Malaria and hepatitis-B co-infection in relation to selected haematological parameters among attendees of two health facilities in Port Harcourt, Nigeria

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A cross-sectional study was conducted among subjects from modern primary health centre (MPHC), Eneka and Braithwaite Memorial Specialist Hospital (BMSH) in Port Harcourt, to determine malaria and hepatitis-B co-infection in relation to selected haematological parameters. 700 subjects of different ages and both sexes were included in the study after ethical approval was obtained from Rivers State Ministry of Health, Port Harcourt. Consent forms were issued to get subjects consent before questionnaires to obtain their demographic data. The uninfected subjects were used as control. Four milliliters (4 ml) of blood was taken from each subject by vein-puncture; 2 ml each was dispensed into EDTA and plain bottles for analysis. The samples were used to assay for full blood count (FBC), hepatitis-B surface antigen (HBsAg), hepatitis-B envelop antibody (HBeAb), hepatitis-B core antibody (HBcAb) and hepatitis-B virus (HBV) markers using standard techniques whereas EDTA bottled blood was for malaria parasite identification using Giemsa staining technique. The overall prevalence rates of malaria (27.0%), HBV (5.1%) and co-infection (1.9%) in Port Harcourt were as stated. The females have higher prevalence of malaria (16.1%) than the males (10.9%) while the males have higher prevalence of HBV (3.0%) and co-infection (1.0%) than the female (2.1%) and (0.9%) respectively; although not statistically significant ($P \geq 0.05$). The prevalence of malaria was statistically highest among children 47.7% (6-11) and 48.4% (0-5) years ($P \leq 0.05$). HBV was highest among subjects of age brackets 8.2% (24-29 years) and 9.2% (30-35 years) accordingly. The packed cell volume was significantly affected by malaria ($P \leq 0.05$) but neither hepatitis-B nor co-infection ($P \geq 0.05$). The HBV markers result showed that while HBsAg occurred among all subjects that were positive for HBV, HBeAb was completely absent; this is an indication of an on-going or previous infection with hepatitis-B virus.