

Epidemiological, clinical and therapeutic profiles of leprosy-related infirmities in the care sites of the city of Conakry (Guinea)

Moussa Keita¹, Thiero Mamadou Tounkara¹, Mohamed Macire Soumah¹, Boh Fanta Diané¹, Fatimata Keita¹, Issiaga Camara¹, Mamadou Djoulde Kanté¹, Moussa Savané¹, Vamala Guilavogui², Mohmed Soufiyane Kaba³, Mohamed Cissé¹

¹Service of Dermatology-STD, Conakry University Hospital, Gamal Abdel Nasser University of Conakry, Guinea, ²Service of Neurology, Conakry University Hospital, Gamal Abdel Nasser University of Conakry, Guinea, ³Madina Dispensary, National Leprosy Program, Ministry of Health, Guinea

Corresponding author: Moussa Keita, MD, E-mail: moussabenmoussak@gmail.com

ABSTRACT

Background: Infirmity is a change in the structure and functioning of certain parts of the body. Although it has disappeared in many countries, leprosy is still the source of significant physical and social repercussions. The objectives of this study were to determine the frequency of infirmities, describe the demographic profile, identify the types of infirmities and evaluate therapeutic management. **Materials and Methods:** This was a retrospective study carried out from January 2000 to December 2013 based on the records of leprosy patients registered in eight treatment centers in the city of Conakry. The criteria for defining primary and secondary infirmities and the degree of disability recommended by WHO were used. We included all cases of leprosy infirmities documented during the study period. **Results:** We identified 120 cases of infirmity out of 454 cases of leprosy, a frequency of 20.9%. These were 71 men and 49 women with a sex ratio of 1.44. The average age was 39.5. The age group of 15-24 (30.83%) was the most affected. The maximum prevalence was 25 cases in 2010 with a prevalence rate of 0.32 per 10,000 inhabitants. A maximum of 15 cases were detected in 2009 with an incidence rate of 0.19 per 10,000 inhabitants. 80 patients (66.66%) had no history of leprosy. 69 patients (58%) had secondary infirmity and degree 2 disability. Multibacillary forms (87.5%) predominated over paucibacillary forms (12.5%). 38 patients (31.66%) had a type II leprosy reaction. 54 of our patients received only antileprosy combination chemotherapy, but 22.5% were subjected to general corticosteroid therapy. **Discussion:** The predominance of secondary disabilities reflects late detection and the weakness of the disability prevention program. While the high proportion of disability reflects the severity of leprosy and should attract the attention of the authorities in charge of the fight against leprosy. **Conclusion:** These disabilities can be prevented by early diagnosis and management of leprosy and by strengthening disability prevention and physical rehabilitation program for leprosy patients.

Key words: Infirmities; Leprosy; Epidemiological; Clinical; Therapeutic; Conakry.

INTRODUCTION

Infirmity is a change in the structure and functioning of certain parts of the body [1]. Leprosy, although it has disappeared in many countries of the world, is still the source of significant physical and social repercussions [2]. Currently, two to three million cured

patients are carriers of infirmity related to leprosy [3]. Every year 12,000 to 14,000 new cases with Level 2 disabilities are detected worldwide between 2004-2008, the percentage of leprosy patients with Level 2 disabilities is 2.8% in India, 13.1% in Yemen and 22.1% in China [4]. In 2012, the World Health Organization (WHO) reported 0.25% of new cases with a Level 2

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disability. In Africa, leprosy has been rampant for a long time, and is the cause of multiple mutilations and disabilities that lead to problems of socio-professional integration [3]. Thus in Côte d'Ivoire, Koffi M and al [5] reported during a national survey, a frequency of infirmity of 30% in 1999 against 35.7% in 1998. In the Democratic Republic of Congo in 2004, the national program for the elimination of leprosy notified more than 10,000 patients with disabilities due to leprosy [6]. From 2011 to 2015, WHO's goal in its global strategy was to reduce the number of patients with Grade 2 disabilities by screening and treating them as early as possible [4,6,7]. The objectives of this study were to determine the frequency of leprosy-related infirmities, describe the demographic profile of patients and identify the different types of infirmities.

MATERIALS AND METHODS

This was a retrospective descriptive study conducted from January 2000 to December 2013 based on the records of leprosy patients registered in eight care centers in the city of Conakry.

We used the criteria for defining primary and secondary infirmities and degree of disability recommended by the WHO [6].

The following were considered primary infirmities:

- dry skin affecting the hands, feet and legs
- anesthesia affecting the eyes, hands and feet
- muscle weakness affecting the face, eyes, hands and feet

The following were considered secondary infirmities:

- lagophthalmia and decreased visual acuity
- ulceration, clawed fingers, muscle wasting and amputation touching the hands.
- plantar perforating disease, clawed toes, muscle wasting and amputation affecting the feet.

Included in our study were all cases of leprosy infirmities documented and registered for therapeutic management between 2000 and 2013.

Data collection was based on a pre-established survey sheet. The variables studied were management centers, epidemiological data (frequency, prevalence and prevalence rate by year, overall prevalence, incidence and incidence rate by year) demographic data (age, sex, geographical origin, mode of admission), clinical data (history of leprosy, degree of infirmity, type of infirmity,

form of leprosy, type of leprosy reaction), therapeutic data (therapeutic management of infirmities).

All the procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the 2008 revision of the Declaration of Helsinki of 1975.

RESULTS

We recorded 120 cases of leprosy infirmities over a period of 14 years, a prevalence of 20.9%. These were 71 men and 49 women with a sex ratio of 1.44, the average age was 39.5 with extremes of 5 and 70 years. The prevalence of disabilities increased irregularly from 2000 to 2013 with a peak of 25 cases in 2010 and a prevalence rate of 0.25 per 10,000 inhabitants. The annual detection rate of infirmity has always remained below 1 case per 10,000 inhabitants and ranged from 0.7 cases per 10,000 inhabitants to 0.19 cases per 10,000 inhabitants (Figs. 1 and 2) illustrate the evolutionary trends in cases of infirmity). The proportion of the young population affected was 38.83%. Depending on the geographical origin, most of the patients came from the municipality of Matoto (31.66%). The majority of patients (64.16%) were transferred, 80% of patients had no history of leprosy. 69 patients (58%) had secondary infirmity and degree 2 disability (Fig. 3). Multibacillary

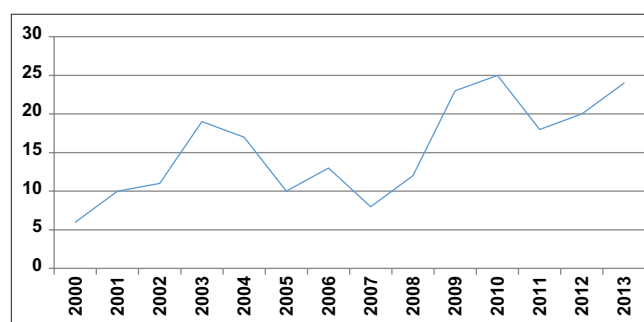


Figure 1: Prevalence of leprosy infirmities from 2000 to 2013.

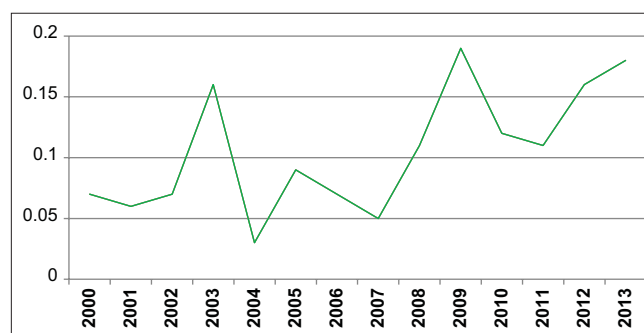


Figure 2: Incidence rate of new disabilities from 2000 to 2013.

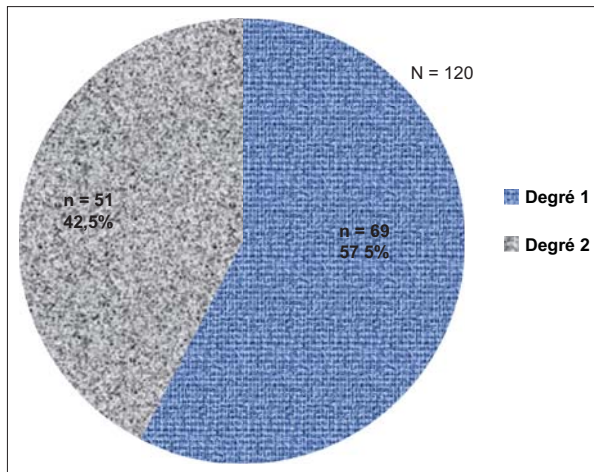


Figure 3: Distribution of disability cases by degree of disability.

forms (87.5%) predominated over paucibacillary forms (12.5%). 38 patients (31.66%) had a type II leprosy reaction. 54 of our patients received only antileprosy polychemotherapy, compared to 22.5% were subjected to general corticosteroid therapy.

DISCUSSION

In order to describe the profile of leprosy-related infirmities in the city of Conakry, we conducted a descriptive retrospective study over a period of 14 years from the records of leprosy patients in the management sites of the city of Conakry. The retrospective nature of the study and the absence of a center specializing in the management of infirmities were the limitations of this study. The results obtained cannot be exhaustive, as the study only took into account cases of leprosy infirmity recorded in large management sites. They cannot therefore represent all leprosy patients in Guinea but, however, give an idea of the profile of infirmities during leprosy in the capital Conakry even if we can have reservations about the correct notification of cases in certain structures. With a frequency of 20.9%, our study proves that leprosy-related infirmities are not uncommon in the city of Conakry. We didn't find an obvious reason for the male predominance seen in our series. Is it a biological factor related to sex? Or differential risk related to differences access to care? However, some studies [8,9]. Often showed better access to health services for men. According to the geographical origin, only 5% of our patients came from the cities of the interior of the country. This demonstrates the existence of leprosy treatment centres at the level of basic health facilities in the city of Conakry and in the interior of the country. 64.16% of patients were transferred from the Madina center to

the other leprosy treatment centers. 64, 16% of patients were transferred from the Madina center to the other leprosy treatment centers. This result would explain the geographical proximity of patients to leprosy care centers in some health facilities in the city of Conakry, but also their access to antileprosy polychemotherapy. In our series, 80 patients (66.66%) had no history of leprosy. We did not find a clear link between whether or not leprosy was transmitted from one generation to the next. The study done on the heredity of leprosy showed the importance of prophylactic measures in reducing transmission. But also the role that anti-leprosy combination chemotherapy plays in reducing contagion [10]. During our study, 69 patients (58%) were diagnosed at the stage of degree 2 of disability according to the WHO classification. This result is higher than that of Kombate K and al [11] in Togo in 2017 and that of Keita M and al [12] in Guinea in 2021. This high rate should emphasize early detection of patients. Secondary infirmities accounted for 58% in our study. This observed predominance could be explained by late screening for leprosy but also by the weakness of disability prevention and physical rehabilitation programs for leprosy patients. In our study, we noted a predominance of multi-bacillary leprosy or 87.5%. This trend is also found in the series of Verma K and al [13] in Shimla (India) and Saka B [14] in Lomé. Multibacillary patients reflect the intensity of contact with leprosy in the population. Our result is in favor of an increase in transmission. During our study, we noted a predominance of type 2 leprosy reactions (31.66%). This predominance could be explained by the high frequency of multibacillary leprosy in our patients. This result is lower than that found by Keita M et al [15] in Conakry who reported 97% of type 2 leprosy reactions. Therapeutically, 54 of our patients received only antileprosy polychemotherapy, but 55% were subjected to other treatments (general corticosteroid 22.5%) than antileprosy polychemotherapy. This meant that not all patients who had leprosy reactions were subjected to general corticosteroid therapy, the fault of the medical staff? Or to the sick? The study being retrospective could not explain this. Our result is lower than that of Baldé Y et al [16] who reported in 2011, 121 cases (79.6%) of corticosteroid therapy out of 153 patients with leprosy reactions.

CONCLUSION

The high proportion of secondary disabilities as well as that of the young population affected and the

predominance of multibacillary forms suggest the need to continue efforts in early detection and management and capacity building of the disability prevention and physical rehabilitation program.

Statement of Human and Animal Rights

All the procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the 2008 revision of the Declaration of Helsinki of 1975.

Statement of Informed Consent

Informed consent for participation in this study was obtained from all patients.

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