

**MAPPING OF URINARY SCHISTOSOMIASIS IN ANAMBRA STATE,
NIGERIA**

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TITLE PAGE**MAPPING OF URINARY SCHISTOSOMIASIS IN ANAMBRA STATE, NIGERIA****BY****NDUKWE, YVONNE E.****PG/M.Sc./15/76753**

A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF ZOOLOGY AND ENVIRONMENTAL BIOLOGY, FACULTY OF BIOLOGICAL SCIENCES, UNIVERSITY OF NIGERIA, NSUKKA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE (M.Sc.) IN PARASITOLOGY AND PUBLIC HEALTH

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APPROVAL PAGE

Ndukwe Yvonne Ebere is a post graduate student in the Department of Zoology and Environmental Biology, Faculty of Biological Sciences, University of Nigeria, Nsukka with registration number PG/M.Sc./15/76753 and has satisfactorily completed the course and research work requirements for the award of the degree of Master of Science (M.Sc.) in Zoology and Environmental Biology (Parasitology and Public Health). The work embodied in this project report is original and has not been submitted in part or in full for any other diploma or degree in this or any other university.

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DEDICATION

This research work is dedicated to God.

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LIST OF ABBREVIATIONS

MDA – Mass Drug Administration

SCI – Schistosomiasis Control Initiative

NGO – Non- Governmental Organisation

USAID – United States Aid

GPS – Global Positioning System

NTDs – Neglected Tropical Diseases

PZQ – Praziquantel

WHA – World Health Assembly

WHO – World Health Organisation

FAO – Food and Agriculture Organisation

STH – Soil Transmitted Helminth

GIS – Geographical Information Systems

RS – Remote Sensing

WASH – Water, Sanitation and Hygiene

ABSTRACT

This study was on mapping of urinary schistosomiasis in Anambra State. A total of 450 urine samples collected from 9 Local Government Areas of the three senatorial zones of the State were examined for haematuria and *S. haematobium* eggs. The urine samples were examined for haematuria using dipstick (Combi 9) and then centrifuged and the sediments examined under the microscope for the presence of *S. haematobium* eggs. Overall prevalence of infection in the study was 2.9% and 6.8% for microscopy and haematuria respectively. Prevalence of urinary schistosomiasis infection was significantly different between the districts ($p < 0.05$). Highest prevalence of infection (7.9%) was in Anambra West (6.364°E, 6.816°N). Apart from Idemili North (6.133°E, 6.887°N), Awka South (6.216°E, 7.059°N), Ihiala (5.839°E, 6.858°N) and Ekwusigo (6.031°E, 6.845°N) Local Government Areas where no infection was found; Ayamelu (6.522°E, 6.928°N) had the least prevalence (2.4%) among the communities infected. Prevalence of urinary schistosoma ova in males and females were not significantly different ($p > 0.05$). For haematuria, infection was higher in females (6.3%) than in males (4.9%) but their difference was not statistically significant ($p > 0.05$). Prevalence also varied significantly between the various age groups ($p < 0.05$) with peak infection occurring among persons aged 31 to 40 years while haematuria showed no statistical difference between the age groups ($p > 0.05$). There was a close association between haematuria and the presence of eggs of *S. haematobium* in the urine. A total of 367 participants responded to the questionnaires. Based on the questionnaires, the following were the major risk factors for haematuria; fishing (Odd Ratio (OR) =19.188, 95% Confidence Interval (C.I.) = 7.794, 47.238, $p < 0.05$), frequent visit to water body (OR=15.506, 95% C.I. = 5.935, 40.509, $p < 0.05$) and nearness to water body (OR=15.048, 95% C.I. = 6.234, 36.324, $p < 0.05$). For microscopy the following were the major risk factors for infection: washing (OR=57.639, 95% C.I. = 7.357, 451.585, $p < 0.05$), nearness to water body (OR=29.444, 95% C.I. = 7.745, 111.939, $p < 0.05$), swimming (OR=24.939, 95% C.I. = 3.204, 194.129, $p < 0.05$), fishing (OR=19.875, 95% C.I. = 5.826, 67.806, $p < 0.05$). Prevalence of *S. haematobium* infection had a positive linear relationship with distance to water body ($r = -0.767$, $p < 0.05$). Mapping of the area showed that the district at a greater risk for the infection was Anambra North and the community at the greatest risk was Umueze-Anam located at 6.364 °E, 6.816 °N since it is the closest to the water body at a distance of 1.2166km. Generally, from this study on mapping of urinary schistosomiasis in Anambra State, the prevalence of infection was low. These findings indicate that the area is still endemic to urinary schistosomiasis and therefore intervention in the form of health education and provision of portable drinking water is needed.