**Magnitude of Recent HIV Infection and Associated Factors among Newly Diagnosed Cases in Tigray Northern Ethiopia 2024: HIV Case surveillance data**

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**Abstract**

**Background:** Recent HIV infections were those acquired during the last 6-12 months and detected by Asante's recency HIV test kit. Identifying individuals with recent HIV infection is a vital step in controlling the epidemic and ending HIV/AIDS as a public health threat by 2030. The aim of this study was to assess the magnitude of recent HIV infections and identify associated factors among newly diagnosed HIV positive clients in Tigray between August 2023 and March 2024.

**Method:** All HIV surveillance data were exported from the REDCap, and entered into SPSS 23 for analysis. No particular sample procedure was used for this investigation. Descriptive and Binary logistic regression analyses were performed. The selection of variables for multivariate logistic regression analysis was based on their P-value of 0.25. At a 5% significance level (p<0.05), the Hosmer-Lemeshow test was used to assess model fitness.

**Results:** The overall magnitude of recent HIV infections was 22.3% (95%CI, 19.4, and 26.4). The highest percentage of recent infections were observed in females (72%). The factors associated with recent HIV infections were age 15–24 years (AOR = 2.60, 95% CI: 1.150, 5.742), employed (AOR = 2.78, 95% CI: 1.23, 6.304), female sex workers (AOR = 2.8, 95% CI: 1.119, 7.037), and those who paid or received money or a gift for sex (AOR = 2.2, 95% CI: 1.368, 3.673).

**Conclusions:** The magnitude of recent HIV infections in Tigray was higher than other areas in Ethiopia. Significant predictors were being in the 15-24 age group, employed people, female sex worker, and paid or received money for sex. The regional health bureau, and stakeholders, should strengthen surveillance system and targeted HIV prevention intervention programs on the factors.

**Keywords:** Asante**,** HIV/AIDS, Recent and Tigray