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Schistosomiasis in South Sudan: integrating presumptive neglected tropical disease treatment into primary health care

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Introduction

Schistosomiasis is a snail-borne helminth infection that spreads in contaminated freshwater. Systemic infection can have diverse health effects, especially in children (eg. stunting and anaemia) and women (eg. infertility or subfertility, ectopic pregnancy, miscarriage, and increased risk of HIV and HPV), and it can lead to urogenital cancers in adult men and women. Solutions for areas without access to community mass drug administration (MDA) of praziquantel include integrating empiric treatment into primary health care (PHC) by giving praziquantel to all patients with schistosomiasis symptoms, even when antibiotic treatment for other potential infections is also prescribed. In September 2023, Médecins Sans Frontières (MSF) began using a clinical, presumptive schistosomiasis treatment model in a hyperendemic area of South Sudan (88% prevalence in school-aged children). Concurrent praziquantel treatment was integrated across hospital, outpatient, and outreach services. We aimed to assess the feasibility of the approach and its effectiveness at identifying and treating schistosomiasis cases in PHC.

Methods

All clinical staff in the MSF facility in Old Fangak hospital received training on the new schistosomiasis treatment model and study data collection. Tally sheets were used to track the number of patients screened (for symptoms with or without random lab sampling) in the inpatient (IPD), outpatient (OPD), and maternity (ANC) departments of the hospital, as well as during health outreach activities. Praziquantel consumption data were recorded using MSF pharmacy tracking tools.

Ethics

This study was reviewed and approved by the MSF and South Sudan Ethics Review Board Committees.

Results

From month 1 of the study period to month 13 (September 2023–October 2024), the number of diagnoses of suspected schistosomiasis increased from 73 to 292. Monthly diagnoses were highly variable and sensitive to external factors such as staffing gaps, concurrent outbreaks of infectious disease (hepatitis E, cholera, measles) and other environmental and security challenges. Praziquantel consumption increased compared with consumption before the intervention, although pharmacy data were challenging to interpret. Diagnoses were lowest in IPD, with some months reporting no patients with schistosomiasis.

Conclusion

This presumptive treatment model for schistosomiasis was only partly successful. Given the patient loads and the potential disease burden, we expected the rates of schistosomiasis identification to be much higher. To increase these rates, we used simplification of protocols, supplementary trainings, and bespoke models, with unclear effects. Yet, experimenting with an empiric, integrated care approach for neglected tropical diseases (NTDs) was information-rich for MSF, leading to more awareness of schistosomiasis in the Old Fangak project and resulting in new approaches to addressing schistosomiasis and other NTDs. Iterating NTD prevention and treatment strategies in challenging humanitarian settings should be considered a priority for MSF in hyperendemic NTD environments.

Conflicts of interest

All authors declare no competing interests.