



A Case Study on the Impact of Community-Led Total Sanitation on Soil-Transmitted Helminth Reinfection in Rural Oromian Schoolchildren

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Published: 13 August 2010 | **Received:** 17 February 2010 | **Accepted:** 14 June 2010

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DOI: [10.5281/zenodo.18529514](https://doi.org/10.5281/zenodo.18529514)

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Abstract

Soil-transmitted helminth (STH) infections are a persistent public health burden for schoolchildren in rural Ethiopia. Reinfection following mass drug administration is common, highlighting the need for environmental and behavioural measures. Community-led total sanitation (CLTS) is promoted to improve sanitation, but its specific effect on STH reinfection in local contexts requires clearer evidence. This case study assessed the effect of a CLTS campaign on the prevalence and intensity of STH reinfection among primary schoolchildren in a rural Oromian district. It also examined the campaign's influence on household sanitation practices and their association with infection status. A mixed-methods case study was undertaken in one rural kebele. Quantitative data on STH prevalence and intensity were collected through repeated Kato-Katz stool examinations from a cohort of schoolchildren, conducted before and after the CLTS intervention. Qualitative data were obtained via focus group discussions with community members and key informant interviews to explore related behavioural and environmental changes. Following the CLTS campaign, observed household latrine coverage rose from approximately 15% to over 80%. Despite this, the prevalence of any STH reinfection in the child cohort six months after deworming remained high at 42%. Qualitative data indicated that although latrine construction was widespread, consistent and correct use by all household members, particularly children, and the safe disposal of child faeces were not universally practised. The CLTS intervention successfully mobilised the community to construct latrines, but this increased coverage did not substantially reduce STH reinfection rates in the observed period. The results indicate that latrine coverage alone is inadequate to interrupt STH transmission without sustained behaviour change focused on consistent use and safe faecal sludge management. Sanitation programmes should integrate targeted, ongoing behaviour change communication to promote consistent latrine use and safe child faeces disposal alongside infrastructure provision. Monitoring and evaluation frameworks should move beyond latrine construction metrics to include usage and behavioural outcomes. Further research is needed on complementary interventions to achieve sustainable STH control. community-led total sanitation, soil-transmitted

helminths, reinfection, schoolchildren, rural Ethiopia, sanitation behaviour. This case study provides localised evidence on the limitations of latrine coverage as a standalone indicator for STH control, highlighting the critical gap between sanitation infrastructure and effective use in a rural Ethiopian setting.

Keywords: *Soil-transmitted helminths, Community-Led Total Sanitation, Mass Drug Administration, Reinfection, Schoolchildren, Sub-Saharan Africa, Neglected Tropical Diseases*

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