

WATER CONTACT ACTIVITIES AND SOCIO- CULTURAL FACTORS ON URINARY SCHISTOSOMIASIS IN RURAL AREA OF OSUN STATE, NIGERIA

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ABSTRACT

Study on water contact activities and socio-cultural factors affecting the transmission of urinary schistosomiasis in rural community of Osun state was carried out. An endemic community located very close to Erinle dam was identified during general epidemiological survey of the state. Direct water contact observations and human water contact activities were made at Erinle dam near Ilie community. Also questionnaire was used for the study. Result showed that knowledge about the disease was very low. Only 500 (30.30%) respondents had knowledge of urinary schistosomiasis by the local name “ATOSIAJA”. Water contact activity showed that most of the respondents 600 (36.4%) visited Erinle Dam for domestic purposes. Other purposes were recreation 300 (18.2%) and farming/fishing 100 (6.1%). Attitude and practices towards urinary schistosomiasis was very poor as regards the belief as a curable disease, a preventable disease and gravity of the disease. Also, in the area of personal hygiene, safety measures and treatment; those that believed in no remedy had the highest value of 546 (33.1%). The study on water contact activities either through direct observation or self reporting through questionnaires confirmed observational studies as more valid than interviews of reported water contact in the study area. The study emphasized water contact and socio-cultural factors as important guide to control interventions.

KEYWORDS: Urinary Schistosomiasis, Water Contact, Socio-Cultural Factors, Erinle Dam, Ilie-Nigeria

INTRODUCTION

Onwuliri et al., (2005) stated that culture, according to the Longman English Dictionary is “the customs, beliefs, art, music and all other products of human thought made by a particular group of people at a particular time”. It further defines custom as “established and habitual practice, especially of a religious or social kind, that is typical of a particular group of people”. On the other hand, New Webster’s dictionary defines custom as “a generally accepted practice or habit”. Since culture is the way people do their things, therefore, culture as well as local beliefs and practices definitely influence disease patterns, incidences and prevalence positively or negatively. Nwoke (2004) defined endemic diseases as “infectious diseases present in a community in which the social circumstances do not offer any effective barrier to its spread”. This reflects the important role played by social, anthropological, and economic factors in disease causation, transmission and control.

The pattern of transmission of emerging parasitic diseases in a cultural setting is regulated by a complex interplay of human factors including those, which act as effective barriers to the spread of the disease and others that enhance its promotion. Therefore, a greater understanding of these factors is bound to help in determining what changes if introduced

would upset the established culture-parasite relationship in favor of limiting the spread of the disease or bringing about cessation in its transmission.

The distribution of Schistosomiasis in endemic areas is usually focal and intimately linked to the distribution of the intermediate host snails. Furthermore, the density and infectivity of cercariae depend on water temperature and velocity flow, time of the day and intensity of light, among other variables. These biological and environmental prerequisites for infection are further complicated by the myriad of local social factors involved in the final pattern of who gets infected and to what extent. The social factors include studies of water contacts, infective behaviour, local knowledge of risk and symptoms, as well as health-seeking behaviour (Barbosa, 1995)

Water contact studies are mainly epidemiological in design. Their documentation of correlations between infections, types of water contact and demographic characteristics have pointed to the wide variety of social aspects in schistosomiasis transmission. Analysing water contact behaviours in the wider social contexts of people's intentions can be useful input for control programmes. This would include studies of the way people "balance" priorities and perceived risks as well as their gendered habits. Even though water contact does not automatically lead to exposure to cercariae, considerable academic energy has been invested over the years in studying correlations between infection and water contact, which remains the single most important variable determining the prevalence of the infection. Along with the age, water contact patterns are also often the most important factor with regard to the intensity of infection. In relation to interventions, studies of water contact pattern have been carried out to guide the choice of control measures, including the introduction of alternative water supplies and sanitation, and locations as well as to evaluate the effectiveness of control programmes (Kloos *et al.*, 1998; Ximenes *et al.*, 2001)

One of the first major epidemiological studies pointing to the significance of water contact behaviour in relation to schistosomiasis infection was reported from Puerto Rico in 1961 (Pimentel 1961). A more frequently cited, pioneering study was published by Farooq & Mallah (1966) from Egypt, which was among the first to systematically observe water contacts and their seasonal variation. Ree (1982) and Husting (1970) provide additional references on early water contact studies. The identification of correlations between water contact and schistosomiasis infections became nuanced when water contact activities were categorized as domestic ("housekeeping") or economic (related to income generation) in Dalton's study from saint Lucia (Dalton, 1976) and the observation that people use different water contact sites for different purposes (Husting, 1970).

Knowledge, attitudes and practices (KAP) surveys seem to be one of the most widely used contributions of the social sciences to public health. The questionnaire-based survey provide insight into the distribution of normative knowledge (but not necessarily attitudes and practices) regarding predefined issues In a giving population, which can be useful as a source of baseline data for post-intervention evaluation. KAP surveys provide snapshots of the distribution of normative or desired knowledge, attitudes, and reported practices of individuals. However, when actual practices unfold, normative knowledge and attitudes only figure as one factor among others and they are best described after extensive observations of events and naturally occurring discussions analysed in the context where they arise (Yoder, 1997). The impact of cultural limitations in the transmission of Schistosomiasis is shown in the gathering of rural Africa women and their kids at the local source of water where they do their laundry, wash household utensils, draw water for domestic use and bath, a custom which Wright (1971) considers as an essential part of the social activity of the village.

Unfortunately the water bodies are ecologically suitable for the snail hosts of Schistosomiasis to live, thereby providing an ideal setting for transmission to occur. Equally of importance is the ritual ablution of certain religious groups before prayer, and there customs of washing with water after defecation. In addition, some of the ablution basins have been found to be good habitats for the snail thereby increasing the risk of infection.

METHODS

Direct water contact observations (Etim *et al.*, 1998) and human water contact activities as observed were made at Ilie dam from 6.00am- 6.00pm daily, once a month for 12 months (January 08 –December 08). Results were analysed using descriptive statistics such as simple averages and percentages (Anosike *et al.*, 2006).

Also questionnaire was used for the study. It was administered to respondents for field survey by person to person or house to house contact administration in the community. Illiterate respondents were assisted by field assistants to complete the questionnaires. Parents or guardians of younger children provided relevant informations required in respect of their wards. The completed questionnaires were collected and informations (data) supplied on the questionnaires were analysed using Statistical Programme for Social Sciences (SPSS).

RESULTS AND DISCUSSIONS

The responses to questionnaires administered showed that knowledge about the disease was very low. Only 500 (30.30%) respondents had knowledge of Urinary Schistosomiasis by the local name “ATOSIAJA”. Water contact activity showed that most of the respondents 600 (36.4%) visited Erinle Dam for Domestic purposes. Other purposes were Recreation 300 (18.2%) and Farming/fishing 100 (6.1%). Attitude and Practices towards urinary schiosomiasis was very poor as regards the belief as a curable disease, a preventable disease and gravity of the disease as shown in the table. Also, in the area of personal hygiene, safety measures and treatment; those that believed in no remedy had the highest value of 546 (33.1%). Table 1

Figure 1 shows water contact pattern by questionnaire survey. The percentage of respondents that visited Erinle dam for domestic purposes recorded 600 (36.3%) while those that did not, recorded 400 (24.3%). Also recreation and occupation (fishing) was 500 (18.2%) and 100 (6.1%) respectively, while those that did not was 200 (6.1%) and 50 (3.1%) respectively. Figure 2 shows the study of water contact pattern by direct observation. This revealed domestic purposes to have highest occurrence 920 (53.2%), then recreation 600 (34.7%) and occupation (fishing) 110 (6.4%).

Table 1: Sociocultural Factors Affecting the Prevalence of Urinary Schistosomiasis (N=1650)

| Factors | No. (%) with Positive Response |
|--|--------------------------------|
| Water Contact Pattern | |
| Domestic (fetching and washing) | 600 (36.4) |
| Recreation (swimming and bathing) | 300 (18.2) |
| Occupation (fishing and farming) | 100 (6.1) |
| KNOWLEDGE, HISTORY OF INFECTIONS/ CAPACITY FOR SELF DIAGNOSIS | 500 (30.3) |
| Attitude and Practices | |
| Schistosomiasis is acquired through the following: | |
| • Evil spirit | 175 (10.6) |
| • An act of God | 185 (11.2) |
| • The work of the enemy | 177 (10.7) |

Table 1: Contd.,

| | |
|--|------------|
| • Hereditary | 183 (11.1) |
| • Contact with bad water | 102 (6.2) |
| • Poorly cooked vegetable/food | 140 (8.5) |
| • Contact with infected person | 310 (8.8) |
| • Male's version of menstruation | 148 (8.5) |
| • Passing out excreta indiscriminately | 90 (5.5) |
| • Sexually transmitted diseases/promiscuity | 140 (8.5) |
| Schistosomiasis can be prevented by doing the following: | |
| • Performing rituals | 135 (8.2) |
| • Offering prayer to God | 130 (7.8) |
| • Running away from victims | 385 (23.3) |
| • Using a protective medicine/drug treatment | 150 (9.1) |
| • No remedy | 546 (33.1) |
| • No contact with river/pond/dam | 304 (18.4) |

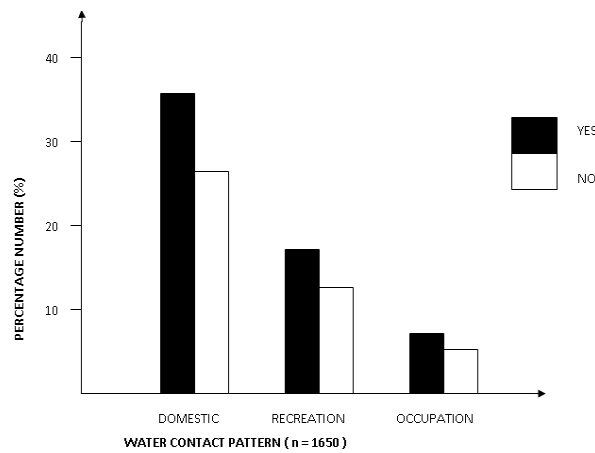


Figure 1: Water Contact Pattern by Questionnaire Survey

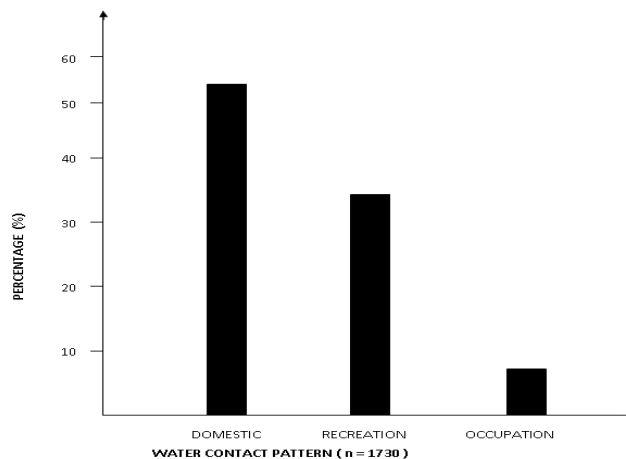


Figure 2: Water Contact Pattern by Direct Observation

CONCLUSIONS

Wilkins, 1987 stated that the knowledge of the pattern of exposure to infection is essential to an understanding of the epidemiology and successful control of an infectious disease and, in recent years, increasingly complex studies of water contact have been made in endemic areas. In many endemic areas adult women may spend much time in domestic water

contact activities like washing clothes, utensils and fetching water. Children may help in these activities, but recreational use of water for swimming and playing is usually of greater importance in younger subjects. Adults males are usually the group involved in occupational exposure as in fishing and farming (Ekwunife, 2003).

Among the areas in which detailed quantitative observational studies have been made of a community's pattern of water contact are St. Lucia (Dalton, 1976), Ghana (Dalton and Pole, 1978), Northern Nigeria (Tayo *et al.*, 1980) and South Africa (Kvalsvig and Schutte, 1986). This direct observation of individuals and recording of the various activities which they perform at the infected water site gives insight on the age and activity which carries the greatest risk of infection.

The result on water contact pattern in this study is in agreement with Onwuliri *et al.*, 2005 which stated that the impact of cultural limitations in the transmission of Schistosomiasis is shown in the gathering of rural Africa women and their kids at the local source of water where they do their laundry, wash household utensils, draw water for domestic use and bath, a custom that is considered as an essential part of the social activity of the village. Unfortunately the water bodies are ecologically suitable for snail hosts of Schistosomiasis to live, thereby providing an ideal setting for transmission to occur. Equally of importance is the ritual ablution of certain religious groups before prayers, and their custom of washing with water after defecation. In addition, some of the ablution basins have been found to be good habitats for the snails thereby increasing the risk of infection. Unsanitary practices of passing out excreta or urinating indiscriminately sustain the transmission cycles of Schistosomiasis.

The study on socio-cultural factors affecting the prevalence of urinary schistosomiasis in Ilie with emphasis on water contact activities has revealed why the community remained endemic for urinary schistosomiasis despite the continuous researches already conducted in that area before this study which is always on prevalence, conventional diagnostic methods and the use of pregnant women as subject.

This finding was in agreement with the work of Huang and Manderson (1992; 2005). In their research it was debated whether direct observation or self reporting through questionnaires was the most reliable method for producing accurate data on risk behaviour. This debate was a part of a wider discussion concerning immunological reactions to schistosomiasis, which had potential implications for vaccine development; could lower egg loads in adults than in children and it is ascribed to less water contact or to the fact that adults had developed an immunological response to the infection.

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