

### Ep 11

#### CLUSTERED LEPROSY CASES IN SOUTH INDIA

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Controlled, double blind, randomized, prophylactic leprosy vaccine trial was conducted in South India in an endemic area for leprosy, covering 48 panchayats comprising of 264 contiguous villages and 3,00,000 people from Sriperumbudur and Kancheepuram taluks of Chingleput district (old), Tamil Nadu, South India.

Intake for the study was completed in two and half years from January 1991. After enumeration, the population in the study area was screened for leprosy by paramedical workers trained in leprosy. All suspects and cases identified by the paramedical workers were examined by one of the senior workers for confirmation of diagnosis. Two resurveys were carried out, the first one starting immediately after completion of vaccination and the second one starting two years after completion of the first resurvey. The procedures used in the resurveys were generally similar to the intake.

A total of 6486 cases of leprosy were diagnosed after examining 2,55,777 individuals at intake. In the first resurvey, 625 incidence cases were detected. In the second resurvey, 413-cases were detected and 41 of these cases were not examined in the first resurvey. Analysis of prevalence and incidence rate was done for all the panchayats and panchayat unions. Clustering of incidence cases was examined and reported in this paper.

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### Ep 98

#### AN INVESTIGATION OF LIVING STYLE PATTERN AND BEHAVIOUR OF THE FAMILIES OF LEPROSY PATIENTS

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The living style pattern and behaviour of the leprosy families has been understood through patients attending OPD of the CJIL to observe role, if any, in transmitting leprosy to other family members. Out of 100 patients studied for this, 30 patients were belonging to those families, where more than one leprosy case exist and were categorized as Present Group. Remaining 70 patients did not have any other case in their families than self and categorized as Absent Group.

50% families from Present Group resides in crowded

kachha house compared to Absent Group (27%). 70-80% families of both the groups were using common soap, towel, clothes and beddings etc. before their family members acquire leprosy but higher percentage of patients of the absent group (40%) after contracting leprosy stopped sharing compared to present group (20%). Similar findings were observed in terms of sharing foods, utensils and water.

53% and 33% of the studied patients have disclosed about leprosy to families and community respectively. Further, the literate patients had significantly hidden the disease more compared to illiterate patients. In the absent group, marital relation with leprosy afflicted spouse either reported to be disturbed or distance is maintained. However, indifferent behaviour among family members was almost negligible in present group. On the other hand, 70% of the patients, who disclosed their disease, told that community people do not interact with us.

Thus the findings of the study suggest that repeated contacts with leprosy patients promote transmission of leprosy to others and initial isolation at family level with understanding may probably help reducing transmission.

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### Ep 106

#### ANALYSIS OF EPIDEMIOLOGICAL FINDINGS OF MLEC I AND MLEC II IN TRIBAL DISTRICTS IN ORISSA

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Koraput Leprosy Project (KORALEP) of LEPRO India covering a population of 1.5 million in tribal districts in Orissa was established in 1991. The population is predominantly tribal and the area is vast and the 6096 villages are mostly located in difficult to reach areas. 14201 cases were recorded and treated with MDT.

MLEC was implemented in the project area in 1998 and 2000. Active case search was adopted in both campaigns. Staff of Koralep and PHCs, Anganwadi workers and local volunteers were drafted to conduct MLEC.

1543 cases were recorded in I MLEC while in II MLEC 509 cases were recorded. Analysis of cases recorded as per type, age, sex, disability status has been made both for cases detected during MLEC and in the intervening period by the active and passive methods of cases finding in the project. Interesting distribution trends of the disease, particularly in relation to gender, were observed. These trends and the possible reasons for trend differences are analysed and discussed.

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### Ep 117

#### EPIDEMIOLOGICAL ASSESSMENT OF MONOLESION LEPROSY CASES

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##### INTRODUCTION:

The epidemiological significance of the mono lesion cases is not completely understood till today. It is observed that the disease often starts with a single lesion.

##### OBJECTIVE:

The objective of this study is to determine the epidemiological factors and to determine the best mode of early detection for the control programme especially in the urban set up.

##### DESIGN, PARTICIPANTS AND SETTING:

A retrospective analysis of 308 mono lesion cases registered at Calcutta urban leprosy control programme of The Leprosy Mission during the year 1998 -1999.

##### MAIN OUTCOME MEASURES:

Percentage of mono lesion leprosy cases from specified age group, sex distribution, adult child distribution and various modes of detection.

##### RESULTS:

267 out of 308 cases are from the younger age group <40 years (87%). There is not much difference in sex distribution (11:9). Adult child ratio is 33:17. 90% of these cases were detected by active case finding methods.

##### CONCLUSIONS:

From this study, it is concluded that early detection of mono lesion cases in an urban setup requires an active case finding method and therefore should be emphasised.

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### Ep 183

#### A GENETIC STUDY OF LEPROSY : PEDIGREE PATTERNS AND SEGREGATION ANALYSIS

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Pedigree analysis provides information on genetic determination of susceptibility to infectious diseases. Segregation analysis on pedigrees can suggest the pattern of inheritance of susceptibility gene/s. Generally, the transmission pattern of disease within a pedigree is compared to a variety of transmission models to ascertain whether it has a dominant, recessive or co-dominant pattern.

In this prospective study, we questioned 28 leprosy patients who had 2 or more members in the family affected by leprosy and their pedigree patterns were drawn upto two generations. The study was carried out at Dhoolpet Leprosy Research Centre, which is an out patient clinic where patients are self-drawn or referred for diagnosis and treatment of leprosy.

The results show 1 family with six members, 1 with five members, 7 with three members and 17 with two members affected. The pattern of affected versus unaffected within the generation was 69:114 (1:1.7). The mean sibship size was 5. We found considerable sparing of the disease among siblings. The pattern of affected versus unaffected among siblings was 42:86 (1:2). Across the generation in 4 pedigrees, uncles were affected. The proportion of females and males affected in the pedigrees were 24:43 (1:1.8). Consanguinity as another variable was noted in 4 pedigrees. Segregation analysis suggests that in 76% of the pedigrees, a dominant inheritance pattern was present and in 24% of the pedigrees, the pattern was undetermined.

Detailed analysis of different pedigree patterns in relation to segregation, type of leprosy and other variables will be presented.

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### Ep 225

#### RANDOM EXAMINATION AND ITS IMPLICATIONS IN THE VACCINE TRIAL IN THE NEW LEPROSY SCENARIO

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In the vaccine trial, paramedical workers are supposed to screen all the individuals with an expected minimum coverage of 90% examination in all the villages. About 10% of the total population were supposed to be examined according to the randomly identified households by a medical examiner or a senior worker. They will examine all the available individuals who had no

evidence of leprosy according to the paramedical workers diagnosis.

With the advent of Multi Drug Therapy from 1986 and its dramatic influence over leprosy disease, the reduction of prevalence/incidence rates is seen almost all over the country. As such a similar trend has to be reflected in our data from the vaccine trial. Number of new or missed cases is likely to be substantially low after the intake and the two resurveys. This is likely because with a lesser prevalence /incidence rate coupled with vaccine efficacy, the transmission rate of disease of leprosy also need to be minimal in the vaccine trial area. The paramedical workers were missing considerable number of cases during intake period as assessed by the random checking of non-cases.

The impacts of random examination in the changed scenario of leprosy and sensitivity and specificity levels are studied with the available data. The role of random examination in maintaining the sensitivity and specificity levels and its continuance may be discussed.

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### Ep 240

#### EPIDEMIOLOGICAL ANALYSIS OF LEPROSY IN JIANGSU PROVINCE

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To analyze epidemiological trends of leprosy in Jiangsu Province and provide the scientific basis for formulating the strategies aiming at eradication of leprosy. Leprosy records and the relevant data were used for the analysis. Jiangsu Province is a former leprosy-endemic area where leprosy was prevalent in 100% of counties/cities or 90.9% of townships with an uneven distribution of the disease in the past. Leprosy control was initiated in 1950s in Jiangsu Province. Through efforts for near 50 years, a lot of leprosy cases were cured and the prevalence, incidence and detection rates have decreased to 0.5 per 100000 population. There were no child cases in the past 3 years. By the end of 1998, there were 306 active leprosy cases. Jiangsu Province has achieved the basic elimination of leprosy in terms of county and passed the evaluation of Ministry of Health.

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### Ep 241

#### THE CONTRASTIVE ANALYSIS OF 87 CASES BETWEEN THE INFECTIOUS SOURCE OF LEPROSY AND THE FINDING MANNER

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Objective : To approach the relationship between the infectious source and occurrence of leprosy to find new patients in early stage in time.

Methods : Analysing and reviewing patients individual records which were newly noted from 1980 to 1999. 47 cases (54.02%) had definite source of infection and 40 cases (45.98%) had not. 51 cases were found passively in clinics and 36 cases were found actively.

Conclusions : MB patients were the major source of infection. Finding patients actively should have aim. We should strengthen examining diseases professionally and reporting disease in network.

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### Ep 248

#### EPIDERMIOLOGY OF LEPROSY THROUGH 1985-1999 IN SHENZHEN

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OBJECTIVE : To study the epidermiology of leprosy in Shenzhen.

METHOD : Total 87 cases of reported registered leprosy were analyzed among population with Shenzhen permanent residence and temporary residence from 1985 to 1999.

RESULTS AND CONCLUSIONS : It was shown that: 38 cases were from population with Shenzhen permanent residence, making up 43.7%, and 49 cases were those with temporary residence, making up 56.3%, with male : female proportion 2.6 : 1, majority of them are from 20 to 39 years old. The type is mainly of paucillary, making 57.5%. However, those with temporary residence saw a 47% incidence rate of multibacillary, apparently higher in proportion than those with permanent residence. There was a low early discovery rate, seeing only at 71.3%; There was a high initial clinic disability and deformity rate, seeing 17.24%; low regular treatment rate for patients with temporary residence, at 79.4% and a high non-track rate at 20.6%. The author maintains that: with the economic development, there is a sharp growth of population in the Special Economic Zone and a year by year increase of flow-in labor, which brings about accordingly notable birth of new incidence of leprosy This is accompanied by augmented possibility of dissemination, as the la-

borers don't have a stable working and living condition. In this regard, we should carry out forceful health education on prevention and treatment of leprosy other than the government's care and support, training the professional team on the prevention and treatment of leprosy, enhance the quality of professionals and foster a strong sense on detecting leprosy to ensure an early discovery, early diagnosis and early treatment. In the meantime, we should take corresponding measures considering the characteristics of leprosy with temporary residence and implement comprehensive management to recuperate the sick physically, mentally and socially.

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### Ep 287

#### ALL THE ELEVEN MEMBERS OF TWO FAMILIES SUFFERED FROM LEPROSY SUCCESSIVELY

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A high incidence rate of leprosy among the household contacts of patients with leprosy has been generally recognized. But it was rarely seen that two families of 11 members all contracted leprosy. The authors reported that within the period of 20 years after the occurrence of the first leprosy case in each of two families, all their 9 household contacts suffered from leprosy successively without exception, indicating the significant importance of regular monitoring leprosy household contacts in early case detection, early treatment and interruption of transmission of the disease.

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### Ep 342

#### SURVEY OF NEWLY DIAGNOSED LEPROSY PATIENTS IN JAPAN

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We analyzed the medical and social problems of newly registered leprosy patients in the past 19 years from 1981 to 1999 in a low endemic country, Japan. There were 378 registered Japanese patients (males, 229; females, 149), and 102 registered foreign patients (males, 74; females, 26; sex unknown, 2). The number of Japanese patients in each 5-year period was 187 (81-85), 119 (86-90), 48 (91-95), and 24 (96-99, 4 years), and has been decreasing steadily. But the number of foreign patients in each 5-year period was 7, 10, 45, and 40, respectively, and has been increasing. The number of foreign patients was greater than that of Japanese patients in the latter half 1991-1999. The male/female ratio was 229/149 in Japanese patients, and 74/26 in foreign patients. Male/female ratio has decreased among the Japanese but increased among foreigners.

Newly registered leprosy patients in Japan (upto 1999)

Nationality	Sex	81,82,83,84,85	86,87,88,89,90	91,92,93,94,95	96,97,98,99	Total
Japanese	M	32,14,21,20,25	21,14,17,16,9	6,6,7,2,5	3,2,3,6	229
	F	15,16,13,15,16	13,6,9,8,6	8,3,1,7,3	3,3,2,2	149
M&F		47,30,34,35,41	34,20,26,24,15	14,9, 8,9, 8	6,5,5,8	378
		81-85:187	86-90:119	91-95:48	96-99:24	
Foreigners	M	0,0,3,0,1	1,2,1,3,1	5,8,9,4,9	12,7,2,6	74
	F	0,1,0,0,2	0,0,0,0,2	2,4,1,2,1	4,2,3,2	26
M&F		0,1,3,0,3	1,2,1,3,3	7,12,10,6,10	18,9,5,8	102
		81-85:7	86-90:10	91-95:45	96-99:40	* Sex unknown

Japanese

M 32,14,21,20,25 21,14,17,16,9 6,6,7,2,5 3,2,3,6 229  
F 15,16,13,15,16 13,6,9,8,6 8,3,1,7,3 3,3,2,2 149 M&F  
47,30,34,35,41 34,20,26,24,15 14,9, 8,9, 8 6,5,5,8 378  
81-85:187 86-90:119 91-95:48 96-99:24

Foreigners

M 0,0,3,0,1 1,2,1,3,1 5,8,9,4,9 12,7,2,6 74 F 0,1,0,0,2  
0,0,0,0,2 2,4,1,2,1 4,2,3,2 26 ?\* 2 2 M&F 0,1,3,0,3  
1,2,1,3,3 7,12,10,6,10 18,9,5,8 102

81-85:7 86-90:10 91-95:45 96-99:40 \* Sex unknown

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#### POPULATION SCREENING AND EVALUATION OF PROPHYLACTIC TREATMENT FOR CONTACTS IN LEPROSY HYPERENDEMIC AREAS

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On five small islands in Indonesia (South Sulawesi Province) 3987 persons of a total population of 4770 persons (coverage 84%) were screened for leprosy in June-July 2000.

A total of 91 new leprosy cases were diagnosed, representing an overall case detection rate of 2.3%, ranging

from 1.2% to 5.0% per island. The overall prevalence rate was 191 per 10,000, ranging from 87 to 442 per 10,000 per island. Of all patients, 46% was classified as MB, 40% as PB single lesion and 14% as PB 2-5 lesions. Children below 15 years represented 9% of the patients and those with WHO grade 2 disability 11%.

Of all patients, 68 (75%) were clustered, where clustering is defined as a group of at least two patients who either fall in each other's contact group or share the same contacts. In this study, contacts are defined as household contacts, immediate neighbours and next neighbours. Further analysis of patients and general population data is currently ongoing and will be presented.

On all islands, the leprosy patients were treated with MDT according to the national guidelines. To be able to study two different regimens for prophylactic treatment (blanket treatment and contact treatment) and to have a control group, the three small islands (Pelokan, Kembanglemari and Tampaan) were combined and served as one group (1252 inhabitants, 39 leprosy cases). The two bigger islands, Sapuka (2069 inhabitants, 26 leprosy cases) and Sailus (1449 inhabitants, 26 leprosy cases) each served as one group. Sailus served as control island, where only the patients were treated with MDT. On the group of three small islands 79% of the population (persons without leprosy; above 5 years and without contraindication) received prophylactic treatment with rifampicin. On Sapuka contacts of patients (household contacts, immediate neighbours and next neighbours), 17% of the population, received prophylactic treatment. During the delivery of the prophylactic treatment of both groups 73% took the medication direct (under supervision) and 27% indirect. This prophylactic treatment will be repeated after 4 to 5 months.

During screening (intravenous) blood and nasal-swabs were collected of everybody above five years. This (including the screening) will be repeated every year for the coming three years. This will enable us to follow-up the effects of the different regimens for prophylactic treatment on the incidence and transmission of leprosy.

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## Ep 400

### COMPARISON OF OCCURRENCE OF LEPROSY AMONG CONTACTS AND GENERAL POPULATION

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#### Objectives

1. To describe the demographic characteristics of leprosy cases detected from contacts and general population.
2. To study case yield in contacts and non-contacts.

#### Design

Comparative retrospective study. All the contacts who were registered from 1997 to 1999 and general population are taken into account.

#### Settings

All leprosy cases from contacts and general population are taken. Study has taken into account records available with Leprosy Control Unit, Philadelphia Leprosy Hospital, Salur of Andhra Pradesh.

#### Main indicators and outcome measures

Case yield between contacts and general population is compared.

#### Results

1. Case yield from contacts is : 2. Case yield from non contacts is : No. of cases among contacts = 0.57% No. of cases = 0.20%

Total no. of contacts Total population examined

#### Conclusion

Case yield from contacts is approximately three times higher than non-contacts. It validates the need for motivation and careful examination of all contacts and also proves the contacts are at a higher risk of developing disease.

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## CI 01

### KALA-AZAR (PKDL) IN LEPROSY ENDEMIC REGION

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Dharbanga district in Bihar, India is known to be endemic for Leprosy and Kala-Azar. Post Kala-Azar Dermal Leishmaniasis (PKDL) is also common in this region. Many people with PKDL present with multiple hypo-pigmented skin patches (flat or raised) resem-