

# The prevalence of human trichuriasis in Asia: a systematic review and meta-analysis

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## **Abstract:**

Trichuriasis is one of the most common soil-transmitted helminth (STH) infections, affecting populations globally. The condition is particularly prevalent in tropical and subtropical areas with low levels of sanitation and poor living conditions. The objective of this systematic review and meta-analysis was to evaluate the prevalence of *Trichuris trichiura* infection in Asia at the country and region level. Multiple databases/academic search engines (Web of Science, PubMed, ProQuest, Scopus, and Google Scholar) were searched for literature on *T. trichiura* prevalence in Asia published through January 2021. Pooled prevalence was determined using the meta-package in R (version 3.6.1). Out of 13,836 articles, 226 studies (5,439,500 individuals) from 26 countries met the inclusion criteria. Of the 226 studies, 151 were community-based studies that included individuals across the age spectrum, while 75 studies focused on school children (typically in the 5-16 years age range). The overall *T. trichiura* pooled prevalence was 15.3% (95% CI: 12.4-19.1%), with a pooled prevalence of 13.3% (95% CI: 10.0-17.1%) for the community studies and 20.9% (95% CI: 14.7-27.9%) for the studies only including school children. For studies including all age groups, individuals in the 1-15 years age group had the highest pooled prevalence at 23.4% (95% CI: 1.7-49.4%). There was a significant difference found in overall pooled prevalence by sex ( $p < 0.001$ ) and community type (rural versus urban) ( $p < 0.001$ ). Although prevalence appears to be decreasing, study findings suggest that *T. trichiura* infection continues to be a public health problem in Asia. Therefore, control programs focused on at-risk individuals in endemic areas are needed.

**Keywords:** Asia; Neglected tropical disease; Soil-transmitted helminth; Systematic review; Trichuriasis.