

International Virology Conference

October 30-31, 2017 | Toronto, Canada

Factors associated with first-line antiretroviral treatment failure in adult patients with HIV; Asella Hospital, Ethiopia: A case-control study

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Background: Treatment failure has become a significant challenge in patients taking Antiretroviral Therapy (ART). The aim of the present study was to identify risk factors for first-line ART failure among patients attending clinical follow-up in Asella Hospital, South Eastern Ethiopia.

Materials/methods: A 1:2 matched case-control study (by age, sex, and duration of ART) was conducted from June 2015 to July 2017 on adult patients (≥ 15 years) who were on ART for at least 6 months. Ninety-one patients who were transferred to second-line ART after confirmed first-line ART failure (viral load ≥ 1000 cells/mm³) were cases and 182 patients who did not fail on their first-line ART were controls. Data were collected using interview questionnaire, previous chart records and laboratory tests to detect chronic carrier state for H. pylori, Hepatitis B and C viral infections. Multivariate logistic regression analysis was performed.

Results: From 273 patients who participated in this study; 54.6% were males and 45.4% were females. The average age and duration on ART were 41.4 years and 71.2 months respectively. Independent risk factors associated with ART failure were tuberculosis treatment


while on ART (OR=11.08; 95% CI: 4.57-26.87), discontinuation of ART drugs (OR=7.35; 95%CI: 3.92-13.79), persistent or repeated diarrhea (OR=4.64; 95%CI= 1.90-11.31), and advanced baseline WHO Stage IV (OR=4.05; 95%CI: 1.03-16.00). Food made of wheat (OR=1.87; 95%CI: 0.75-4.67), H. pylori co-infection (OR=0.76; 95%CI: 0.41-1.42), Hepatitis B carrier state (OR=0.93; 95%CI: 0.30-2.86), and Hepatitis C carrier states (OR= 0.41; 95%CI: 0.05-3.93) were not significantly associated with antiretroviral treatment failure in this study.

Conclusions: Prevention of tuberculosis and special emphasis on management of HIV and tuberculosis co-infections, counseling patients on adherence to ART drugs and hygiene; and starting ART earlier help to decrease ART failure.

Speaker Biography

Yihienew M. Bezabih has completed his MD (doctor of medicine) degree at age of 27 and graduated with great distinction winning silver medal from Adama University, Ethiopia. He also won the Adama University's high scoring students award in 2010. He currently works as lecturer at Arsi University College of Health Sciences and leads two research projects on HIV and stroke as principal investigator.

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