

Original Research Article

## Prevalence study of leprosy patients visiting to the medical college

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**Abstract:** Leprosy or Hansen's disease is one of the oldest and most deadly diseases. It is still considered stigma and discrimination because of the deformities it produced, mystery present in its etiology and transmission and till recently lack of effective treatment. The present study was done to study the prevalence of the leprosy patients visiting to the medical college. The study was done over a period of 1 year in the department of dermatology and medicine of the SMBT medical college, Dhamangaon, Ghoti, Nasik. Patients visiting to the department and confirming the diagnosis of leprosy were taken into consideration. Detail case history of the patients was recorded including the duration, site of lesions and other symptoms. Out of the total patients visited to the department, 31 patients were found to have leprosy. Gender-wise distribution of the patients had shown that, more number of males (54.83%) was affected as compared to females (45.16%). On comparison of the time period of leprosy patients coming to the hospital, it was found that winter months shown more number of patients as compared to the other months. There is need to increase the awareness of the leprosy in the common public, so that these patients can approach the hospitals at early stage.

**Keywords:** Hansen's disease, Leprosy, Prevalence study

### INTRODUCTION

Leprosy affects chiefly the peripheral nerves and skin and it is a chronic infectious granulomatous disease caused by *Mycobacterium Leprae*. As a single disease entity, leprosy is one of the foremost causes of deformities and crippling. The deformities can occur because of the disease process (e.g. loss of eye brows and other facial deformities), or may occur from paralysis of some muscle due to damage to peripheral nerve trunk (e.g. claw-hand, foot-drop, lagophthalmos), or can result from injuries or infection to hands or feet (e.g. scar contractures of fingers, mutilation of hands and feet, corneal ulceration) [1].

Leprosy is endemic in tropical countries, mainly in underdeveloped or developing countries. The prevalence of leprosy in the world at the beginning of 2007 was 224 717 people (3.3 per 100.000 population), and of these the most numerous in the Southeast Asian region 116 663 people (21.4 per 100.000 population) [2, 3].

The present study was done to study the prevalence of the leprosy patients visiting to the medical college.

### MATERIALS AND METHODS

The study was done over a period of 1 year in the department of dermatology and medicine of the SMBT medical college, Dhamangaon, Ghoti, Nasik. Patients visiting to the department and confirming the diagnosis of leprosy were taken into consideration. Approval of the local ethical committee was taken before start of the study. Also informed consent was taken from all the study participants. Detail case history of the patients was recorded including the duration, site of lesions and other symptoms. Also the demographic data of the patient was recorded.

### RESULTS

Out of the total patients visited to the department, 31 patients were found to have leprosy.

Gender-wise distribution of the patients had shown that, more number of males (54.83%) was affected as compared to females (45.16%). (Table 1)

More number of patients was affected of the age group of 45 and above (61.29%) as compared to the lower age groups. (Table 2)

On comparison of the time period of leprosy patients coming to the hospital, it was found that winter months shown more number of patients as compared to the other months. (Table 3)

**Table-1: Gender-wise distribution of the patients**

Gender	Number of patients	%
Male	17	54.83
Female	14	45.16
<b>Total</b>	<b>31</b>	<b>100</b>

**Table-2: Age-group wise distribution of the leprosy patients**

Age group	Number of patients	%
15 to 30	4	12.90
31 to 45	8	25.80
45 above	19	61.29
<b>Total</b>	<b>31</b>	<b>100</b>

**Table 3: Time of the diagnosis of the leprosy patient in a yearly calender**

Time diagnosed period	Number of patients	%
January – March	12	38.70
April – June	4	12.90
July – September	5	16.12
October – December	10	32.25
<b>Total</b>	<b>31</b>	<b>100</b>

**DISCUSSION**

Leprosy is a chronic granulomatous disease caused by *Mycobacterium leprae*. The disease chiefly affects the peripheral nerves, skin, mucosa of the upper respiratory tract, and the eyes. It can result in progressive deformities if left untreated, causing permanent damage to the skin, limbs, nerves and eyes. However, leprosy is a curable disease and disability due to leprosy can be averted by early diagnosis and treatment [4].

Historically, sources support an initial spread of the disease from Asia to Europe by the armies of Alexander the Great after 400 BC. Skeletal evidence for the leprosy was previously limited to 300-400 BC in Egypt and Thailand, till Robbins and colleagues reported on a case of leprosy in a skeleton showing changes associated with leprosy, buried around 2000 BC at the site of Balathal Rajasthan, India<sup>10</sup>. Early written evidence giving clinical descriptions generally accepted as being true leprosy date from 600 BC to possibly as early as 1400 BC in India, where a disease called Kushta was distinguished from vitiligo [5, 6].

It is difficult to establish the transmission of *M. leprae* in the population. Many people are infected, but only a small percentage of these (not more than 5%) ever develop clinical leprosy. As yet there is no reliable test for infection. Nasal carriage of *M. leprae* by healthy individuals has been established with polymerase chain

reaction techniques in several endemic countries, but its relevance for the transmission of the microorganism remains unclear [7, 8].

Those living in endemic areas with poor conditions such as inadequate bedding, insufficient diet, contaminated water, and or other diseases that compromise immune function are at highest risk for acquiring *M. leprae* infection [9].

However, social stigma remains a major obstacle to self-reporting and early treatment. Patients are compelled to hide their condition and avoid diagnosis, allowing a completely curable disease to worsen to the point of disfigurement [1].

**Leprosy can be caused by the following [10]:**

- Person to person-leprosy spread from person to person through infected respiratory droplets;
- Parents of someone with leprosy;
- Children of someone with leprosy;
- Brothers or sisters of someone with leprosy;
- The extent of exposure;
- Genetics;
- Environmental conditions.

Leprosy symptoms generally appear three to five years after a person becomes infected with bacteria that cause the disease.

**The symptoms usually includes [10, 11]:**

- Skin lesions that are lighter than your normal skin color;
- lesions have decreased sensation to touch, heat, or pain and lesions do not heal after several weeks to months;
- Numbness or absent sensation in the hands, arms, feet, and legs;
- Muscle weakness;
- Eye problems;
- Skin rash;
- Skin stiffness.

Different tests can be employed in the diagnosis of different type of leprosy. These includes [10, 11]:

- Lepromin skin test can be used to distinguish lepromatous from tuberculoid leprosy, but is not used for diagnosis.
- Skin lesion biopsy.
- Skin scraping examination for acid fast bacteria.

Histopathologically, skin lesions from tuberculoid patients are characterized by inflammatory infiltrate containing well-formed granulomas with differentiated macrophages, epithelioid and giant cells, and a predominance of CD4+ T cells at the lesion site, with low or absent bacteria. Patients show a vigorous-specific immune response to *M. leprae* with a Th1 profile, IFN- $\gamma$  production, and a positive skin test (lepromin or Mitsuda reaction) [9].

Access to health services regarding information, diagnosis, and treatment of leprosy with multidrug therapy (MDT) are key components of the current strategy to control the disease [4].

**CONCLUSION**

There is need to increase the awareness of the leprosy in the common public, so that these patients can approach the hospitals at early stage. Prevention is one of the measures to reduce the spread of the leprosy. Local governments should actively implement the approach to the public of the importance of healthy living.

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