



Knowledge, Attitude and Perception of Urinary Schistosomiasis among School-aged Children in Abua/Odual Local Government Area, Rivers State, Nigeria.

¹*Ezenwaka, Chinonye O. and ²Nzeako, Sidney O.

¹*Department of Biology, Faculty of Science, Federal University Otuoke, Bayelsa State, Nigeria.

² Department of Animal and Environmental Biology, Faculty of Biological Sciences, University of Port Harcourt, Rivers State, Nigeria.

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Abstract:The level of knowledge, attitude and perception (KAP) of urinary schistosomiasis among school -aged children were assessed using structured questionnaire. A cross-sectional community-based design was employed in three different communities of Abua/Odual Local Government Area. Two hundred and fifty-four (88.2%) out of two hundred and eighty-eight school-aged respondents were aware of the occurrence of the disease in the study area. Different terms were used as local names for the disease, these included “Ezaegheboye” meaning snail sickness, or “Omonomazara”, meaning bloody urine. Respondents within the age group 10-14 years (34.6%) were more aware of the disease than the respondents in the lower age groups. The difference in level of awareness among the age groups was not however significant ($P>0.05$, $df = 2$). Result of the study showed poor knowledge of the causes of the disease (10%), knowledge on the preventive measures (22%) and knowledge on the treatment of the infection (7.9%). However, 66% of the respondents correctly indicated bloody urine as the main symptom of the disease. The severity of the infection in the study area was perceived as very serious (60.2%) with the infected exposed to social seclusion and stigma. Community participatory health education is recommended as first step to improving knowledge and reducing transmission of the disease in the study area.

Corresponding author: chyladyn@yahoo.com

INTRODUCTION

Schistosomiasis, a chronic and debilitating disease caused by parasitic trematode belonging to the genera *Schistosoma* (El- Harvey *et al.*, 2000) continues to threaten millions of people, particularly the rural poor in the developing world (Engels *et al.*, 2002). The three main species infecting humans are *Schistosoma haematobium*, *S. japonicum* and *S. mansoni*. Two other species, more localized geographically, are *S. mekongi* and *S. intercalatum*. *Schistosoma haematobium* infection is widely distributed in Nigeria (Ofozie, 2002). Nigeria has the greatest

number of cases of schistosomiasis worldwide, with about 29 million infected cases and about 101 million people are at risk of infection (Hotez and Kamath, 2009). Pocket of foci of infections have been documented in various part of country (Adeoye and Akabogu, 1996; Akogun and Obadiah, 1996; Awawaadu and Ezenwaka, 2009).

Little or nothing was known about schistosomiasis in the Niger Delta until the late 1980's (Agi and Awawaadu, 2008). In spite of the fact that schistosomiasis

is one of the major public health problems in many countries, knowledge and perception of the disease is very low, especially in tropical Africa (Malek, 1980). However, there is a scarcity of research on the KAP towards schistosomiasis in most part of the federation (WHO, 2013).

Response obtained from the administration of questionnaires to 200 pupils in Badagry area of Lagos state Nigeria, revealed that only 8(4%) knew about schistosomiasis while 192 (96%) did not have any idea about the disease (Ibidapo, Mafe and Awobimpe, 2005). The usefulness of questionnaires as a tool for making inquiries into the health problems of people as well as to help in the planning of programmes is well recognized. It has proved particularly useful in studies of self-reported morbidity by school children in Ghana, Mozambique and Tanzania (Moestuet *et al.*, 2003). Information derived from school health questionnaire has been proved reliable, validated and approved for rapid assessment of urinary schistosomiasis. Such information is crucial to identify and implement effective control measures. Hence, it is clear that the lack of knowledge among the targeted population on transmission dynamics may create an additional burden and cost for controlling the disease and may cause the failure of the schistosomiasis eradication programme. Onyeneho *et al.*, (2010) highlighted the need for a community training and health education campaign before and during an intervention programme.

In recent years, the role of health education, public information, and communication increasingly been emphasized (Schall, 1995). The World Health Organization (WHO, 1985) has recommended that the combined use of antischistosomal drugs with

environmental sanitation and health education could drastically reduce the prevalence and intensity of *S. haematobium*. This method of control has been used for schistosomiasis in some endemic areas with desirable results (Doenhaffet *et al.*, 2000; Habib *et al.*, 2000).

MATERIALS AND METHODOLGY

Study Area

The study was conducted in Anyu, Obedum and Emirikpoko Communities in Abua/Odual Local Government Area of Rivers State. These are highly endemic communities. Abua/Odual Local Government Area is among the 23 Local Government Areas found in Rivers State. The Council was created from the former Ahoada Local Government Area of Rivers state. The Local Government Area is located within the Rivers West Senatorial District of the State and has both riverine and upland communities. Its people are of Abua and Odual tribe and speak Abua and Odual Dialects, which are among the minor dialects of people in Rivers State. The LGA is bounded in the north by the Ekpeyes of Ahoada East and Ahoada West LGAs, west by Bayelsa State, east by the Ikwerre of Emohua LGA, and south by the Kalabaris of Degema LGAs. It is located geographically between Latitudes 4.5 and 6.5 degrees north of the equator and Longitudes 6.0 and 7.0 degrees east of the Greenwich Meridian. The Local Government Area is located over 65 kilometres away from the Rivers State Capital (Port Harcourt). Abua/Odual Local Government Area came to be in the year 1991. Its' headquarter is in the town of Abua (popularly called Abua central). It has an area of 704 km². There are five clans that make up the Local Government Area with 43 communities (LENF, 2010).

Based on the 2006 population census, the population of Abua/Odual Local Government Area was projected at 282,410. The population of Anyu, Obedum and Emirikpoko communities were projected at 1, 875, 1504 and 1,369 respectively (National Population Census, 1991). Anyu community is located on latitude 4° 52' N and longitude 6°25' E. Emirikpoko lies between Latitude 4° 52' 58" N and Longitude 6° 27' 05" E, while Obedum is located on Latitude 4° 54' 07" N and Longitude 6° 26' 17" E. The three communities have a broad coastal plain topography with so many ponds and streams, and a tropical rainforest type of vegetation. The climate is tropical in nature with marked rainy season and dry season.

The inhabitants of these communities live in clustered homesteads of mainly mud houses, reinforced with bamboo sticks and are predominantly farmers and fishermen. Plantain and banana are produced in commercial quantities in these communities. Also, fresh water fish and snails (both terrestrial and aquatic) are common in the areas. The

road to Anyu, Emirikpoko and Obedum communities is under deplorable condition and only permits free movement during the dry seasons. Ponds, well water and recently installed borehole pumps in the communities are sources of water for both economic and domestic uses. There is non-functional borehole in Emirikpoko community. Both communities lack toilet facilities, as bushes are used for toilet purpose. Also, there is absence of a standard market, and the only health centre in the area is found at Anyu community. There is a State primary school in each of the communities and the only secondary school in the study area is located at Anyu community. There is a tradition leader referred to as “chief”, being assisted by some elders in the community. Leadership in the area is rotatory among families. The Community Development Committee (CDC) oversees that peace and development are maintain in the community. The leadership is changed continually by election. “Broken English is being used as a means of communication with foreigners.

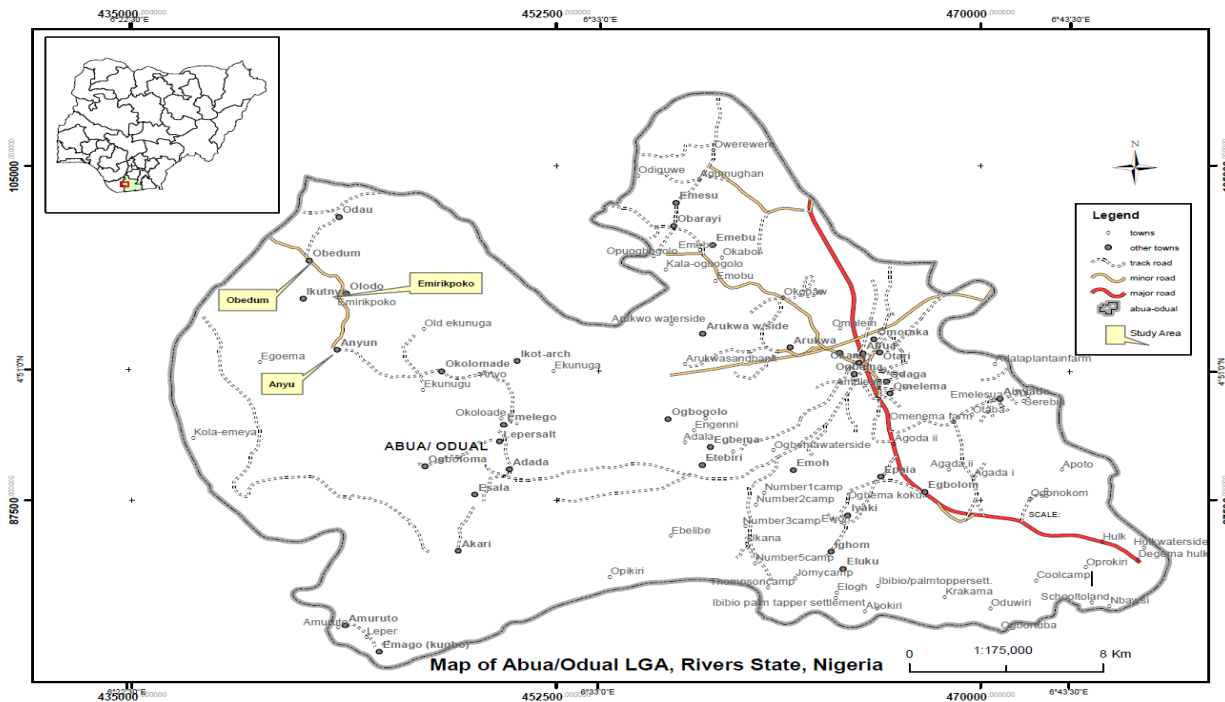


Fig 1: Map of Abua/Odual Local Government Area showing the Study Area.

Study Sample and Size

Two hundred and eighty-eight (288) school-aged children between 5-19 years of ages, who consented to the study, were randomly selected. School children were chosen because they are most vulnerable individuals in the community and contribute most of the transmissions (Montressoretal., 1989).

Assessment using Questionnaire

A cross-sectional community-based study was carried out using structured questionnaires to elicit information. The interviews were conducted in English language and the local dialect through an interpreter for better understanding. Secondary schools' children were allowed to fill the questionnaires themselves but children in the primary schools were assisted by the researcher.

DATA ANALYSIS

Chi-square test for significance of the result at $P < 0.05$ significance level done using Minitab

statistical software (version 15.1.1).

RESULTS

The study communities had varying levels of knowledge of schistosomiasis and local names describing the manifestations of the disease. In the study area, different terms were used as local names for the disease, these included "Ezaegheboye" meaning snail sickness, or "Omonomazara", meaning bloody urine. 254(88.2%) out of 288 respondents, were aware of the occurrence of the disease in the study area while 34(11.8%) were unaware of the infection in the area. Males (55.5%) responded to the questions than the females (44.5%) (Table 1). 34.6% respondents within the age group 10-14 years were aware of the urinary schistosomiasis than the respondents in the lower age group (Table 2). The difference in level of awareness among the age groups was however not significant ($P > 0.05$, $df=2$). There is a very poor level of knowledge of the cause, mode of contact and prevention of the disease among the people.

Table 1: Awareness of occurrence of disease according to sex of the respondents in the study area.

Sex	Communities			
	Anyu	Obedum	Emirikpoko	Total
Males	36	57	48	141 (55.51%)
Females	44	24	45	113 (44.49%)
Total	80 (31.50%)	81 (31.89%)	93 (36.61%)	254 (88.19%)

Table 2: Awareness of occurrence of disease according to age of the respondents in the study area.

Age groups (years)	Communities			
	Anyu	Obedum	Emirikpoko	Total
5-9	10	30	44	84 (33.07%)
10-14	24	24	40	88 (34.65%)
15-19	46	27	9	82 (32.28%)
Total	80 (31.5%)	81 (31.89%)	93 (36.61%)	254 (88.19%)

Among those that have suffered the disease, 58.5% said they took drugs for treatment while 15.4% were taken to herbalist for treatment. The signs/symptoms of the disease indicated by the respondents were

aware of the disease include diarrhoea (2.4%), skin rash (1.6%), pain while urinating (4.7%) and frequent urination (15.4%). A large proportion of the respondents (66%) correctly indicated bloody urine

as a symptom of the disease. Insect bite was mentioned by 28.7% of the respondents as the cause of the disease. Others causes listed include witchcraft (18.5%), which contained the next highest proportion of causes mentioned. Some indicated that it is contacted through sexual contact with an infected person.

The most popular way of prevention of the disease is ‘stop going to stream’ (22.8%), ‘Avoiding insect bite’ (15.4%) and ‘not urinating in or near body of water’ (4.3%). A good percentage of the children (78.3%) responded positively to having contact with water bodies. Water contact activities include swimming and bathing in the streams during hot weather. The respondents hold different attitude towards those infected with schistosomiasis. 85% of the respondents show concern towards the infected person. 7.5% however, withdraw from the infected person. The severity of the infection in the study area

was perceived as very serious (60.2%), serious (15.7%), and quite harmless (19.3%). 7.9% of the respondents were of the view that it is better treated with pharmaceutical drugs while 65.7% of the respondents however thought it heal on its own. Responses indicated that the preventive methods and treatment of the disease were not known. Summary of individual responses to questions is presented in Table 3.

Table 3: Distribution of Responses to Assessment of knowledge, Attitude and Perception on Urinary Schistosomiasis among School-aged Children.

Variable	Response	Frequency (%)
Have you had the disease or suffered it before?	Yes	65 (25.5)
	No	189 (74.4)
What initial step did you take when you first noticed it?	Ignored it	16 (24.6)
	Took drugs	38 (58.5)
	Prayed	1 (1.5)
	Visited a herbalist	10 (15.4)
Signs/Symptoms	Skin rash	4 (1.6)
	Frequent urination	39 (15.4)
	Blood in urine	168 (66)
	Pain while urinating	12 (4.7)
	Abdominal pain	11 (4.3)
	Cough	14 (5.5)
	Diarrhea	6 (2.4)
Cause	Witch craft	47 (18.5)

	Worm	27 (10.6)
	Insect bite	73 (28.7)
	inherited	13 (5.1)
	No idea	94 (37)
How it is contracted	Regular visit to water	25 (9.8)
	Through insect bite	27 (10.6)
	Through blood transfusion	36 (14.2)
	Through eating water snails	67 (26.4)
	Sexual contact with infected person	34 (13.4)
	No idea	65 (25.6)
Diagnosis	Urine examination	133 (52.4)
	Blood examination	61 (24)
	Stool examination	37 (14.6)
	No idea	23 (9.1)
Prevention	Not urinating in or near body of water	11 (4.3)
	Stop going to stream	58 (22.8)
	Avoid eating snail	36 (14.2)
	Boiling drinking water	3 (1.2)
	Avoid contact with infected water	21 (8.3)
	Avoid sexual contact with infected person	39 (15.4)
	No idea	86 (33.9)
Treatment	Use of drugs (chemotherapy)	20 (7.9)
	Prayers	8 (3.1)
	Surgery	16 (6.3)
	Heal on its own	167 (65.7)
	No idea	23 (9.1)
Severity of disease	Very serious	153 (60.2)
	Serious	40 (15.7)
	Quite harmless	49 (19.3)
	No idea	12 (4.7)
Attitude towards infected individual	Withdraw	216 (85)
	Show concern	19 (7.5)
	No idea	19 (7.5)

DISCUSSION

Perception of the disease among the respondents varied in terms of age and sex. Males (55.5%) showed more response than females (44.5%). This could be because of varied sample size as males responded freely to the interview questions than the females who are shy in answering questions. Due also to misconceptions, the adolescent girls conceal the infection. It has been said that lack of knowledge is the main factor responsible for the high pitch level of schistosomiasis (Onyeneho *et al.*, 2010). The infection is left untreated, perhaps, because of the belief that it heals on its own. The perceived severity of the infection in the study area is consistent with the result of a study by Onayedee *et al.*, (1996) which recorded over 80% of the school children claimed urinary schistosomiasis is a serious disease. This perception that the disease is very serious could probably be due to the fact that anything that results in blood coming out of the body is viewed as being serious. Almost all the respondents used the bush for defecation. This behavioural practice could be one of the factors contributing to the spread of the disease in the study area. Enlightenment campaign on the importance of using the toilets to reduce the spread of urinary schistosomiasis should be provided to the targeted population.

CONCLUSION AND RECOMMENDATIONS

The study has identified a poor level of awareness and knowledge of the cause, mode of contact and prevention of urinary schistosomiasis among school-aged children in Abua/Odual Local Government Area of Rivers State, Nigeria. Health educational programmes can improve knowledge about the

disease and health-care seeking. Community participatory health education is recommended as first step to improving knowledge and reducing transmission of the disease in the study area. A detailed assessment of a community's health needs, before the initiation of the

control efforts against endemic infections, should be undertaken.

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CONFLICT OF INTEREST

Authors declare no conflict of interest.

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