

**Seroprevalence of HAV, HBV, HCV, and HEV among Acute Hepatitis Patients at
Kenyatta National Hospital in Nairobi, Kenya**

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ABSTRACT

Acute hepatitis is caused by viruses, toxic substances, or immunological abnormalities with the viruses being the major etiological agents. Acute viral hepatitis is most frequently caused by the hepatitis A virus (HAV), hepatitis B virus (HBV), hepatitis C virus (HCV), hepatitis D virus (HDV) and hepatitis E virus (HEV). Because of its potential severity, acute hepatitis poses a challenge to the health care and the community in the control of its transmission, management and treatment.

The Aim of the study was to determine seroprevalence of HAV, HBV, HCV and HEV among patients with acute hepatitis in Nairobi, Kenya, elucidate various risk factors for hepatitis viral infection and determine the co-infection rates with these viruses in the acute hepatitis patients.

This was a cross sectional descriptive survey of acute hepatitis patients at Kenyatta National Hospital. One hundred patients were recruited by purposive sampling method. Questionnaires were administered to the patients and blood drawn from patients who met the inclusion criteria. The serum samples obtained from the patients were subjected to serological tests for HAV, HBV, HCV, and HEV using commercially available ELISA kits and an in-house reverse passive haemagglutination test screening kit for HBsAg (Kemri-Hepcell kit). The HCV positive samples for the total antibodies were confirmed by running a RT-PCR.

Among the enrolled patients, twenty three tested positive for one or more markers of acute viral hepatitis, i.e. HAV, HBV, HCV and HEV. No markers were detected in 77 patients, 2% tested positive for IgM anti-HAV; 11% for IgM anti-HBc; 3% for HBsAg; 5 for HCV RNA and 7% for IgM anti-HEV. Various risk factors associated with acute viral hepatitis were identified;

sanitation, source of water, occupation, place of residence, level of education, household size, drug abuse and sexual behaviours.

Co-infection rate with hepatitis Viruses was 4%, IgM anti-HAV and IgM anti-HEV 1 % (n=1); IgM anti-HBc and IgM anti-HEV 1% (n=1); IgM anti-HBc and anti-HCV 2% (n=2). Three patients were positive for HBsAg; among this 2 were negative for IgM anti-HBc and this accounted for HBV carriage.

These results demonstrate Hepatitis A, B, C and E are prevalent among acute Hepatitis patients at KNH. Hepatitis B was the commonest cause of acute hepatitis at KNH, followed by hepatitis E. HBV carriage among acute hepatitis patients was found to be 2 % and the co-infection rate at 4 %.