

Systematic review with meta-analysis: Prevalence, risk factors, and challenges for urinary schistosomiasis in children (USC)

ABSTRACT

Background Schistosomiasis is a parasitic infection that causes significant public health problems in tropical countries. *Schistosoma haematobium* species are blamable for causing urinary schistosomiasis. The infected person, specifically children, may be carrying the disease. This systematic review aimed to identify the current knowledge of urinary Schistosomiasis in children or USC on its epidemiology, risk factors, and challenges to spread the understanding of controlling the disease and reducing the complications. Method In November 2021, a systematic computer-aided literature review was conducted using PubMed, SCOPUS and Web of Science, following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) criteria. The results were updated in February 2022. We only used papers that have at least the abstract available in English. Relevant articles were screened, duplicates were deleted, eligibility criteria were applied, and studies that met the criteria were reviewed. The keywords Human *Schistosoma* infections, prevalence, risk factors and challenges were included. The protocol for the review was registered with PROSPERO (registration number CRD42022311609). Pooled prevalence rates were calculated using the programme R version 4.2.1. Heterogeneity was assessed using the I² statistic and p-value. A narrative approach was used to describe risk factors and challenges. Studies were selected and finalised based on the review question to prioritise. The quality of the included studies was assessed using the Mixed-Method Appraisal Tool (MMAT). Results A total of 248 publications met the requirements for inclusion. Fifteen articles were included in this review, with the result showing high heterogeneity. The pooled prevalence of urinary schistosomiasis in children is 4% (95% confidence interval (CI)). Age, poor socioeconomic status, education, exposure to river water, and poor sanitation are the risk factors identified in this review. Challenges are faced due to limitations of clean water, lack of water resources, and poor hygiene. Conclusion Modifiable risk factors such as poor knowledge and practices must be addressed immediately. Healthcare providers and schools could accomplish engaging in practical promotional activities. Communicating the intended messages to raise community awareness of urinary schistosomiasis is critical.