

Hepatitis b, hepatitis c, HIVco- infections and hepatitis b virus genotypes among patients in the liver clinic at kenyatta national hospital, Nairobi

Jeremiah Missiani Ochwoto

Master of Science  
(Medical virology)

Jomo kenyatta university of  
Agriculture and technology

2011

## ABSTRACT

Hepatitis B virus (HBV), Hepatitis C virus (HCV) and HIV are major health concerns worldwide and most infections are found in Africa and Asia. Due to shared modes of transmission, the three viral infections are found as co-infections in areas the three viruses are endemic. In Kenya, most studies performed have been among blood donors, however, among individuals seeking medical care, consensus on their prevalence has not been reached. There are ten known HBV genotypes (A-J) geographically distributed worldwide. However, there is limited information on their prevalence, distribution and clinical significance in Kenya. This study was carried out to determine the prevalence of HBV HBsAg marker, antibodies of HCV and HIV among patients attending liver clinic of Kenyatta National Hospital (KNH) and to determine the HBV genotype(s) circulating among this population. This was a cross-sectional study. Participants filled a questionnaire sheet for collection of bio-data, socioeconomic data and medical history. Blood was drawn from the patients for serology of HBsAg, HCV-Ab and HIV-Ab. HBV genotypes on positive samples were determined using restriction fragment length polymorphism (RFLP). The data was tabulated using Microsoft excel and statistically analyzed using SPSS version 16.0 software. A total of 181, 108 males and 73 females patients were recruited, from July 2009 to March 2010. The prevalence of HBsAg, HCV-Ab and HIV-Ab were found to be 27.6%, 2.21% and 11.6% respectively. Co-infection prevalence was 3.9% and 0.5% for HBV/HIV and HBV/HCV respectively. HBV/HCV and HBV/HCV/HIV co-infections were absent. HBV genotype D was the most prevalent (80%) and then genotype A (20%). There was significant association between HBV and gender with males being more infected than females ( $\chi^2$ ,  $p=0.008$ ) and between HBV and HIV and/or both infections with age, marital status, and alcohol consumption ( $\chi^2$ ,  $p<0.05$ ). Awareness of HBV and HCV was low (23.7%) compared to HIV (76.2%). HBV vaccination among adults was rare, with 94% not vaccinated. In conclusion,

prevalence of HBV, HCV, HIV and their co-infections among patients attending the liver clinic of Kenyatta National Hospital were found to be higher compared to other studies. HBV genotype D was prevalent among this population unlike HBV genotype A that is common among blood donors. Public health education programs and adult hepatitis B vaccination programs should be promoted in the country in order to target the risk group.