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Short Communication

Sex Prevalence of Schistosomiasis among School Children in Five Communities in the Lower River Volta Basin of South Eastern Ghana

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ABSTRACT: This study was undertaken among school children in 5 communities in the lower Volta Basin in South eastern Ghana to assess sex prevalence of urinary schistosomiasis among the children. Results obtained showed that the disease prevalence was higher among the female pupils (64%) than their male counterparts (21.8%). This higher prevalence of schistosomiasis among the females than the males was attributed to the numerous water contact activities of females as a result of unavoidable domestic chores that they undertake which compel them to enter the river to fetch water thereby exposing them to the infection.

Key words: *Schistosomiasis, Basin, prevalence, domestic, chores*

INTRODUCTION

Schistosomiasis is one of the water related diseases. It is caused by the presence in man of trematode flatworms of the genus *Schistosoma*.

It is transmitted from freshwater infected snails to man on contact with water. There are 2 forms of the disease in man, the urinary and the intestinal forms. Urinary schistosomiasis is caused by *Schistosoma haematobium* and is diagnosed as haematuria or blood in urine whilst intestinal schistosomiasis is caused by *Schistosoma mansoni* and is diagnosed as blood in the stool. The disease is also called bilharziasis or bilharzia after the German pathologist, Theodor Bilharz who first discovered the parasite in Egypt in 1851. The life cycle of the disease was elucidated by R.T Leiper (Girges, 1934). Cowper (1971), also described how schistosomiasis limited the efficiency of soldiers during the Boer war and the First World War and led to

facilitating much research work into the disease. The disease is endemic in about 75 countries affecting more than 200 million people, most of who live in rural poor agriculture areas in tropical and least developed countries (Rollinson et al.(1987). The estimated morbidity as a result of schistosomiasis is about 200 million per year with between 500 and 600 million people exposed to the disease as a result of poverty, poor hygiene and lack of adequate water facilities.

Prevalence of schistosomiasis among children of school going age have been discussed thoroughly Paperna (1969).

In the study area, works done by Onori et al.(1963) reported prevalence of 18.4%,18.8%,23.5%,23%,27.8% and 34.3% infection rate among the riparian communities. Paperna (1968) also reported prevalence of above 75%.

The objective of this study was to assess the current disease prevalence among the sexes of school children in the 5 study communities namely, Dorfor Adidome, Duffour Osudoku, Asutsuare, Volivo and Amedeka.

MATERIALS AND METHODS

The school registers were used to select respondents. Half of every class from 1 to 6 in the Primary school level and where Junior High Schools were available

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were also dealinated for the study. The 5 communities which lie along the banks of the Volta river namely, Asutsuare, Volivo, Duffour Osudoku, Dorfor Adidome and Amedeka were selected.

Urine samples were collected from subjects after they were made to run round the school football field. Then urine samples were collected into white 300cm³ rubber containers with wide necks with screw caps. The subjects ID, the schools name and the town or community were written on them. The containers were then neatly packed into thick rubber bags and sent to the laboratory for analyses. The urine samples were collected between 11am and 2 pm.

Sedimentation method of urine analysis was used for the analysis. The samples were neatly arranged on the laboratory bench for analysis. They were allowed to settle for 20 minutes then the supernatant urine was decanted carefully so as not to disturb the deposit, leaving behind about 10ml. The deposit was then suspended in the remaining urine by shaking vigorously and the suspension poured into labeled 10ml centrifuge tubes corresponding to the respondents ID number of the urine container. 8 containers were prepared at a time. The contents were spun in centrifuge for 2 minutes. Pasteur's pipette was then used to remove all but a few drops of urine above the supernatant. With the pipette, the supernatant was mixed with the remaining urine and suspension transferred to a microscopic slide, covered with coverslip, observed under the light microscope with a X40 magnification for *S. haematobium* eggs. The process was repeated for same sample till an egg was found or sample depleted.

RESULTS

Table 1 below summarizes the prevalence of urinary schistosomiasis among the study groups at the 5 communities studied. The highest % prevalence occurred among the females having recorded 40% at community 1 or Amedeka. The highest prevalence among the males was 9.1% at community 4 or Asutsuare. A total of 21.8% of the subjects were positive as males whilst 64% of the females were positive for the disease.

DISCUSSION

Higher prevalence of the disease in females as found in the communities was however in contrast to findings by Farooq et al.(1966),Perignam et al.(1958),Pugh et al.(1978),where studies conducted in the Nile Delta,the Phillipines and Northern Nigeria gave the contrary results. However this result was in agreement with

white et al.(1982) where results obtained in females in the Mende communities in Sierra-Leone were higher than in their male counterparts because the females were rather the fisher folk. In the 5 study communities, this result could be due to the fact that the females perform most of the domestic chores which involve going to the river side to fetch water, washing of dirty clothings at the river and washing of cooking utensils. All these activities entails entering the river to fetch water which exposed them to the infection.

Table 1

Sex prevalence (%) of urinary schistosomiasis among School children in lower river Volta Basin in Ghana.

	Community	Sex Prevalence %	
		Male	Female
1	Amedeka	2.0	40.0
2	Dorfor Adidome	8.8	12.3
3	Duffour Osudoku	0	1.8
4	Asutsuare	9.1	6.1
5	Volivo	1.9	3.8

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