



Prevalence of *Schistosoma* and *Strongyloides* infection among Eritrean immigrants to Israel

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Background:

Immigration from east Africa (mainly Eritrea) to Israel peaked during 2011-2013. Little is known about the prevalence of chronic parasitic diseases in this population.

We performed a survey of Schistosomiasis and Strongyloidiasis among immigrant, both are parasites that can cause chronic infections, and can lead to significant morbidity.

Methods:

A prospective survey of adults (>18 years) from Eritrea was performed at a primary care clinic for immigrants in Tel Aviv, Israel. Participants provided written informed consent. Stool and blood samples were collected, and participants filled epidemiological, clinical and geographical questionnaires. Stool was tested by real time PCR for *Strongyloides stercoralis* and *Schistosoma* species, serum was tested for IgG antibodies against these pathogens using commercial kits.

Results:

115 patients were recruited from June to September 2017. Ninety-five of them (83%) were males and 20 (17%) were women. The median age was 34 (IQR 30-39), age ranges from 24 to 66 years. The median interval since coming to Israel was 7 years (range, 4 to 10 years). Overall, 58 participants (50%) had evidence of infection with *Schistosoma* spp. (positive serology or stool PCR).

Risk factors for schistosomiasis were male gender, age younger than 45 years and residing for more than 2 weeks in Ethiopia along the way to Israel.

Conclusion:

We found high rates of schistosomiasis (both by serology and PCR in stool) among Eritrean immigrants in Israel, suggesting that southern Eritrea is highly endemic for *Schistosoma* spp. In contrary, chronic strongyloidiasis was rarely detected.

Empirical treatment of schistosomiasis with praziquantel should be considered for immigrants from Eritrea.

	IgG Detection (n=115)	Stool PCR	IgG or PCR (n=115)
<i>Schistosoma</i> spp.	55 (48%)	35 (30%)	50 (48%)
<i>Strongyloides</i>	2 (2%)	0 (0%)	2 (2%)

Table 1. Results of tests for *Schistosoma* and *Strongyloides*

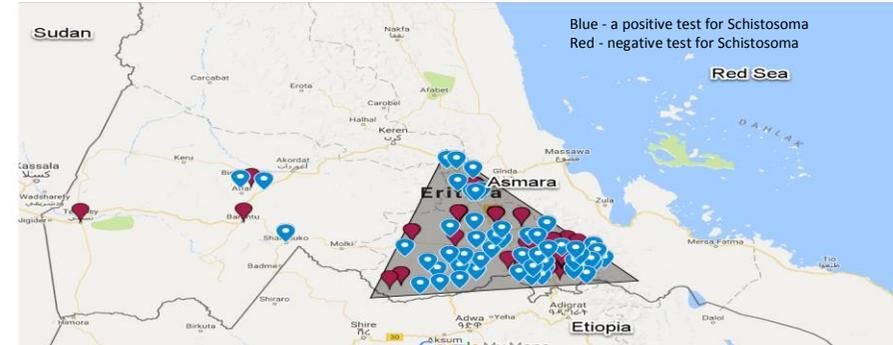


Fig. 1. Map of origin of participants in Eritrea

	Total = 115	Schistosoma negative N=60	Schistosoma positive N=55	P value	OR	CI
Male gender	95 (82.5%)	39 (69.6%)	56 (94.8%)	<0.001	7.99	2.19-29.15
Median age (IQR)	34 (30-39)	34.5 (30-40.7)	33(29-38)	0.114	0.97	0.93-1.08
Age< 45 Years	97 (85.8%)	44 (78.6%)	53 (98%)	0.028	3.61	1.09-11.99
Median years since arriving to Israel (IQR)	7 (6-8)	7 (6-9)	6 (6-7)	0.140	0.82	0.65-1.04
Self-reported swimming in rivers	113 (98.3%)	48 (85.7%)	52 (91.2%)	0.360	1.73	0.53-5.67
Staying in Ethiopia	49 (42.6%)	18 (33.3%)	31 (53.4%)	0.03	2.30	1.07-4.93
Staying in Sudan	92 (80%)	45(81.8%)	47 (82.5%)	0.930	1.04	0.40-2.75
Staying in Egypt	65 (56.5%)	34 (64.2%)	31 (55.4%)	0.158	0.69	0.32-1.50

95% of the participants originated from south of Eritrea in an area south of the capital city Asmara

There was no clear correlation between evidence of schistosomiasis and specific locations of origin in Eritrea.

Table 2.
Risk factors for positive tests for schistosomiasis

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