



THE EPIDEMIOLOGY OF SCHISTOSOMIASIS IN EGYPT: ISMAILIA GOVERNORATE

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ABSTRACT

A multi-stage stratified sample of 12,515 individuals from 1,941 households in 42 villages in the Ismailia governorate of Egypt were surveyed for schistosomal infection. A subset of 2,390 subjects were surveyed for morbidity by physical and ultrasonographic examination. The prevalence of Schistosoma mansoni infection in rural Ismailia was 42.9% and the geometric mean egg count (GMEC) was 93.3 eggs/gram of stool, with considerable variability between communities. Prevalence and intensity peaked in the 20-30-year-old age group and was higher in males than in females. Prevalence and intensity of *S. haematobium* was very low: 1.8% and 3.5 ova/10 ml of urine GMEC, respectively. Canal water exposure risk factors for *S. mansoni* infection were males bathing (odds ratio (OR) 2.2), females washing clothes (OR 1.9), and children playing or swimming (OR 2.3). Presence of in-house piped water supply and latrine lowered infection rates (P 0.001 and P 0.002, respectively). Histories of *S. mansoni* infection (OR 1.6) or treatment (OR 1.5) and blood in feces (OR 3.5) were associated with infection. Hepatomegaly (16.0%) was more frequently detected than splenomegaly (3.6%) by physical examination, with both being more frequent in older age groups. Splenomegaly, but not hepatomegaly, was associated with presence of *S. mansoni* ova in stools (OR 1.4) and the community burden of infection (P 0.02). Ultrasonographically detected hepatomegaly, splenomegaly, and periportal fibrosis (PPF) were detected in 43.0%, 17.4%, and 39.7% of the subjects, respectively. The higher grades of PPF were rare. Ultrasonographically detected splenomegaly, not hepatomegaly, was associated with *S. mansoni* infection, community burden of infection, and PPF. Risk factors for PPF were the same as for *S. mansoni* infection. There was a marginal association of PPF with infection and none (P 0.33) with the intensity of infection in individuals or in the community. We conclude that in rural Ismailia, *S. haematobium* infection is rare but the prevalence and intensity of infection with *S. mansoni* is high. The risk of infection is associated with environmentally detected factors and behaviors. Hepatosplenic morbidity attributable to *S. mansoni* infection is low, presumably because of the favorable effect of wide application of praziquantel therapy.