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# A case study on demographic features and treatment measures of leprosy patients

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## Abstract

**Background/Objectives**: An attempt is made in this paper to find out the demographic background of the leprosy patents, facilities available to the patients toward curing/treating leprosy and treatment procedure followed by the respondents in the study area.
**Methods/Statistical analysis:** Convenient sampling technique is used to selection of the study area. For the purpose of the study, Salur Mandal, Vizianagaram district, Andhra Pradesh, India is selected.
**Findings:** In the study, it is observed in most cases that if the leprosy attacked at early age, then the diseased disliked going to school. Of the total patients, about 34 (94.44%) were related to Multibacillary leprosy (MB) and 2 (5.56%) were Paucibacillary patients. About 77.78 per cent were getting entire treatment for free of cost/any additional expenses involved and 36.11 % patients have MCR foot wears. About 69.44 % of the respondents were cured of leprosy related secondary complications. According to 50 per cent of the patients, reconstructive Surgery facilities are also available to them. But artificial Limbs are not supplied at required manner. The study suggests that the respondents' age may play an important role in expressing stigma arising as a consequence of their misconceptions.
**Improvements/Applications:** Therefore, health education messages need to be age-specific to effectively target the intended audience and address the specific misconceptions identified by the study as giving rise to stigmatizing behaviours among the selected subpopulation.

***Keywords***: Demographic Background, Health Education, Leprosy, Treatment, WHO

## 1. Introduction

Leprosy is a contagious infectious disease that manifests due to unfavorable socioeconomic factors, endemic levels and individual conditions. This study aimed to recognize the socioeconomic and demographic profile and degree of incapacity installed in leprosy carriers. Leprosy is one of the oldest diseases known to humankind. It is also known as Hansen's disease, named after Norwegian physician, Gerhard Henrik Armauer Hansen, who debunked the prevailing notion of the time that leprosy was a hereditary disease. He showed that the disease had a bacterial cause instead [1]. Leprosy (Hansen's disease) is caused by *Mycobacterium leprae* which was one of the first bacteria to be incriminated as a cause of human disease [2]. According to some ancient transcripts the patients were confined to huge dungeons or wells and even tortured and stoned to death if they tried to enter the cities [3]. Leprosy is acquired by prolonged contact with patients of lepromatous leprosy who discharge M. *leprae* in large numbers in nasal secretions and from skin lesions [4]. Despite its low communicability leprosy remains endemic among an estimated 10 to 15 million people living in poor tropical countries. [5]

## 2. Magnitude of leprosy cases

The first attempt to deal with leprosy as a public health problem was taken up in 1952 by the Gandhi Memorial Leprosy Foundation (GMLF), an institution started under the Gandhi Memorial Trust. At that time, the only method to deal with the disease was to isolate leprosy patients in "leprosy homes" "sanatoria" or "asylums" [6] The aim of

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World Leprosy Day is to change this attitude and increase public awareness of the fact that leprosy can now be easily prevented and cured. The date for World Leprosy Day was chosen to coincide with the anniversary of Indian freedom fighter, Mahatma Gandhi's assassination on January 30, 1948. During his lifetime, Mahatma Gandhi worked tirelessly towards the betterment of people afflicted with leprosy.

While the country is celebrating its near victory over polio, leprosy continues to haunt the nation. India still tops the world in 2014 in new cases of leprosy**.** India still ranks first in new cases of leprosy. The latest available data from the World Health Organisation (WHO) indicate that India accounted for 134,752 new cases out of a total worldwide of 232,857. South Asia and Southeast Asia come first with 71 per cent of new cases (166,445), followed by the Americas with 16 per cent (36,178); Africa, 9 per cent (20,599), the Eastern Mediterranean, 2 per cent (4,235), and the Western Pacific, 2 per cent (5,400). According to the WHO, this trend is due to two factors: new health programmes in areas not previously covered brought forth data unavailable before and a drop in the number cases led many governments to cut national programmes and related health services, undermining monitoring.

## 3. Importance of the present study

Leprosy patients not only suffer because of their disease but also due to the deeply rooted age-old attitudes and behavior of family, society and community members relating to disease. The fears and the prejudices regarding the disease of leprosy and leprosy patients remain ingrained and persistent. The people are ignorant about the various stages of the disease which remains hidden from the socially till the end product of deformity and social exclusion. Although, leprosy is easily treatable and no costs to the patients but still people consider leprosy as a public as well as social health problem at a national level. Leprosy was never considered as a 'disease' like other diseases. According to the literature survey in India, leprosy is considered as a condition caused due to wrath of supernatural forces or sins committed. Therefore, in case of India more than leprosy as a disease, the patients face the disease of 'stigma' social death at family, community, society and work places. Hence, the patient is deprived of bio-psychic needs of affection and belongingness particularly due to deformities caused by Leprosy as compared to other diseases. Thus, proper awareness, facilities and curable efforts of leprosy is badly needed. Regarding, the present study is conducted with the following objectives.

## 4. Material and Methods

### 4.1. Objectives and methodology

- To study the social background of the leprosy patents
- To find out the facilities available to the patients for curing/treating leprosy and
- To study the treatment procedure followed by the respondents in the study area

### 4.2. Sampling design

Patients were the target group in this study rather than general population because they face entire socio economic problems either directly or indirectly. For the purpose of the study, Salur Mandal of Vizianagaram district, Andhra Pradesh, India is selected. ***Cluster sampling method*** is adopted while selecting the study area and the patients. The entire 36 leprosy patient are selected from the Mandal. Information was obtained by using a structured questionnaire, designed in English, containing both open and close ended questions. The questionnaire was translated into Telugu and then re-translated into English. Apart from the tabular analysis, *Percentages and pie diagram method are* used at appropriate places. Cross section analysis method is followed in the explanation of some tables in the study.

## 5. Results of the study

### 5.1. Demographic profile of the leprosy patients

In fact, higher age showed an increased risk, with a bimodal distribution and it can attack any person irrespective of gender and age. The following table 1 reveals the distribution of leprosy patients by their gender, age, educational qualifications and occupation.

Age and gender is an important socio-economic factor of any human group. It plays an important role in decision making, earning and pursuing any activity. But higher age showed an increased risk especially the leprosy. The table

shows that about 75 % of the patients are male and remaining are female. Meanwhile, majority of the patients are under the age group of 41-60 years recorded by 44.44 % followed by above sixty years group, 21-40 years and up to 20 years age group. Thus, it can be said that leprosy spreads to all the age groups and everybody should protect themselves from the impending leprosy disease.

*Table 1. Demographic Profile of the Leprosy Patients*

| S.no/description | Demographic issues | Number | Frequency |
|---|---|---|---|
| Gender | | | |
| 1 | Male | 27 | 75.0 |
| 2 | Female | 09 | 25.0 |
| 3 | Total | 36 | 100.0 |
| Age | | | |
| 1 | 0-20 | 4 | 11.11 |
| 2 | 21-40 | 5 | 13.89 |
| 3 | 41-60 | 16 | 44.44 |
| 4 | Above 60 | 11 | 30.56 |
| Educational status | | | |
| 1 | Illiterates | 23 | 63.89 |
| 2 | Primary | 9 | 25.0 |
| 3 | Secondary | 3 | 8.33 |
| 4 | Graduate | 1 | 2.78 |
| 5 | Post graduate | - | - |
| 6 | Professional/technical | - | - |
| Occupation | | | |
| 1 | Unemployed | 3 | 5.56 |
| 2 | Agrl.Labour | 10 | 27.78 |
| 3 | Govt. Employee | 3 | 8.33 |
| 4 | House wife/student | 3 | 8.33 |
| 5 | Farmer | 6 | 16.67 |
| 6 | Business | 1 | 2.78 |
| 7 | Others | 10 | 27.78 |

Source: Field Survey

Education gives knowledge and understanding capacity, sense of independent judgment and power to distinguish between the good and the bad. Education is an instrument of socio-economic change. However, disability with leprosy breaks education as well as contributes in socio, cultural and economic activities. In most cases, it is observed that if the leprosy attacked at early age, then the diseased are dislike to go to school. In this process leprosy may treat as a social evil. Therefore, an attempt is made to identify the educational status of respondents and the results are presented in table 1. According to the table, about 63.89 per cent of the respondents are illiterates, 25 % have primary education and 8.33 per cent possessed secondary education and 2.78 per cent of the respondents' possessed graduation.

### 5.2. Distribution of patients by their disability

Leprosy can be classified on the basis of clinical manifestations and skin smear results. In the classification based on skin smears, patients showing negative smears at all sites are grouped as Paucibacillary leprosy (PB), while those showing positive smears at any site are grouped as having Multibacillary leprosy (MB).Contacts of patients with Paucibacillary (PB) leprosy with 2-5 lesions (PB2-5) and those with Multibacillary (MB) leprosy had a higher risk than did contacts of patients with single-lesion PB leprosy. The core household group had a higher risk than other contacts living under the same roof and next-door neighbors, who again had a higher risk than neighbors of neighbors. A close genetic relationship indicated an increased risk when blood-related children, parents, and siblings were pooled together. Leprosy attacks the nerves in the cooler parts of the body, particularly those that relate to the hands, feet and face. The result is a loss of sensation in these areas meaning a person is at much greater risk of injury as they cannot feel pain.

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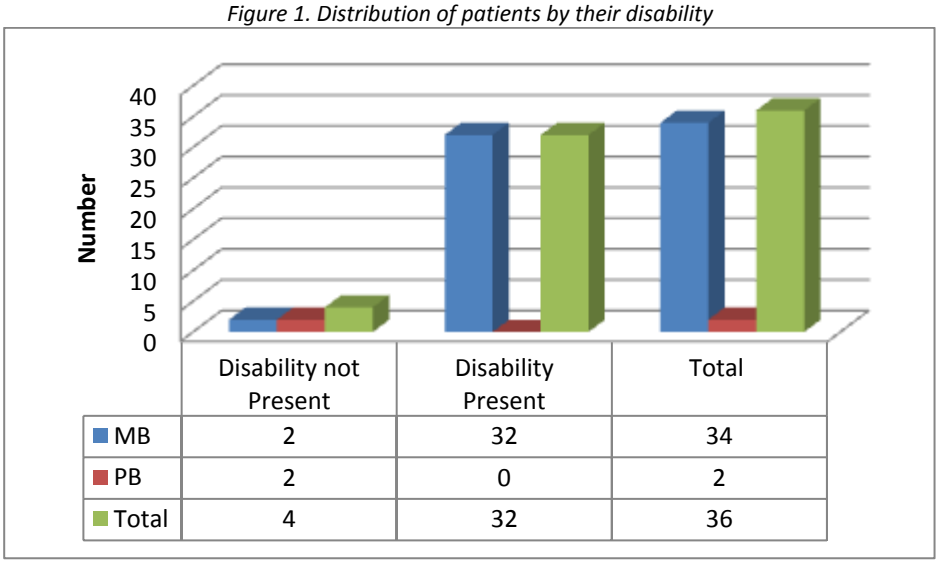
*Figure 1. Distribution of patients by their disability*

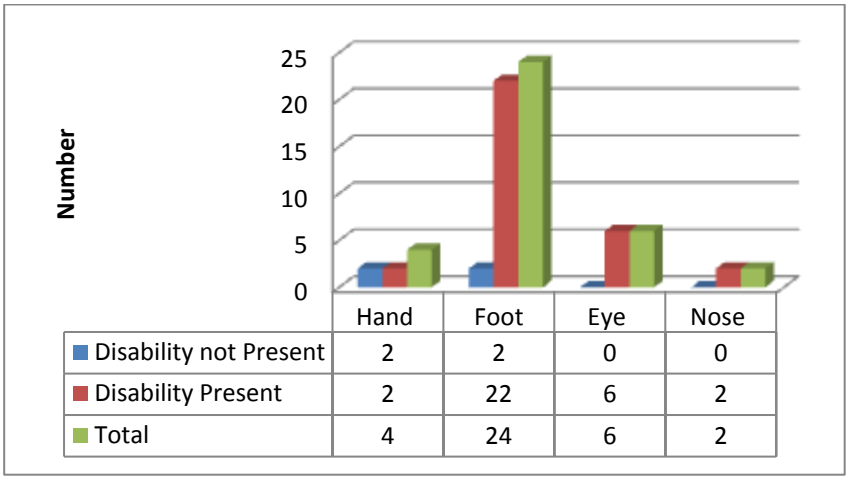



| | Disability not Present | Disability Present | Total |
|---|---|---|---|
| MB | 2 | 32 | 34 |
| PB | 2 | 0 | 2 |
| Total | 4 | 32 | 36 |

Source: Field Survey

Figure 1 gives the details about the distribution of patients by their disability. Of the total about 34 were related to Multibacillary leprosy (MB) and 2 were Paucibacillary patients.

*Figure 2. Distribution of patients according to the site affected*




| | Hand | Foot | Eye | Nose |
|---|---|---|---|---|
| Disability not Present | 2 | 2 | 0 | 0 |
| Disability Present | 2 | 22 | 6 | 2 |
| Total | 4 | 24 | 6 | 2 |

Source: Field Survey

Figure 2 explains the distribution of patients according to the site affected. About 4 patients out of 36 patients are not recorded as not present the disability which has affected on hands and feet. Disability present to 32 patients on hands (2 members) foot (22 members), eye (6 members) and nose (2 members) respectively. It is found that disability presents to as many as patients on foot.

*Table 2. Patients' perception on treatment availability*

| | Patients' perception | YES | No | Total |
|---|---|---|---|---|
| 1 | Start taking the treatment | 36(100.0) | 0 | 36(100.0) |
| 2 | Medicine for leprosy always available when visited the hospital/PHC | 32(88.89) | 4(11.11) | 36(100.0) |
| 3 | Taking medicine regularly | 32(88.89) | 4(11.11) | 36(100.0) |

Source: Field Survey

It is clear from the table 2 that cent per cent of the patients said that they start taking the treatment and 88.99 viewed that medicine for leprosy always available when visited the hospital/PHC and taking medicine regularly.

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*Table 3. Patients' perceptions on Facilities available to treatment*

| | Patients' Perceptions | YES | No | Total |
|---|---|---|---|---|
| 1 | Know the PHC as a leprosy treatment center | 36(100.0) | 0 | 36(100.0) |
| 2 | Leprosy related secondary complications among leprosy cured | 25(69.44) | 11(30.56) | 36(100.0) |
| 3 | Available facilities for dressing of ulcers | 36(100.0) | 0(0.0) | 36(100.0) |
| 4 | Entire treatment is free of cost/any additional expenses involved | 28(77.78) | 8(22.22) | 36(100.0) |
| 5 | MCR foot wears | 13(36.11) | 23(63.89) | 36(100.0) |
| | Supplying artificial Limbs | 2(5.56) | 34(94.44) | 36(100.0) |
| | Available reconstructive Surgery | 18(50.0) | 18(50.0) | 36(100.0) |

Source: Field Survey

While asked the respondents regarding facilities available to the patients, they were given a mixed response (table 3). Cent per cent of the respondents are known the PHC as a leprosy treatment center, and getting facilities for dressing of ulcers. About 77.78 per cent were getting entire treatment at free of cost/any additional expenses involved and 36.11 % patients have MCR foot wears. About 69.44 % of the respondents were cured leprosy related secondary complications. According to 50 per cent of the patients, reconstructive Surgery facilities are also available to them. But artificial Limbs are not supplied at required manner according to the study.

## 6. Conclusions

Leprosy is one of the oldest diseases known to humankind. Leprosy patients not only suffer because of their disease but also due to the deeply rooted age-old attitudes and behavior of family, society and community members relating to disease. In most cases, it is observed that if the leprosy attacked at early age, then the diseased dislike going to school. In this process leprosy may be treated as a social evil. In the study area, of the total patients, about 34 (94.44%) were related to Multibacillary leprosy (MB) and 2 (5.56%) were Paucibacillary patients. Cent per cent of the respondents are known the PHC as a leprosy treatment center, and getting facilities for dressing of ulcers. About 77.78 per cent were getting entire treatment at free of cost/any additional expenses involved.

It is found from the study that younger respondents had less than adequate knowledge of leprosy compared to the older age groups. The study also suggests that the respondents' age may play an important role in expressing stigma arising as a consequence of their misconceptions. Therefore, health education messages need to be age-specific to effectively target the intended audience and address the specific misconceptions identified by the study as giving rise to stigmatizing behaviours among the selected subpopulation. The rehabilitation and reintegration of patients cured of leprosy is an important aspect of the leprosy elimination programme. Disabled persons with skills have better chances of overcoming societal prejudices and achieving social acceptance

## 7. Acknowledgement

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