134. Exploring Determinants of mortality among Adult PLHIV under ART at Meru Teaching and Referral Hospital, Kenya

Winfred Karimi, Robert Muriungi Gitunga, Frank G Onyambu and Christine Gacheri
[1]Department of Mathematics, Meru University of Science and Technology
[1]Department of Medical Laboratory Sciences, Meru University of Science and Technology

Corresponding author's email: winniekarimi62@gmail.com

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Abstract

HIV remains a persistent global health challenge, affecting the immune system and leading to significant morbidity and mortality despite advancements in antiretroviral therapy (ART). The study investigated the covariates that correspond to determinants linked to increased mortality among PLHIV (people living with HIV/AIDS) under ART at Meru Teaching and Referral Hospital (MTRH) over a five-year period. This retrospective cohort study utilized secondary data from hospital records between 2018 and 2022, focusing on demographic, socio-economic, and clinical variables. A logistic regression analysis was carried out to identify covariates that correspond to determinants linked to increased mortality among HIV-positive patients. The age range varied significantly, with a smaller percentage falling into younger age groups: 6.7% aged 18-25 years and 10.0% aged 26-35 years. The majority were middle-aged, with 24.9% falling into the 36-45 age group and 31.6% between 46-55 years. Older age groups were also represented, with 17.2% aged 56-65 years and 9.6% above 65 years. In terms of gender, 56.9% of participants were female, while 43.1% were male. The study results found a notable gender disparity in mortality risk, with male patients demonstrating higher odds of mortality compared to females (OR = 1.25, $p = 0.032$). Age emerged as a significant predictor, with each additional year associated with a slight increase in mortality odds (OR = 1.02, $p = 0.045$). Marital status did not significantly influence mortality risk. Smoking status was identified as a significant predictor, with smokers exhibiting higher mortality risk (OR = 1.40, $p = 0.005$). Employment status also played a role, with self-employed individuals showing marginally lower mortality risk (OR = 0.90, $p = 0.041$) and unemployed individuals facing higher risk (OR = 1.50, $p = 0.010$) all compared to the employed. Educational level showed varying mortality risks, with high school education associated with lower risk (OR = 0.85, $p = 0.030$) and tertiary education linked to higher risk (OR = 1.60, $p = 0.002$) both compared to no formal education. CD4 cell count inversely affected mortality risk (OR = 0.99, $p < 0.001$). Undergoing TB screening was associated with reduced mortality odds (OR = 0.70, $p = 0.003$). WHO stages of HIV infection significantly influenced mortality odds, with patients in advanced stages (Stage 3: OR = 1.30, $p = 0.015$; Stage 4: OR = 2.00, $p < 0.001$) demonstrating higher odds of mortality compared to those in Stage 1.

Keywords: *ART, Logistic regression, Determinants, odds ratios, mortality*