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Poster 599

PREVALENCE AND EVALUATION OF HEPATITIS B VIRAL REPLICATION IN PREGNANT WOMEN IN MALI

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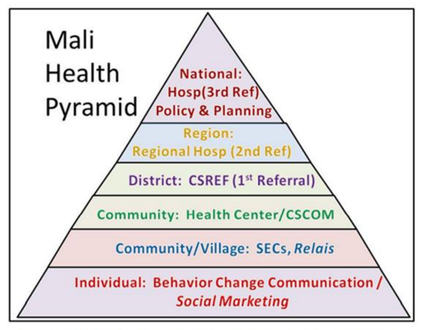
BACKGROUND



Republic of Mali
- 1.248.572 km,^{2} one of the largest countries in West Africa
- Estimated 20.5 M population
  - HIV sero-prevalence: 1.2%
  - HBV sero-prevalence: 8%

- Hepatitis B Surface Antigen (HBsAg) seroprevalence rates in Sub-Saharan Africa (SSA) are ~6–20%
  - ~70–95% of the adult population is exposed to HBV in the region (World Health Organization)
- Hepatitis B virus (HBV) related liver disease is one of the leading causes of death in persons with HIV
- HIV and HBV co-infection is common in SSA due to shared routes of transmission
  - In most SSA countries, HIV is routinely tested for in pregnant women attending antenatal care (ANC)
  - But, HBsAg screening is not routine, despite their overlapping routes of transmission
- In pregnant women with a high HBV viral load (VL), HBV is still transmissible to the fetus or newborn, even if the mother receives Hepatitis B immunoglobulin (HBIg) and/or the newborn is vaccinated at birth
- Although HBV infection is common in SSA, maternal virological data are limited



From USAID/Mali's general strategy for health 2018

Study Setting

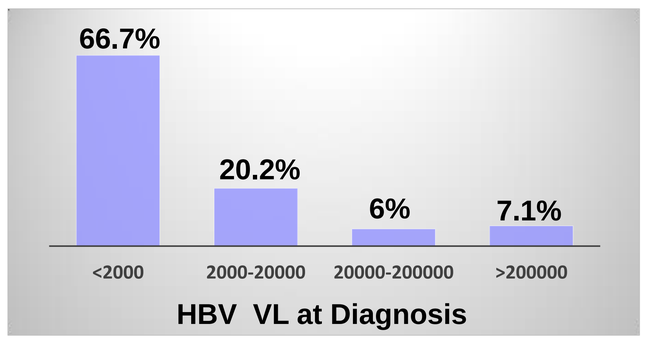
METHODS

- Cross-sectional descriptive study, with prospective data collection over 5 months at an HIV Center (CSREF) in Bamako, Mali
- Systematic HbsAg screening of all pregnant women during antenatal care
  - HBsAg+ cases: Commercial qPCR used for HBV and HIV VL quantification (HBV sensitivity: 12 IU/mL) (HIV sensitivity: 40 IU/mL)
  - High HBV VL defined as >2000 IU/mL
  - Viral sequencing using Pol gene HBV Sanger sequences
    - All RT sequences in FASTA format were run against the Stanford HBVseq database for the detection of mutations and resistance associated with known nucleos(t)ide analogs of HBV (https://hivdb.stanford.edu/HBV/ HBVseq/development/hbvseq.pl?action=showSequenceForm).
  - Demographic, clinical, and laboratory characteristics gathered for all HbsAg+ pregnant women

RESULTS and DISCUSSION

Characteristics of HbsAg+ Women	Number	Rate (%)
Total Sample of Women Screened	998	-
HBsAg+ Women	84	8.4
Age Groups (Years)		
15-25	36	42.9
26-35	42	50.0
36-45	6	7.1
❑ Parity		
Primiparous	18	21.4
Pauciparous (2-3)	53	63.1
Multiparous (≥ 4)	13	15.5
Place of Residence		
Central Bamako	36	42.9
Bamako Periphery	46	54.7
Outside Bamako	2	2.4
Time of HbsAg+ Diagnosis		
Before pregnancy	24	28.6
During pregnancy	60	71.4
Treatment Satus		
Surveillance	56	66.7
Tenofovir	28	33.3

- A total of 998 pregnant women were screened
- 84 (8.4%) were HBsAg+
  - Median age: 27 (interquartile range [IQR], 23-32)
  - Most were married (98%) and homemarkers (73%)
  - Only 28.6% knew their HBV serological status before current pregnancy
  - Alanine aminotransferase (ALT) level: < 35 IU/L in 92% of cases
  - High HBV VL (>2000 IU/mL): 26 (33.3%)
  - HIV Co-Infected: 3 (3.5%)
    - Detectable HIV VL >40 in 2, one with a HBV VL = 1500 IU/mL.



- 51 women with term delivery
  - 49/51 newborns received the first vaccine dose within 24 hours of delivery
  - Only 24/51 received immunoglobulin, as it is not covered by the health system in Mali

- 72/84 sequences were successfully amplified and analyzed: No major mutation associated with resistance to nucleotide inhibitors such as Tenofovir, however 8/72 (11%) of the sequences had at least one vaccine escape mutation, including 100C, 118S, 120T, 126I, 129H, 131I, 133VT, 143L,144G and 145R.

CONCLUSION

- Screening performed at the 1st Mali Health Pyramid Referral Level, thereby, representative of HBV infection in pregnant women in Mali
- High rate of HBsAg+ and 1/3 had HBV VL >2000 UI/mL
- > 7% with High HBV VL (>200.000 IU/mL) and eligible for treatment to prevent HBV transmission
- Data confirm the need for HepB vaccination and treatment programs for women of child bearing age and routine HBs Ag screening of pregnant women in SSA
- Poor HBV virological control remains a challenge and creates a reservoir for the transmission of HBV
- Urgent need to implement effective prevention strategies to reduce the high burden of HBV in pregnant women and to prevent infants and children from becoming infected with HBV with long-term complications in resource-limited settings

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