

PARASITIC DISEASES AND SEXUAL DISABILITY: A CRITICAL REVIEW OF SOME PARASITIC DISEASES WITH SERIOUS SEXUAL REPERCUSSIONS

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ABSTRACT

A wide range of parasitic diseases even though not sexually transmitted, invade male and female reproductive organs causing direct pathological damages leading to impaired fertility and sexual dysfunction. This paper provides a framework for thinking about the psychological impact and burden of these parasitic infections. It begins by providing the etiology of these diseases and a brief overview of the socio-cultural and psychological implications of infected and affected individuals. The article concludes with reflections as to how interactions of parasitological and anthropological factors produce multi-dimensional reproductive health problems requiring urgent multi-disciplinary investigation and intervention.

Keywords: Parasitic infection, Sexual repercussion

INTRODUCTION

A range of parasitic diseases has different reproductive health consequences for men and women. Parasites may affect sex and/or sexual organs in two ways: the infecting organism may produce sufficient debilitation or anatomic deformities to make sex impossible as in onchocerciasis and lymphatic filariasis or may cause direct damage to male and female reproductive organs impairing fertility as a result of inhibition of gamete production as in trichomoniasis, schistosomiasis and toxoplasmosis. Of the vast array of parasitic diseases endemic in Nigeria, only trichomoniasis caused by the protozoan parasite *Trichomonas vaginalis* is known to be sexually transmitted. A wide range of other parasitic diseases, even though not sexually transmitted, may however invade male and female reproductive organs causing direct pathological damages leading to impaired fertility and sexual disability (Burrow and Ferris, 1975; Hartigan, 1999; Omudu and Amali, 2003).

Other parasitic diseases may not directly affect reproductive organs but their various pathological manifestations may resemble diseases generally believed to be sexually transmitted with its attendant stigma. It is often the stigma that exacerbates the medical and psychological burdens of infected and/or affected individuals. Genital symptoms and manifestations of a variety of protozoan and helminthic infections which are not usually sexually transmitted may mimic classic sexually transmitted infections by producing ulceration (for example, amoebiasis, leishmaniasis), wart-like lesions (schistosomiasis),

or lesions of the upper genital tract as a result of amoebiasis and schistosomiasis.

Richens (2004) reported a variety of other genital symptoms less suggestive of Sexually Transmitted Diseases (STDs), these include hydrocele (seen with filariasis) and haemospermia (seen with schistosomiasis). Considering the pathological damage to sex organs and the social and psychological burden borne by affected and infected individuals, there is urgent need to focus specific attention on their clinical presentation with the aim of providing holistic management and intervention.

Schistosomiasis for instance, though not sexually transmitted, has been reported to have serious sexual implications when the eggs invade tissues lining the reproductive organ causing anatomic deformities enough to reduce sexual pleasure for both partners (Hartigan, 1999; Hanson, 1999; TDR News 1996). Female Genital Schistosomiasis (FGS), as it is commonly referred to, has also been associated with a range of pathologies including infertility, abortion and ectopic pregnancy (WHO, 1998). Mondaini *et al* (2004) reported cases of testicular pains resulting from parasitic infection, especially among non-immuned individuals who have visited endemic countries. Though they maintained that scrotal swelling may not be a specific diagnosis for filariasis, it may however be a pointer to genital filariasis.

The main focus of this paper is to discuss the sexual implications of some parasitic diseases and how socio-cultural beliefs combine with parasitological manifestations to make life a wretched existence for infected and/or affected individuals. It is hoped that medical experts will

begin to address some of these socio-cultural beliefs when developing intervention strategies rather than focusing only on the biological mechanism through which these diseases operate.

SOME PARASITIC DISEASES WITH SEXUAL REPERCUSSIONS

Onchocerciasis: Onchocerciasis, or river blindness is caused by a filarial parasite *Onchocerca volvulus* and transmitted by the bites of blackfly *Simulium* species. This disease is rated as a leading cause of blindness and about 20 million people are infected worldwide while one million of those infected are totally or partially blind (Edungbola and Parakoyi, 1991). Onchocerciasis can manifest in several dramatic and bizarre forms with an incredible adverse impact on agriculture, demography and socio-economic conditions. It causes extensive skin disfiguration with unbearable discomfort. However, its most dreadful and terminal complication is blindness.

Besides blindness, hernias, leopard skin, hanging groins and elephantiasis have been identified as important complications of onchocerciasis in areas where the disease is endemic (Edungbola *et al.*, 1991). While the association between hanging groins and hernias has been reported (Williams and Williams, 1966) it has been established that hernia is a definite and major complication of onchocerciasis (Nelson 1958, Edungbola *et al.*, 1991).

The medical and socio-economic seriousness of these complications of onchocerciasis such as hernias, elephantiasis, hanging groins are often associated with sexual disability because of the severe enlargement of organs and disfiguration. Scrotal elephantiasis and hernias constitute formidable psychological burden for infected individuals as a result of obvious sexual repercussions. Partner desertion and abandonment often characterize such situations. In addition to the sexual incapacitation, scrotal elephantiasis and hernias also lower the productivity and wage earning capacity of those afflicted.

Gender roles also influence the consequences of these manifestations of onchocerciasis (Hartigan, 1999, Harnson, 1999). For example masculinity is often demonstrated through multiple sexual conquests and control of resources. Men who develop scrotal elephantiasis, hernia or hanging groins find it very difficult, if not impossible, to engage in sexual intercourse in addition to lower productivity. Women, on the other hand depend more on their physical appearance to enhance their prospects for marriage and sustaining a relationship with male

partners, developing any of these onchocercal manifestations jeopardise these aspirations.

The skin manifestations in onchocerciasis are characterised by severe dermatitis and itching, the thickening and atrophy of skin and pigmentary aberrations. Obikeze (1992) reported that these pigmentary aberration (onchodermatitis) has very grave social, economic and psychological implications for victims of onchocerciasis. Young women and men with the disease are discriminated against, humiliated by peers, avoided by friends and stigmatized by society. Married women with onchodermatitis lose the affection of their husbands while marriage chances of infected persons are adversely affected, if not totally ruined. Psychologically, onchodermatitis engenders withdrawal behaviour, isolationism and societal maladjustment on the part of the affected individual.

Ovuga *et al.* (1995) investigated some aspects of social anthropological implications of onchocercal skin disease in Nebbi district in Uganda. Results indicated that onchocerciasis was considered to be mysterious disease, especially the dermal manifestations of lizard and leopard skin. The disease was often mistaken for measles and leprosy and as such affected individuals suffered from discriminatory practices applied on sufferers of measles and leprosy. The belief systems of the community were said to be responsible for the discriminatory practices of the people against those affected by onchocercal skin diseases. Persons who had these skin conditions ranked separation from spouses as the most painful aspect of the stigma.

Lymphatic Filariasis: Lymphatic filariasis is caused by the filarial nematode *Wuchereria bancrofti* and transmitted by the bites of *Culex* mosquito species. Although the disease caused by this parasite is rarely fatal, the morbidity due to the disease is high due to lymphoedema and hydrocoele which are results of impairment in lymphatic drainage. The socio-economic implications of this disease include social isolation or stigma in reaction to the enlarged limbs or hydrocoel (WHO 1998).

It is estimated that 40 million people suffer from the chronic, disfiguring manifestations of this disease, including 27 million men with testicular hydrocoele, lymph scrotum or elephantiasis of the scrotum (Dreyer *et al.* 1997). An estimated 13 million people, the majority of which are women have filarial-associated lymphoedema or elephantiasis of the leg, arm or breast (WHO 1998). Although lymphatic filariasis is ranked as the second leading known cause of disability worldwide (WHO 1998) little attention has been paid to the important but hidden

disability associated with the genital manifestations of this disease leading to sexual disability.

Immobility, clumsiness, embarrassment and depression have been observed in many sufferers (Mbah and Njoku, 2000). Generally these problems have led to severe functional impairment of occupational and sexual activities. Hydrocoele, the genital manifestations of lymphatic filariasis in men, present as a chronic swelling of the scrotum and victims find it very difficult to engage in sexual intercourse. About 27 million men are infected worldwide with 75 % in subsaharan Africa (Hartigan, 1999). The experience of the disease is significantly influenced by socio-cultural beliefs in endemic communities. Hydrocoele is associated with sexual disability and infertility; women often suffer greater social and psychological consequence of limb and genital enlargement. The fear of stigmatization drives many victims underground; as a result this disease condition is rarely reported at health centres (Hanson, 1999; Hartigan, 1999; Vlassoff and Bonilla 1994).

Ahorlu *et al.* (2001) assessed the consequences of hydrocoele and benefits of hydrocoelectomy on the physical activity and social life in three lymphatic filariasis endemic villages in Ghana and they reported that hydrocoele, especially large ones, severely reduced the patients' work capacity and impaired sexual function, and that overall, it had a considerable negative effect on the quality of life for the patients, their family and the community. Reasons why patients refused hydrocoelectomy in the past were the high cost of surgery, fear of death and impotence and /or sterility that might result from the operation. Patients that underwent hydrocoelectomy reported remarkable improvement in quality of life, work capacity and sexual function. Other benefits of hydrocoelectomy included the restoration of self-esteem, thus enabling affected individuals to participate more in community activities.

Other social anthropological studies on lymphatic filariasis in Northern Ghana by Gyapong *et al.* (2000) revealed that complications of lymph scrotum and ridicule from community members were ranked highest among problems of patients. Unmarried men in particular found it difficult to find a spouse with their condition, and various degrees of sexual dysfunction were reported amongst married men.

Schistosomiasis: Schistosomiasis is an excreta/urine-water borne parasitic disease transmitted through fresh water snail intermediate host. It is caused by the trematode *Schistosoma haematobium* or *S. mansoni*. Of all the parasitic diseases with sexual repercussion, schistosomiasis enjoys the greatest attention. Eggs of both *S. mansoni* and *S. haematobium* are often found in

reproductive organs of the infected female. This disease has been associated with infertility, extra-uterine pregnancy (Hartigan, 1999; Burrow and Ferris, 1975). Acute infection of the reproductive organ may result to Vesico Vaginal Fistula and chronic inflammation of the vaginal epithelium leading to painful discomfort during sexual intercourse (Burrow and Ferris, 1975).

Female Genital Schistosomiasis (FGS) has been associated with increased vulnerability to HIV infection. This association is because the symptoms of urinary and genital schistosomiasis are sometimes confused with other sexually transmitted diseases. A study conducted in Malawi in 1994 by some researchers from the World Health Organization on FGS assessed the extent of pathological damage in the genital area of women infected with urinary schistosomiasis. They investigated the relationship between urinary schistosomiasis and infertility and the impact of the disease on women's marital and sexual life. Fifty-one women with urinary schistosomiasis underwent thorough gynecological examinations including colposcopy and photographic documentation of lesions. Microscopy of the genital biopsies revealed that 33 had *S. haematobium* eggs in their cervix, vagina and /or vulva. There was a significant correlation between size of genital lesions and the number of ova counted. Tumors in the vulva were seen with naked eyes. The report published in TDR news (1996) observed that though the sample was very small, significant cases were found in women who had fewer children than desired and whose husbands had children with other women, suggesting some sort of sexual dissatisfaction with partners. It was reasoned that their husbands were pushed into extra marital affairs because of loss of sexual pleasure with partners who had FGS.

Schistosomiasis is a disease with serious gender bias, women are differentially exposed to the disease as a result of their water carrying responsibilities. Men are not left out of the sexual repercussions of this disease. The commonest diagnostic feature in male urinary schistosomiasis is the passage of bloody urine. This is sometimes confused with some symptoms of STDs and as a result infected individuals are stigmatized by peers and avoided by the opposite sex.

Trichomoniasis: This is the most prevalent sexually transmitted parasitic infection, and the most prevalent non-viral and bacterial sexually transmitted disease in the world (Obiajuru *et al.*, 2002, Njoku *et al.*, 2000). The parasite *Trichomonas vaginalis* is basically a flagellate that exists commonly in the vegetative form. The prevalence of trichomoniasis has continued to rise in Nigeria and other sub-saharan countries especially as the greater percentage of the

population become sexually active (Hanson, 1999). The parasite inhabits the vagina and cervix of females and urethra of males. Although sexually active male and female are at risk, it is more frequently encountered in females than males because it is generally asymptomatic in men.

The symptoms could be severe such as intense inflammation of the vagina, with itching and copious discharge from the vagina or urethra (Acholonu, 1998). *T. vaginalis* may impair fertility in women by causing direct damage to the fallopian tube and may induce watery sperm, premature ejaculation and prostates in men (Ukoli, 1990). Lesions of cervix, vagina and vulva resulting from infection with *T. vaginalis* are painful during intercourse and cause chronic inflammation of the fallopian tubes which may result in infertility, tubal pregnancy and abortion (Burrows and Ferries, 1975; Ukoli 1990). These more serious pathological effects result from long-lasting infection, though they may be reversed after successful treatment. The psycho-social implications of this disease is very serious with vaginitis and urethritis causing severe discomfort and purulent discharge which mess-up inner wears of infected persons. Some scholars are of the opinion that this parasite can also be transmitted through contaminated inner wears, towels, toilet seat (Obiajuru *et al.* 2002).

The offensive odour of the discharge discourages initiation and sustenance of sex. Spouses of infected partners are likely to resort to alternative sex partners as the case with other known sexually transmitted diseases. Individuals with trichomoniasis are blamed for being promiscuous, and since it is often reported among women, there is a gender bias in the stigma. The inflammation of the vaginal wall results in severe pains during sexual intercourse thus exacerbating the biological and psychological problems faced by infected individuals.

The manifestations of other parasitically induced diseases may also have serious repercussions for sexual harmony. Cutaneous leishmaniasis may disfigure/destroy body parts resulting to lose of sensation. Because of the similarity of this disease to leprosy, affected individuals are ostracised and denied sexual privileges. Studies in a number of different regions of the world indicate that both cutaneous and visceral leishmaniasis are more likely to be detected in men than women. It is however, important to note that in the case of cutaneous leishmaniasis, the disease does not result in permanent incapacitation (Hartigan, 1999).

THE IMPORTANCE OF ADDRESSING PSYCHOLOGICAL ISSUES WHEN ASSESSING IMPACT AND BURDEN OF PARASITIC DISEASES

Communicable disease experts tend to focus exclusively on the biological mechanisms through which disease operates when they develop their management and intervention strategies; rarely do they broaden their vision to include an examination and investigation of how these diseases impact on the holistic reproductive health needs. To accurately assess the magnitude, depth and profound implications of sexual disability for both men and women suffering from parasitic diseases with sexual manifestations, social anthropological investigation on the impact of the disease on damaged male and female identity need to be undertaken. Gyapong *et al.*, (2000) suggested the inclusion of psychological issues in the calculation of Disability Adjusted Life Years (DALYs). The social and psychological consequences of parasitic diseases are often excluded from the burden of disease calculation. In order to address this biomedical bias, the WHO recently listed a range of conditions that should be considered for global burden of disease (GBD) revisions. These include indirect obstetric complication, reproductive tract infection, psychological morbidity and other reproductive health concerns (WHO, 1998).

Anthropological input in terms of community perceptions of these diseases including local taxonomies and etiology is very valuable in developing health education materials to support interventions. While it is important to develop and administer chemotherapeutic remedies, a more sophisticated understanding of cultural, psychological and social dimensions of endemic parasitic diseases with genital manifestations is also crucial in introducing sustainable community intervention. Anthropological involvement in disease management ensures that some account is taken of knowledge and cultural influence on the patterns of disease and coping mechanism employed by sufferers. Gubler (1997) therefore noted that in order to achieve substantive successes in disease prevention and control, there is the need to include social scientists in the control process primarily due to socio-cultural and psychological factors that contribute in the spread and experience of these infections.

It is therefore medically, epidemiologically and psychologically sensible to address the sexual and reproductive health implications of parasitic disease in endemic communities. Participatory research methodologies are appropriate for better understanding of psychological burden associated with sexual disability and incapacitation induced by these parasitic infections. This is crucial for the

development of multi-disciplinary strategy to tackle parasitic diseases and their impact on agriculture, socio-economic well-being and reproductive health. Intensifying public education can help reshape traditional beliefs that often determine community behaviour as a result of fear, ignorance and socio-cultural practices.

CONCLUSION

The interaction of parasitological and socio-cultural factors produces multi-dimensional health problems that require multi-sectoral intervention. The prevalence, manifestation, natural history and severity of consequences of these parasitic diseases vary from place to place, this is because responses, attitudes and beliefs (which influence overall disease consequence and burden) differ. Though the medical and socio-economic impact of parasitic diseases has enjoyed attention from bio-social scientists, the linkage of these diseases to sexual disability with its attendant deprivation and stigma has not enjoy similar patronage. The 'compartmentalization of knowledge' has made it difficult for medical and social experts to communicate across disciplines. The urgent need therefore is for integrated disease control approach that address the whole 'web of causation' and overall repercussion of diseases on individuals and endemic communities.

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