Urogenital schistosomiasis (UGS) is a neglected tropical disease endemic to sub-Saharan Africa, particularly rural areas with poor water and sanitation coverage. Transmission of the parasite is characterized by a complex life cycle involving the fresh water snail as an intermediate host, and occurs through skin contact with contaminated surface water. Individual risk factors include swimming and domestic water use. Control methods generally involve mass drug administration (MDA), water and sanitation improvements, and environmental alterations.

Background

There is a lack of UGS prevalence data worldwide, resulting in the limited ability to predict hotspots. The last prevalence update of UGS in Ghana occurred in the mid-1980s. Despite recent advances in predictive mapping, these maps have not included community-level risk factors that account for UGS as a focal disease, and they suffer from limited validation. This analysis is limited to the Eastern Region of Ghana.

Methods

This analysis extrapolated risk factor information from 75 towns for which detailed information is available to 15-minute clinic catchment areas in the entire study area to predict risk of UGS. Risk factors, including water-quality problems, low water infrastructure coverage (boreholes and hand dug wells), high endemic town density, and exposure to surface water were summed to show prediction of UGS risk. These results can be visually compared to clinic-reported UGS prevalence.