

Leprosy in Preschool Age

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Examination of 4235 preschool age (1–5 years) children from various slums in Bombay revealed 20 active leprosy cases (prevalence rate of 4.7 per 1000). An analysis of pooled figures from clinics showed that preschool children formed 1.3% of the total number of patients attending these clinics. 5% were smear positive; 45% had one or more family members with leprosy (25% of the latter being bacteriologically positive). The high proportion of associated infectious cases (as compared to corresponding data for school age) indicates a strong possibility of intrafamilial infection in children of preschool age.

Introduction

The focus of attention all over the world in this “International Year of the Child” on problems related to children prompted us to study the literature from the point of view of childhood leprosy. Though there have been several publications recently (Kurian *et al.*, 1975; Ganapati *et al.*, 1976; Noussitou *et al.*, 1976; Koticha 1976) on leprosy in school-going children, we did not find any large data on the prevalence of leprosy in preschool age, (1–5 years). Bechelli *et al.* (1966) found varying prevalence rates ranging from 1.5 (Cameroon) to 2.1 (N. Nigeria) for the population in the age group 1–4 years.

We have therefore analysed relevant figures obtained from surveys from two urban field projects as well as those from clinics where patients reported voluntarily.

Observations

(a) DATA FROM THE FIELD

The field data were collected from groups of slums situated in the northern suburbs of the city of Bombay in which 2 voluntary agencies namely the Bombay Leprosy Project and Vimala Dermatological Centre are active.

A population of 37,399 was enumerated of which 4403 (12%) were in the preschool age group (1–5 years).

TABLE I
Prevalence rates in various age groups

Population	Enumeration	Examination	Leprosy cases	Prevalence rate/1000
<i>Preschool</i> <i>(1–5 years)</i>	4403 (12%)	4235 (96%)	20	4.7
<i>School</i> <i>(5–14 years)</i>	9441 (25%)	8416 (89%)	127	15.0
<i>Above</i> <i>14 years</i>	23,495 (63%)	17,276 (74%)	426	24.7
TOTAL:	37,339 (100%)	29,927 (80%)	573	19.0

1. Twenty preschool children were found to be suffering from active leprosy (Prevalence rate of 4.7 per 1000); the overall prevalence rate in the total population was 19 per 1000.
2. The preschool leprosy cases formed 3.5% of the total of 573 leprosy cases and 13.6% of the total 147 (20 + 127) childhood cases (between 1 to 14 years).
3. Of the 20 children 13 were female (Male to female ratio was 1: 2).
4. Two (10%) had the N?L* type of disease (BT-BB-according to Ridley-Jopling classification); the remaining 18 (90%) were of N* type.
5. No smear positive case was found.

(b) DATA FROM THE CLINICS (POOLED FIGURES)

An analysis of pooled data from the records from various central and peripheral treatment centres in Bombay revealed 511 leprosy cases in the preschool group and these (including 20 cases described above) formed 1.3% of 38,478 leprosy patients attending these clinics.

As many household contacts of the 511 children with leprosy as were available were examined in the clinics. The results are tabulated below, and compared with corresponding data for school age children from a previous study.

1. Familial association of leprosy in the preschool and school age group was 45% and 14% respectively.
2. 126 (25%) of the preschool cases had a bacteriologically positive (potentially infectious) case in the family. In the school group study on the other hand only 1% of the associated family cases were infectious.

* See footnote to Table 2.

TABLE 2
Clinical features of the preschool cases from the clinics

Total preschool cases	N*	N?L*	L*	Smear positive cases	Polyneuritic involvement
511	407 (79.6%)	103 (20.2%)	1 (0.2%)	23 (5%)	3 (0.6%)

* Clinical typing (field classification)

N, Nonlepromatous (Indeterminate and tuberculoid).

N?L, Intermediate forms (Borderline-BT-BL according to Ridley-Jopling scale)

L, Lepromatous.

(Classified according to the Operational Guide and Guidelines of Assessment of leprosy work in India 1969).

N cases generally had only single lesions.

TABLE 3
Clinical types of associated cases in the families of the preschool cases

Cases	No. of preschool leprosy children		Clinical types	
	With associated cases	With smear + ve asso. cases	Of index cases	Of asso. cases
Preschool group (present analysis)	232/511 (45%)	126/511 (25%)	L-1 N?L-91 N-140	L-85 N?L-125 N-85
School group (Ganapati <i>et al.</i> , 1978)	27/190 (14%)	2/190 (1%)	L-1 N?L-2 N-24	L-2 N?L-1 N-38

Discussion

1. The field figures showed that the prevalence rate in preschool age is 1/3 of that in the school group and 1/6 of that found in the adult-group. It may be said that for every 1 preschool case, there were 3 school age cases and 6 adult cases in the community studied.
2. Advanced leprosy in preschool children was more likely to be seen at treatment clinics than in the field.
3. The high proportion of intra-familial case association for preschool children indicates a strong possibility of intrafamilial infection.
4. The importance of this study is that the presence of leprosy in preschool children indicates that the community is endemic for leprosy.

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