

# Is leprosy being diagnosed efficiently at the primary health care level?

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*Sri Lanka Journal of Dermatology*, 2005, 9, 18-19

## Abstract

Sri Lanka reached elimination level in leprosy almost a decade ago. In 2001, the diagnosis and the management of leprosy has been decentralized and medical officers throughout the country have been given a training prior to being handed over the responsibility of managing leprosy on their own. Almost 3 years into the current programme, at the National Hospital of Sri Lanka, we continue to see many patients with leprosy who had been missed at the primary health care level.

This study aimed to determine the number of primary care consultations a leprosy patient had had before the correct diagnosis is made, and to correlate their clinical features with the delay in diagnosis.

54 patients were enrolled in the study; 29 with paucibacillary (PB) leprosy and 25 with multibacillary (MB) leprosy. 32 (59.25%) patients had been seen by doctors previously, with an average number of consultations of 1.71. The average number of consultations for PB patients was 1.05 while MB patients had been to 2.47 doctors on average. 42 patients were diagnosed clinically while 12 needed histological confirmation before starting therapy. Only 2 patients in the histologically diagnosed group had MB leprosy indicating that the majority of patients with MB leprosy can be diagnosed clinically.

Considering the fact that many patients with clinically diagnosable leprosy are missed at first contact level, we recommend that the education of medical officers on diagnosis of leprosy be more streamlined.

## Introduction

Leprosy is no longer considered a major health problem in Sri Lanka as, according to WHO recommendation; we have reached elimination level (incidence rate 1 per 10,000 population) in the late 1990's. In 2001 the responsibility of diagnosing and managing patients with leprosy was handed over to medical officers throughout the country. These medical officers were trained on diagnosis and management of leprosy beforehand. More than 3 years after this programme came into effect; we still continue to see a large number of leprosy patients who have been misdiagnosed by several doctors before coming to the Dermatology Unit, NHSL. This study aimed to ascertain the gravity of this situation.

## Objectives

1. To determine the number of primary health care consultations a patient has had before the diagnosis of leprosy is made
2. To correlate the clinical features and type of leprosy with previous consultations
3. To make recommendations regarding education of medical officers on leprosy

## Patients and methods

All the patients who were started on MDT blister packs from 1st May 2004 to 30th November 2004 at the Dermatology Unit, NHSL were included in the study. Data were collected using an interviewer-administered questionnaire at the time they were registered for MDT. Data on clinical features and investigations were collected using clinic notes and BHTT.

## Results

54 patients were enrolled in the study, with 34 males and 20 females. Their ages ranged from 8 to 75 years with a mean of 37.4 years. The mean duration of symptoms was 26.1 months.

29 (54%) patients had paucibacillary (PB) leprosy while 25 (46%) had multibacillary (MB) disease. The commonest clinical feature, hypopigmented patch, was seen in 49 (89.1%) patients. The other features were; plaques, nodules, leonine facies, numbness or weakness and trophic ulcers. 4 patients had reactions at the time of diagnosis.

42 (77.8%) patients were diagnosed on clinical grounds alone and started on therapy, while in 12 (22.2%) histological confirmation was needed before commencing MDT. Out of the 12 patients who needed histological confirmation only 2 had MB leprosy highlighting the fact that MB leprosy is clinically diagnosable in the majority of patients.

Out of these patients 32 (59.25%) had been to at least one doctor before being started on treatment. The total number of consultations was 70 with an average

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number of 1.71 consultations per patient. The breakdown of these consultations is given in table 1. The "other" category included consultations with doctors abroad.

**Table 1. Breakdown of previous consultations**

| Type of consultation                   | Frequency |
|----------------------------------------|-----------|
| General practitioner                   | 24        |
| Medical officer at government hospital | 22        |
| Ayurvedic practitioner                 | 9         |
| Consultant (other than Dermatologist)  | 1         |
| Other                                  | 14        |
| Total                                  | 70        |

In the category of patients who had had previous consultations, 14 had paucibacillary leprosy and 18 multibacillary disease. The average number of consultations for PB patients was 1.05 while the average MB patient had been seen by 2.47 doctors. There was no statistical significance between the two groups due to the relatively small sample size.

**Conclusions**

The commonest presentation of leprosy in this group of patients was the hypo-pigmented patch.

The diagnosis of leprosy has been missed in a considerable number of occasions. The majority of these consultations were with general practitioners and medical officers at government hospitals.

Patients with multibacillary leprosy have had more consultations than those with paucibacillary leprosy. Most of the patients with multibacillary leprosy whose diagnosis was previously missed could have been diagnosed clinically.

**Discussion**

The diagnosis of leprosy is based mainly on clinical signs even though several investigations like skin smears, histopathology of skin lesions and nerve conduction studies can be used to help in difficult situations. According to the WHO guidelines<sup>1</sup> a case of leprosy is a person having one or more of the following features, and who has not yet completed a full course of treatment.

- ❖ Hypopigmented or reddish skin lesion(s) with definite loss of sensation

- ❖ Involvement of the peripheral nerves as demonstrated by loss of sensation and weakness of the muscles of hands, feet or face
- ❖ Skin smear positive for acid-fast bacilli

It is interesting to note that the more infiltrated lesions without considerable sensory loss, which are commoner in multibacillary leprosy, are not mentioned in these guidelines. Even the training programmes aimed at primary care physicians emphasize on the hypopigmented, anaesthetic patch, which is easily diagnosed. Contrary to the widespread belief that multibacillary disease advanced enough to give rise to leonine facies is rare in Sri Lanka; we came across two patients with leonine facies within a period of 7 months. Unfortunately these patients had had a total of 8 consultations before being finally diagnosed as leprosy at the NHSL.

It is important to diagnose patients with multibacillary leprosy early, as they are the source of spreading the infection to the population. The fact that rifampicin is capable of killing 99.9% of bacteria with the first dose itself and that patients become smear negative within a few days of starting MDT<sup>2</sup> further emphasizes the importance of early treatment of multibacillary patients. Therefore it is imperative that medical officers detect MB patients early and start them on treatment.

Sixty percent of the patients in our study had been seen by other doctors before the diagnosis was made. One disturbing factor here is that patients with MB leprosy had had twice as many consultations than those with PB leprosy. One explanation is that they may have been more symptomatic prompting them to seek treatment, but nevertheless the diagnosis was more often missed in case of MB disease.

In conclusion, we recommend that medical officers be given a thorough training in the diagnosis and management of leprosy, with special emphasis on MB disease, as it is important in preventing further spread of the disease in addition to reducing the morbidity due to the disease.

**References**

1. WHO Model Prescribing Information, Leprosy. January 1998: 5.
2. Levy L, Shepard CC, Fasal P. The bactericidal effect of rifampicin on *M. leprae* in man: a) single dose of 600,900,1200 mg and b) daily dose of 300 mg. *Int J Lepr* 1976; 44: 183.