INTRODUCTION

Schistosomiasis refers to infection with Schistosoma trematode flat worms or flukes that are transmitted by fresh water snails. Blood in urine signifies infection by Schistosoma haematobium and blood in stool by Schistosoma mansoni. Each has its intermediate snail host which facilitates the transmission of infective stage to man. The disease is endemic in 75 countries affecting more than 200 million people mostly those living in rural and agricultural areas near the water reservoirs. The objective of this study was to determine the disease prevalence among school children in five communities in the River Volta Basin in South Eastern Ghana and to determine the age groups most affected.

Material & Methods: Three hundred & eighty-five school children in the primary and the junior classes comprising both males and females were selected randomly to participate in this study. Urine and stool samples were examined for the presence of schistosoma.

Results: All the positive subjects fell in two age groups, i.e. 6-11 and 12-17 years. It was realized that these are the two age groups with more affinity for water contact as a result of domestic chores and other auxiliary activities like swimming and fishing related activities. The prevalence of disease in the children of the five study communities was 6%, 21%, 2%, 13.6% and 5.8%. These figures were however lower than an earlier study that gave a range of 66-89.2% in the riparine communities.

Conclusion: The prevalence of schistosomiasis in the children in the River Volta basin in South Eastern Ghana ranges from 2-21%. The most vulnerable age groups are 6-11 and 12-17 years.

Key words: Schistosomiasis, Prevalence, Ghana.
Schistosomiasis among school children in Ghana

Urine samples were collected from subjects after they were made to run round their school football field, into white 300 cm³ rubber containers with wide necks and 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 same day. The urine samples were collected between 11am and 2 pm. Sedimentation method of urine analysis was used. The samples were arranged on the laboratory bench for analysis. They were allowed to settle for 20 minutes. The supernatant urine was decanted carefully so as not to disturb the deposit, leaving behind about 10 ml. The deposit was then suspended in the remaining urine by shaking vigorously and the suspension poured into labeled 10 ml centrifuge tubes corresponding to the respondents ID number of the urine container. Eight containers were prepared at a time. The contents were spun in the 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 cover slip, observed under the light microscope with x40 magnification for S. haematobium eggs.

The data obtained were calculated in percentage positive cases of Schistosoma infection.

RESULTS

The total number of children selected for the study was 385 of both sexes. Table 1 below shows the results of the prevalence study in the five study communities in the lower River Volta Basin in Southern Ghana. Four age groups were studied; 0-5, 6-11, 12-17, and 18-23. The study communities identified as; C1, C2, C3, C4 and C5 were Amedeka, Dorfor Adidome, Duffour Osudoku, Asutsuare and Volivo respectively.

The disease prevalence among the school children in the five communities was 6%, 21%, 2%, 13.6% and 5.8% for Amedeka, Dorfor Adidome, Duffour Osudoku, Asutsuare and Volivo respectively.

Only age groups 6-11 and 12-17 were positive for the disease. Age groups 0-5 and 18-23 did not have the infection.

All the study communities had the disease. Only the age group 6-11 year had the disease in Community 1 and Community 4. 12-17 year group in Communities 2, 3, 4 and 5.

DISCUSSION

The age group 12-17 had the highest prevalence of the infection followed by age group 6-11. These are in agreement with the findings by Paperna,13 Onori et al,14 Wilkins et al,15 and Lehman et al.16 These age groups have very high affinity for water, for such children are often found swimming, bathing or playing in the water. Most of these also fetch water from the river for domestic use, washing of clothes and utensils as well as fishing. These activities expose them to the infection, hence could account for the high prevalence among them.

The disease prevalence among the school children in the five communities was 6%, 21%, 2%, 13.6% and 5.8% for Amedeka, Dorfor Adidome, Duffour Osudoku, Asutsuare and Volivo respectively. These figures however are lower than the prevalence of 66% to 89.2% as determined by Klump.12

CONCLUSION

The prevalence of schistosomiasis in the children in the River Volta basin in South Eastern Ghana ranges from 2-21%. The most vulnerable age groups are 6-11 and 12-17 years.
REFERENCES


Address for Correspondence:
E. Nkegbe
CSIR, Animal Research Institute
P.O. Box AH20
Achimota, Ghana
E-mail: kwakunkegbe@yahoo.com