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# **Value of Polymerase Chain Reaction Amplified From Human Urine Samples for Diagnosis and Epidemiology of Urinary Schistosomiasis**

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### **Abstract**

**Background:** Identification of specific and sensitive diagnostic technique for urinary schistosomiasis is still a questionable matter. The present study was carried out in two rural communities at Fayoum Governorate, Egypt, between May and December 2011, aiming to assess the performance of three diagnostic tests for *Schistosoma haematobium* infection and to identify the most important epidemiologic risk factors for this infection.

**Methods:** urine samples from 100 persons from both study areas were examined for urinary schistosomiasis after filling questionnaire interviews. The applied techniques were; direct microscopy, detection of microhaematuria using reagent strip tests and PCR amplification of *Dra I*-121 base-pair tandem repeat sequence from urine samples.

**Results:** The infection rates were 4%, 13% and 12% using the three tests respectively. PCR technique proved the significant underestimated prevalence rates of the disease using microscopy. The results also indicated the potential usefulness of urine PCR technique as a non-invasive diagnostic tool for urinary schistosomiasis that may serve as a criterion standard in determining the accurate prevalence of the disease. Prevalence of safe water supply is the most significant protective factor from the disease, whereas previous history of dysuria and/or haematuria is the most significant risk factor for this disease.

**Conclusion;** PCR is a promising test for diagnosis of *S. haematobium*. Strip test is a good alternative in poor areas where PCR is not available. The disease and its risk factors are prevalent in the examined localities that need efforts from local health authorities.