

## Title: Virological failure and associated factors among children receiving highly active anti-retroviral therapy, Northwest Ethiopia

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**Background:** Virological failure is under-recognized among human immunodeficiency virus (HIV) infected children in developing countries. This sweeps the country unable to meet the global goal of 90-90-90 targets.

**Objectives:** This study aimed to assess the virological failure and its predictors among children receiving HAART at the University of Gondar comprehensive specialized hospital (UoGCSH), Northwest Ethiopia.

**Methods:** An institutional based cross-sectional study was conducted among 253 study cohorts at the UoGCSH ART clinic from January 2020-April 2021. Socio-demographic characteristics were collected using a structured questionnaire via a face-to-face interview, while detailed clinical data of the children were collected by reviewing the medical record. About 5 ml of blood were collected for the analysis of complete blood count and viral load quantification. Data were analyzed using SPSS version 20 and any variable at p-value < 0.05 in the multivariable analysis was considered as statistically significant.

**Results:** Viral load suppression rate among children under ART at the UoGCSH ART clinic was 68.8%. Meanwhile, the overall virological failure among HAART experienced children was 19.4%. Children living without family (AOR=3.63; 95%CI: 1.27-10.24), children with unemployed family (AOR=4.95; 95%CI: 1.74-14.12), being wasted (AOR=3.02; 95%CI: 1.19-7.67) being stunted (AOR=2.38;95%CI:1.03-5.46), anemia (AOR=5.50;95%CI;1.37-22.04) and being lymphopenic (AOR=2.69;95%CI;1.04-7.75) were significantly associated with virological failure among children under treatment.

**Conclusion:** Higher virological failure among children is noteworthy in the present study. Caretakers other than immediate family, unemployed family, wasted, stunted, anemia, and lymphopenia were significant independent predictors of virological failure among HAART experienced children. Hence, standard, and optimal management of children under treatment should warranted.

### Biography

I am a 22 year old graduate of a first class degree with Honours in Forensic Investigations from Staffordshire Police. I currently work within the forensics department of Staffordshire Police. I am now embarking on my PhD looking further into Post Mortem Computed Tomography and conventional Post Mortem technologies.