

Binary Logistic Estimation of Risk Factors associated with Chronic Hepatitis B Virus in Lagos State

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Abstract

Background: Hepatitis B is a viral infection that attacks the liver and cause both acute and chronic disease. Chronic hepatitis B which is a persistence of hepatitis B surface antigen (HBsAg) for six months or more is becoming a threat and major public health challenge because of its high rate of morbidity and mortality. World Health Organization estimated that 296 million people were living with chronic hepatitis B infection in 2019, with 1.5 million new infections each year and 650, 000 people will die annually due to chronic hepatitis B.

Objective: To examine the risk of chronic hepatitis B associated with age, sex, marital status, alcoholic consumption, and smoking habit of the patients.

Methodology: Data on demographic and behavioural factor were extracted from the record of four hundred and six patients attending the hepatitis clinic at Lagos State University Teaching Hospital, Ikeja, Lagos. Ethical approval was obtained from the health research ethics committee of the Teaching Hospital. Binary logistic regression was to examine the association between chronic hepatitis B and our variables of interest

Results and conclusion: The prevalence of chronic cases among Hepatitis B patients in Lagos State is higher in female (39.9%) than in male (34.4%). Only age was statistically significant as a predictor of chronic hepatitis B, 20 - 29(aOR = 3.167, 95%CI = 1.382 - 7.260), 30 -39(aOR=3.193, 95% CI=1.658 - 6.148), 40 - 49(aOR = 2.720, 95% CI = 1.302 - 5.680). Individuals within the age 30–39 years show more prevalence of chronic hepatitis B (43%). The study concluded that only age is the significant predictor of chronic Hepatitis B and individuals within the age 30–39 years have the highest risk of the disease.

Keywords: Binary Logistic Regression, Chronic Hepatitis B, Multivariate analysis, Risk Factors.