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Leprosy among primary school children

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Of the 6371 Primary School children examined at Vridhachalam Taluk (Tamilnadu), 173 (2.7%) were found to have leprosy. The sex ratio in the affected group of boys and girls was 3 : 2. over ninety percent of the cases had tuberculoid leprosy and only 0.5 percent had lepromatus leprosy. History of contact with leprosy was present in 450 (7%) children. This includes the 173 who had clinical manifestations. Thirtyone parents of the 173 afflicted children were literates. Fourteen of them knew that their children were suffering from leprosy.

Key words : Childhood leprosy; prevalence.

Leprosy is a universal problem. Leprosy patients in India account for one fifth of total cases in the world and Tamil Nadu has a major share of it with approximately 8,00,000 patients.[1] Leprosy is highly endemic in Tamil Nadu[2]. A significant number of leprosy patients are children and adolescent.[3] Leprosy in the child reflects to some extent all the aspects of the disease in the adult with additional features of its own; timely treatment will prevent deformities and infectivity, and permit in a majority of cases a complete recovery, practically free of any sequelae in a relatively short period. Reactional complications and poor intolerance of anti-leprosy drugs are infrequent at this age.[4] The prevalence of leprosy among primary school children exposed to the disease in an endemic area are brought out here.

Material and Methods

6371 primary school children residing in 10 subcentres of Vriddachalam taluk (South Arcot District, Tamil Nadu) were analysed for the prevalence of leprosy. The data collected included age of the individual, sex, evidence of leprosy, history of contact with cases of leprosy, occupational status and literacy of the parents, and the knowledge of leprosy among the parents of the diseased children.

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Results

173 (2.7%) children were found to have leprosy (Table I). The sex ratio in the affected group of boys and girls was 3:2. Cases were seen in all ages. Over ninety nine percent of them had non lepromatous type of lesions and only 0.5 percent had lepromatus type (Table II). History of contact with leprosy was present in 450 children (7%) (Table III).

Table I : Leprosy in children

	Number examined	Number found to have leprosy	%
Boys	3723	113	3
Girls	2648	60	2.2
Total	6371	173	2.7

Table II : Type of lesion

	LL	TL	B	I	N	Total
Boys	1	101	—	11	—	113
Girls	—	59	—	1	—	60
	1 (0.5)	160 (92.5)	—	12 (6.9)	—	173

Figure in the parentheses indicate percentage. LL.—Lepromatous leprosy, T.L—Tuberculoid leprosy, B-Borderline, I - Indeterminate, N - Polyneuritic

Table III : Contact with leprosy cases

Total number of children	Contact with LL	N,LL	N	Total
6371	81	80	219	450
	(1.2)	(1.2)	(4.6)	(7)

LL -Lepromatous leprosy; NLL—non-lepramation leprosy; N - normal, Figures in parentheses indicate percentage

This included the 173 who had clinical manifestations. Thirty one parents of the 173 afflicted children were literates, 14 parents knew that their children were suffering from leprosy and 12 of them were aware of the fact that leprosy is an infectious disease

Discussion

The cursory references to leprosy in a standard texts on pediatrics, even in those from tropical countries give the impression that leprosy is very rare in children and does not enter into the differential diagnosis of chronic dermatoses or the peripheral neuropathies but this is not very true.[5] The prevalence of leprosy in children vary from 0.4 to 1.32 percent in various previous studies from India.[7] The present study however shows a higher prevalence (2.7%). Prevalence rate among children aged 5 to 14 yr in Northern Nigeria (Katsina), Burma (Shweb) and Burma (Myincyan) were 3.28 3.3 and 4.02 percent respectively.[4]

The sex ratio of the affected group of boys and girls was 3:2 to the number examined, where as it was 7:4 and 9:5 in the series of Ganapati and Parikh[3] and Chodankar[10] respectively. Cochrane and Vandyka Carter lend support to the theory that females have probably a higher resistance to overcome the disease after having shown the initial signs. Noussitout et al[4] consider that there is no significant difference in leprosy prevalence between sexes in children.

In the present series 92.5 percent were tuberculoid type and 0.5 percent were lepromatous type of leprosy (Table II) in contrast to the report by Ganapati et al[9] where in it was 94.1 percent and 2.8 percent respectively. Of the leprosy cases diagnosed in the WHO leprosy BCG trail 65 percent of them were tuberculoid and 35 percent indeterminate.[11] Lepromatous cases are uncommon before 15 yr of age[4]. History of contact with a known case was obtainable in 450 (7%) children (Table III). This includes the 173 who had clinical manifestations. Kapoor[12] has emphasi ed that the child infection rate amongst contacts is much higher than in the general community. He had shown that 100 percent of the cases in the 0 to 5 age group in the community were from amongst contacts. When diagnosis of leprosy is made in a child, there is more probability of finding the source in the family than in the case of an adult[3]. Most authors believe that contact with a leprosy case necessary to

Taple IV : Prevalence of leprosy in children (school surveys)

Studies	Place of study	Prevalence
Vedadri (1969)[6]	Tindivananm (Tamil Nadu)	1%
Thirumaikolu-[1] ndusubramanian et al (1979)	Sankarapuram (Tamil Nadu)	0.4%
Muliyil el al[6]	Vellore	1.35%
Ganapati et al (1976)	Bombay	
Present Report	Vriddachalam (Tamil Nadu)	2.7%

produce a new infection, but opinions about the nature and duration of such contact are far from unanimous.[4]

It is often difficult for the parents to accept the diagnosis of leprosy because of the ragular absence of conspicuous signs associated with leprosy in children.[4] 14 parents (8%) of the 173 afflicted children are aware of the fact that their children were suffering from leprosy. Children suffering from leprosy and their parents, relatives or responsible persons must be made aware of leprosy and the necessity for treatment as parents and family members play a major role for the successful execution of field work, regular follow up and for drug intake.

School children from a significant proportion of the population (25%) in which early detection, treatment and evaluation can be carried out with relatively greater case.[8] Health care of children can not be ignored as child health is nations wealth and health status of children is an index for national development and its future manpower potential[13]. School surveys may be considered as a case finding method in a locality.[14] The value of school survey as a case finding method will be considerably diminished if school enrolment is less than 70 percent of all children.[4]

In countries where leprosy constitutes a seizable public health problem, medical and paramedical personnel as well as educational authorities, school teachers and others must be aware of the possible existence of leprosy among children and the importance in early diagnosis and treatment.

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