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Abstracts
Oral Presentations
Hepatitis B stigma by association with HIV in Zambia

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Background:
In Africa, where hepatitis B virus (HBV) infection is common, testing high risk groups could be an efficient approach to diagnose and link chronic carriers to treatment. We evaluated HBV disclosure and contact testing in Lusaka, Zambia, and investigated stigma as a barrier to HBV contact testing and uptake of HBV care.

Methods:
In Zambia, where adult HIV prevalence is 12% and hepatitis B surface antigen (HBsAg) positivity is 5.6%, we established a prospective HBV monoinfection cohort at a tertiary care hospital. Patients seeking HBV care and who were 18+ years old, HBsAg-positive, and HIV-negative, were eligible to participate. At baseline, we assessed sociodemographic and clinical characteristics, measured markers of HBV and liver disease, and prescribed HBV antiviral therapy per WHO guidelines. An 8-item chronic disease stigma scale was administered to assess enacted and internalized stigma. We enumerated contacts of HBV patients (sexual partners, 1st degree relatives, and household members) and assessed disclosure to and HBV testing among contacts. With logistic regression, we analyzed correlates of disclosure. We also held sex-stratified focus group discussions (FGDs) with participants to better understand barriers and facilitators to disclosure and HBV testing. FGD transcripts were coded using a thematic analysis approach.

Results:
We enumerated 776 contacts from 79 surveyed participants (median age 35 years; 27% female). Although 88.6% of HBV patients reported disclosure to ≥1 contact, less than half of overall contacts were disclosed to (n=326; 42%) and only 69 (8.9%) contacts were HBV-tested. We conducted 5 FGDs with 32 participants. FGD participants explained that stigma was a major barrier to HBV disclosure and testing, driven by limited awareness and knowledge of HBV, and the association between HBV and HIV. Like HIV, HBV was assumed to be sexually transmitted and participants reported being accused of promiscuity after disclosure. Stigma was also experienced when taking antivirals for HBV, as the same medication (fixed dose combination tenofovir and lamivudine) is prescribed in Zambia for HIV. Participants felt stigmatized waiting in the pharmacy line for HBV medication along with HIV-infected people. In multivariable regression, a 1-unit increase in stigma score was associated with a 12% reduction in the odds of disclosure (adjusted odds ratio, 0.88; 95% CI, 0.78-0.99).

Conclusions:
HBV monoinfected individuals may experience stigma by association with HIV. Stigma may undermine HBV disclosure and contact testing and should be further investigated and addressed as HBV care is scaled-up.
Prevalence estimates of chronic hepatitis B virus infection: a comparative study of four sources and implications for burden assessment in sub-Saharan Africa

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Background: Progress towards hepatitis B virus (HBV) elimination goals requires accurate quantification of chronic infection prevalence, particularly in sub-Saharan Africa where burden is high and in children 5 years of age which serve as an indicator of vaccination programme impact.

Four widely cited sources of HBV burden estimates include the World Health Organization (WHO), the Institute for Health Metrics and Evaluation (IHME), Schweitzer et al and the CDA Foundation, each of which have used different Methods to generate country-level estimates of chronic HBV prevalence from published serosurveys and unpublished national data. The WHO, IHME and Schweitzer conducted meta-analyses, whereas the CDA identified the single highest-quality country-specific prevalence estimate to use in a dynamic transmission model. These sources have estimated global prevalence at 3.5-6.3% in the general population and 1.3-4.0% in children under 5 years. We compared these estimates on different geographical levels to understand where differences arise and assess their implications for HBV burden assessment in sub-Saharan Africa.

Methods: The most recent country-level prevalence estimates in the general population and in children under 5 years of age were collated and comparable world regional prevalence estimates were computed. The variability of point estimates for the HBV prevalence in each country and pairwise differences between data sources were analysed.

Results: Overall, different estimates of HBV prevalence in the general population were comparable on a global, regional and national level, except for large differences in some countries with high burden or with no empirical seroprevalence data. Estimates from IHME, however, were consistently higher than other estimates. WHO and CDA produced the most similar sets of estimates of country-level prevalence based on more recent literature reviews.

In sub-Saharan Africa, pooled estimates of general population HBV prevalence ranged from 6.4% to 10.6% across different sources. In this region, Schweitzer country-level estimates were numerically closest to those from IHME despite methodological similarity to the WHO. The different perspectives taken by the WHO and CDA on the available data also gave rise to big differences between their prevalence estimates in some sub-Saharan African countries. However, large discrepancies were not associated with greater uncertainty in the WHO estimate, indicating that differences between these sources may reflect low quality rather than lack of seroprevalence data in a country.

Country-level estimates of prevalence in children under 5 years of age were highly divergent especially in sub-Saharan Africa, showing nearly twice the variability of general population estimates. Despite identical WHO and CDA global estimates in children, they differed by a median of 1.75 percentage points (IQR 0.94%-2.46%) in sub-Saharan African countries and showed a trend towards a higher WHO estimate.

Conclusion: These results suggest that differences between estimates are attributable to a combination of currency and quality of included primary data and of modelling strategy. They highlight the need for up-to-date high-quality seroprevalence data in sub-Saharan African countries with and without previous serosurveys, and regular refining of modelled estimates with new data. Age-specific prevalence data in young children seemed to be lacking and was identified as a priority for data collection.
Epidemiology of hepatitis B and evaluation of vaccine efficacy in a census-based community serosurvey of Ndirande township in Blantyre, Malawi

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Introduction: In sub-Saharan Africa, hepatitis B (HBV) is the principle cause of hepatocellular carcinoma and cirrhosis. In Malawi, the epidemiology of HBV has not previously been characterised in a sample that is representative of the general population. The infant HBV vaccine, provided at 6, 10 and 14 weeks, was introduced in 2002 and an assessment of vaccine impact is required. Previous reports from Malawi, predominantly employing convenience sampling, estimated HBV prevalence of 8%.

Methods: We tested 5748 individuals residing in Ndirande, an urban township in Blantyre, Malawi, who were participants in the STRATAA study (Strategic use of Typhoid vaccines across Asia and Africa) for hepatitis B surface antigen using a GPS-mapped census of the township (n=97,411), with oversampling of younger and older age groups. We used a laboratory ELISA (MONOLISA HBsAg Ultra, Bio-Rad, France) with parallel repeat testing of indeterminate samples (optical density ratio 0.9-4). We examined effect of gender using logistic regression and calculated age-sex standardised prevalence using census data, stratified by time of vaccine Introduction.

Results: Among individuals aged 0-4, 5-14, 15-34, 35-50 and >50 years, the prevalence of HBsAg was 0% (95% confidence interval 0-1.9), 0.6% (0.3-1.0), 4.6% (3.7-5.7), 5.8% (4.4-7.4), and 2.7% (1.8-4.2), respectively. HBV infection was not associated with gender, after adjustment for age (odds ratio for female vs male 0.9 (95% CI 0.7–1.3, p=0.7)). Age-sex standardised HBV prevalence among individuals born before compared to after Introduction of the vaccine was 4.9% (95% CI: 4.0, 5.7) and 0.4% (95% CI 0.2, 0.6), p<0.001, respectively. Vaccination status was reported for 177/203 (87%) of children tested who were <5 years and 176/177 (99%) reported receiving 3 doses of HBV vaccination; no cases of HBV infection in children <5 years were identified. Among 1750 participants who had an HIV test in the preceding 3 months, or who had previously known HIV infection, HBV prevalence was 5.9% (95% CI 4.8, 7.2) in HIV negative and 8.9% (4.4, 15.8) in HIV positive participants, (odds ratio 1.6, (95% CI 0.8-3.1), p=0.20).

Conclusions: In an urban township in Malawi, hepatitis B was of intermediate prevalence (4.9%) in individuals born prior to the Introduction of the HBV vaccination in 2012. HBV prevalence was 91% lower among children born after the introduction of the vaccine. Very high rates of vaccination were reported and no cases of hepatitis B infection were identified in children aged under 5 years.
Hepatitis B screening and prevention integration into antenatal care and delivery services in an urban cohort in Mozambique

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Introduction: Hepatitis B infection (HBV) in endemic areas is most commonly spread from mother-to-child at birth or from person-to-person in early childhood. To prevent mother-to-child transmission (PMTCT), WHO recommends antenatal HBsAg screening when HBV prevalence is >2%, identification of pregnant women with high HBV viremia, assess the need for prophylactic antiviral therapy in third trimester, birth-dose (BD) HBV vaccine inclusion into the universal vaccination schedule and full HBV vaccine coverage. According to WHO, in 2017 the HBV prevalence estimate in Africa was 6.1%. Mozambique’s reported prevalence is as high or higher than regional estimates. Neither screening not BD vaccine and HBV treatment are available for PMTCT in Mozambique’s public health system. Since November 2017, Médecins sans Frontières (MSF) supports MoH piloting HBV diagnosis, care and prevention integration into existing HIV PMTCT in an urban maternity in Mozambique. We present the first Results of these screening activities.

Methods: As part of routine ante-natal care and delivery services, all pregnant women were offered screening with HBsAg rapid diagnostic test (Alere Determine™ HBsAg). When positive, blood was collected for HBeAg, HBV Viral Load (VL) and AST/Platelets ratio (APRI) and clinical evaluation was performed. Women meeting WHO criteria were offered treatment and all exposed newborns were offered BD vaccine.

Results: From November 2017- May 2018, 2197 pregnant women were screened for HBsAg, (median age 27 [IQR 22-30]). Among them, 78 (3.5%) were HBsAg positive. In HBsAg+, HIV coinfection was detected in 28.2% patients. Five HBsAg positive women (6%) were detected during the first trimester, 37 (48%) in the second, 30 (38%) in the third, and 6 (8%) at delivery. Out of 65 serological Results available: 6 (9.2%) were HBeAg reactive (all with HBV VL ≥ 104 IU/ml). HBV DNA VL level >200,000 UI/ml is considered for TDF peripertum, which corresponds just to 3 patients (4.6%) in our cohort. The APRI score was calculated at the first consultation for 44 patients: 42 (95.5%) patients showed APRI<1, and 2 (4.6%) patients with APRI<1.5. No patient had APRI >2, or abnormal ALT level, then no patient satisfied HBV treatment criteria.

Conclusion: Integration of HBV care into current MoH ANC and Maternity services was successfully implemented, showing the HBV PMTCT intervention feasibility and sustainability for public health system in long term. We documented an HBV prevalence of 3.5% in an urban cohort of pregnant women in Mozambique, highlighting the need for implementing routine HBsAg screening during ANC and delivery services, HBV birth-dose vaccination inclusion in the routine national immunization schedule and access to HBV treatment.
Population-based evaluation of hepatitis B markers and criteria for antiviral therapy in Lusaka Province, Zambia

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Background: We are conducting a population-based survey of hepatitis B virus (HBV) markers in Zambia to determine risk factors and to estimate the proportion who need antiviral therapy. An interim analysis is now presented.

Methods: In Lusaka Province, we selected 8 health facility catchment areas at random (among 85 enumerated) with probability of selection according to population size. At each selected area, 1 neighborhood zone was chosen at random and from a central landmark within the zone, every 3rd household was recruited up to 100. All adults (18+ years old) within selected households were study-eligible and repeat visits were made to maximize the number of participants per household. After obtaining written informed consent, we conducted rapid point-of-care hepatitis B surface antigen (HBsAg; Determine, Alere) testing, a sociodemographic and HBV risk factor questionnaire, and in the first 4 areas, we also collected a dried blood spot (DBS) card via finger prick. HIV testing was available but optional. Participants with HBsAg-positive results were linked to a referral hospital for measurement of ALT, AST, hepatitis B e antigen, HBV DNA, platelets, and liver stiffness by elastography. ALT elevation was defined as >30 U/L for men and >19 for women. Within 7 days of collection, DBS were stored at -20 C, then eluted with PBS and tested for HBV core antibodies (Murex anti-total Hbc, Diasorin). We defined lifetime HBV infection as either surface or core positivity among the group with both measures. Sociodemographic, sexual risk, and geographic (rural versus urban) factors associated with HBV infection at P<0.2 in bivariable analysis were included in a multivariable logistic regression model. Among the HBsAg-positives, we described the proportion who linked to hospital care. In that group, we described the proportion who met either World Health Organization (WHO) or European Association for Study of the Liver (EASL) criteria for antiviral therapy.

Results: From June 2017-February 2018, 1,514 households were selected at random, 1,165 (76.9%) participated, and 2,566 adults consented (2.2 per household). Median age was 30 years (interquartile range, 23-42), 42.1% were men, and 13.5% were HIV-positive. HBsAg-positivity was documented in 108 (4.2%; 95% confidence interval, 3.4 -5.1%) and anti-HBc-positivity was seen in 25.6% of DBS tested. Increasing age, male sex, greater number of lifetime sexual partners, and having multiple partners in the prior year were linked with HBV infection in bivariable but not multivariable analysis. Among HBsAg-positives, 90 (83.3%) were linked to the hospital, and clinical data from 75 were analyzed. Of these, 20 (29.3%) were HBeAg-positive, 25 (36.2%) had HBV DNA >2,000 IU/ml, 34 (47.9%) had elevated ALT. Among those without HIV (n=70), 16 (22.8%) met either WHO or EASL criteria for antiviral therapy. None of the HBsAg-positive individuals assessed at the hospital had signs or symptoms of HBV.

Discussion: Although not statistically significant, trends toward increasing HBV infection with increased age and sexual risk may be evidence of horizontal transmission in Zambia. Approximately 1 in 5 HBV monoinfected adults in Lusaka Province, Zambia, met international criteria for antiviral therapy.
Treatment of chronic hepatitis B in sub-Saharan Africa: 3-year Results of a pilot program in Ethiopia

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Background: The World Health Organization has set an ambitious goal of eliminating viral hepatitis as a major public health threat by 2030. In sub-Saharan Africa, however, antiviral treatment of chronic hepatitis B (CHB) is virtually unavailable. Here we present 3-year Results of a pilot CHB treatment program in Ethiopia.

Materials and Methods: Adults (≥18 years) with CHB were included in a cohort study at St. Paul’s Hospital Millennium Medical College, Addis Ababa, from February 2015. Patients who were HIV positive at presentation were not included, but rather transferred to the nearest HIV care and treatment center.

The baseline assessment included liver function tests, viral markers and transient elastography (Fibroscan 402, Echosense, France). Tenofovir disoproxil fumarate (TDF) was initiated based on the European Association for the Study of the Liver (EASL) criteria, with some modifications. Changes in laboratory markers were analyzed using Wilcoxon signed-rank tests. Adherence to therapy was measured by pharmacy refill data.

Results: In total, 1303 patients were included in the program; 533 (40.9%) were women and the median age was 31 years (interquartile range 26-40). Co-infections were rare: 28 patients (2.1%) were anti-HCV positive, and 19 (1.5%) were anti-HDV positive. The majority had a normal (≤40 U/L) alanine aminotransferase (ALT) (78.9%) and a low (≤2000 IU/ml) viraemia (56.5%) at baseline. Of 1188 patients with a valid Fibroscan result at baseline, 309 (26.0%) had significant fibrosis (>7.9 kPa).

Overall, 282 individuals (21.6%) met the treatment eligibility criteria and started TDF therapy. Of these, 37 (13.1%) died within the first 3 years of follow-up, 35 of whom had decompensated cirrhosis at baseline. Ten (3.5%) patients self-stopped treatment, 13 (4.6%) were lost to follow-up, and 6 (2.1%) were transferred out.

In patients who completed 12 months of treatment, the median Fibroscan value declined from 12.8 to 10.4 kPa (p<0.001), 172 of 202 (85.1%) patients with available pharmacy refill data had taken >95% of their tablets, and 160 of 188 (85.1%) patients with a viral load Results had suppressed viraemia.

Conclusions: This pilot program demonstrated that antiviral therapy of CHB can be realized in Ethiopia with good clinical and virological response. Early mortality was high in patients with decompensated cirrhosis, underscoring the need for earlier identification and treatment of people living with CHB in sub-Saharan Africa.
Characterization of Hepatitis B Virus (HBV) Among Liver Patients in Kenya

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Abstract Background: Among the two billion people infected worldwide with Hepatitis B virus (HBV), more than 400 million are chronically infected. HBV is classified into nine genotypes (A-I) that are epidemiologically distributed. In Kenya, data on HBV genotypes among chronic patients is rare.

Objectives: This cross-sectional study investigated the HBV genotypes, full S-region and Basal Core Promoter (BCP) mutations among jaundiced patients enrolled at liver clinics in Kenya.

Methodology: Hepatitis B surface Antigen (HBsAg), HBeAg, anti-HIV, and anti-HCV were detected using commercially available kits. BCP, Pre-core and full surface (S) regions of the viral genome were amplified, purified and sequenced.

Results: Fifty-four (61.4%) of 88 samples were HBsAg positive of which HBV genotype A was prevalent 34/44 (77.2%) followed by HBV genotype D 6/44 (13.6%) and lastly genotype E 1/44(2.2%). Three samples 3/44 (6.8%) were circulating recombinants and recombination analysis of the full genome sequences showed two unique recombinants (A/E and D/E) circulating in Kenya with nucleotide divergence of >4%. There was a clear distinction between A1 Asia and A1 African subgenotypes with the asian clade clustering with Indian and Bangladesh isolates, whereas, A1(African) clustered with isolates from South, Central and East Africa. Majority of HBV genotype D, were subgenotype D6 (66.7%) clustering with isolates from Egypt and Iran, and 33.3% was subgenotype D4 that clustered with isolates from West Africa. The genotype E clustered with Genotypes from West Africa. 1/44 (Twenty two (40.7%) had elevated ALT and 36 (66.7%) were HBeAg negative.

HBV-core promoter mutations (A1762T/G1764A) were present in 11/44 (25%) of patients, whereas, pre-core G1896A mutation was detected in 4/44 (9.1%) of patients. A1762T/G1764A, G1862T and G1896A mutations are associated with HBeAg negative status. T86S mutation was the most common mutation in PreS1 region; 24/43 (55.8 %) and 20/43 (46.5%) had mutation in PreS2 region (P54S, G19D and A24V). Two drug resistance; sS204N and rtS202I mutations were detected among chronic patients.

Conclusion: The HBV genotype A is the most aggressive genotype leading to chronic infections. The clear distinctions of HBV A1 subgenotypes depict population migration. Presence of A1762T/G1764A and G1896A mutations may be an indicator for increase in Hepatocellular carcinoma and severe liver disease. S-gene mutations may lead to occult HBV. Combination therapy for Chronic HBV patients as initial strategy is required for patients with inadequate response to mono-therapy.
Prevalence of HBV and HCV infections in screened people in Rwanda during WHD 2017 campaign

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Background: The Rwandan government has shown continued commitment to expanding its capacity to screen, diagnose and treat patients with chronic hepatitis B (HBV) and hepatitis C (HCV) infection. However, both public awareness of VH and existing data on the epidemiology of chronic HBV and HCV infection in Rwanda is limited.

Methods: The decision to conduct campaigns was prompted by a need to raise awareness and drive demand for screening and to kick-off long-term scale-up of access to screening, diagnostics and treatment for HBV and HCV. Screening include general population targeted individuals aged >45 years in lower socio-economic groups and lasted for one week at one designated location per district. Number of screens per district was allocated based on population and sensitization was done through multimedia announcements and local church leaders. Healthcare workers were introduced and trained in VH screening, diagnosis and patient counseling. Bivariate and multivariate logistic regressions were used to assess factors associated with HBSAg in screened people.

Results: A total of 181,454 individuals were screened in Rwanda during the campaign. Number of individuals who screened positive for HBs Ag in different populations were 7254(4.1%). Number of individuals who screened anti-HCV positive were 14561(8.2%). Among people screened positive for HCV, 52.8% of them were confirmed positive for chronic HCV. The high prevalence of HCV for both Ab and VL was found in aged people.

Conclusions: The campaign resulted in one of the largest number of individuals screened for HBV and HCV in the region and built capacity for routine hepatitis testing. Population sensitization helped raise general awareness for VH. Results from the campaign serve as preliminary evidence for variations in prevalence across different populations. Rwanda’s experience serves as important evidence for other low and middle-income countries. Furthermore, campaign Results will be used to plan national services for future integration and decentralization of screening into routine care at lower-level health centers.
HCV diagnosis and direct-acting antiviral agents-based treatment for HIV/HCV co-infected patients in a primary care setting in Maputo, Mozambique

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Background and Aims: direct-acting antiviral agents (DAAs) for HCV treatment has been associated with high rates of sustained virological response at week 12 after treatment completion (SVR12) and a good safety profile in HIV+/HCV+ individuals in clinical trials. We aimed to assess the HCV diagnosis and DAA-based treatment feasibility in a MoH primary care setting in Maputo, Mozambique.

Material and Methods: we included for analysis the active cohort of HIV-positive adults enrolled for HIV care between March 2015-March 2018 in a MSF supported Minister of Health HIV clinic in a primary health centre in Maputo, Mozambique.

Results: Among 1643 active patients enrolled between March 2015-July 2017, 1524 (92.7%) were screened for HCV antibodies (OraQuick HCV Rapid Antibody Test, OraSure Technologies, Bethlehem, USA): 133 (8.7%) patients tested antibodies positive, among them 86% had VL detectable. GNT 1a was detected in 84% of cases, 9.8% were GNT 4, and 3.2%, GNT 3, and one case of GNT 5. Among patients with HCV VL detectable, 87% were men, with a mean age of 37 years, and 90% had a history of injectable drugs abuse. The fibrosis score by Fibroscan® was F0-F1 for 82% of patients, F2-F3 for 10%, F3-F4 for 8%.

A total of 31 HIV/HCV patients were initiated on DAAs from December 2016 up to March 2018 and 23 of them completed treatment. All patients were on antiretroviral treatment at HCV treatment initiation, 35% being on second line regimen. No severe side effects reported. No defaulters or treatment discontinuation in this cohort. VL follow-up 12 weeks after the end of treatment was done for 15 patients: 12 (80%) with SVR12 achieved and 3 failures, one with a rNS5A resistance mutation detected after treatment.

Conclusions: this is the first experience of HCV treatment in the primary care setting in public health sector in Mozambique. Injectable drugs use appears as main risk factor for HCV infection. A more comprehensive package of care with targeted testing, harm reduction intervention and treatment need to be offered to PWUDs, most at risk population. Inclusion of HCV routine diagnosis followed by access to treatment by new DAAs in primary HIV care setting is feasible in this context.
Ledipasvir/Sofosbuvir for Treatment of Hepatitis C Virus Infection in Rwanda: Results from the SHARED Trial

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Background: Direct-acting antivirals have not been prospectively studied or well-utilized in sub-Saharan Africa (SSA).

Methods: The SHARED study evaluated safety and efficacy of 12 weeks daily LDV/SOF (90mg/400mg fixed-dose combination) in 300 HCV GT1 and/or GT4-infected Rwandans. Exclusion criteria included decompensated cirrhosis, HBV co-infection, uncontrolled HIV, tuberculosis, and hepatocellular carcinoma. Primary efficacy outcome was proportion of participants with unquantifiable viral load 12 weeks after treatment completion (SVR12). Primary safety and tolerability outcomes were proportion with grade 3/4 adverse events (AEs) and premature study drug discontinuation due to an AE. We used Abbott platforms to determine HCV viral load and GT and sequence-based BLAST analyses to determine HCV subtype. We assessed quality of life at entry and 24 weeks with validated questionnaires.

Results: Median age was 64 (n=300) with 63% women and 10% HIV-coinfected. 249 participants were reported to have GT4, 4 GT1, and 47 with assay reactivity to both GT1 and 4 ("1,4 reactive"). Sequencing analyses detected all GT4 with diverse subtypes: 4a (n=8), 4b (n=1), 4c (n=7), 4g (n=1), 4k (n=121), 4l (n=3), 4q (n=44), 4r (n=40), 4v (n=24), and novel subtypes (n=2). Overall, 261 (87%) participants achieved SVR12; 32 of 37 treatment failures were relapses. One patient was taken off protocol due to hepatic decompensation and one patient died. Risk factors for not achieving SVR12 included APRI>1.0 (OR=2.5; p=0.02) and "1,4 reactive" GT (OR=8.3; p<0.001). There were no drug-related AEs or laboratory abnormalities leading to treatment discontinuation. Adherence by pill count and self-report was >98%. Treatment was associated with significant improvements in physical and mental quality of life, depression, disclosure, employment and earnings, and food security.

Conclusions: LDV/SOF is safe and effective treatment for HCV in Rwanda. Task shifting and simplified on-treatment monitoring protocols are supported by the absence of treatment discontinuations due to AEs. The sub-optimal response rate in subtype 4r, a subtype uniquely expressed in this region, emphasizes the need for confirmatory SVR12 testing in clinical practice and evidence-based second-line treatment. This study supports HCV treatment scale-up in Rwanda and similar low-income settings in SSA.
Bacterial infections in cirrhosis patients: a retrospective epidemiologic study in Ghana university hospital

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Background: Cirrhosis of liver is the end stage of multiple processes that lead to hepatic failure and eventually death. Patients with cirrhosis are immunocompromised and are predisposed to develop bacterial infections, sepsis and severe sepsis. The most common infections in cirrhosis are Spontaneous Bacterial Peritonitis (SBP, 25%-31%) followed by Urinary Tract Infection (UTI, 20%-25%), Pneumonia (15%-21%), Bactere mia (12%) and Cellulitis (11%). The aim of the study was to first identify the most frequent infections in patients with liver cirrhosis and evaluate the role of bacterial infections in clinical outcome of cirrhotic patients. We also tried to identify the most common cause of cirrhosis in our population.

Methods: One hundred and ten (110) patients were included in our study. All of these patients had an established diagnosis of chronic liver failure and were admitted to the University hospital of Patras during a period of a year and a half. The following data were collected: Demographic characteristics (Age, Sex), Etiology of cirrhosis and the cause of admission. In specific interest the type of infection that was developed in all patients is included, as well as the frequency of those infections was observed.

Results: The mean age of all patients enrolled in our study was 61±13 years. Alcoholic cirrhosis was the main factor-etiologie of liver cirrhosis in our patient population. Male are significantly more than female patients (87.3% vs 12.7% retrospectively). In our study, the most frequent infections were Pneumonia (30.6%) and Spontaneous bacterial peritonitis (22.2%) followed by Gastrointestinal infections (GI) (13.9%) and Urinary tract infections (8.3%). Other types of infection were up to 13.9%. During the time of admission, there were 16 cases of bacterial infections diagnosed upon admission (<24 hours) and 5 cases of infections developed during hospitalization (>48 hours). Mortality rate was 9% (10 cases). Ten patients with sepsis or severe sepsis have died. All of them were treated with broad spectrum antibiotics within 24 hours from admission.

Conclusion: The present study showed a high incidence of Bacterial infections in patients with liver cirrhosis. Patients with chronic liver disease sustained impairment to their immune system (neutrophil and macrophage dysfunction) which worsens over time and disease progression and the reason predisposed for developing Bacterial infections. A high rate of suspicion is needed for an infectious process in all patients with liver cirrhosis. With early diagnosis of the site of infection and the appropriate antibiotic treatment the morbidity and mortality rate of bacterial infections in cirrhotic patients, can be decreased over the years.
Point-of-care testing for hepatitis B virus infection in a community-based occupational health cohort in the Western Cape Province, South Africa

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Background: The prevalence of active hepatitis B infections in the general South African population is currently unknown. This study aimed to determine the prevalence of active HBV in a community-based cohort using a point-of-care test (POCT) and to evaluate the perception of such testing to the study population and the nurses administering the POCT.

Material/Methods: Individuals attending occupational healthcare clinics in the Western Cape were recruited from April 2016 to February 2017. Following informed consent, HBV screening was performed using the Alere Determine™ HBSAg POCT. All positive and one in five negative Results were confirmed serologically on the Abbott ARCHITECT i2000SR system, and HB viral loads were determined using the Roche COBAS® AmpliPrep. HIV status if unknown was determined serologically on the Abbott ARCHITECT i2000SR system. Evaluation questionnaires on HBV POC testing were administered to one in five study participants and to the eight nurses providing the test.

Results: Of 960 individuals (median age: 35 [range: 19-63 years]) enrolled, 2.2% (95% CI 1.4%–3.3%) tested positive for HBSAg on the POCT and all 21 (17 men and 4 women) were confirmed positive by laboratory testing. HB positive individuals were successfully linked to long-term care and reviewed by a gastroenterologist at a local tertiary healthcare facility. One was positive for HBeAg, 19 were positive for antiHBe, and one was negative for both. Median viral load was 169 IU/ml (range: <20–469 000 IU/ml) and two patients had viral loads above 20 000 IU/ml. Three patients were co-infected with HIV. One mono-infected antiHBe positive patient with a viral load above 2000 IU/ml and elevated ALT levels (70 U/L) reached treatment threshold. Following review, she was commenced on tenofovir. Contacts of HBSAg positive individuals were invited for testing. Contacts of eight patients were tested, none had evidence of active HBV.

8.6% of negative POCT Results were tested serologically and all were confirmed negative. The test showed excellent performance with sensitivity, specificity, NPV, and PPV of 100% in this study. 209 people completed the evaluation questionnaire, of whom 14 refused testing (93% acceptance rate). Only 26.2% had pre-test knowledge of HBV. The main reasons for refusing testing were “not having enough time to be tested” (n = 4), “not being ready to be tested” (n = 3), and “not thinking they were at risk” (n = 3). All nurses reported the test was easy to perform and the majority agreed the test should be implemented in a healthcare setting.

Conclusions: The HBV prevalence in this community-based cohort was 2.2%, 81% of whom were male. The POCT performed well in the field and was acceptable to the tested population. Knowledge of HBV infection is low and should be addressed.
Mother-to-child transmission of hepatitis B virus in Windhoek, Namibia: transmission dynamics and prevention

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Background: Mother-to-child transmission (MTCT) has emerged as a major driver of the hepatitis B virus (HBV) epidemic in sub-Saharan Africa (SSA). The tools to eliminate this route of transmission are available. This study aimed to assess the feasibility of preventing MTCT of HBV through a screen-treat-vaccinate intervention.

Materials and Methodology: Consented pregnant women, attending an antenatal clinic in Windhoek, were screened for HBsAg by means of the Alere Determine HBsAg rapid test. Venous blood was collected from HBsAg positive patients for further HBV serological markers testing including HBeAg, anti-HBe, and anti-HBc IgM. Viral load was determined using the AmpliPrep/COBAS TaqMan HBV test V2.0. Genotyping and mutation analysis were performed through online HBV genotyping tools. Positive mothers at high risk of MTCT were reviewed for antiviral prophylaxis. HBV-exposed babies were immunized as per national guidelines, and followed-up to determine the rate of MTCT.

Preliminary Results: A total of 515 pregnant women participated to the study; 28 (5.4%) tested HBsAg-positive. Viral strains belonged to genotype E (8/11; 72.7%) and sub-genotype D1 (3/11; 27.3%). No drug resistance mutations were identified. Two (2/28; 7.14%) HBsAg/HBeAg-positive patients presented with viral load >10⁶IU/ml; one received antiviral prophylaxis with tenofovir, the other was offered prophylaxis but did not receive it. A total of 25, out of 28, HBV-exposed babies were successfully followed-up at six weeks of age. All babies received the birth dose HBV vaccine and all tested negative for HBsAg, including both babies born to patients at high risk of MTCT.

Preliminary Conclusion: A 5.4% HBsAg seroprevalence was observed amongst pregnant women in Windhoek. Two women (7.14%) were at high risk of infecting their infants. All infants received HBV birth dose vaccination. Through MTCT, HBV infection is perpetuated within communities. Elimination is achievable. To that aim, scale-up of HBV antenatal screening, HBV birth vaccination and antiviral prophylaxis for mothers at high risk of MTCT is essential.
Large-scale discovery and validation of blood and urinary discriminant metabolites as potential biomarkers for the diagnosis hepatocellular carcinoma in West Africa

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Background: Hepatocellular carcinoma (HCC) constitutes a major health burden globally, with West Africa being one of the regions with the highest incidence. This is due to the high prevalence of risk factors including chronic hepatitis B or C infection, exposure to aflatoxin, and consumption of locally brewed alcohol. Moreover, HCC has a worldwide mortality-to-incidence ratio of 95% and is the highest among all cancers in Africa. One of the main reasons for the high mortality is late diagnosis, when curative treatment options are no longer viable. Early diagnosis remains a challenge in West Africa due to scarce healthcare resources, cost barriers and insensitivity of population screening measures in detecting small tumours reliably. We aimed to identify a panel of discriminatory biomarkers that would be of diagnostic utility in easily accessible biofluids with the vision of developing an affordable test for use in the region.

Materials & Methods: We used urine and plasma/serum samples collected from patients enrolled in Nigeria and The Gambia for the Prevention of Liver Fibrosis and Carcinoma in Africa (PROLIFICA) study (n=994: 189 HCC, 109 cirrhosis, 528 chronic hepatitis B carriers and 168 healthy controls). Untargeted metabolic profiling was performed using proton nuclear magnetic resonance and liquid chromatography-mass spectrometry. Discriminatory signals were identified by multivariate statistical modelling using principal component analysis and the partial least squares method, followed by verification by univariate Mann-Whitney U tests.

Results: HCC samples cluster separately to hepatitis B carriers and healthy controls in principal component analyses in both urine and plasma/serum. Predictive partial least squares models were built, comparing HCC against healthy controls and non-cirrhotic hepatitis B carriers (R2Y>0.5, Q2Y>0.4, p<0.001 in each model) for both urine and plasma/serum and also in comparison to cirrhosis (R2Y=0.83, Q2Y=0.14, p<0.01) for urine. Annotations of metabolites were made for signals that were significantly perturbed and targeted analyses were conducted to validate these metabolites and those previously reported. Metabolites with significantly different levels in HCC compared to other groups include decreased urinary organic acids (succinate, acetate and lactate), increased microbiota-related co-metabolites (hippurate and trimethylamine N-oxide) and short-chain carnitines in urine, and; decreased alanine and choline, and increased formate and pyruvate in plasma/serum (pFDR<0.05 for each).

Conclusions: Our results showed and validated that there is a reliable signature of metabolic disturbances in HCC compared to pre-HCC liver diseases. Further validation is required to inform a shortlist of diagnostic biomarker candidates for the development of a low-cost point-of-care test applicable in resource-limited settings for future clinical use.
HIV Infection is associated with Reduced Survival among Hepatocellular Carcinoma Cases from An Urban Referral Hospital: KAMPALA UGANDA.

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Background: Hepatocellular carcinoma (HCC) is the second most common cause of cancer-related mortality in Africa worldwide with incidence almost equal to the death rate. HCC rates appear to be increasing with prolonged survival among HIV infected patients. HCC has a generally poor prognosis, especially for patients in low-income countries with late presentation and diagnosis and limited diagnostic and therapeutic modalities. The impact of HIV on the prognosis of HCC has not been well described, particularly in lower-resource settings.

Methods: We systematically identified consecutive HCC cases identified from Mulago national referral hospital in Kampala, Uganda between March 2015 to February 2018. Data collection included nature and onset of symptoms, treatment, clinical, laboratory and ultrasound measures. Mortality status determined primarily by telephone follow-up was done at one, three, six and twelve months after enrolment. Kaplan Meier curves and multivariable Cox regression analyses were performed to evaluate survival time from symptom onset and from diagnosis to identify predictors of mortality.

Results: Of 372 HCC cases, 66.4% were male, the median age was 42 (IQR 13-92) years, 43.5% were chronically HBV infected, 7.8% had HCV and 18% were HIV-infected. HCC cases generally presented with multifocal disease (72%) with a median duration of symptoms of 4 months (IQR 1-84). None of the patients had received any curative treatment for HCC. 88% had completed 6 month follow; 23 cases (6%) were lost to follow-up. Median survival was 5.5 months from symptom onset; only 71 cases (19.1%) were alive one year following onset of symptoms. HIV infected HCC cases had a median survival of 4 months. In multivariable analysis after adjusting for age, sex and markers of liver function, HIV infection was independently associated with a 47% increased mortality risk (HR 1.47, 95% CI:1.08-1.99, p 0.012). A similar analysis done looking at survival from point of diagnosis showed that HIV had borderline significance.

Conclusion: Despite overall rapid mortality, HIV-infected HCC cases had a poorer prognosis compared to HIV negative HCC patients, even after controlling for markers of deranged liver function or extent of liver tumor involvement. Further evaluation is needed to distinguish the biological or behavioral mechanisms involved. Regular screening of high risk patients for early HCC diagnosis linked to localized curative treatments will be required to modify this uniformly lethal disease.
The establishment of hepatitis B care and treatment clinics in the United Republic of Tanzania: A demonstration project following WHO guidelines

Rwegasha J

Introduction: About 257 million persons are living with chronic hepatitis B virus (HBV) infection worldwide, which is responsible for 887,000 annual deaths. The African region has a disproportionate burden of disease with a HBV prevalence of 6.1%. To mitigate this burden, the World Health Organization (WHO) issued HBV care and treatment guidelines in 2015 for low resource countries to follow. We report early results of the implementation of HBV care and treatment programs in Tanzania following WHO guidelines.

Methods: A five year demonstration project was launched December 2016 at two clinical sites: Muhimbili National Hospital in Dar es Salaam and Mnazi Mmoja Hospital in Zanzibar. Clinical and laboratory staff at each site received training regarding the delivery of HBV-directed care and HBV-related laboratory testing (HBV serology, platelets, liver enzymes, HBV DNA). De-identified patient-level clinical and laboratory data was collected for programmatic evaluation purposes. Individuals were recruited from Tanzania’s National Blood Donation Program where donors are systematically screened for HIV, hepatitis C, syphilis, and hepatitis B surface antigen (HBsAg). Individuals were invited to participate in the program if they tested negative to HIV, HCV, and HBsAg-positive. Participants are examined for clinical signs of liver disease and receive HBV-related laboratory testing every 6–12 months for assessment of antiviral treatment eligibility. Tenofovir disoproxil fumarate (TDF) antiviral treatment was provided for participants meeting WHO guidelines eligibility.

Results: Ten clinical staff at two hospital sites were trained in HBV care and treatment following WHO guidelines. At one year, 606 participants have enrolled (449 in Dar es Salaam and 157 in Zanzibar). 133 were treatment eligible, and 126 started on TDF; 115 were identified with liver cirrhosis. Challenges included obtaining drug license, patients affording HBV-related testing, and overwhelming demand for HBV services.

Conclusions: HBV care and treatment is feasible in low-resource settings, while challenges remain, testing and linkage to care is critical to decrease the global burden of hepatitis B.
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Abstracts
Association between health workforce management, staff- and patient outcomes in sub-Saharan Africa hospitals

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Background: Sub-Saharan Africa (SSA) is confronting problems related to health workforce management practices (health workforce shortage, turnover intention, workload, dissatisfaction induced migration, non-technical skills gaps), a high burden of disease (liver, TB, malaria, HIV) but performs a disproportionately low quality of health care. There is scant documentation on the link between HRM and patient/health outcomes. This study aims to address the relationship between (people) HRM practices and performance in SSA hospitals.

Method: We searched seven data bases for all relevant papers using detailed search strategy and terms, which resulted in 2252 hits of titles and abstracts. In-depth screening and judgment was made using PRISMA diagram by three researchers as per the inclusion and exclusion criteria. We extracted, collated and synthesized data on participants, interventions, outcomes, Methods and settings. Data abstraction table was developed to summarize each selected papers to answer the research question which was defined using PICO frame. Quality of evidence is addressed by applying MMAT Tool. The far majority of studies (n=100, 90.1%) specifically considered staff (physicians, nurses, midwives) outcomes whereas the remaining (n=11, 9.9%) involved (clinical) patient outcomes.

Results: The research resulted in 354 full texts, of which 111 papers met all inclusion criteria. The selected studies represent 19 out of 45 SSA countries. 18 types of HRM practices, comparable with that of previous studies in Europe and America and four broad categories of performance outcomes were identified. Employee outcomes and organizational outcomes are frequently researched, whereas team outcomes and patient (clinical) outcomes are significantly less researched. Given the scarcity of health workforce and the disproportional high burden of disease, further research on the effect of HRM practices on patient outcomes in SSA contexts is called for. Most included studies researched HRM bundles that included practices from multiple HRM domains; motivation enhancing, skills enhancement, and empowerment enhancing. Motivation-enhancing practices were most frequently researched within HRM bundles, followed by skills enhancing practices. An improvement in a specific outcome measure can be accomplished by different HRM practices or bundles and that similar HRM practices or bundles could enhance different outcome measures. This is in line with previous studies claiming that HRM bundles are likely to be synergistic because of their potential complementarities, resulting in stronger effects on outcomes than single practices in isolation. This review broadly confirms the overall believe that bundles of interventions are instrumental to improve health outcomes in Africa.

Conclusions: The many studies which combined HRM bundles resulted in enhanced employee outcomes and less frequently in enhanced hospital performance. Previous studies have shown the importance of an internal fit within a HRM bundle, referring to an alignment between HRM practices. We recommend future empirical research to explore which internal and contextual factors relevant for the SSA setting influence the relationship between HRM and clinical outcomes. Given that our review provides little evidence on enhancement of team performance, we recommend conducting research in this area, which is evidenced to be significantly related to patient outcomes.
Seroprevalence of hepatitis B virus (HBsAg) and hepatitis C virus (Anti-HCV) among HIV-1 infected patients and blood donors in Sudan.

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Background: Human immunodeficiency virus, hepatitis B virus, and hepatitis C virus, were three most common chronic viral infections all over the world, they share similar routes of transmission including sexual, blood-blood contact, and injecting drug usage. Hepatitis co-infection with HIV is associated with increased morbidity and mortality, those patients are at increased risk for serious life-threatening complication, and also they may complicate management of HIV infection. In case of HIV/HBV co-infection management should include two antiretroviral agents with HBV activity, namely tenofovir plus lamivudine or emtricitabine, in addition to a non-nucleoside reverse transcriptase inhibitor or protease inhibitor. For all of this every HIV patient should be screened for HBV and HCV infection.

Objectives: To determine the seroprevalence of HBV (HBsAg) and HCV (Anti-HCV) co-infection in HIV-positive patients, blood donors, and to detect the shared and significant factors in the co-infection.

Methods and materials: This cross-sectional study was carried out in 176 blood samples, 88 samples collected from confirmed HIV positive patients (ELISA, and Western blot), 52 (59.1%) and 36 (40.9%) of them were males and females, respectively; and the rest of samples (88) were collected from blood donors as control group, all samples were tested for HBV (HBsAg) and HCV (Anti-HCV) by Enzyme Linked Immunosorbent Assay.

Results: among HIV infected patients HBV (HBsAg) infection were detected in 11.4% and HCV (anti-HCV) were detected in 5.7%, while in control group it detected in 6.81% and 1.1% respectively. There was no significance between HBV HCV infection among HIV patients and control group (P value >0.05).

Conclusion: Prevalence of HBV and HCV are high among HIV infected patients, as they may lead to serious complication every HIV patient should be tested for these viruses.
Hepatitis b infection and associated factors among patients attending a sexually transmitted infections clinic in Nairobi

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Hepatitis B remains a major public health challenge in Kenya with more than 400,000 people being chronically infected. The aim of the study was to determine the prevalence of Hepatitis B virus, the immune status and to identify factors associated with hepatitis B surface antigen (HBsAg) positivity among patients attending the special STI clinic in Nairobi.

200 study participants were recruited systematically their sociodemographic and behavioral characteristics collected. Qualitative detection of HBsAg and HBsAb was done using ELISA and the Results were collated and reported as positive or negative.

Of 200 study participants aged 15-64 years, 19 (95% Confidence Interval[CI]) tested positive for hepatitis B surface antigen(HBsAg). whereas 53 (26.5%) (95% CI) tested positive for hepatitis B surface antibody (HBsAb). The major risk factors of hepatitis B transmission among STI patients were unprotected sex, multiple sex partners, having genital ulcers.

There is an urgent need to deal with hepatitis B infections especially among individuals at a greater risk of new and incident infections. Sex workers should be educated about their risk to hepatitis B virus infection so as to adapt measures geared towards harm reduction and infection control. Vaccination of this sub-population against Hepatitis B virus is highly recommended.
Anti-HCV and HBsAg infections and post vaccination anti-HBS testing among health professionals

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Introduction: Hepatitis B and C Viruses, are highly infectious blood-borne viruses that poses a major threat to public health globally due to the high prevalence rate and grave consequence in causing liver cirrhosis and hepatocellular carcinoma, the third cause of cancer death worldwide. The aim is determining the prevalence of HBsAg, Anti-HCV and knowledge, and vaccination practices against viral hepatitis B infection among health care professionals such as doctors, nurses and pharmacist in target health care centres.

Methods: study design was a descriptive cross-sectional study among all the doctors and nurses in targeted health care facilities. Data was collected using pre-tested, structured, self-administered questionnaire and blood samples were taken from respondents and tested using commercial enzyme-linked immunosorbent assay (ELIZA) test kit to determine prevalence of hepatitis B surface antigen after informed consent. Ethical approval was obtained from Taraba State Ministry of Health Research and Ethics Committee. Respondents responses to the knowledge and vaccination practices against viral hepatitis B infection were scored and graded accordingly as poor (<50%), fair (50-74%) and good (≥75%). The study was carried out from December 2016 to January, 2017.

Results: a total of 224 out of the 233 recruited respondents participated in the study. Prevalence of HBsAg was 14.5% and 10.2% Anti-HCV. Among the respondents, 57.6% had good knowledge and 89.7% reported poor practice of vaccination against viral hepatitis B infection. Mean knowledge and vaccination practices scores (%) were 67.56+6.70 and 28.34+13.27 respectively. In total 5% of the respondents did post vaccination testing for anti HBsAg.

Conclusion: The prevalence of HBsAg was very high, while knowledge of viral hepatitis B was poor, and practice of post hepatitis B vaccination testing was very poor. It is recommended that ministry of health should conduct viral hepatitis health education campaigns, ensure there is institutional occupational hepatitis B vaccination programme for all health workers and post vaccination anti-HBS testing to ensure adequate antibody level in this adult population.
Hepatitis B co-infection among HIV-infected adolescents on Antiretroviral therapy attending an urban HIV clinic in central Uganda.

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Background: Uganda has approximately 79,000 adolescents living with HIV; who are at risk of both perinatal and childhood horizontal Hepatitis B virus (HBV) infection, with additional risk through sexual exposure. The burden of HBV co-infection among HIV infected adolescents in Uganda is unknown, and many are started on ART without knowing HBV status. There is a risk of HBV lamivudine resistance among the HBV co-infected if they are on lamivudine-only HBV active ART combination, and this in the long run will result into HBV chronicity and associated liver disease.

Objectives: To determine the prevalence of hepatitis B co-infection among adolescents living with HIV on antiretroviral therapy (ART); and describe the clinical characteristics of adolescents with chronic HBV/HIV co-infection.

Methods: This was a cross-sectional study conducted from November 2016 to April 2017. HIV infected adolescents attending routine HIV care at Joint Clinical Research Centre (JCRC) were enrolled. A standardized questionnaire was used to collect socio-demographic and clinical characteristics. All study participants had serological screening for HBV/HIV co-infection using HbsAg ELISA (Biorad). HBV-DNA viral load was performed in all patients with HBV/HIV co-infection using Roche Cobas Taqman 2.0 machine which has a lower limit of detection of 20 IU/ml. The prevalence of HBV/HIV Co-infection was computed as a proportion of adolescents living with HIV on ART that have a positive HbsAg.

Results: A total of 276 adolescents living with HIV on ART were enrolled. The median age was 14 (IQR: 11-17) years; 49% male; median duration on ART was 8 years (IQR: 6-10).

Thirteen (4.7%; 95% CI: 2.7-7.9) had HBV co-infection: all were asymptomatic; 10(76.9%) on lamivudine-only HBV active ART combination, while 3(23.1%) on dual HBV active ART combination; six (46.1%) had HBV-DNA viral load above 2,000 IU/ml (>10,000 copies/ml).

Conclusion: There is a notable number of HIV infected adolescents with Hepatitis B co-infection; majority of whom are on lamivudine-only ART combination. Routine screening for HBV infection in HIV infected adolescents even when on ART should be emphasized, so as to identify the co-infected for appropriate dual HBV active ART combination and monitoring.
Evidence supporting hepatitis B virus PCR before immunosuppressive therapy: The Pretoria experience.

Ngoato M

Background: Due to shared routes of transmission, HIV positive patients have a high risk for co-infection with hepatitis B virus (HBV) and hepatitis C virus (HCV). Cancer therapy (chemotherapy/radiotherapy) is known to inflict a state of immunosuppression on the patient. Immunosuppression worsens the outcome of HBV and HCV infection. This study aimed to investigate the prevalence of HBV and HCV in patients due for cancer therapy at Dr. George Mukhari Academic Hospital.

Methods: This was a cross-sectional descriptive study based on a total of 107 serum samples. All samples were tested for HBsAg, anti-HBs, anti-HBc and Anti-HCV using the cobas 6000 analyzer (Roche Diagnostics, USA). Samples positive for HBsAg were further confirmed with Monolisa™ HBs Ag ULTRA assay (BIO-RAD, Marnes-la-Coquette, France). All samples were subjected to a nested PCR targeting the HBV polymerase (pol) gene.

Results: Based on the HBV serological profiles in cancer patients, overall, HBsAg positivity (+) was 11.2%; anti-HBs + was 28.0%; anti-HBc+ was 35.5%. Combination markers were as follows: Anti-HBs+ and anti-HBc+ was 26.2%; HBsAg +, anti-HBs + and anti-HBc + was 0.9%; HBsAg -, anti-HBs - and anti-HBc - was 56.1%. Anti-HCV was not detected in any of the samples tested. When stratified by HIV status, HBsAg was positive in 14.3% of HIV+ compared to 7.8% in HIV- (p=0.292). Occult HBV was 17%. Overall HBV DNA was detected in 22.4% of samples tested.

Conclusion: The study findings depict a high prevalence rate of HBV in this population and suggest value for comprehensive workup including PCR before commencement of cancer therapy.
Hepatitis B or C Virus Co-infection with HIV and associated factors among patients visiting ART Clinics in public hospitals in Eastern Ethiopia

Semahegn A

Background: Hepatitis B and or C viruses and HIV cause for important global public health problems with enormous economic and social consequences. The co-infection of Hepatitis B/C virus with HIV can exacerbate the patient’s treatment outcome and quality of life. Therefore, we aimed to assess hepatitis B and or C virus co-infection with HIV and associated factors among patients visiting ART clinics in public hospitals in the Eastern Ethiopia.

Methods: Facility-based cross-sectional study was conducted among patients visiting ART clinics in the two tertiary care public hospitals (Hiwot Fana specialized university hospital and Dire Dawa Dilchora Hospital) in the eastern Ethiopia. The two hospitals were selected based on availability of laboratory test and referral destination site in the locality. Data were collected from 992 randomly selected study participants using interview and laboratory Methods from April to July 2014. Blood sample was collected using plane tube, and serum was separated. Serological tests were carried out using the standard operational procedures and Results registered on laboratory report format. Third generation Enzyme Linked Immunosorbent Assay (ELISA) Human, Germany kits was used to screen for markers of hepatitis viruses HBsAg and anti HCV. Descriptive and logistic regression statistical Methods were varied out using SPSS (23).

Results: The response rate was 92.0% (n=913). Female accounts 61% of participants. The mean age was 37.2(+10.7) years. Majority (93.9%, n=857) of them were on ART care, and 6.1% (n=56) of them were on pre-ART follow up. Almost all (98.2 %, n=891) followed their health care on outpatient department. The prevalence of hepatitis virus co-infection with HIV was 6.8% (n=62). Of these, hepatitis B and C virus co-infection with HIV were 5.4% (n=49) and 1.6% (n=15), respectively. Two participants were diagnosed as co-infection of hepatitis B, C and HIV. One-third (66.0%, n= 603) of study participants did not know anything about hepatitis B and or C virus infection. Most of the study participants have ever not heard about risk factors such unprotected sex, unscreened blood transfer, having multiple sexual partner and others. Participants who used intravenously given illicit drugs were 4.3 times more likely acquire hepatitis infection than counterparts [OR=4.3, 95% CI; 1.2-15.9].

Conclusion: The prevalence of hepatitis virus infection is intermediate endemicity level. However, being HIV positive participants worsen the disease progress. Therefore, we recommend the routine for hepatitis for better care and support to the people living human immunodeficiency virus.
Prevalence and pattern of hepatitis B virus genotypes in Zaria, Nigeria


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Hepatitis B virus is hyperendemic in Nigeria with a national seroprevalence of 12.2%. Worldwide, 10 genotypes have been identified on the basis of ≤8% difference in genome sequences, each with a distinctive geographical distribution. Available literature reveal genotype E to predominate in West Africa. This research aimed at identifying the current pattern and prevalent genotypes of HBV in Zaria, a prominent and ancient region of northern Nigeria.

Four milliliter of blood was collected in EDTA-container from each of the 165 HBsAg-positive participants recruited consecutively. Plasma was separated and frozen at -200C till analysis. Multiplex- nested PCR using type-specific primers was used to genotype the HBV.

Mean age of the participants was 32.5±9.6 years, with males constituting 64.8%. Over 75% of the samples analyzed (83.6%) were HBV-DNA-positive; of these 82.6% had mixed genotype infections while 17.4% had mono-infection. Irrespective of occurrence as mixed or mono-infection, 5 genotypes of HBV were found prevalent in Zaria Nigeria, with HBV/E predominating, followed by HBV/B, HBV/A, and HBV/C and HBV/D having the least occurrence.

Most of the mixed infections are a combination of genotype E, the predominant genotype, with other genotypes predominantly genotype B appearing to co- or super-infect.
Comparative evaluation of ultrasound parameters of portal vein among normal adults and adults with chronic liver disease in Nigeria.

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Background: Direct portal vein pressure measurement is an invasive procedure that involves puncturing the portal vein surgically or percutaneously, as required in diagnosing portal vein hypertension in chronic liver disease (CLD) patients. Doppler ultrasound has been found to be an accurate, non-invasive method of assessing the portal vein haemodynamic changes in patients with CLD most especially in a resource limited country like Nigeria.

Methods: This was a prospective case-control study conducted over a period of six month at the Federal Teaching Hospital Gombe, Nigeria between September 2015 and February 2016. Portal vein haemodynamic parameters of One hundred adult male and female CLD patients were compared with age and sex matched controls using gray scale and Doppler ultrasonography of the portal vein using HD-9 Phillips ultrasound machine. SPSS window version 20.0 package was used for data analysis, with a p-value of ≤ 0.05 and confidence interval of 95%. The variables were expressed as range and mean plus standard deviation. All comparison of variables were done using student t test for CLD and control. Pearson’s correlation coefficients and point-biseral correlation coefficient were used for the correlation studies.

Results: The portal vein diameter and congestive index in normal subjects were 1.07 ± 0.60cm and 0.046 ± 0.09 respectively while the respective values for CLD subjects were 1.50 ± 0.21 and 0.160 ± 0.060. There was statistically significant difference of portal vein diameter and congestive index between normal and CLD subjects. The portal vein diameter and congestive index correlated positively with age and sex in both CLD and controls.

Conclusion: The portal vein diameter and congestive index were significantly higher in CLD subjects than controls. Portal vein diameter and congestive index were seen to significantly correlate with age and sex in both CLD subjects and controls.
Knowledge of Acute Hepatitis C (AHC) among HIV + Men who have Sex with Men in Nairobi, Kenya

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**Background:** Acute Hepatitis C (AHC) is a short-term viral infection. In the recent past, it has been known that HIV + MSM’s have a greater risk of acquiring Hepatitis C due to their sexual contacts and therefore becomes a great threat to key Populations survival. According to a report from Medical Centre for Infectious Disease ‘20% of the patients with Hepatitis C respond well to treatment and they get viral Eradication’.

**Methodology:** A detailed Questionnaire and in depth interviews were used as Methods of Data collection among 80 HIV + MSM’s who had been diagnosed with Acute Hepatitis C (AHC). These are the patients who had attended Kenyatta National Hospital infectious clinic. Interviews were conducted on 80 MSM’s and a stratum of 8 was formed. The data was then put on codes and later interpreted.

**Results:** According to the Results, it was found out that 90% of the respondents in the study had scanty knowledge on AHC. The Patients were traumatized when they realized how fatal AHC could be if not treated. They wanted to get more Education on the epidemiology of this Viral infection

**Conclusion:** According to data obtained from the field, it suggests that the level of awareness of AHC is low among the HIV+ MSM’s. However, there is an urgent need to conduct an awareness creation campaigns among high risk population since they have less knowledge on AHC. Also there is need for adequate counselling to patients with AHC by health care providers.

Hepatitis B virus Genotypes in Sudanese Patients with Liver Cirrhosis and Hepatocellular Carcinoma

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**Background:** Hepatitis B virus is a hepatotropic virus, clustered in 10 genotypes which play a major role in the outcome and long term outcome of HBV infection such as liver cirrhosis and hepatocellular carcinoma (HCC).

**Objectives:** The aim of this study is to determine the frequency of different genotypes of HBV among Sudanese patients with liver cirrhosis and HCC.

**Methods:** Thirty five patients were included in this study, of them 28 were diagnosed with liver cirrhosis, 4 with HCC, and 3 were in active carrier. Blood serum samples were collected and DNA extracted from sera by using commercial DNA extraction kits, HBV S gene was amplified using primer based PCR. Obtained DNA amplified with 6 genotypes using multiplex PCR. Then, the genotypes present in the sample identified.

**Results:** Of the 35 patients enrolled in this study. HBV genotype D was detected in 35.7% of the patients with liver cirrhosis. But in patients with HCC the genotype A was detected in 50% of patients, two patients diagnosed as liver cirrhosis of unknown cause discovered to be HBV positive and genotypes identified.

**Conclusion:** In our study, HBV genotype D associated eAg negative is more common in patients with liver cirrhosis; more over genotype A is predominant in patients with HCC. More studies needed in this area.
Management of viral hepatitis B and C in Guinea: first Results

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Context
(Situation of viral hepatitis in 2012)
- The existence of all enabling and / or aggravating factors of main viral hepatitis
  - Aflatoxin B+
  - Challenges in viral hepatitis management
  - Lack of training and provision of information of health providers
  - Challenges in mobilizing funds for the fight against hepatitis
  - Lack of a National Program for Prevention and Control of Hepatitis

Methods
1. Sensitization (Advocacy, communication)
   - Drafting meeting with professional journalists
   - Behavioral Change Communication (BCC) by public and private media
   - Health Communication Capacity Collaborative (HC3) for:
     - The Health providers
     - The health authorities
     - The administrative authorities
     - The overall populations
2. Diagnosis:
   - Elisa: the confirmation of the initial positive serology reaction
   - For HBsAg (hepatitis B surface antigen)
     - DNA-HBV
     - RNA-HCV
     - Hepatic ultrasonography (hepatic dystrophy)
   - Management of HBsAg positive cases, HVC, confirmed and or complicated Hepatitis
3. Tenofovir 300 mg (Administration) 1 tablet per day for several years
   - Vaccination of the entourage of patients or carriers of HBsAg
   - Vaccination of newborn children within 24 Hours of birth

Results
881 cases of hepatitis examined
- 469 HBsAg+ representing 53.23%
- 39 cases HCV = 4.42
- HBsAg + plus HCV = 57.65%

Age
- 21-30 years = 28.76%
- > 30 years = 65.16%

Sex
- male = 65.53%
- female = 34.46

Occupation:
- liberal profession= 52.04%
- others = 23.41%

Hepatic ultrasonography
- normal = 47.73%
- dysmorphia = 21.76%
- cirrhosis of liver = 9.96%
- hepatic steatosis = 9.36%
- liver cancer = 8.7%

DNA-HBV (viral load)
- > 2 log = 55.93%
- < 2 log = 8.48%
- undetectable viral load = 35.59%

Conclusions
- HBsAg incidence are : 19 % (SOLABGUI), 17.8 % (the national blood transfusion agency).
- More than half of all cases followed have hepatitis:
  - 53.23 % of patients monitored have HBsAg
  - 4.42 % of cases are HCV positive
  - 9.96 % of cirrhosis and 8.7% of liver cancer are observed
- WHO guidelines are being introduced.
- The first Results of management of viral hepatitis B and C according to WHO guidelines are encouraging.
- But the proliferation of all the factors favoring, the high cost of diagnosis sheet and medication added to widespread poverty remains a hindrance to that
Sero prevalence of HBsAg and Anti-HCV among students of Taraba State University, Jalingo

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Background: Viral hepatitis is a major global public health problem. More than 257 million people worldwide are estimated to have hepatitis B and 71 million with hepatitis C infection and over 1.34 million people die each year of the acute and chronic consequences of these disease conditions. Like the HIV/AIDS epidemic, Taraba State has again been rated one of the highest in the country in prevalence of both hepatitis B and C. In Nigeria, the national prevalence of Hepatitis B and C remains at 12.2% and 2.2% for Hepatitis B and C respectively, while higher prevalence of about 19% and 11% for HBV and HCV has been reported for Taraba State.

Method: This was a descriptive cross sectional survey conducted in Jalingo the state capital during a community outreach and free screening. 300 students of the Taraba State University participated in the survey. Venous blood sample was obtained from student’s selected randomly. HBV screening was performed using the HBSAg Rapid diagnostic test strip. It is a rapid visual immunoassay for the qualitative detection of HBSAg on human whole blood. The whole blood, was dropped on the test strip with a disposable pipette and a buffer solution was added to the blood on the strip immediately and allowed for 10 minutes after which the result was interpreted.

Results: It was discovered that 28 males representing 19% of the total respondent tested positive to HBSAg and 10% of the males tested positive to HCV. On the other hand, 18 of the females representing 12% of the respondent tested positive to HBSAg while 9(6)% tested positive to HCV. On a general note, 46(15)% of the total respondent (male and female) tested to HBSAg while 24(8)% of the total respondent tested positive to HCV. It was discovered that 132 of the total respondent (female) representing 88% tested negative to HBSAg while 59 representing 39% of the respondent tested negative to HCV.

Conclusion: This research indicated that HBSAg and Anti-HCV infection is highly prevalent among students of Taraba State University, sadly majority of them are unaware of their status, which could lead to end stage liver disease if diagnosed late. Early diagnosis of hepatitis infection is critical for effective treatment and care. Only 9% of persons living with hepatitis B and 20% of persons living with hepatitis C have been tested and are aware of their status globally, only 9% of persons living with hepatitis B and 20% of persons living with hepatitis C have been tested and are aware of their status. Awareness is lacking. Therefore, in order to reduce HBV and HCV infections, Hepatitis B vaccination should be provided for young adolescents, prevention also contribute to broader health outcomes, including the prevention of HIV, sexually transmitted and other blood-borne infections and for population at risk. HBV and HCV screening programs should be instituted in all higher institution in the country to reduce the prevalence rate and level of transmission of hepatitis virus.
Genotypes of Hepatitis B among outpatient attendees at a referral hospital in Western Kenya

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Abstract background: Hepatitis B virus (HBV) and HIV co-infections are becoming common with information on HBV genetic diversity among outpatients attending different hospitals in Kenya still remaining elusive. Most hospital outpatient attendees are not aware of their HBV status and they could be seeking treatment for other different ailments. Due to the fact that HBV and HIV have similar modes of transmission, individuals could be co-infected coincidentally. Currently, there are ten genotypes of HBV: A through J, each with a distinctive geographical distribution. In Kenya, genotypes A, D, C and E have been reported. However consensus on prevalence of these genotypes has not been established. This study was undertaken to determine the common HBV genotypes and their prevalence among outpatients at Moi Teaching and Referral Hospital (MTRH) in Eldoret, Western Kenya.

Materials and methods: Blood samples from consenting outpatients who were unaware of their HBV or HIV status were collected. The sera obtained from the blood samples were then tested for the presence of HBV surface antigen (HBsAg) and HIV antibodies using the ELISA test. Nucleic acid (DNA) from HBsAg positive samples was extracted, amplified and sequenced. The sequences were then compared with reference sequences from the GenBank.

Results: A total of 200 samples were collected. Twenty (10%) were HBsAg positive. Fourteen were successfully sequenced. The HBV genotype A was predominant (13/14) followed by D, (1/14) among HBV DNA positive specimens. The HIV antibodies were found in 10% (2/20) of the HBsAg positive samples. Sequence comparison Results showed some similarities in different amino acid positions from HCC and chronic liver disease patients.

Conclusions: HBV genotype A remains the most predominant genotype circulating in Western Kenya. Genotype D is also present in the region. The HBsAg mutations detected demonstrates that the MTRH outpatients may develop chronic liver disease and/or hepatocellular carcinoma later in their lifetimes. Therefore there is need for hospitals to advise patients on the importance of knowing their HBV status and getting vaccinated against HBV.
Globally, it is a well-known fact that 9 out of 10 people living with viral hepatitis are not aware of their status. The theme for this year’s world Hepatitis Day #WHD2018 is therefore, #FindtheMissingMillions.

In line with World Hepatitis Alliance WHA theme and the World Health Organisation’s WHO Global Health Sector Strategy on the elimination of viral hepatitis by 2030; our organization LiveWell Initiative LWI has, as part of its impactful patient empowerment programmes, marked every World Hepatitis Day #WHD since inception in 2011 and has dedicated this year’s #WHD2018 Celebration to #FindingtheMissingMillions through:

- A free Public Health Awareness Screening and Advocacy Programme to #FindtheMissingMillions at Bariga Somolu Local Government Area of Lagos State
- An Advocacy and Awareness Programme for women at the seat of power in Abuja
- A TOT #10by20 Training and Empowerment Programme for 150 women in hepatitis at Awka, Anambra State

In furtherance to these goals, the organization facilitated the launch of #NOhep in Nigeria, at its second Strategic Focus Group Discussion #SFGD02 on Viral Hepatitis, chaired by the Hon Ministet of Health in Nigeria.

LWI has over the past 5 years screened 50,000 subjects for Hepatitis B and 40,000 subjects for Hepatitis C.

Last year, at its 7th Annual Grand Health Bazaar #GHB2017 and 2nd Annual Liver Health Conference #LHC2017, the LWI launched its newest subsidiary, Women in Hepatitis Africa WIHA.

WIHA was launched with a goal to empowering women of Africa and eliminating viral hepatitis through the Cause pursued by the women of all sociodemographies, joining hands. The WIHA through its #10by20, has in the past 15 months since its inauguration, trained over 225 women from at least 18 african countries, as Hepatitis Champions. The women champions belong to a cross section of all sociodemographies including widows, nursing mothers, pregnant women, young, old, low literacy, low income, formal sector and informal sector women.

LWI CEO Bisi Bright was last year named among the Top 18 and thereafter as the Top 6 GLOBAL CHANGEMAKERS in Hepatitis C by The Economist Intelligence Unit EIU. She also received a Presidential Commendation letter from the Federal Government of Nigeria in 2017 for the work in Hepatitis.

In Conclusion LiveWell Initiative LWI and its subsidiary WIHA have built the momentum for effective Advocacy, Awareness, Screening, Treatment Linkages, Patient Empowerment and Sustainability in Diagnosis and Care for viral hepatitis patients in our communities, in line with global concerted efforts to eliminate viral hepatitis by 2030.

Our ultimate goal is to install a women’s diagnostic and training Centre for Hepatitis in Africa, to the greater interest of eliminating viral hepatitis by 2030 and serving as a reference point for treatment linkages.

We will be privileged and honored to share our unique business model and our innovative forecasting into the future of viral hepatitis in Africa; with 1 million Women Hepatitis Advocates in Africa by the year 2030...our year of elimination of viral hepatitis.

Thank you.
Hepatitis B virus genotypes and low prevalence of Hepatitis D-Hepatitis B viral co-infection among blood donors from Kenya

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Background: Hepatitis B virus (HBV) infection is endemic in Kenya with estimates in the general population varying from 2% to 9% in different geographic regions of the country. HBV prevalence among blood donors is estimated to be over 2%. Little is known about the incidence of HBV genotypes in circulation, and yet it impact on treatment response, rate of spontaneous recovery and progression of chronic HBV infection and hepatocellular carcinoma (HCC). On the other hand, Hepatitis D virus (HDV), the most severe form of viral hepatitis in humans, occurs only in individuals positive for HBV. HDV and HBV co-infection induces a spectrum of acute and chronic liver diseases, which further advance to cirrhosis, fulminant hepatitis and HCC.

Materials and Methods: A cross-sectional study conducted from Aug. to Dec. 2014 collected samples of Hepatitis B surface antigen (HBsAg) positive blood donors (n = 264) from the five administrative regions of Kenya; Western, Rift Valley, Eastern, Central, North-Eastern and Coastal. Sera were tested for the presence of antibody to HDV. Nucleic acid from HBsAg positive samples was extracted, amplified and sequenced.

Results: HBV-HDV co-infection was detected in only one sample (0.5%). The genotype distribution for HBV was 87.5% HBV/A, 0.5% HBV/C, 11.5% HBV/D, and 0.5% HBV/E. Genotype A predominated throughout the country, with a higher prevalence of genotype D observed throughout central and north-western regions of Kenya.

Conclusion: Our data indicate that HDV infection is uncommon among blood donors in Kenya. This study shows the distribution of HBV genotypes. Although the predominant HBV genotype observed in Kenyan blood donors was HBV/A1, genotype D was observed throughout central and north-western region of Kenya.
1st Conference on Liver Disease in Africa

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