ABSTRACT

BACKGROUND: *Toxoplasma gondii* infection is one of the commonest opportunistic infections in HIV-infected patients, with the fatal consequences of toxoplastic encephalitis particularly in advanced disease. However, data regarding *T. gondii* infection in the setting of HIV/AIDS are scant in Nigeria. There is therefore, the need to know its seroprevalence, as health education on simple preventive measures as well as routine chemoprophylaxis may go a long way in preventing the acquisition of infection and the fatal consequences of toxoplastic encephalitis.

OBJECTIVE: to determine the seroprevalence and risk factors of transmission of *T. gondii* among HIV-infected patients as well as to determine the correlation between anti-*T. gondii* IgG titre and the CD4+ cell count/HIV-1 RNA viral load.

MATERIALS AND METHOD: a case-control observational study in which a total of 190 subjects were involved i.e. 110 newly diagnosed ART naive HIV-positive patients (cases) as well as 80 apparently healthy HIV-negative age- and-sex matched comparable controls who were selected by simple random sampling method.

RESULTS: the age range of the study population was 20-64 years. The mean ages of male subjects for both cases and controls were 37.52 ±8.20 years and 35.79 ±12.31 years, respectively, (p = 0.462). On the other hand, the mean ages of female subjects for both cases and controls were 29.90 ±6.98 years and 32.30 ±10.29 years, respectively, (p=0.149). Twenty one subjects (19.1%) among cases and 1 (1.25%) amongst controls tested positive for anti-*T. gondii* IgG, respectively, (p=0.000). The following risk factors for the transmission of *T. gondii* infection had been identified to be common among cases than controls i.e. soil contact/outdoor gardening, (p=0.000), eating undercooked meat, (p=0.000), eating raw/unwashed vegetables, (p=0.000), and eating rodents
Persistent headache (p= 0.000), and visual disturbance (p=0.000), were observed to be the two commonest clinical symptoms/signs suggestive of toxoplasmic encephalitis among anti-
T.gondii positive HIV-infected subjects.

There was a statistically insignificant negative correlation between anti-T.gondii IgG titre and the CD4+ cell count among HIV positive subjects, (r = -0.1182, p = 0.219). Conversely, there was a positive correlation between HIV-1 RNA viral load and the anti-T.gondii IgG titre which was statistically not significant, (r = 0.0628, p = 0.514). In addition, significant proportion of anti-
T.gondii positive subjects presented with AIDS defining illnesses compared with their anti-
T.gondii negative counterparts.

**CONCLUSION:** The study has shown that T.gondii infection is more prevalent among HIV positive patients compared to controls. It has also identified soil contact/outdoor gardening as well as consumption of raw/unwashed vegetables, undercooked meat, and rodents as the commonest risk factors for the transmission of T.gondii. Persistent headache and visual disturbance were observed to be the commonest clinical symptoms suggestive of toxoplasmic encephalitis among anti-T.gondii positive HIV-infected subjects. Routine screening for T.gondii IgG anti-body is therefore recommended for all HIV-infected subjects as well as re-emphasis on the commencement of chemoprophylaxis in HIV-infected patients with low CD4+ cell count. Health education on simple preventive measures against acquisition T.gondii infection such as eating properly cooked meat and thoroughly washed vegetables as well as washing hands after soil contact/gardening is also recommended for all HIV-positive patients.