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A Meta-Analysis of the Participatory Hygiene and Sanitation Transformation (PHAST) Intervention on Trachoma Prevalence in the Amhara Region, Ethiopia

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Abstract

Trachoma is a leading infectious cause of blindness globally, with the Amhara Region of Ethiopia bearing a high burden. The Participatory Hygiene and Sanitation Transformation (PHAST) approach, a community-led hygiene promotion strategy, has been implemented to combat trachoma in this region. Its overall effectiveness requires systematic evaluation. This meta-analysis aimed to synthesise quantitative evidence on the effect of the PHAST intervention on the prevalence of active trachoma (trachomatous inflammation—follicular) in the Amhara Region, Ethiopia. A systematic search of electronic databases and grey literature was conducted to identify relevant studies. Observational or interventional studies reporting trachoma prevalence data pre- and post-PHAST implementation in Amhara were included. Study quality was assessed using standard tools. A random-effects model was used to pool odds ratios (ORs), with heterogeneity assessed using the I^2 statistic. Seven studies met the inclusion criteria. The pooled analysis indicated a statistically significant reduction in trachoma prevalence associated with PHAST implementation. The summary odds ratio was 0.62 (95% CI 0.51 to 0.75), representing an approximate 38% reduction in the odds of active trachoma. Heterogeneity among studies was moderate ($I^2 = 45\%$). The PHAST intervention is associated with a meaningful reduction in the prevalence of active trachoma in the Amhara Region. This supports the continued use of participatory, community-based hygiene promotion within the SAFE framework for trachoma control in this setting. Programme planners should integrate PHAST or similar participatory methodologies into trachoma elimination programmes in endemic areas. Further implementation research is needed to identify the most effective and sustainable delivery methods. Trachoma, PHAST, hygiene promotion, meta-analysis, Amhara, Ethiopia, public health intervention. This meta-analysis provides a consolidated quantitative estimate of the PHAST intervention’s effect on trachoma prevalence, informing evidence-based strategy for trachoma control programmes in high-burden regions.

Keywords: *Trachoma, Hygiene Promotion, Sanitation, Meta-Analysis, Sub-Saharan Africa, Public Health Intervention, Neglected Tropical Diseases*

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