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Short communication

Effect of lymphatic filariasis on school children

K.D. Ramaiah *, K.N. Vijay Kumar

Vector Control Research Centre, Medical Complex, Indira Nagar, Pondicherry-605 006, India

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Lymphatic filariasis affects about 120 million people globally and 22 million of them are children below 15 years of age (Michael et al., 1996). Lymphatic filariasis has been listed as the second leading known cause of disability (World Health Organization, 1995) and the disease impairs mobility, day-to-day domestic and economic activities (Evans et al., 1993; Gyapong et al., 1996; Ramaiah et al., 1997) and sexual and marital life (Dreyer et al., 1997). The disease is estimated to be responsible for the loss of about 0.63% of per capitem GNP in India (Ramaiah et al., 2000). Most socioeconomic studies on filariasis involve adults and the problem of filariasis in children has received poor attention. In our studies on filariasis in rural areas, we have seen many children (5–15 years) affected with filariasis.

Five hundred and six people were detected with chronic manifestations of filariasis in two villages near Pondicherry in South India. They included 28 individuals (26 boys and two girls) below 20

years of age and clinical examination for chronic disease (Pani et al., 1991) and inquiry on occurrence of acute disease (Ramaiah et al., 1996) confirmed the presence of chronic and/or acute disease manifestations in them. Seventeen (16 boys and one girl) of the 28 were affected with acute and/or chronic disease while they were in school and 11 after they had completed or discontinued school education. Of those 17, 14 were affected with hydrocele and two (one girl and one boy) with slight lymphoedema of the lower limbs and one with frequent episodes of only acute adenolymphangitis (ADL). Five of the 14 boys affected with hydrocele and one with lymphoedema also reported occurrence of ADL episodes. These 17 individuals were in the age group of 10–15 years (Table 1).

We have collected qualitative data through in-depth interviews (Taylor and Bogdan, 1984; Ramaiah et al., 1997) with all the 17 individuals to assess the impact of the disease on their education. Social stigma in terms of shame, embarrassment and ridicule involving enlarged genitals forced a 15 year old boy studying tenth standard in a local school to give up his education. While

* Corresponding author. Tel.: +91-413-372422; fax: +91-413-372041.

E-mail address: mosquito@md2.vsnl.net.in (K.D. Ramaiah).

in school, he used to conceal his disease condition by wearing loose garments. The convention of going to secondary education classes (11th and 12th standard) wearing trousers, which he thought would reveal his disease condition and attract ridicule from his fellow students forced him to give up his education. Lu et al. (1988) also documented the stigma associated with hydrocele. Another boy, while studying eighth standard, used to suffer frequent ADL episodes coupled with transient lymphoedema of lower limbs. Severe fever and malaise associated with ADL episodes (Ramaiah et al., 1996) forced the boy to abstain from school often. Angry reaction from a teacher to absenteeism from school made him to give up his education. In addition, six more pupils also reported occurrence of ADL episodes and hence absenteeism from school. All the seven boys with ADL felt that the disease impaired their performance in studies. The frequency of ADL episodes reported to be 2–12 per annum. The loss of attendance ranged from 2–3 days per episode. One boy told us that he used to get acute attacks suddenly and had to leave the class room abruptly.

The most common complaint among the pupils with hydrocele was pain in the scrotum, which got worse after walking or cycling, by which means the pupils go to the local schools. The pain and inconvenience also forced some of the victims to curtail playing and other extra-curricular activi-

ties. One boy reported precipitation of acute episodes following exertion caused by playing. The affected also felt anguish that they could not wear the dress of their choice. Physical comfort in scrotal area and concealment of the disease condition weighed more in choosing the dress.

Epidemiological studies on lymphatic filariasis have not focussed on school children. However, prevalence of microfilaraemia (Sasa, 1976), acute (Ramaiah et al., 1996) and chronic (Pani et al., 1991) disease has been recorded in school age children. In our study, more boys were found with clinical manifestations than girls and most of the boys (14/16) were affected with hydrocele. This is in conformity with earlier observations that prevalence (Pani et al., 1991; Meyrowtisch et al., 1995) and risk of being affected with hydrocele (Chan et al., 1998) is significantly higher than that of lymphoedema of limbs in the male population.

About 35% of the pupils drop out from primary and secondary level schools due to various reasons including ill-health in the study region. Bundy and Guyatt (1996) have discussed specifically the impact of parasitic infections such as intestinal helminths, malaria and dracunculiasis on children and their physical and mental development. Our data for the first time, throws some light on the effect of lymphatic filariasis on educational performance of school children. Unlike patients in higher age groups, no school age individual underwent surgical intervention for hydrocele in the study villages (Vector Control Research Centre, unpublished). This combined with lack of adequate and effective treatment methods for individual patients (Ottesen et al., 1999) may contribute to the progression of the disease in affected individuals. Thus, the overall impact of the disease appears to be very complex — poor educational achievement affects the quality of future life (Bundy and Guyatt, 1996) and the progression of disease causes sociopsychological problems (Dreyer et al., 1997). Therefore, this segment of the endemic population needs special attention and support. School-based interventions are cost effective and show greater impact on health status than many other types of interventions (Bundy and Guyatt, 1996). School based

Table 1
Clinical manifestations and impact of the disease in school children (10–15 year age group) in the study villages

Clinical manifestation/impact on education	Boys	Girls
Number of children affected while in school	16	1
Number with hydrocele	14 ^a	NA ^b
Number with lymphoedema	1 ^a	1
Number with only ADL	1	0
Number of dropped out of school	2	0
Number of frequently abstained from school	6	0

^a Five hydrocele patients and the lymphoedema patient were affected with ADL also.

^b NA, not applicable.

interventions may ensure better treatment coverage for the control of filariasis and educational gains also.

While the qualitative data gathered in this study provides evidence for the first time on the impact of the disease on school children, more detailed studies are necessary to quantify the impact on school absenteeism and educational performance of children.

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