

PREVALENCE AND INTENSITY OF URINARY SCHISTOSOMIASIS IN GWAGWALADA F. C. T. USING SCHOOL CHILDREN AS TRACERS

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(Received 5 January 1996; Revision accepted 22 April 1996)

Abstract

A survey was conducted for the prevalence of urinary schistosomiasis in Gwagwalada between February - July 1995. Using school children as tracers, urine sample was collected from four selected primary schools. 126 samples were examined using electric centrifuge revolving at 2000 rounds per minute for ova. The overall prevalence of *Schistosoma haematobium* was 10.3% and boys were more infected than girls ($P < 0.05$) the highest prevalence occur between the age of 6-12 yrs. haematuria was observed in few samples examined.

KEY WORDS: Prevalence, schistosomiasis, Gwagwalada, *Schistosoma haematobium*. Haematuria.

Introduction

Schistosomiasis is the most important of all water borne parasitic disease and is second to malaria in its socio-economic and public health implication Roger, (1986). *Schistosoma* species were reported in many part of Nigeria, Anigbo and Nwaorgu (1990) reported that the peak prevalence (73%) and intensity of 84 egg/10ml of urine occurred between the age of 5-14 years. The prevalence and intensity of *Schistosoma haematobium* infection was statistically higher in males than females ($P < 0.001$ and $P < 0.01$ respectively) in Amagunze, Anambra State Nigeria, (Awogun, 1990). While comparing the prevalence and intensity of *Schistosoma haematobium* and *Schistosoma Mansoni* among secondary school children in Ilorin, Kwara State, Nigeria, reported the

prevalence of *Schistosoma haematobium* and *Schistosoma Mansoni* were 23.0% and 5.4% respectively, the prevalence of *Schistosoma haematobium* was 29.4% among males and 12.1% among the females.

Instifanus et al (1990) while carrying out a research on the prevalence and intensity of *Schistosoma* infections among primary school children in Bauchi State, Nigeria, reported that the overall prevalence of *Schistosoma haematobium* and *Schistosoma mansoni* were 17% and 6% respectively, they also reported that males were more infected than female. In Abeokuta, Nigeria Ogbe and Ogunsekan (1990) reported the prevalence of infection of *Schistosoma haematobium* among school children was 60.9% with only 3% showing heavy infection.

There is paucity of information on the status of schistosomiasis in Gwagwalada FCT. The present study aim at providing a baseline data on the status of *Schistosoma haematobium* among school children in a bid to assess the socio-economic impact of schistosomiasis infection on children of school age in the area.

Materials and Method

Description of the Study Area

Gwagwalada area council is located between latitude 33 South West and longitude 14 North and there are bodies of water like river Usuma, Seasonal Streams and ponds also available around the villages which serve as their source of water.

Sample Collection

Freshly voided Urine samples were collected in Universal plastic containers from 126 pupils randomly selected from the four selected primary schools (Pasun, Dukwa, Killankwa, and Chechieyi) the sex, age source of water supply, water contact was establish through a questionnaire administered to the pupils.

1ml of 40% formalin was added to each sample and mixed manually for preservation and to prevent odouring of the urine, the containers were tightly covered.

Laboratory Analysis

In the laboratory each urine sample was mixed manually so as to allow the eggs to be evenly distributed in the sample after which 10ml of the sample was transferred into a clean test-tube for centrifugation. The test tubes were marked for easy identification thereafter transferred into the centrifuge and spin at 2,000 round per minutes.

Urine examination/Egg counting

After centrifugation, the supernatant was discarded and the entire residue were transferred into

a slide and covered with a cover-slips and mounted on the microscope for observation and counting the eggs. The egg/ova were expressed as egg per 10mls of urine.

Result

The overall prevalence was 10.3%. As shown in Table 1 males were significantly more infected than females with prevalence of 17.18% and 3.2% for male and female respectively. The mean number of eggs recovered from the sample were 331.5 for male and 38.5 for females. The peak infection range from the 10-12years.

$$t = \frac{\bar{X} - \mu}{S\sqrt{n}} = 4.44$$

At 0.05 significance, 4.44 is greater than 3.18 shows statistically there is a significant difference between the infection rate on male and females. Males are more infected than females.

Discussion

The prevalence of (10.3%) for the *Schistosoma haematobium* obtained in the study area appears relatively low compared to the prevalence reported from Anambra State 73% (Anigbo, 1990), 23% from Ilorin, Kwara State. (Awogun, 1990), and from Abeokuta, Nigeria Istifanus et al (1990). This prevalence could be due to lack of pipe born water in the villages, streams, bore-holes and some seasonal ponds. The presence of bow holes must have contributed a great deal to the low prevalence

Table 1.

PAIRED COMPARISON: t-test			
Schools	Number of eggs from females	Number of eggs from males	Relative advantage of male over females
Pasun	90	582	492
Dukwa	0	272	272
Killankwa	64	244	182
Chechei	0	252	252
Mean	38.5	337.5	229

recorded in the study area. However, the prevalence of infection constitute a potential public health significance as the infection could flare up unless controlled and cured early.

From the analysis, boys (17.25) were more infected than girls (3.2%), ($P < 0.05$) which agrees with the works of Istifanus et al (1990), Anigbo and Nwaorgu (1990) and Awogun, (1990). It has been observed that pattern of transmission of the parasite may change due to adverse climate conditions such as protracted harmattan, Awaoun (1985).

Effort was not made to identify the sites of transmission, but it is evident that behavioural aspect of transmission appear to play a major role in the spread of disease since approximately 80% of the 26 pupils interviewed admitted regular contact with ponds, streams and rivers and some activities in the bodies of water such as washing, swimming and collection of water for domestic use. Few pupils admitted following their parents to the farm and helping in fertilizer application and weeding in rice

Acknowledgement

This work was supported financially by University of Abuja Research grant. I am also grateful to the various Headmasters of the primary school sampled and Bulus Doris who helped me during the sample collection. Finally the Biology department of University of Abuja for providing the electric centrifuge used during the analysis

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