

Dual Carriage of Hepatitis B Surface and Envelope Antigen in Adults in the Poorest Region of Nigeria: 2000-2015

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Abstract : Introduction: Hepatitis B infection continues to be a serious global health problem with about 2 billion people infected worldwide, many of these in sub-Saharan Africa. Nigeria is one of the countries with the highest incidence, with a prevalence of 10-15%. Methods: Records of Hepatitis B surface and envelope antigen test results in adults in Federal Teaching Hospital, Gombe between May 2000 and May 2015 were retrieved and analyzed. Findings: Adult out-patient consultations and in-patient admissions were 343,083 and 67,761 respectively, accounting for 87% of total. Hepatitis B surface antigenaemia was tested for in 23,888 adults and children. 88.9% (21240) were adults. Males constituted 56% (11902/21240) and females 44% (9211/21240). 5104 (24.0%) of tested individuals were 19-25years; 12,039 (56.7%) 26-45years; 21119 (9.0%) 46-55years; 2.8% (590/21240) and 766 (3.6%) >65years. Among adult males, 17% (2133/11902) was contributed by ages 19-25. 58% (7017/11902), 11.9% (1421/11902), 6.4% (765/11902) and 4.7% (563/11902) of males were 26-45 years old, 46-55 years old and 56-65 years and >65year old respectively. Adults aged 19-25years, 26-45 years, 46-55years, 56-65 and > 65years each constituted 32% (2966/9211); 54.4% (5009/9211); 7.4% (684/9211), 3.8% (350/9211) and 2.2% (201/9211) of females respectively. 16.2% (3431/21,240) demonstrated Hepatitis B surface antigenaemia. The sero-positivity rate was 16.9% (865/5104) between 19-25years, 21.2% (2559/12,039) among 26-45year old individuals. 17.9% (377/2111); 14.1% (83/590) and 7.3% (56/766) of 46-55year old, 56-65year old and >65year old individuals screened were seropositive. The highest sero-positivity rate was found in male young adults aged 19-25years 27.9% (398/1426) and lowest in elderly males 7.4% (28/377). HBe antigen testing rate among HbSAg seropositive individuals was 97.3% (3338/3431). Males constituted 59.7% (1992/3338) and females 40.3% (1345/3338). 25.3% (844/3338) were aged 19-25years; 61.1% (2039/3338) 26-45years; 10.2% (340/3338) 46-55years; 2.7% (90/3338) 56-65years and 0.7% >65years old. HB e antigenaemia was positive in 8.2% (275/3338) of those tested. 41% (113/275); 50.2% (138/275); 5.4% (15/275); 1.8% (5/275) and 1.1 (3/275) of HB e sero-positivity was among age groups 19-25, 26-45, 46-55, 56-65 and > 65year old individuals. Dual sero-positivity rate was highest 13% (113/844) in young adults 19-25years and lowest between 46-55years; 15/340 (4.4%). 4.2% (15/360); 13.5% (69/512); 6.7% (90/1348); 4.6% (10/214); 5% (2/40) and 6.7% (1/15) of males aged 19-25; 26-45; 46-55; 56-65; and >65years had HB e antigenaemia respectively. Among females - 27/293 (9.2%) aged 19-25; 26/500 (5.2%) 26-45; 2/84 (2.4%) 46-55; 1/12 (8.3%) 56-65 and 1/9(11.1%) >65years had dual antigenaemia. In women of childbearing age, 6.9% (53/793) had a dual carriage. Conclusion: Dual hepatitis B surface and envelope antigenaemia are highest in young adult males. This will have significant implications for the development of chronic liver disease and hepatocellular carcinoma.

Keywords : adult, Hepatitis B, Nigeria, dual carriage

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