PREVALENCE OF HEPATITIS B AND HEPATITIS C VIRUS INFECTIONS IN POTENTIAL BLOOD DONORS IN RURAL CAMBODIA

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Abstract. The aims of the present study were to provide accurate prevalence of acute and occult hepatitis B infection and hepatitis C infection among potential blood donors in Cambodia and to study the accuracy of ELISA tests used for blood donor screening. A cross-sectional study was performed on samples collected from potential volunteer blood donors (n = 1,200) in two districts in rural Cambodia. The samples were tested using the ELISA technique for HBsAg, anti-HBc, and anti-HCV at a local blood bank. To validate the ELISA outcomes, a subset (n = 319) was analyzed by Automated Chemiluminescent Microparticle Immunoassay Technique (CMIA) at the University Hospital North Norway. The overall prevalence of the HBsAg positives was 7.7% (95% CI 6.2-9.3); the prevalence of anti-HBc positive samples was 58.6% (95% CI 55.8-61.4), and the prevalence of anti-HCV positive samples was 14.7% (95% CI 12.7-16.7). The prevalence rate of samples being both HBsAg positive and anti-HBc positive was 7.3% (95%CI 5.9 - 9.0), and the prevalence rate of HBsAg negative and anti-HBc positive samples was 51.2% (95%CI 48.4 - 54.1). The overall agreement between the ELISA and the CMIA test results was very high both for HBsAg and anti-HBc (kappa 0.93), and high for anti-HCV measurements (kappa 0.83). However, the false-negative rate for the ELISA anti-HCV test was as high as 15% (95%CI 6 - 30).