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# Incidence of tuberculosis and cohort retention among adolescents in Western Kenya

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**Setting:** Karemo division, Siaya County, Western Kenya, with the highest TB notification rates in Kenya (400/100,000).

**Objective:** To determine the incidence of tuberculosis and one year cohort retention in 12–18 year adolescents, in preparation for Phase III TB vaccine trials.

**Design:** Adolescents were enrolled and followed up for 1-2 years to determine TB incidence. Adolescents who had a positive tuberculin skin test, history of cohabitation with a TB case within the previous 2 years, or at least one TB symptom received clinical examination, sputum examination, and a chest X-ray. TB cases were defined as definite if bacteriologically confirmed and clinical if diagnosed by a clinician based on a suggestive chest X-ray scored using Chest Radiograph Review System (CRRS) and having at least one clinical symptom. Risk factors were explored using Poisson regression.

**Results:** Among 4965 adolescents without TB at baseline, 26 TB cases were found during follow up with a corresponding incidence density of 4.4 (95% CI, 3.0-6.4) events per 1000 person years of observation. Tuberculin skin test (TST) conversion (RR=3.5; CI 1.5, 7.7) and history of previous tuberculosis (RR=12.5; CI 1.8, 100) were the strongest predictors of incident TB. Overall (4086/4957) 82.4% of adolescents were retained in the study after 1 year of follow up. Being female, older, out of school and being orphaned were significant risk factors for lower retention rates.

**Conclusion:** Given the high incidence of tuberculosis and good cohort retention, this setting is suitable for TB vaccine trials targeting adolescents.

## Biography

Videlis Nduba is a Senior Research Officer at the Center for Respiratory Diseases Research, Kenya Medical Research Institute. He is a Medical Officer and Epidemiologist with experience leading several clinical trials. He previously conducted epidemiological trials in infants and adolescents to determine the incidence of tuberculosis in Western Kenya. He is currently involved with TB vaccine and drug trials.

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