

Full Length Research Paper

Social implications of hematuria on women for schistosomiasis control

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Hematuria associated with urinary schistosomiasis has been misconstrued for certain superstitious beliefs in some local communities in Nigeria and elsewhere. Hematuria and its social implications, especially on women, may have a negative impact on schistosomiasis control measures. Some of the limitations of the national programme on Schistosomiasis control are highlighted. This paper also reviews the effect of stigma due to hematuria on the woman as it affects the domestic role of the woman in health care delivery at household levels. A revised national policy is suggested for an effective control of schistosomiasis and hence hematuria. For the new policy to be successful, a National survey to identify areas endemic for schistosomiasis is important. Other factors of control bordering on environmental sanity and provision of adequate social amenities are discussed.

Key words: Hematuria, schistosomiasis, woman, stigma.

INTRODUCTION

Schistosomiasis is a major parasitic disease causing considerable morbidity and mortality in many tropical and subtropical countries. In Nigeria, urinary schistosomiasis caused by the trematode, *Schistosoma haematobium* has been reported to be the dominant form of schistosomiasis (Adeoye and Akabogu, 1996). The infection is a chronic and debilitating disease commonly associated with rural agricultural communities with low standard of living and poor sanitary conditions. The infection has also been reported in some urban communities (Okoli and Odaibo, 1999). About 200 million people in 74 countries are infected and at least another 600 million are at risk of infection (World Health Organization (WHO), 1995).

Individuals infected by *S. haematobium* have been reported to frequently experience dysuria, pelvic pain and hematuria (Satayathum et al., 2006). Hematuria which simply means blood in urine has been reported to be common with urinary schistosomiasis. Hematuria has also been associated with anemia and poor health condition. Many patients with urinary schistosomiasis may also experience associated squamous, cell carcinoma and renal disease (van der Werf et al., 2003). Cases of hematuria have been documented in Nigeria and some other parts of Africa (Nwaorgu, 1992; Feldmier

et al., 1993). Hematuria has been associated with local cultural beliefs resulting in stigmatization of infected persons. Akogun and Obadiah (1996) reported that hematuria in female was wrongly likened to irregular menstrual cycle or a symptom of venereal disease in some rural communities in Nigeria. Also, Adamu and Abubakar (2003) observed that hematuria was misconstrued as a sexually transmitted disease in females and as a taboo, evil spirit attack and a sign of maturity in males. The social stigma resulting from hematuria is definitely greater in the female folks than in the males. This is because in rural communities, where most of the women are illiterate, stigma due to hematuria could lead to rejection by her family members and the community at large. Rejection has a lot of social implications. Weiss (2008) reported that stigma is a social burden of any neglected tropical disease and that it would exclude affected persons from social life which may hinder treatment-seeking behaviours.

Although the occurrence of urinary schistosomiasis in several parts of Nigeria has been documented, outbreaks of the infection are still being reported in Nigeria (Nwabueze and Opara, 2007; Adeoye et al., 2009). In view of the role of the woman as health care provider for

her family, there is a need to examine critically the social implications of hematuria on women and its effect on schistosomiasis control.

Policy

Hematuria due to urinary schistosomiasis is only one of the symptoms of the disease. For hematuria and its associated social implications to be a thing of the past, schistosomiasis has to be brought under control. Schistosomiasis has been reported to be hyper-endemic in Nigeria (Mafe et al., 2005). The National policy on schistosomiasis control has been that of provision and administration of praziquantel, the drug of choice to persons in endemic areas. Richard et al. (2006) noted that control activities could not be effectively integrated because of restrictive guidelines on drug administration and the cost of praziquantel. Also, there is yet no mapping of the country to identify endemic areas. Furthermore, the best delivery channel for praziquantel is still to be determined. These have affected the mass drug administration programmes.

Pablo's-Mendez et al. (2005) argued that research must be a part of the strategic process which will move evidence-based control interventions to true practice. It has also been noted that national policies on the control of other parasitic diseases such as onchocerciasis, lymphatic filariasis and Human immunodeficiency virus/Acquired immune deficiency syndrome (HIV/AIDS) have diverted attention from the control of schistosomiasis (Richard et al., 2001; Nale et al., 2003). Schistosomiasis as a neglected tropical disease needs to be controlled to avoid risk factors and other complications of the disease in later life. The national policy on schistosomiasis control has been beset with a lot of difficulties. There is a need to assess the successes achieved so far and to address the limitations of the control programme. This should not be left for the government alone. All stakeholders should work together to come up with a better policy and effective implementation of the control programme. This will make way for a better future for all. Therefore, everyone involved in the control of schistosomiasis must be abreast with an understanding of the relevant issues in the control.

Relevant issues

An effective programme for prevention and control of schistosomiasis is necessary in order to put an end to hematuria and its associated stigma, especially on women. However, measures aimed at the prevention and control of schistosomiasis in Nigeria has not been effective. Some of the relevant issues of schistosomiasis control are discussed:

Need for a national survey

Apart from the provision of free antischistosomal drugs by the government, there is a need for a national survey to identify endemic areas in the country. Efforts made to identify endemic areas at a national level are still not conclusive due to environmental changes. Ekpo et al. (2008) applied the use of geographical information system and predictive risk maps in identifying areas endemic for urinary schistosomiasis in Ogun State. Similar studies when carried out in other States of the country will ensure effective control of urinary schistosomiasis. However, visitation of endemic sites on mapping should be conducted for effective monitoring and control of schistosomiasis.

Social implications of hematuria

In rural communities where most women are illiterate, stigma due to hematuria may result in rejection, which can lead to loss of social network, loss of work, difficulty in finding marriage partners, divorce, loss of reputation, decimation, isolation and ostracism among other ills (Link and Phelan, 2001; Weiss and Ramakrishna, 2006). It is therefore important for the women and inhabitants of any rural or any communities to understand the interactions between the parasite, the host and the environment. Takougang et al. (2004) reported serious misconceptions among women on how schistosomiasis was acquired. Knowledge of the mode of transmission of schistosomiasis is crucial in determining the vulnerable links at which intervention by stakeholders, including the women, will produce optimal outcome. Also, there is a need to add morals to cultural beliefs in order to reduce the stigma associated with tropical diseases (Hsin-Yang et al., 2007). The woman should be educated and informed on the course of urinary schistosomiasis and the associated symptom, hematuria.

Muela et al. (2009) recommended that public health programmes should be used in fighting stigma through sensitization campaigns. The Ministry of Environment and its parastatal, Waste Management Board, should ensure the maintenance of environmental cleanliness in every area of the country. Also, the Rural Water Supply and Sanitation Agency, under the umbrella of the Ministry of Water Source Development should provide good and adequate water supply, especially in rural communities that are endemic for schistosomiasis. Their efforts will complement the activities of the Ministry of Health in the prevention and control of spread of schistosomiasis. Proper information regarding hematuria will allay superstitious beliefs about the disease and help to alienate the stigma associated with the disease. The ability of the woman to protect herself and family members from disease is contingent on her access to proper information on prevention and treatment strategies.

Transmission of schistosomiasis

Schistosomiasis is a water-borne parasitic disease transmitted by fresh water snails of the genus *Bulinus*. The causative agent, *S. haematobium* passes its life cycle in two hosts: the definite host which is usually man while the larvae develop in a snail intermediate host, *Bulinus globosus*. The terminal spined ova of *S. haematobium* are passed in urine and when in fresh water hatches, releasing ciliated larvae, miracidia. The hatching mechanism has been described by Edungbola et al. (1996). The miracidium penetrates the soft tissues of the snail and ultimately makes its way to the liver where it undergoes further development to produce cercariae within 4 to 8 weeks. Cercariae emerge from the snail in swarms, especially in the morning because they are phototropic. Daily emergence continues for several weeks and each cercariae must reach a definitive host (man) within 24 h or die. Humans become infected through direct penetration of the skin by cercariae which invade the circulatory system with eggs of the parasites deposited in the blood vessels supplying the urinary bladder (WHO, 1996). Eggs deposited in the bladder may cause ulceration of the tissues of the bladder which results in the passage of blood along with urine. Urinary schistosomiasis may lead to dysuria and hematuria in both acute and chronic schistosomiasis. Unsanitary habits such as passing out of schistosome egg-laden urine into water bodies harbouring appropriate snail host continues another cycle of transmission.

Cost of antischistosomal drugs

The cost of drug may hinder effective treatment of persons. The Nigerian government, through the Ministry of Health, provides free drugs for persons in endemic areas. However, the drugs are not effectively distributed because of problems of standardized delivery channels. Due to the high cost of praziquantel, a call for more donors should be made. Non-governmental organizations (NGOs) can be of assistance in this regard. Individuals, especially in endemic areas, could also make efforts to procure the drugs if government aid is slow in coming. Richard et al. (2006) reiterated that the cost of praziquantel will continue to limit the extent to which schistosomiasis control activities will be successful until there is a cheaper and or donated source.

Schistosomiasis as a neglected tropical disease

According to Ottensen (2002), schistosomiasis control is lagging behind other programmes for control of parasitic diseases such as onchocerciasis and lymphatic filariasis control in the country. A simultaneous treatment of the trio of schistosomiasis, onchocerciasis and lymphatic filariasis will be more cost effective and easier for

community-based mass drug distribution programmes.

Improvement in standard of living and environmental sanity

Standard of living and sanitary conditions of the environment are factors of infection that could enhance growth and proliferation of snail intermediate host of schistosomes. The rural nature of some communities with unhealthy and unhygienic methods of waste disposal create environmental friendly habitat for the abundance of intermediate snail hosts which for urinary schistosomiasis, are the *Bulinus* snails. Lack and inadequate supply of good portable water could encourage infection. The inhabitant of communities with water supply problems may be driven to depend on nearby natural sources of water supply such as rivers, streams and springs which may harbour these *Bulinus* snails. This snail has been reported to use vegetation cover along the banks of water bodies as spawning substrates, nursery sites and for food (Petr, 1990). Water contact activity of persons in endemic areas has been reported as a major reason for infection. Regular visits to streams in dry months especially for domestic chores and other activities resulted in higher rate of infection than in the wet months which had reduced visits to the streams (Nwabueze et al., 2009).

CURRENT EFFORTS AND IMPLICATIONS

Schistosomiasis is a public health problem in Nigeria. The infection has been ranked the second most important parasitic disease in developing countries (WHO, 1985). There is yet no vaccine for the prevention of schistosomiasis. However, various approaches such as the use of chemotherapy and surgical procedures have been tried. Praziquantel is the current anti-schistosomal drug of choice (Renganathan, 1991). Prompt medical attention with the administration of the drug has yielded positive results. However, the possibility of re-infection after treatment is high because human have no immunity to schistosomiasis. In the past, several control measures have been used (Brown, 1980). Current control measures are now geared toward creating a break in the transmission of infection. Molluscicidal control of snail host and avoidance of water contact with schistosome-infested water bodies are current measures aimed at truncating the route of transmission. Water contact pattern however, has been reported to be very important in preventing the transmission of the infection.

Akogun and Akogun (1996) noted that human water usage behaviour is a major cause of schistosomiasis transmission. As such, non-contact with infested water will prevent transmission of the infection even in endemic areas. Poor housing, water supplies and low educational

level are major factors in schistosomiasis occurrence in endemic area. Some countries, such as Brazil, China, the Philippines and Egypt, have been able to sustain national control programmes for a prolonged period and have succeeded in reducing morbidity to very low levels (Engels and Savioli, 2005). This includes provision of safe water, sanitation and appropriate health education.

The woman plays a very important role in disease control and management. The woman, due to her domestic role, is usually the first point of contact when family members are ill. The woman often decides on appropriate self-treatment before medical attention is sought. Arsenault (2009) noted that women do the bulk of the caring for the sick and therefore are mediators between health professionals and family members. Ukaga et al. (2003) observed that women play major roles in the running of their homes and reiterated the need to integrate women in disease management. The social role of women as health providers within their various families afford them the opportunities of contributing to the control of the spread of disease at household levels. The woman needs to stay healthy and accepted even with hematuria, both for her own sake and for her key role in maintaining healthy families. The state of the woman's health and well-being contributes directly to the health and well-being of their families, especially children and the elderly, and therefore contributes to the community as a whole. Amazigo (1994) and Arsenault (2009) observed that a woman's incapacitation can affect general family health because she will no longer be fit to perform her essential roles. Adequate and correct information on the basics in the biology of the parasite, predisposing factors of infection and the possible risk factors in urinary schistosomiasis will enable the woman take appropriate steps and precautions to protect herself and family from contracting urinary schistosomiasis.

Economic empowerment of women has also been recognized as a tool for effective health care delivery. The low socioeconomic status of most rural women prevents them from making unilateral decisions to seek health care. According to Arsenault (2009), adequate use of health services is intertwined with gender inequality. The woman therefore needs to be empowered educationally and economically to be able to meet with the challenges of her domestic role.

CONCLUSION

Schistosomiasis is an important public health problem and hematuria is one of the symptoms of urinary schistosomiasis. Schistosomiasis is a treatable disease and prompt treatment will go a long way in reducing the spread of the infection. Also, public awareness by stakeholders in disease control is necessary. Frequent campaigns on prevention and control and on general information on the symptoms and route of transmission of

schistosomiasis, especially in endemic areas, are encouraged. A break in the route of transmission is an important way of truncating the spread of infection. This has to do with the avoidance of water contact especially with schistosome-infested streams. A well-designed awareness campaign on health education should be accompanied by an improvement in the woman's capacity to cope with the economic costs of urinary schistosomiasis. Rural communities with erroneous beliefs on hematuria should endeavour to get informed and educated. The woman's domestic roles of protecting herself and her family from contracting infection should not be undermined in the control of schistosomiasis.

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