridged Berger HIV Stigma Scale

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Stigma associated with hepatitis B virus (HBV) is common in endemic countries; however; instruments are lacking to accurately measure HBV-related stigma. We therefore aimed to develop and validate a concise instrument for measuring perceived HBV-related stigma in Sierra Leone. We enrolled 220 people living with HBV (PWHB) aged ≥ 18 years from August to November 2022. The initial Likert-scale instrument entailed 12 items adapted from Berger's HIV Stigma Scale. We included four additional items adapted from the USAID indicators for enacted stigma. The proposed scale's psychometric properties were assessed.

After item reduction, the final HBV Stigma Scale consisted of 10 items and had good internal consistency (overall Cronbach's $\alpha = 0.74$), discriminant, and construct validity. Exploratory factor analysis produced a three-dimensional structure accounting for 59.3% of variance: personalized stigma driven by public attitudes (six items), negative self-image (two items), and disclosure concerns (two items).

Overall, 72.8% of respondents reported perceived HBV-related stigma (mean score 29.11 ± 4.14) and a similar proportion (73.6%) reported at least one instance of enacted stigma. In assessing criterion-related validity, perceived HBV-related stigma correlated strongly with enacted stigma ($r = 0.556$) and inversely with having family/friends with HBV ($r = -0.059$). The 10-item HBV Stigma Scale

demonstrated good internal consistency and validity and is suitable for screening for HBV-related stigma in Sierra Leone. The psychometric properties of the scale can be optimized with item additions/modifications and confirmatory factor analysis. The scale may help in combating stigma as a barrier to achieving HBV global elimination goals.



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Pioneering Progress: A Groundbreaking Evaluation of Hepatitis B and C Testing and Treatment Capacities in Akwa Ibom and Nasarawa States, Nigeria

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Background: Hepatitis B and C infections pose significant health threats in Nigeria, contributing substantially to morbidity and mortality rates. Despite the country's extensive healthcare infrastructure, effective testing and treatment for these infections face challenges due to limited resources, insufficient health system support, and inadequate access to healthcare services, particularly in rural areas. This study aims to assess the current capacities for hepatitis B and C testing and treatment in Akwa Ibom and Nasarawa States, focusing on facility capabilities, resource allocation, and service delivery.

Material and Methods: A groundbreaking descriptive cross-sectional study was conducted from April 2022 to February 2023, encompassing 129 health facilities across Nasarawa and Akwa Ibom States, Nigeria. These facilities included primary, secondary, and tertiary health centers providing HBV and HCV testing and treatment services. Data were meticulously collected from laboratory personnel through pre-tested structured interviewer-administered questionnaires configured on Android tablets using the SurveyCTO platform. The study targeted medical microbiologists, medical laboratory scientists, and medical laboratory technicians with at least five years of experience conducting HBV and HCV testing. Data analysis was conducted using SPSS Version 25 to evaluate testing capacities and strategies for HBV and HCV services.

Results: The study uncovered significant disparities in hepatitis testing and treatment capacities between the two states. In Nasarawa, primary

health care centers were the main providers of viral hepatitis services, while in Akwa Ibom, services were predominantly offered in secondary health facilities. Alarming, only 40% of facilities in Nasarawa and two in Akwa Ibom had budget allocations for hepatitis testing. Most services were funded out-of-pocket, with government health insurance covering only 28% of costs. Despite facilities being capable of performing up to 500 serology tests daily, the average daily testing capacity for HBV and HCV remained vastly underutilized, averaging only 21 for HBV and 22 for HCV. Stockouts and inadequate staffing were identified as major barriers to service provision.

Conclusions: This pioneering assessment sheds light on critical gaps in the infrastructure and support for hepatitis B and C testing and treatment in Nigeria. Despite the availability of facilities, the underutilization of testing capacities and reliance on out-of-pocket expenditures continue to hinder effective hepatitis control efforts. Urgent measures, including enhanced government funding, improved supply chain management, and expanded programmatic support from stakeholders, are imperative to bridge these gaps and achieve the WHO's viral hepatitis elimination targets by 2030. Addressing these challenges is paramount for improving access to and quality of hepatitis care in Nigeria, particularly in resource-limited settings, and sets a precedent for innovative approaches to healthcare evaluation and improvement.



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Operational Considerations for Implementing a Triple Elimination Program for HIV, HBV and Syphilis among Pregnant Women: Outcomes of a Baseline Assessment at a Secondary and Tertiary Facility in Nasarawa State, Nigeria

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Background: Vertical transmission accounts for a generation of newborns living with HIV infection, chronic hepatitis B virus (HBV), and congenital syphilis. Cumulatively, these three infections account for 2.3 million deaths annually. This analysis showcases the outcomes of a situational assessment to guide implementation considerations for the triple elimination of HIV, HBV, and Syphilis in antenatal clinics (ANC) in Nigeria.

Material and Methods: Using a checklist, a situational assessment was conducted at specialized ANC in one tertiary and one secondary facility in Nasarawa state from January to December 2023 to: [1] map out service pathway and availability of HIV, HBV, and syphilis services [2] service cost and out-of-pocket payments, [3] assess healthcare worker knowledge, attitudes, and practices. We conducted a retrospective audit of ANC registers on testing volumes and management approaches for HIV, HBV, and syphilis and reviewed existing reporting tools.

Results: ANC screening coverage at both facilities was 97%, with 7% of women HBsAg positive, 1% HIV positive, and 0.2% syphilis positive. HBsAg screening Kits utilized plasma samples which increased turnaround time to result delivery by 1 week, compared to 15 minutes with HIV/syphilis dual test which used whole blood sample. 100% of HIV and syphilis positive pregnant women were

linked to prevention of mother to child transmission (PMTCT) services. No linkage documentation was available for HBsAg-positive women despite the availability of HBeAg tests. This was attributed to the comparative financial burden of HBV services and poor healthcare worker knowledge hindering access to confirmatory diagnostics. HBV DNA testing and tenofovir treatments were unavailable.

Conclusions: Effectively deploying a comprehensive triple elimination approach will require additional considerations for integration feasibility across the care cascade, including adoption of integrated HIV/HBV/syphilis screening kits or identifying strategies to reduce test processing times for HBV, building healthcare worker capacity to ensure effective HBV PMTCT for positive pregnant women, exploring opportunities to subsidize cost for HBV services, facilitating access to HBV diagnostics and treatment will be critical. Finally, integration of HBV data into existing reporting mechanisms for pregnant women through the cascade of care is paramount in ensuring linkage to care.



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Funding and Supply Chain Challenges in Uganda's Hepatitis B Elimination Strategy Implementation

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Background: Hepatitis B remains a significant global health concern, with more than 80% of people living with viral hepatitis B and C unaware of their condition, and about 3,000 deaths daily. The World Health Organization's global hepatitis strategy, endorsed by all member states, aims to reduce new hepatitis infections by 90% and deaths by 65% between 2016 and 2030. In Uganda, the prevalence of hepatitis B is about 4.3%, with approximately 1.9 million individuals affected and an estimated 1,050 deaths annually. Effective diagnosis and management are critical to controlling the virus's spread and reducing morbidity and mortality rates. Despite the availability of effective elimination strategies, including widespread testing and early diagnosis, these efforts face significant challenges in Uganda due to inadequate funding and supply chain inefficiencies.

Methods: We assessed the effects of insufficient funding and suboptimal supply chain management on implementing Hepatitis B testing programs in Uganda. Using a mixed-methods approach, we collected and analyzed quantitative programmatic data on funding levels and supply chain performance and compared them with HBV testing rates at the national level.

Findings: In 2015, the Ugandan government provided only 3% (\$3 million) of the national funding needed to procure kits, vaccines, and treatment. This funding level remained constant until 2020, with limited and no support from development partners. However, in 2020, the Ugandan government secured funding support from the Global Fund and PEPFAR for hepatitis commodities, which increased hepatitis B program funding to 45% of the national need. This increase

in funding facilitated improvement in hepatitis B screening service access, from 12% in 2020 to 70.1% in 2023, with a decline to 57.9% in 2024. We observed a direct correlation between decreased funding levels and reduced access to hepatitis B services and vice versa. The lack of adequate funding continues to exacerbate these issues, limiting the procurement of necessary supplies and the ability to maintain consistent testing operations.

Lessons Learned & Conclusions: The study highlights several critical lessons. Inconsistent supply of hepatitis B testing and treatment commodities is a crucial barrier to hepatitis elimination in Uganda. Ensuring continuous availability of testing supplies through robust supply chain strategies, such as buffer stock management and strategic partnerships, is essential for Hepatitis B elimination. Additionally, sustainable funding is necessary for procuring and distributing testing kits, as funding fluctuations significantly impact testing programs. Furthermore, developing sustainable domestic funding mechanisms is vital for supporting long-term hepatitis programs and reducing dependency on inconsistent external funding sources. By enhancing supply chain efficiency and ensuring stable financial support, public health initiatives can achieve tremendous success in the fight against Hepatitis B. This will necessitate a concerted effort to secure adequate resources and improve logistical frameworks, subsequently reducing Hepatitis B prevalence and mortality in Uganda.



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Implementing Reflex Hepatitis B Virus (HBV) DNA Testing: Insights from Three Ante-natal clinics within the TRI-MOM study in The Gambia

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Introduction: To increase linkage to care and treatment, the 2024 World Health Organisation (WHO) guidelines for hepatitis B treatment recommend reflex hepatitis B virus (HBV) DNA testing in all individuals who test positive for hepatitis B surface antigen (HBsAg). The feasibility of implementing reflex HBV DNA testing in antenatal clinic settings in Africa remains unclear. In this study, we describe the uptake and feasibility of three different models for reflex HBV DNA testing and antiviral prophylaxis in antenatal women in The Gambia.

Methods: Women attending antenatal clinic in two urban (Bundung Maternal & Child Hospital and Banjulinding health centre) and one rural (Bwiam Hospital) health facilities were included in this study. Following HBsAg screening using whole blood and rapid HBsAg test kit, women either had reflex HBV DNA using the same blood sample (Bwiam), underwent a second sample collection for HBV DNA (Bundung) or received HBV prophylaxis without HBV DNA quantification (Banjulinding). Questionnaires were administered to laboratory staff to assess practical implications of reflex testing in each site (result not presented here). The feasibility and barriers to reflex HBV DNA testing, as well as the turnaround time to antiviral prophylaxis with each model were analysed.

Results: Between 18th March and 13th June 2024, 27 of 778 (3.5%) pregnant women tested HBsAg

positive: 9 from Bwiam, 12 from Banjulinding and 6 from Bundung. Among the 12 HBsAg-positive women from Banjulinding (test and treat site), 11 of 12 (92%) started antiviral prophylaxis on the same day, 1 of 12 did not start prophylaxis to get consent from their husband before treatment initiation.

HBV DNA reflex testing in Bwiam (same sample site) was done for 9/9 HBsAg-positive women using same sample as HBsAg testing. Only 1 pregnant woman was eligible for treatment with HBV DNA $\geq 200,00$ IU/mL for whom treatment was not initiated on the same day of testing (DNA results were not communicated on the same day). Among 6 HBsAg-positive women in Bundung (reflex sample collection), reflex HBV DNA testing was done in 6/6 within 5 days of HBsAg screening. All women agreed to a subsequent blood collection following a HBsAg positive test prior. 2 of 6 women were eligible, however treatment was not initiated on the same day of reflex HBV testing (women left the clinic before GeneXpert run was complete).

Compared to HBsAg test and treat strategy, reflex HBV DNA testing using same sample did not delay TDF initiation in HBsAg-positive women screened in antenatal clinics. However, reflex HBV DNA using a second sample collected at a second antenatal visit delayed TDF initiation by median of 5 days.

Conclusion: Early results from our study show that reflex HBV DNA point-of-care testing using the same sample did not delay TDF initiation (same day prophylaxis) among HBsAg-positive pregnant women screened in antenatal clinics with access to GeneXpert. Additional data will be available before September for more robust analyses.



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Analysis of Different IEC Materials Impacts on Population of Calabar, Cross River State in Awareness Creation for Hepatitis B and C

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Background: Nigeria accounts for over 50% of hepatitis case in Africa with more than 23 million of the population currently been infected, with a prevalence rate of more than 11.7% (WHO). NAIIS (2018) also reported a prevalence rate of 8.1% for Hepatitis B and 1.4 for Hepatitis C, signifying that 1 out of every 12 persons in the country is infected and 1 in 3 persons exposed. This is over four times higher than that of HIV 1.4% prevalence rate. This is largely due to the low level of awareness creation for hepatitis across state and low political will to scale up hepatitis elimination polices.

More worrisome is that over 90% of the infected persons are not aware of their status due lack of awareness creation thereby making it more easy to spread due to its broad mode of transmission and 95% of them also lack access to treatment and care to help suppress the viral load and prevent new infections thereby resulting to increase in the infection rate.

Material and Methods: 1. Development, printing and distribution of hepatitis banner and posters across the city titled "Hepatitis is a silent killer don't wait until you get sick get tested today" and "don't wait until you fall sick, get tested today and protect your health, Hepatitis is real". With a direct contact number on all the banners and poster.

2. Development and airing of hepatitis jingle message across radio stations in the state.

3. Hand to hand distributions of infographic hepatitis flyers across the city.

Results: 1. Banners: Over a period of two months, 20pieces of 6X5FT banners posted/stationed across the city generated 73 calls. 78.1% of this called were either positive patients or relative/friends to a positive patient. 15.1% of the

calls were people who are either on vaccination process or vaccinated before without completing their dose and seek to make inquires. While 6.8% of the call were people seeking to get direction for testing to know their status.

2. Radio jingle: messages reached an audio of 4,000 to 7,500 a day. But no caller indicated it was calling because of the message aired via the radio jingle.

3. Hand to hand flyer distribution: 1,000 flyers were distributed hand to hand across the city on various days and weeks. 94 persons indicated interest on the spot to know more about hepatitis and its services, 17 persons visited the designated healthcare facility and 3 call were recorded.

Conclusions: • Majority of the call-in persons (78.1%) were persons already positive to hepatitis or have close relative or spouse positive to hepatitis.

- 90-95% of the call-in response were concerned about the cost of hepatitis service. Whether it's free or not.

- Less than 20% of the call-in were willing to continue with either diagnosis or treatment for hepatitis on the knowledge of it's out of pocket payment.



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Assessing Laboratory Capacity and Hepatitis Testing Utilization in Akwa Ibom and Nasarawa States, Nigeria: Implications for Public Health Interventions

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Background: The effective management of hepatitis B (HBV) and hepatitis C (HCV) is contingent upon robust laboratory capacity and the utilization of testing services. This study evaluates the current state of laboratory services in Akwa Ibom and Nasarawa States, Nigeria, to identify gaps and provide actionable insights for enhancing hepatitis testing and treatment services.

Material and Methods: A comprehensive assessment was conducted across 129 health facilities (66 in Akwa Ibom and 63 in Nasarawa). Parameters analyzed included types of health facilities, service provisions, laboratory services, staffing levels, types of testing available, awareness of testing methods, budget allocations, and utilization rates. Data collection involved surveys, direct observations, and analysis of health facility records.

Results: Public facilities constituted 76% of the surveyed facilities, with Akwa Ibom having a higher proportion of secondary healthcare facilities (62%) than Nasarawa's primary healthcare facilities (63%). Clinical laboratory services were universally available, but research services were limited to Nasarawa (16%). Serological testing for HBV and HCV was available in all facilities, yet PCR testing was underutilized. Staffing analysis showed that consultant microbiologists were scarce while most facilities employed laboratory technologists and scientists. Despite a high daily testing capacity (up to 500 tests), actual utilization averaged only 21 serology tests for HBV and HCV daily. Integration of hepatitis testing into other health programs was

higher in Nasarawa (73%) than in Akwa Ibom (56%). Financial constraints were evident, with only 21% of facilities having a dedicated budget for hepatitis testing, and just 14 reporting the budget as adequate. PCR machines were underutilized, remaining idle for 10 hours daily.

Conclusions: This study highlights significant gaps in laboratory capacity and utilization of hepatitis testing services in Akwa Ibom and Nasarawa States. Strategic investments in laboratory infrastructure, enhanced training for laboratory personnel, increased awareness, and better integration of hepatitis testing services are crucial. Addressing these gaps will bolster Nigeria's capacity to manage and control HBV and HCV infections, ultimately improving public health outcomes.



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The Sudanese National Center for Gastrointestinal and Liver Diseases's Efforts in Hepatitis B Elimination

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Since 2012, the National Center has observed a high number of hepatitis B complications, including liver cirrhosis and hepatocellular carcinoma (HCC), in patients referred to its hepatology clinic. In addition, there were many cases of chronic active and inactive hepatitis B.

Concerned by this, Dr. Salma Barakat, Director of the National Center and founder of the hepatology clinic, approached the WHO office. However, at that time, hepatitis B was not a WHO priority.

Undeterred, the National Center and the Sudanese Society of Gastroenterology launched educational programs on hepatitis B for both the public and healthcare workers. They began by offering free, voluntary testing and vaccination programs in collaboration with five primary healthcare centers in Khartoum.

The initiative expanded to include medical school students, upon request from their institutions. Educational activities and awareness campaigns were also conducted in various locations and companies in and around Khartoum.

By 2023, the program had reached 15 centers, 10 of them in other states. Over 30 campaigns have been conducted, and regular vaccination programs are now in place at three medical schools.

A turning point came in 2016 with the announcement of the WHO's hepatitis B elimination program. The Sudanese Minister of Health appointed a focal person for hepatitis B control. The National Center, along with other stakeholders, began developing a national hepatitis B strategic elimination plan, which was endorsed by the Federal Ministry of Health in 2023.

Despite ongoing conflict, the National Center's hepatitis B elimination program continues to work towards implementing the strategy. Currently, the center is part of a task force preparing a proposal for Gavi, the Vaccine Alliance, to include the first dose of the hepatitis B vaccine in the birth immunization schedule.

The National Center is also planning a pilot program for voluntary catch-up vaccination in Kassala city. This 7-month program will be implemented in five centers, with the aim of evaluating its success for potential replication in other states.

Since 2015, the Center has regularly celebrated World Hepatitis Day. Even during times of conflict, they have continued this tradition, holding events in Atbara and, this year, in Kassala.



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Seroprevalence of HCV in a Rural Population in Islamabad Pakistan - Results from the Outreach Screening Camp

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Background: Eastern Mediterranean Region (EMR) has HCV prevalence of 1.67%, the highest within WHO Regions. Pakistan bears a substantial burden, accounting for 17.8% of global HCV cases with an estimated 8.79 million cases, 110,000 HCV annual incidence and 24847 annual deaths caused by HCV. In Pakistan, 36% are diagnosed for HCV and only 20% are provided HCV treatment.

Aim: To determine the prevalence of Hepatitis C and collect epidemiological data; in a rural population with diverse ethnicities and socioeconomic status.

Material and Methods: The screening camp was organized with collaboration of District Health Office (Islamabad) and Integral Global. Outreach camps were conducted over seven days. The STANDARD Q HCV Ab (Rapid Diagnostic Tests) kits were used for rapid antibody detection via finger stick sampling. Data was manually recorded on data sheets. Interviews were conducted face-to-face with positive patients and data was recorded on positive forms. Later all data was entered in MS Excel sheets. SPSS version 29 and Power BI were used for data analysis.

Results: Out of 739 individuals screened, 147 (19.89%) tested positive for Anti-HCV antibodies. Among the positive cases, 91 (62%) were females and 56 (38%) males. The highest antibody prevalence was observed in the 51-60 year age group having 33 cases (38.82%). Notably, males aged 41-50 had a higher prevalence (38.78%) compared to females in the same age group (25.88%). The prevalence of anti-HCV was 19.89% (95% CI=2.6%, 28.1%), the prevalence of anti-HCV (male) was 21.71% (95% CI=2.4%, 30.9%) and the prevalence of anti-HCV (female) was 18.92% (95% CI=2.4%, 27.9%)

Conclusions: This study reveals that the HCV prevalence at the Sohan Screening Camp is 19.89%, significantly higher than the 4.3% prevalence in Pakistan. A total of 147 HCV-positive individuals were interviewed. Among them, 44 were unaware of their HCV-positive status before, while 103 were previously aware. Of those aware before, only 65 had received treatment. 38 patients were diagnosed before but did not receive treatment, 34 citing non-affordability reason and 4 replied that they were diagnosed during pregnancy. HCV prevalence was higher in males aged 31-40, 41-50, and 51-60 compared to females, whereas it was higher in females aged 16-20, 21-30, and 61-100 compared to males. Although the study population may not be entirely representative of the entire Union Council or district, it encompassed diverse socioeconomic status, access to healthcare, and ethnicities.



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Implementing Elimination Strategies for Liver Disease in Nairobi, Kenya: A Comprehensive Approach

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Background: Liver disease constitutes a significant public health burden in Nairobi, Kenya, necessitating urgent and comprehensive intervention strategies. This abstract presents a framework aimed at addressing the multifaceted challenges posed by liver diseases in the region.

Material and Methods: The proposed approach integrates evidence-based strategies tailored to the local context, drawing upon a synthesis of existing literature, epidemiological data, and stakeholder consultations. The methodology emphasizes a participatory approach, engaging diverse stakeholders from the healthcare sector, governmental agencies, NGOs, and community groups.

Results: The framework outlines priority interventions, including vaccination campaigns against hepatitis B, expansion of screening and treatment services for hepatitis C, and promotion of healthy lifestyle behaviors. Additionally, the approach highlights the importance of addressing social determinants of health, such as poverty and access to clean water and sanitation, in mitigating risk factors for liver disease.

Conclusions: The comprehensive approach presented in this abstract has the potential to significantly reduce the burden of liver disease in Nairobi by addressing both proximal and distal determinants of health. By fostering multi-sectoral collaboration and leveraging existing resources, this framework offers a sustainable model for other resource-constrained settings globally. Future research should focus on evaluating the effectiveness and scalability of these interventions and identifying additional strategies to further enhance liver disease elimination efforts.



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Addressing, Liver Disease in Zambia: A Social Work Approach of Prevention

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Zambia being among the developing nations remains a nation with the struggling fight against liver diseases caused by alcohol, fatty liver disease caused by non-alcoholic intakes including hepatitis which is viral shows an indicator of being the major causes of liver illnesses. this presents a serious public health concern. as such this abstract looks at the prevention or lessening of the cases in a nation like Zambia through the lens of a social worker.

Talking of liver diseases, they are more common in Zambia due to various reasons such as, lack of education, people being poor and less or no access to treatment. Liver diseases are more common in Zambia due to social variables such poverty, illiteracy, and restricted access to treatment. the essential aspect of helping professions like social workers is essential for tackling the challenge as they help in lobbying, health education, community mobilization and engagements. one important element that has always being noticed is the initiative that comes in through health literacy which in most cases increases public knowledge of the risk factors such as sexual behavior, intravenous drug use and binge drinking.

Furthermore, social workers usually collaborate with health care providers to promote early screening and treatment adherence which is particularly for viral hepatitis. to add on social workers help in contact tracing, counseling and making sure that there is continuity of care for the affected individual in the spirit of maintain and repairing the impaired health situation for the clients and their families. the intervention of targeting high risk populations such as sex workers and injection users are important in mitigating transmission rates.

The intersectoral partnership between social services and public health agencies and

community based organizations are very important in the implementation of the of comprehensive prevention programs. these includes harm reduction strategies, substance abuse rehabilitation services and economic empowerment initiatives to address the social determinants perpetuating liver diseases.

In conclusion, the multifaceted social work approach encompassing education, case management, advocacy and cross-sectoral collaboration is crucial in mitigating the burden of liver diseases in Zambia. the efforts usually complement clinical interventions and promote sustainable prevention strategies rooted in addressing the social determinants of health.



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Blood Safety in the Democratic Republic of the Congo: Literature Review

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Background: The Democratic Republic of the Congo (DRC) faces severe malaria, postpartum haemorrhage, malnutrition and sickle cell disease that require transfusion. The latter poses immunological, infectious, metabolic and hemodynamic risks to recipients.

Objective: To present transfusion safety in the DRC through data from the literature.

Material and Methods: This review consists of listing the various articles and abstracts published online and presented in scientific conferences having as a subject of interest transfusion safety in the DRC.

Results: The review is dominated by articles from eastern DRC and blood mobilization is around 0.5% of the general population. All screening tests are serological with a proven residual risk. The prevalence of HIV, HBV, HCV and syphilis infections is documented at more than 80% and represents respectively 1.9%, 2.96%, 1.89% and 1.21%. The prevalence of other pathogens, the immunological and haemodynamic risk are very poorly documented (12.5% to 25%). The prevalence of Parvovirus B19 infection is 5.3% and that of bacterial contamination at 1.4%, that of malaria infestations between 0.3% and 28.3%, that of trypanosomiasis at 1.3%, that of babesiosis at 0.17% in blood donors. Allo-immunization represents 47.8%, adverse reactions 3.4%, iron deficiency 63.2, iron deficiency anemia 25.9% and anemia 36.5%. Pediatrics is the biggest user of this blood.

Conclusions: The prevalence of HIV, HBV, HCV and Syphilis infections is within the range of sub-Saharan African countries. The serological test is systematic and involves the residual risk, it is necessary to introduce the molecular tests. The prevalence of other pathogens (emerging viruses,

bacteria and hemoparasites), the immunological and metabolic risk is poorly documented. The search for these pathogens, irregular antibodies and the determination of ferritin in blood donations is not systematic.



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Elevated ALT in Patients with Hepatitis B Virus Infection in Africa: Unmasking the Multifaceted Determinants through Cluster Analysis

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Background: Elevated levels of Alanine Aminotransferase (ALT) serve as an important marker for liver inflammation and are indicative of liver disease severity, particularly in the context of Hepatitis B Virus (HBV) infection. Nevertheless, the complex interplay of various patient characteristics contributing to elevated ALT remains inadequately explored. Our aim was to identify clusters based on several sociodemographic and clinical characteristics and subsequently assess the association of elevated ALT and cluster membership.

Material and Methods: We used baseline data collected from multiple sites within the HEPSANET collaborative network. We employed unsupervised machine learning techniques, specifically agglomerative hierarchical clustering to infer clusters based on region, sex, alcohol use, age, BMI, HBeAg positivity, transient elastography levels, HBV DNA levels and participant recruitment source (community or hospital). Finally, we used logistic regression to assess the association of elevated ALT (≥ 30 U/L (men) and ≥ 19 U/L (women)) with cluster membership adjusting for age and sex.

Results: Analyses included 3,572 persons aged 18 and above living with chronic HBV infection from 13 cohorts across 8 African countries. At baseline, 2,151 (60%) were male, median age was 33 years (IQR: 28-41), median BMI was 22.4 kg/m² (IQR: 20-25.5), median HBV DNA level was 570 IU/ml (IQR: 63 - 5675), 383 (11%) had cirrhosis based on LSM ≥ 9.5 kPa and 285 (8%) were HBeAg positive. The cluster analysis revealed four distinct clusters (C1-C4). Cluster 1 (890, 25%) predominantly comprised of persons from East Africa (99.6%) with relatively low HBeAg positivity (6%), minimal harmful alcohol

use (4%), 11% with cirrhosis and 42% with elevated HBV DNA. In contrast, Cluster 2 (1392, 39%) is characterized by persons from West Africa (88%), higher HBeAg positivity (13%) and higher proportion with cirrhosis (14%) compared to Cluster 1. Cluster 3 (613, 17%) shared some similarities with C2 but was mainly composed of persons from Southern Africa (98%), displaying higher prevalence of harmful alcohol use (14%) and proportion with cirrhosis (19%) in contrast to other clusters. Cluster 4 (677, 19%), comprised of persons primarily from West Africa (99.7%) with the lowest HBeAg positivity (4%), minimal harmful alcohol use (0.2%) and predominantly community-based recruitment (99.7%). Finally, the odds of having elevated ALT was reduced in cluster 3 (AOR: 0.78, 95% CI: 0.63-0.97, P = 0.02) considering cluster 1 as the reference. The odds was also reduced in men (AOR: 0.51, 95% CI: 0.44-0.58, P < 0.00).

Conclusions: Our study identified four distinct clusters with heterogeneous configurations of sociodemographic and clinical characteristics among persons with chronic HBV infection. Importantly, the odds of elevated ALT was associated with cluster membership, with Cluster 3 having reduced odds of elevated ALT. These findings underscore the complexity of factors contributing to elevated ALT in HBV-infected persons and highlight the need for real-life longitudinal studies of persons with chronic HBV infection in diverse settings in Africa.



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Use of HBcrAg Point of Care Test in People Living with Hepatitis B Virus Infection in Kilifi, Kenya to Identify Those at Highest Risk of Liver Disease

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Background: Chronic hepatitis B infection (CHB) has variable clinical outcomes, ranging from asymptomatic infection to severe liver disease and liver cancer. Current biomarkers used to stratify risk, such as hepatitis B DNA quantification, are expensive and often unavailable in Kenya. Hepatitis B core related antigen (HBcrAg) is a new biomarker that correlates with HBV DNA. A HBcrAg point of care test (POCT), with a binary read out corresponding to HBV DNA levels of around 200,000 IU/ml, may help identify those at highest risk of liver disease where HBV DNA is inaccessible.

Aims: Here we aimed to i) Undertake HBcrAg POCT on adults living with HBV (PLWHB) in Kilifi, Kenya, and ii) identify associations between liver health and a positive HBcrAg POCT.

Material and Methods: We identified PLWHB using the Determine HBsAg 2 POCT (Abbott, USA) through the STRIKE-HBV study at Kilifi County Hospital (KCH), Kenya (ethics ref: SERU 4656, OxtREC 22-23). We assessed liver health using ALT, APRI scores and elastography measurements (Fibroscan®, Echosens, Paris). Kumamoto

University (Japan) donated HBcrAg POCTs, and we undertook them as per manufacturer's instructions. Statistical analysis was undertaken using R version 4.2.0.

Results: 103 PLWHB had a HBcrAg POCT done, 60 women and 42 men (58% and 42% respectively); median age 37 years (IQR 28 – 49). 14/103 people tested positive on the HBcrAg POCT (13.6%). There was no significant difference in age or sex of those with positive vs negative HBcrAg POCT. 76/103 people had liver elastography scores available, 99 had APRI scores and 102 people had ALT available. There was no significant difference in median APRI scores between those with a positive and negative HBcrAg POCT, however median liver stiffness was significantly higher in those with a positive HBcrAg POCT (6.65 kPa vs 4.7kPa, p = 0.03, Mann-Whitney). Median ALT was also significantly higher in those with a positive HBcrAg POCT (58 U/L vs 26 U/L, p = 0.002, Mann-Whitney).

Conclusions: HBcrAg POCT could potentially be used in Kenya to help identify people at highest risk of liver disease.



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Fatty Liver Biomarkers and Insulin Resistance Indices in the Prediction of Non-alcoholic Fatty Liver Disease in Ghanaian Patients

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Background: Scant West African data on non-alcoholic fatty liver disease (NAFLD) means there is little representation of this population in the modelling used to derive biomarkers and predictive indices for risk stratification of patients for the presence of hepatic steatosis. This study evaluates the performance of the fatty liver index (FLI), hepatic steatosis index (HSI) and triglyceride-glucose (TyG) index and its derivatives in predicting ultrasound-detected NAFLD in a locally resident population of Ghanaian participants.

Material and Methods: A post hoc analysis of data from a cross-sectional assessment of NAFLD and cardiovascular risk was performed. Data from 210 participants without significant alcohol intake, or secondary causes of fatty liver and not on steatogenic drugs was evaluated. A structured questionnaire was used to collect demographic data, medical and drug history. Anthropometry, blood sampling for liver chemistry and fasting lipids were performed. Hepatic steatosis was detected by ultrasonography. A retrospective analysis involving multivariate binary logistic regression assessed FLI, HIS, TyG (and its derivatives) as predictors of NAFLD with p values < 0.05 considered statistically significant. Sensitivity, specificity, predictive values, likelihood ratios were calculated and the accuracy of the proxies were evaluated from area under the receiver operating characteristics curve (AUROC).

Results: All the biomarkers and indices were significantly associated with NAFLD ($p \leq 0.001$) All the lipid and fatty liver indices assessed performed acceptably as predictors of NAFLD. FLI (AUC = 0.8, 95% CI [0.74-0.87]), TyG-WC (AUC= 0.81, 95% CI [0.75-0.88]) and TyG-WHtR (AUC= 0.81, 95% CI [0.74 – 0.88]) performed best at predicting NAFLD.

Whilst in all cases the markers had good specificity (>90%) they lacked sufficient sensitivity with FLI having the highest sensitivity of 36.7%. Their overall accuracy was greater than 70% in each case.

Conclusions: The overall accuracy of HSI, FLI, TyG index and its derivatives (TyG WHtR, TyG BMI, TyG WC) was acceptable for predicting NAFLD in this population. Given their performance in this study and in light of their low cost, accessibility, easy interpretation and non-invasive nature; they are suitable tools for screening in the Ghanaian population.



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High Molecular Diversity and Remarkable Geographical Distribution of Hepatitis Delta Virus Strains That Are Spreading In Cameroon

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Background: Cameroon, located in central Africa, is known to be a country of high prevalence of hepatitis B (HBV) and Delta (HDV) virus infections, along with a high genetic variability of the circulating strains. In this study, we aimed to carry out a study on the molecular diversity of HDV strains that spread all over the Country.

Material and Methods: All HBsAg-positive samples sent to the Cameroon Pasteur Center between January 2018 and December 2020 from most regions of the country were considered. Age, gender, and city of residence were recorded. HDV diagnosis was performed by screening of HDV antibodies and HDV-RNA viral load quantification on positive samples using validated commercial assays. HDV genotyping was performed using the Sanger sequencing method of an amplicon of the well-described R0 region of the HDV genome followed by phylogenetic analyses. Five-hundred and five HDV strains were characterized.

Results: HDV-1 was predominant (73%). HDV-5, -6, -7 and -8 were also found, with a proportion of 3%, 8%, 13% and 3% respectively. Most HDV-1 strains were found in the Northern part of the country, whereas only HDV-6 and -7 strains were isolated in the East region. In the North-West / West regions, HDV-1, -5, -7 and -8 were identified, while in the South-West HDV-6 but not HDV-5 was found. In the Central region, all genotypes were present, whereas only HDV-1 and -7 were identified in the South. Of note, no new subgenotypes were found by analyzing the complete genome sequence of one strain of each cluster of the phylogenetic tree.

Conclusions: In summary, HDV-1 and HDV-5 to -8 are spreading in Cameroon, with a remarkable geographical distribution. Such diversity argues for the emergence of the human HDV in this part of the world. Additional studies are needed to further assess this genetic variability over the whole genome sequences of these strains.



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Longitudinal Assessment of Liver Fibrosis and Cirrhosis with Machine Learning Methods in a Cohort of People Living with HIV in Uganda

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Background: Elastography, including liver stiffness measurement (LSM) is widely used for the longitudinal follow-up of individuals with or at high risk for cirrhosis, which is prevalent among people living with HIV (PLWH), mostly due to hepatic virus coinfection. Predicting the clinical course of cirrhosis is challenging. Our study used machine learning methods to identify longitudinal clusters of at-risk individuals based on LSM trajectory.

Materials and Methods: We studied a Ugandan cohort (n=326) of antiretroviral therapy (ART) experienced PLWH, with cirrhosis risk, assessed at 6 monthly visits for 5 years. We used longitudinal K-means methods to explore longitudinal clusters of LSM (elastography) and ultrasonographic cirrhosis scores (based on splenic size, liver surface, liver parenchyma, and intrahepatic vessels). We tested models with two to six clusters and selected the final clusters using the Calinski-Harabasz score.

Results: We identified two clusters of longitudinal trajectories. For liver stiffness, the best model revealed a large group (97% of participants) with slight reductions in LSM from baseline through 6 months (median reduced from 5.9 to 5.4 kPa), remaining stable thereafter; and a smaller group (3% of participants) with initial cirrhotic levels that showed a marked decrease from the first to the second visit that remained stable, but elevated (median reduced from 26 to 22 kPa). For ultrasound cirrhosis scores, the best model identified a cluster with moderately high scores (6.5% of participants) that remained stable, and one with consistently low scores (93.5% of participants). The drop in LSM from the first to the

second visit seen in liver stiffness was not observed in ultrasound clusters. The two methods had a 93% agreement overall but only 11.5% positive agreement for elevated scores. Participants with higher scores were more likely to be older (Median of 51 years, as opposed to a median of 41 years in the group with lower scores) and to have baseline CD4 counts under 200 cells/mm³ (60% as opposed to 25% in the group with lower score).

Conclusions: Machine learning algorithms identified two distinct trajectory clusters of LSM and cirrhosis scores among ART-experienced PLWH with cirrhosis risk. These trajectories remained stable through 5-year follow-up. The utility of machine learning methods in identifying PLWH at risk of cirrhosis should be explored further.



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HBsAg Seroclearance and Seroconversion: Incidence and Patient Profiles at the Centre Hospitalier Universitaire Yalgado Ouedraogo

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Background: HBsAg seroclearance is a rare event in the natural history of chronic hepatitis B virus (HBV) infection. Data on HBsAg seroclearance and seroconversion are scarce in Burkina Faso. This study assessed the incidence and determinants of HBsAg clearance and conversion in patients with chronic HBV infection.

Material and Methods: This was a retrospective descriptive cross-sectional study conducted from January 1st, 2006 to July 31st 2023, i.e. 17 years and 6 months, at the Yalgado Ouedraogo University Hospital. Patients were included who were chronic HBV carriers who had lost HBsAg spontaneously or after introduction of treatment with nucleoside analogues, had a HBV viral load on admission and were negative for hepatitis C virus (HCV) antibodies, hepatitis D virus (HDV) antibodies and human immunodeficiency virus (HIV) antibodies. HBsAg seroclearance was defined as serum HBsAg negativity, checked at least once, and seroconversion as the disappearance of serum HBsAg and the appearance of anti-HBs antibodies > 10 IU/ml.

Results: Of the 1507 patients in our cohort, 27 lost HBsAg during the study period. The overall incidence of HBsAg loss was 1.8% and 55.5% of patients seroconverted to HBsAg within 12 months of HBsAg loss. The mean age of patients on

admission was 31.3 ± 8.9 years, with a sex ratio of 2. All patients were inactive carriers. The mean duration of HBsAg carriage was 9 ± 5 years. Mean age of patients at the time of HBsAg loss was 39.9 ± 10.2 years. Untreated patients represented 74.1% of the cohort. Quantitative HBsAg was less than 100 IU/mL in 81.8% of patients, and 88% of patients had undetectable DNA before HBsAg loss.

Conclusions: Although HBsAg seroclearance is associated with a good long-term prognosis, it remains a rare event. Patients at risk of developing hepatocellular carcinoma (HCC) after HBs seroclearance should be monitored at intervals that can be determined on the basis of further studies.



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Comparison between Platelets Albumin-Bilirubin Score, Albumin –Bilirubin Score, AIMS65, Clinical Rockall Score and Glasgow-Blatchford Score for Prediction of Clinical Outcome of Acute Variceal Bleeding, in Mohamed Salih Idris Bleeding Center, Khartoum 2022

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Background: Acute gastrointestinal (GI) bleeding is life-threatening emergency that remains a common cause of hospitalization. Multiple risk assessment scores are available to triage and stratify patients presenting with upper gastrointestinal (GI) hemorrhage. This study was conducted to compare the accuracy of Platelet-Albumin- Bilirubin, Albumin- bilirubin score, clinical Rockall score (RS), Glasgow–Blatchford score (GBS), and AIMS65 score.

Objective: To compare the performance of AIMS65, Glasgow–Blatchford (GBS) and clinical Rockall scores (RS), Albumin-Bilirubin score (ALBI) and Platelets-Albumin –bilirubin (PALBI) in predicting (ICU admission, Blood transfusion, Hospital admission, re-bleeding 5 days, mortality within 5 days, 6 weeks and 3 months) in Sudanese patients with acute variceal bleeding at MISBC.

Material and Methods: Prospective hospital-based study in MISBC in Ibn Sina Hospital and covered patients diagnosed with acute variceal bleeding from December 2021 to March 2022 and followed in 5 days, 6 weeks and 3 months. Data entered and analyzed using SPSS version 22.0.

Results: A total of 217 participants were enrolled in the study, (93%) were above 30 years, male gender dominance (76%), and (72%) were from

Khartoum and Gezira states. The common cause of acute variceal bleeding was periportal fibrosis (78.3%) and common endoscopic Findings were grade 2 & 3 esophageal varices (61.8%).(59.4%) required blood transfusion,(1.8%) admitted to ICU, (15.7%) admitted to medicine ward , less than 1% experienced attack of re-bleeding within 5 days,(4.1%) they died within 5 days ,(9.2%) were died within 6 weeks and (0.5%) were died within 3 months from the attack. The AUROC were calculated AIMS65 showed a significant higher performance than other scores in predicting (ICU admission, hospital admission, mortality within 5 days and mortality within 6 weeks) p value <0.0001. GBS was superior in predicting blood transfusion p value <0.001

Conclusions: AIMS65 showed higher performance than other scores in predicting (ICU admission, hospital admission, mortality within 5 days and mortality within 6 weeks). ALBI score had prognostic value, but PALBI score failed to predict all clinical outcome with p>0.1.



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Diagnostic Performance of Four Hepatitis B Surface Antigen Conformité Européenne (CE) Marked and One WHO Prequalified Rapid Diagnostic Tests in Uganda

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Background: Globally, over 296 million people are infected with chronic Hepatitis B (HBV). Eighty million of these reside in sub-Saharan Africa (SSA). HBV claims an estimated one million lives annually. Efforts to eradicate it from SSA have been slow partly due to lack of affordable accurate screening tools. The diagnostic accuracy of the commonly used rapid diagnostic tests (RDTs) in SSA is poorly understood hence a need to characterize the validity of five RDTs being used for HBV diagnosis using the Hepatitis B surface antigen (HBsAg) serologic marker.

Material and Methods: In this cross-sectional study, 200 samples of residual donor blood were screened for HBsAg using the Chemiluminescent Microparticle Immunoassay (CMIA) and results confirmed by Enzyme-Linked Immunosorbent Assay (ELISA). They were subsequently subjected to five RDT kits; the SD Bioline, a World Health Organization (WHO) pre-qualified test kit, and four Conformité Européenne (CE) Marked RDTs: One-Step, NOVA, Astracare and Accurate. The sensitivity, specificity, Positive Predictive Value (PPV) and Negative Predictive Value (NPV) were computed using ELISA as the reference test. The Statistical Program for Social Sciences (SPSS 20.0 for windows; SPSS Inc. Chicago, IL) was used for statistical analysis.

Results: All five RDT brands demonstrated a sensitivity of 93% (95% CI 93%- 93%). Their specificity however ranged from 95% (95% CI 94.9%- 97.8%) for Astracare to 98% (95% CI 94.9%- 98.0%) for SD Bioline. Similarly, their positive PPV ranged from 94.89% (95% CI 94.9%-97.7%) for

Astracare to 97.89% (95% CI 94.9%-98.0 %) for SD Bioline and NPV ranged from 93.14% (95% CI 93.1%-93.3%) for Astracare and 93.33% (95% CI 93.3%-93.3%) for SD Bioline.

Conclusions: SD Bioline had the best diagnostic accuracy for HBV infection. Nevertheless, the less expensive CE-marked RDTs had good performance characteristics. CE marked RDTs thus present an opportunity for massive screening of the at-risk populations in the WHO-led campaign to eliminate HBV as a public health threat in Uganda and other low-resource settings by 2030.



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Changes in Liver Stiffness Using Fibroscan Among Treated Adults With Chronic Hepatitis B Infection in the Gambia

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Background: Active hepatitis B virus (HBV) replication promotes necroinflammation and fibrosis in the liver. HBV treatment therefore aims to suppress HBV replication to halt or regress necroinflammation and prevent the complications of liver cirrhosis and/or liver cancer. The effectiveness of antiviral therapy using Tenofovir Disoproxil Fumarate (TDF) to suppress HBV replication has been well established. However, data on liver stiffness changes during treatment among African adults with chronic hepatitis B (CHB) infection is limited. In this study, we describe the changes in liver stiffness among adults with CHB infection receiving TDF in The Gambia.

Methodology: The PROLIFICA (Prevention of Liver Fibrosis and Cancer in Africa) study follows up adults with CHB infection. Patients who meet the 2017 EASL treatment eligibility criteria receive daily TDF 300mg and are monitored quarterly for adherence assessment and annually for liver fibrosis assessment using Fibroscan, HBV DNA measurement and HCC screening. We compared the Fibroscan scores at TDF initiation (baseline) and 2 years after TDF to determine fibrosis progression/regression, stratified by adherence and HBV suppression.

Findings: A total of 175 adults with chronic hepatitis B are on treatment. 74 have been on treatment for more than 2 years. 65 (88%) are male and 9 (12%) female. The birth years span from 1948 to 1999. The average liver stiffness measurement (LSM) at baseline was 8.9kpa (range

3.5 to 39.4kpa). 57 (77%) of the adults on TDF had decreased LSM at year 2 of treatment, and the average LSM at year 2 of treatment was 7.6kpa (range 2.9 to 59.5kpa). There were wide variations in the decreases observed in patients with similar baseline measurements..

Conclusions: The findings show that liver stiffness reduces in treated adults with chronic hepatitis B in The Gambia. The fibroscan is a convenient tool to make such assessment. The regression of liver stiffness affirms good outcomes in timely treatment initiation and the prevention of cirrhosis in African adults with chronic hepatitis B.



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Ultrasound Pulse Elastometry: Assessment of One Year's Practice in the Hepato-Gastroenterology Department of the Saint Camille Hospital in Ouagadougou (HOSCO)

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Background: Ultrasound pulse elastometry is a non-invasive, painless, rapid and objective method of quantifying liver fibrosis by measuring liver stiffness. It plays an important role in assessing hepatic fibrosis in patients with chronic liver disease. Indeed, all chronic liver diseases, whatever their cause, can lead to the development of cirrhosis if they are prolonged. Over the past 20 years, FibroScan[®] has established itself worldwide as the benchmark for non-invasive liver diagnostics. To our knowledge, few studies on ultrasound pulse elastometry have been conducted in Burkina Faso. The aim of our work was to review one year's experience of ultrasound pulse elastometry in a hospital in Ouagadougou.

Material and Methods: This is a retrospective descriptive study of data from one year's use of impulse ultrasound elastometry. Ultrasound impulse elastometry was performed using the FibroScan[®] COMPACT 530. Fibrosis was considered significant when E (hepatic elasticity) ≥ 7.2 kPa (F2 fibrosis). The test was considered valid when the IQR/Median ratio $\leq 30\%$ and there were at least 10 valid measurements.

Results: A total of 1911 patients underwent FibroScan[®]. There were 1079 men, giving a sex ratio of 1.3. The mean age of the patients was 37.9 \pm 12.2 years. The indication for FibroScan[®] was hepatitis B virus infection in 89% of cases. The validation criteria for FibroScan[®] were met in all patients. The mean value for elasticity was 7.9 kPa

and for steatosis 212 dB/m. Fibrosis was non-significant in 75.5% of cases. More than half of our patients (56.7%) didn't have steatosis, 24.8% had mild steatosis, 12.4% moderate steatosis and 6.1% severe steatosis.

Conclusions: Ultrasound pulse elastometry plays an important role in monitoring chronic liver disease. It allows non-invasive diagnosis of hepatic fibrosis and steatosis. In our context, however, access to the test is limited by its availability only in large urban centers, and by its cost.



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Évaluation de la fibrose hépatique au cours de la NAFLD: Tests non invasifs versus biopsie hépatique Proposition d'une nouvelle stratégie diagnostique

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Contexte: le but de cette étude était d'évaluer la performance des tests non invasifs en comparaison à la biopsie hépatique pour le diagnostic de la fibrose et de proposer un algorithme de prise en charge qui pourrait réduire le besoin du recours à la biopsie hépatique.

Matériels et Méthodes: cette étude a inclus un total de 430 patients pendant la période d'étude du 15 AVRIL 2018 au 15 JUILLET 2022, avec mesure concomitante de FIB-4, NFS et mesure de la rigidité hépatique (LSM) par Fibroscan®.

Résultats: La majorité des patients étaient de sexe féminin 335 (77,9 %), l'âge moyen était de $52,91 \pm 10,87$ ans, 86 (20 %) avaient un Fibroscan® $\geq 7,2$ kPa, 81 biopsies hépatiques ont été réalisées et un patient sur deux 44 (54,3 %) avait une fibrose significative et 31 (38,26) avaient une fibrose avancée

Dans notre étude, nous avons constaté qu'un patient sur deux n'avait pas de fibrose significative et avait une biopsie hépatique inutile. Nous avons identifié un nouveau seuil optimal à 8,75 et 9 kPa pour exclure une fibrose significative et avancée avec des AUROC correspondants de 0,736, 0,799 respectivement.

Les AUROC de FIB-4 et NFS pour une fibrose significative (LSM $\geq 7,2$ kPa) étaient de 0,67 et 0,59 avec FIB-4 Cut Off = 1,12 et NFS Cut off = - 1,309.

Conclusion: Dans notre travail, nous avons identifié de nouveaux Cut off pour le Fibroscan pour exclure une fibrose avancée et diminuer ainsi le recours à la biopsie hépatique. Les tests non invasifs FIB-4 et NFS présentent une valeur prédictive négative supérieure à 85%, permettant d'exclure la fibrose avancée et peuvent être

utilisés dans le dépistage de la fibrose hépatique de première intention.



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Incidence of Hepatitis Delta Virus Super-Infection in HBsAg Positive Patients from France and the Gambia (The Inci-D Cohort Study)

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Background: Super-infection with the hepatitis D virus (HDV) leads to a more aggressive form of chronic hepatitis in patients infected with the hepatitis B virus (HBV). While around 5% of HBsAg-positive individuals are estimated to be HBV-HDV dually infected globally, the timepoint of super-infection is unknown and longitudinal repeated HDV testing is not yet supported by international guidelines. Inci-D is a collaborative multicenter and longitudinal cohort study that aims to evaluate the incidence of HDV super-infection in HBsAg chronic carriers from West Africa and Europe.

Material and Methods: The Inci-D cohort consists of two distinct HBV cohorts of clinical meta-data and stored clinical specimens including plasma or dried-blood spots (DBS). Cohort A is a West African cohort derived from the PROLIFICA population-based study in The Gambia. Cohort B is a French cohort including out-patients seen in two university hospitals (Grenoble Alpes and Henri Mondor APHP). The HBsAg positive patients' first available stored blood sample was used to calculate the baseline prevalence. HDV-antibody (HDVAb) levels were detected using the Diasorin serology kit (Italy).

Results: For cohort A, 942 blood samples (915 plasma, 27 DBS) of HBsAg-positive individuals were available at baseline. The median age was 35 years (interquartile range (IQR): 31-43), 592/942 (63%) were male. At baseline, 14/942 individuals (1.5%) were HDVAb-positive.

Among HDVAb-negative patients at baseline, 566 individuals had a follow-up sample available (520 plasma, 46 DBS) with an overall follow-up time of 3363 patient-years. After a median follow-up time of 6.0 years (IQR: 5.5-6.8), 16 individuals were detected to be newly HDVAb- positive,

representing an incidence rate of 4.3/1000 patient-years.

For cohort B, 391 HBsAg-positive samples were available at baseline, the median age was 47 years (IQR 34-59), and 7/391 samples were HDVAb-positive (1.8%). Among HDVAb-negative patients, 379 had a follow-up sample available with an overall follow-up time of 813 patient-years. After a median follow-up time of 2.2 years (IQR: 1.42-3.06), 3 individuals were newly detected HDVAb-positive, representing an incidence rate of 3.69/1000 patient-years.

Conclusions: Hepatitis delta superinfection increases considerably in HBsAg-positive carriers in The Gambia as well as in France putting patients at risk for advanced liver disease and death. In order to identify individuals with need for treatment or surveillance, repeated HDV serology testing should be implemented by international guidelines.



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Liver Fibrosis in Metabolic Dysfunction Associated Steatotic Liver Disease, a Cross-Sectional Study Done at the MOI Teaching and Referral Hospital, Eldoret, Kenya

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Background: Metabolic dysfunction associated steatotic liver disease (MASLD) has replaced non-alcoholic fatty liver disease (NAFLD) after a multi-society Delphi consensus in July 2023. It is part of a spectrum of steatotic liver diseases. MASLD diagnostic criteria include the presence of liver steatosis and at least one of the five cardio-metabolic criteria for metabolic syndrome in the absence of significant alcohol use. The global prevalence of MASLD is unknown. Liver fibrosis in MASLD can be determined using invasive and non-invasive methods with biopsy being the gold standard. Non-invasive methods include imaging (using a greyscale ultrasound, transient elastography, abdominal computerized tomography scan) serological markers and fibrosis scores such as aminotransferase to platelet ratio index i.e APRI, fibrosis 4 index (FIB-4 index) and NAFLD Fibrosis Score (NFS), among others. Globally, there is a paucity of published data on diagnostics for fibrosis in MASLD.

Objectives: To identify what proportion of patients with MASLD had features of fibrosis using shear wave elastography and fibrosis scores namely APRI, FIB-4 index and NFS and to determine the correlation between the fibrosis scores and shear wave elastography.

Material and Methods: From November 2022 to April 2023, and using consecutive sampling technique, a cross-sectional study of 160 patients with metabolic syndrome was carried out. Recruitment sites included medical outpatient clinic, diabetic outpatient clinic and cardiac clinic

at Moi Teaching and Referral Hospital. Hepatic steatosis was determined by use of a grey-scale ultrasound, fibrosis by shear wave elastography alongside fibrosis scores- APRI score, FIB-4 index and NFS. Other data collected included lipid profile, liver function tests, platelet count, blood pressure and anthropometric measurements. Student T-test and chi-square were used to correlate fibrosis scores with ultrasound and elastography findings. A p-value of ≤ 0.05 was considered significant.

Results: The majority of study participants 117 (73.1%) were female; the mean age was 58 (SD 11.8) years. A total of 126 (78.8%) had MASLD (95% CI 71.6, 84.8) and of these, 36 (28.6%) patients had liver fibrosis (95% CI 20.9, 37.3) identified using shear wave elastography. There was a statistically significant association between NFS and elastography, ($p < 0.003$). There was also a statistically significant association between steatosis grade on ultrasound and elastography, ($p < 0.001$). Among the three fibrosis scores, NFS had the highest sensitivity for fibrosis at 40% while FIB-4 index had the highest specificity, positive predictive value, negative predictive value, positive likelihood ratio and negative likelihood ratio at 94.6%, 50%, 81%, 3.3 and 0.8 respectively.

Conclusions: Majority of patients with metabolic syndrome have MASLD and fibrosis. Elastography and FIB-4 index can be used to assess fibrosis in patients with metabolic syndrome. Recommendations: Screening for MASLD among patients with metabolic syndrome should be done using elastography or FIB-4 index. Future studies incorporating use of biopsy to diagnose both MASLD and fibrosis.



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Raising awareness of non-cirrhotic portal hypertension due to schistosomiasis in pregnancy

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Background: The presence of non-cirrhotic portal hypertension (NCPH) in pregnancy poses a challenging clinical scenario. It predisposes women to several life-threatening complications which include variceal haemorrhage. In sub-Saharan Africa, *Schistosoma Mansoni* affects more than 54 million people with 10% of affected patients developing hepatosplenic schistosomiasis (HSS) and subsequent portal hypertension.

Method: We identified pregnant patients with NCPH associated with schistosomiasis who attended the Charlotte Maxeke Johannesburg Academic Hospital Antenatal and Liver clinics. We reviewed patient records to describe demographics, co-morbidity, clinical course, pregnancy outcomes, and medical and endoscopic management of their portal hypertension.

Results: We identified four pregnancies with HSS and portal hypertension. Two had previously been diagnosed with HSS and presented to the liver clinic for surveillance. The other two were new diagnoses and presented to the ANC service with signs of iron deficiency and portal hypertension. The median age was 32 (IQR 26–41) years and gestation at presentation ranged between 6-27 weeks. The median platelet count in this series was 50 (IQR 35-71) $\times 10^3/L$.

All four patients underwent endoscopy and were treated prophylactically with endoscopic variceal ligation (EVL), 3 (75%) were managed with non-selective beta blockade. Three of the pregnancies progressed to 34+ weeks: one patient had an upper gastrointestinal bleed and required repeat endoscopy and EVL. The patient thereafter had an emergency cesarean section (CS) and was worked up for trans-jugular intrahepatic portosystemic shunt (TIPS). Unfortunately, she self-discharged and was lost to follow up. The two other pregnancies had elective CS and one had a spontaneous miscarriage at 13 weeks gestation.

Conclusion: Although this is a small cohort, our series highlights a rare condition with devastating complications. Three of the four cases presented above demonstrated that the prompt diagnosis and management of non-cirrhotic portal hypertension can lead to successful pregnancies and deliveries.



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Diagnosis of Advanced Liver Fibrosis in Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD) Using Non-invasive Tests (NITs). Experience from a Tertiary Center

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Background: Metabolic dysfunction-associated steatotic liver disease (MASLD) is a major global health concern estimated to affect 25% of the global adult population. The spectrum of MASLD ranges from simple steatosis to more advanced forms such as steatohepatitis, fibrosis, and cirrhosis with its associated complications. Up to 1/3rd of patients with MASLD have advanced fibrosis at diagnosis. Non-invasive tools such as transient elastography (TE) and scores such as Fibrosis 4 (FIB-4) and NAFLD Fibrosis (NFS), AST to Platelet Ratio index (APRI) and BMI: AST/ALT Diabetes (BARD) have been widely evaluated in determining liver fibrosis albeit with variable performance. TE has been found to have the highest sensitivity (95%) and specificity (92%) for detecting advanced fibrosis. This modality, however, is not readily available in the broader African context, particularly outside of academic centres.

Objectives: We assessed the applicability of NITs compared to Transient elastography in a utility of FIB-4, NFS, BARD and APRI score in determining advanced fibrosis in a cohort of MASLD patients and defined the characteristics of those with advanced fibrosis.

Material and Methods: This was an audit project carried out in MASLD patients attending the outpatient liver service of King's College Hospital, London. Data was collected from records of patients diagnosed with MASLD by the presence of fatty liver on ultrasound, controlled attenuation parameter of FibroScan (Echosens, Paris), or liver

biopsy. Advanced Fibrosis was defined by liver stiffness more than 12kPa on TE, correlated to different cut offs for the other non-invasive scores.

Results: We analyzed data from 201 patients, predominantly male 112/201 (55%), overall mean age was 57.4 years (SD 12.9), and majority were overweight 153/201 (76.1%). The proportion of patients with advanced fibrosis was 26.3% (95%CI 20.4% to 33.0%). Diabetes was a predictor of advanced fibrosis (Adjusted OR 2.5 95%CI 1.27 to 5.04). Alcohol use, Hypertension, Dyslipidemia, and cardiovascular diseases were not significantly associated with advanced fibrosis $p=0.09$, $p=0.085$, $p=0.44$ and $p=0.31$ respectively. AST was significantly associated with advanced fibrosis in this cohort ($p=0.02$). FIB-4 score, NFS and APRI score were found to have high NPV (>90%) for predicting liver fibrosis in this cohort, with NFS score having the highest NPV 97.1%. The AUROC for FIB-4 Score, NFS score, APRI and BARD score were 0.658, 0.803, 0.693 and 0.637, respectively. BARD score performed very poorly in ruling out advanced fibrosis compared to the other tests.

Conclusions: This data demonstrates the utility of NITs compared to transient elastography. Ruling out advanced fibrosis is important in determining referral of MASLD patients. If not appropriately triaged, this rising patient population will overwhelm specialty clinics, understanding the interplay between risk factors and applying NITs is important in primary care settings.



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Acute Liver Injury: A 10-Year Retrospective Study

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Background: Acute liver injury (ALI) is the consequence of abrupt hepatocyte injury and may lead to Acute liver failure (ALF) associated with poor outcome and mortality.

The aim of this study is to assess clinical features and outcome of ALI and identify predictors of ALF.

Material and Methods: Monocentric retrospective study including hospitalized patients for ALI. ALI was defined as elevated liver enzymes and coagulopathy without underlying chronic liver disease, ALF was defined as ALI with hepatic encephalopathy (HE). Autoimmune hepatitis (AIH) 1999 scoring system was used to identify patients with AIH. N-Acetyl cysteine was used when available. According to etiology patients received steroids in AIH and Tenofovir in hepatitis B. Statistical analysis: univariable analysis was used to identify risk factors associated with ALF with OpenEpi version 3.

Results: From 1/1/ 2014 to 1/5/2024, 57 patients were included, mean age was 41 years [16-84 years]; sex ratio 0.357 (male n=15, female n=42), 73.7% had ALF, jaundice to encephalopathy onset was 16.5 days [02 -82], etiology was indetermined in 24.6% (n=14), most common causes were drug induced 22.8% (n=13), viral hepatitis A 21% (n=12) and autoimmune 19.3% (n=11). 7% (n=4) had hepatitis B. 29.8% (n=17) had kidney injury, 33.3% (n=19) developed sepsis. N-Acetyl cysteine was used in 19.3% (n=11), antibiotics in 50.9% (n=29), 2 patients underwent dialysis, Tenofovir was used in 7% (n=4), patients with AIH received steroids (19.3%, n=11). Clichy criteria applied to 50.9% (n=29) and King's college to 61.4% (n=35), no patient underwent liver transplantation (LT). 68.4% died (n=39), only 3 patients with ALF survived, survival without LT was 31 days [10 - 90]. In univariable analysis only female gender was significantly associated with ALF: Risk Ratio (CI 95%)=1.518 (0.9247-2.491) p=0.03705, Fisher's test.

Conclusions: ALF was predominant with severe prognosis. Female gender was significantly associated with ALF.

The management of these patients is difficult without access to emergency liver transplantation.



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Assessment of the Histochemical Occurrence of Ferric Iron and Calcium Ion in Liver Biopsies and Their Correlation with Liver Disease: A Retrospective Study

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Liver disease is a major global health concern, with iron overload and calcium dysregulation implicated in the pathogenesis of several liver diseases. This retrospective case-control study aimed to determine the presence or absence of ferric iron and calcium ion histologically in formalin-fixed paraffin-embedded liver biopsies diagnosed with various liver diseases.

The study design is a retrospective case-control study. The cases are liver biopsies diagnosed with various diseases obtained from the histopathology archive of University of Maiduguri Teaching Hospital during the period of January to December 2019. The negative control is normal liver tissue obtained from postmortem. The study collected data from the histopathology archive of the hospital. Formalin-fixed paraffin-embedded liver biopsy samples were obtained from the pathology department of a hospital. The samples were selected based on their diagnosis of various diseases, including but not limited to liver cirrhosis, hepatitis, and liver cancer and cut into thin sections (3 microns) using a microtome and mounted on glass slides. Staining for ferric iron: The presence or absence of ferric iron in the liver biopsy samples was determined using the Prussian blue stain, while staining for calcium ion: The presence or absence of calcium ion in the liver biopsy samples was determined using modified

Von Kossa staining techniques. The sections were deparaffinized, rehydrated, and then placed in 1.5% silver nitrate solution, in a dark cupboard for 20 minutes. All stained slides were finally dehydrated, cleared and mounted before histological examination

The study found that the staining techniques employed in this study were reliable and effective for detecting ferric iron and calcium ion in FFPE liver biopsies, but did not determine the presence of these ions in any of the samples which are formalin-fixed paraffin-embedded liver biopsies diagnosed with various diseases namely: chronic active hepatitis, fatty change, liver cirrhosis, metastatic adenocarcinoma, metastatic squamous cell carcinoma, multiple non neoplastic liver cyst and primary liver cell carcinoma as diagnosed. However, the results of the study did not reveal any positive correlation between the presence of ferric iron and calcium ion and various liver diseases. Therefore, the study did not find evidence to support the hypothesis that patients with liver disease should take iron and/or calcium supplements. These findings highlight the need for further research to fully understand the role of iron and calcium in liver disease.



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Non-alcoholic Fatty Liver Disease. Prevalence and Risk Factors

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Dysmetabolic fatty liver disease is the most common cause of chronic liver disease. The data in the literature are based on samples of great heterogeneity and variability. These are related to ethnic or geographical origin, nature and duration of exposure to different metabolic risk factors. The objective of the study was to determine the prevalence, severity and factors of occurrence of NAFLD in patients at metabolic risk.

The study included 485 patients prospectively recruited over a 4-year period (March 2018 - June 2022). The recruitment method was the systematic search for NAFLD in 144 (30%) patients with at least one metabolic risk factor, an appearance of liver overload on imaging in 231 (48%) cases, disturbed liver biology in 96 (20%) patients and advanced liver disease in 14 (3%) patients. The diagnosis of NAFLD was made on the basis of imaging data and after exclusion of causes of secondary steatosis and/or chronic non-steatotic liver disease.

350 cases of dysmetabolic steatopathy (93 M, 241 F) were retained. The overall prevalence of NAFLD was 72.1%. Overweight or obesity was present in 91% of cases with increased waist circumference in all women and 85% of men. Glycemic disorder was present in 82% of cases (T2DM: 54%, prediabetes: 28%) and metabolic syndrome, hypertension or dyslipidemia in 81.7%, 53% and 89% of cases respectively.

The HSI score was more contributory for the diagnosis of steatosis (80% positive) than the FLI. The liver had a hyperechoic appearance in 91% of cases, normoechoic in 3% of patients, with a CAP value ≥ 275 db/m and at the cirrhosis stage in 6% of cases. Liver elasticity was ≤ 7.9 kPa, in more than 75% of patients, 14% had a liver elasticity value > 12 kPa and 10% were in the gray zone. One patient out of two had moderate and fluctuating hepatic cytolysis.

Liver biopsy (LB), proposed to 185 (52.8%) patients, was performed and interpreted in 149 cases (18 refusals, 12 contraindications, 6 failures). NASH was diagnosed in 120 cases (80% of LB and 34.3% of the total cohort). Fibrosis was significant in 55% and advanced in 27.5% of cases. Non-invasive tests (NITs) for fibrosis, elastography and serum fibrosis biomarkers (NFS, FIB4 and APRI) were in strong agreement with the histological data.

In multivariate analysis, the factors independently associated with the occurrence of NAFLD were: the presence of T2DM, abdominal obesity and elevated GGT.

The independent risk factors for the occurrence of NASH in NAFLD patients were: the presence of high blood pressure, elevated AST, GGT or total bilirubin and low LDLc.

Independent risk factors for the occurrence of advanced fibrosis were disturbed liver elasticity, ALT, NFS score and LDLc.

Dysmetabolic steatopathy is highly prevalent in populations with metabolic risk factor or unexplained chronic cytolysis. Ultrasound and HSI score are sensitive screening tools. Calculation of the FIB4 score is sufficient to exclude the presence of significant fibrosis. Diabetic patients are at high risk of advanced fibrosis; FIB-4 should be systematically associated with pulse elastometry.



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Trends and Risk Factors Associated with Liver Diseases among PLHIV on Anti-retroviral Therapy in Imo, South East, Nigeria.

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Background: HIV/AIDS continues to constitute a major public problem in low-income setting and Liver diseases are a momentous cause of illness and mortality among People Living with HIV (PLHIV) on anti-retroviral therapy (ART) in Imo, thereby reducing the quality of life among PLHIV. Understanding the patterns and pre-disposing factors associated with liver diseases in this population is fundamental for improving clients' treatment outcomes and guiding public-health interventions. Thus, this study was designed to examine the trends in liver diseases and their risk factors among PLHIV on ART in Imo, South East, Nigeria.

Material and Methods: A retrospective cohort-study was conducted, electronic medical-records of 1,200 PLHIV age ≥ 21 yrs initiated on ART in three major health facilities in Imo State, between 2017-2022 were utilized. The CAGE-scale, a four question-screening instrument was used to assess alcohol use disorder among study participants. Data were entered into SPSS version 26 and analyzed using descriptive statistics (mean, median, standard deviation, and frequency distribution). Multivariate logistic regression was used to identify significant risk-factors associated with liver diseases, at $p < 0.05$ significance level.

Results: 650 females (54.2%) and 550 males (45.8%) participated in the study, with mean age 38.5 years (SD = 9.2). The prevalence of liver diseases among the cohort was 32% (384). The commonest liver diseases identified were hepatitis B (50%), hepatitis C (33.3%), non-alcoholic fatty liver disease (NAFLD) (16.7%), and ART-induced hepatotoxicity (6.3%). The mean ART duration among PLHIV with liver diseases was 7.3 years

(SD=3.1 years). Risk factors associated with liver diseases among the PLHIV on ART includes; Prolonged duration of ART (Adjusted RR=1.38, 95%CI: 1.17-1.62), Co-infection with hepatitis B (Adjusted RR=1.95, 95%CI: 1.62-2.34), Co-infection with hepatitis C (Adjusted RR=1.72, 95%CI: 1.37-2.16); Obesity (Adjusted RR=1.50, 95%CI: 1.25-1.80), Diabetes (Adjusted RR=1.40, 95%CI: 1.17-1.68), Alcohol consumption (Adjusted RR=1.45, 95%CI: 1.21-1.73) and low education levels (RR = 1.35, 95%CI: 1.12-1.62, Adjusted RR=1.25, 95%CI: 1.05-1.49).

Conclusions: Liver-morbidities among PLHIV on ART are prevalent and influenced by a complex interplay of long duration on ART, co-infections, metabolic changes, and socio-economic conditions. Public-health strategies addressing these risk-factors through regular screening, appropriate ART-regimen, treatment of co-infections, and promoting healthy lifestyles are crucial among this population.



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Metabolic Dysfunction Associated Steatotic Liver Disease among Patients with Nafld and Metabolic Syndrome at the MOI Teaching and Referral Hospital, Eldoret, Kenya

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Background: Metabolic dysfunction associated steatotic liver disease (MASLD) is a chronic liver disease that is part of a spectrum of steatotic liver diseases. MASLD is a new term that has replaced non-alcoholic fatty liver disease (NAFLD) after a multi-society Delphi consensus in July 2023. MASLD diagnostic criteria include the presence of liver steatosis and at least one of five cardio-metabolic criteria for metabolic syndrome in the absence of significant alcohol use. The global prevalence of MASLD is about 25%, however, there is a paucity of data on its prevalence in Kenya.

Objectives: To determine the proportion of patients with MASLD among patients with NAFLD and metabolic syndrome.

Material and Methods: From November 2022 to April 2023, and using consecutive sampling technique, a cross-sectional study of 160 patients with metabolic syndrome was carried out. Recruitment sites included medical outpatient clinic, diabetic outpatient clinic and cardiac clinic at the Moi Teaching and Referral Hospital. Screening for alcohol use was done using the AUDIT C tool. All patients with a high AUDIT C score were excluded from this study. Data collected included lipid profile, liver function test, platelet count and anthropometric measurements namely waist circumference, weight and height. NAFLD was determined by grey scale ultrasound. Statistical significance of associations between NAFLD and clinical characteristics was determined

using logistic regression. A p-value of ≤ 0.05 was considered significant.

Results: The majority of study participants 117 (73.1%) were female; the mean age was 58 (SD 11.8) years. A total of 126 (78.8%) had NAFLD (95% CI 71.6, 84.8). Since 100 percent of the study participants had metabolic syndrome, then all the patients with NAFLD had MASLD, thus the prevalence of MASLD among patients with metabolic syndrome was 78.8% (95% CI 71.6, 84.8). There were no statistically significant associations between NAFLD and clinical as well as socio-demographic characteristics

Conclusions: There is a high prevalence of MASLD among patients with metabolic syndrome and NAFLD. There were no statistically significant associations between clinical, socio-demographic characteristics and MASLD.

Recommendations: Patients with metabolic syndrome should be screened for MASLD.



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Clinical Characteristics and Management of Liver Abscess in the Gambia, a Resource Limited Countries

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Background: Liver abscess is endemic in the resource limited countries such as The Gambia where access to advance imaging techniques or modern treatment modalities is limited. The study therefore assesses the clinical characteristics and management of liver abscess in the Gambia, a resource limited country.

Material and Methods: This was a retrospective cross-sectional study conducted at the liver clinic of the Edward Francis Small Teaching Hospital from January 2020 to July 2023. The study used a structured questionnaire to extract secondary data from the patient's records, which included demographic data, duration of admission, duration of symptoms, symptoms, signs, liver abscess size and location, laboratory investigations, treatment, and clinical outcomes

Results: Thirty patients were evaluated and included in the study. The median age of this patients was 34 (10-73). There were 17 (56.7%) males with a male to female ratio of 1.3:1. The most common symptoms were abdominal pain 28 (93.3%), weight loss 27 (90%) and fever 27 (90%). The most common sign was hepatomegaly 26 (86.7%). Twenty five (83.3%) of the patients had single abscess and the majority of the abscesses were localized in the right lobe of the liver 26 (86.7%). Patients who had giant liver abscess were more likely to have abdominal distension 18 (90 %) vs 5 (50%), p value=0.026, hepatomegaly 20 (100 %) vs 6 (60%), p value=0.008, hypoalbuminaemia 25.9 g/l (10.7-44.7) vs 35.3 g/l (27.7-38.1), p value=0.029 and longer duration of symptoms 28 days (14-120) vs 14 days (4-53), p value= 0.026 as compared to those with non-giant had liver abscess. Patients who had ultrasound assisted percutaneous needle aspiration and antibiotics were also more likely to have hepatomegaly 24 (96%) vs 2 (40%), p value=0.009 as compared to

those who had antibiotic treatment only. There was one mortality (3.3%).

Conclusions: Liver abscess affects mostly males with clinical, laboratory and radiological investigations are consistent with late presentation in The Gambia. Despite this and the lack of diagnostics and material resources, the presence of trained personnel and specialist liver clinic can help improve the prognosis of liver abscess in resource limited countries.



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Effect of Cholecystectomy on Liver Fat and Fibrosis in NAFLD/NASH Patients. Prospective Study

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We aimed to prospectively evaluate the effect of Chx on HS and fibrosis, to assess the prevalence of NAFLD and to identify its risk factors(RF) in this population.

Methods: 213 NAFLD patients were included, divided into two groups Chx(n=103) and non-Chx(n=110). At least a 12-month follow-up is conducted.

Results: BMI increased in Chx group (30.15 ± 4.08 to 31.58 ± 4.64) Vs (31.90 ± 4.07 to 30.03 ± 4.16) in the control group ($p < 0.001$). Median CAP increased from 300.77 ± 47.42 to 314.17 ± 44.7 (Chx) and decreased from 325.06 ± 41.74 to 296.36 ± 56.51 (control) ($p < 0.01$). HS/MRI moved from 14.22 ± 8.64 and 18.55 ± 8.57 at baseline to 15.98 ± 7.93 and 13.88 ± 8.12 at the end of the study ($p < 0.001$). The biological scores of HS (FLI, HSI and LAP) all progressed in the Chx group and regressed in the control group ($p < 0.001$).

The prevalence of HS was 42.38% (Chx). RF associated with significant HS were metabolic syndrome (MS), Chx, HS/MRI and FLI score. RF associated with advanced fibrosis are BARD score, stiffness and Chx. Stiffness, obesity, Chx, GGT and HS/MRI are associated with NASH lesions.

Conclusion: Chx increases HS and fibrosis. NAFLD prevalence in Chx group is higher than overall population.



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Thrombin Time Clotting Assay as a Predictor Marker of Bleeding Risk in Individuals with Non-alcoholic Fatty Liver Disease Attending Clinics in University of Calabar Teaching Hospital, Calabar, Nigeria

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Non-alcoholic fatty liver disease (NAFLD) is now the leading cause of liver disease, and its prevalence is expected to increase in the future due to the increasing prevalence of obesity and an increasing aging population. The aim of this study is to investigate the coagulation parameters in individuals with Non-Alcoholic Fatty Liver Disease (NAFLD) attending clinic at Medicine outpatient and Internal Medicine Department, University of Calabar Teaching Hospital, Calabar, Nigeria. A total number of 40 subjects (20 controls and 20 patients) were selected. PT, APTT and TT testing were performed using one stage method.

The results were presented in percentages, student's t-test and Pearson's correlation. Result shows the demographic distribution with the highest percentage age range of 40 - 60 (70%), male (45%), female (55%), married individual (100%) and duration of having NAFLD 2 years and above (95%). NAFLD patients had higher mean values of BMI, SBP and DBP vital signs (36kg/m², 138mmHg and 85mmHg) than the control subjects (26kg/m², 106mmHg and 68mmHg). The TT parameters shows a strong significant ($p < 0.05$) prolongation in NAFLD patients (21secs) when compared with the control subjects (13secs), while APTT show mild prolongation. Females had higher value of weight in contrast to males. There was also a mild positive correlation ($r = 0.212$; $p < 0.05$) between TT and APTT of NAFLD patients. In conclusion, the finding of this study suggests that TT should be included as a marker for easy

investigation of NAFLD and to identify potential bleeding or clotting risks for proper management.

