

Male-female (sex) differences in leprosy patients in South Eastern Nigeria: females present late for diagnosis and treatment and have higher rates of deformity

E. S. PETERS & A. L. ESHIET

Department of Medicine, University of Calabar Teaching Hospital, PMB 1278, Calabar, Nigeria

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Summary A study was undertaken to investigate the possibility that female leprosy patients in South Eastern Nigeria may be at a disadvantage with regard to early presentation for diagnosis and the prevention of disability. A hospital-based retrospective examination of case notes for the period 1988–1997 was undertaken, totalling 2309 adult patients of whom 1527 (66%) were male and 782 (33%) were female (confirming the usual 2:1 male:female ratio for this disease). Data were collected on 1) the clinical type of leprosy, 2) the interval between the onset of symptoms or signs and presentation for diagnosis and treatment and 3) the patterns of physical deformity/disability. The results indicate that in this part of Nigeria, female leprosy patients have a much longer period (duration of illness) between first symptoms or signs and presentation for diagnosis, compared with males; on average, the period before diagnosis in women was almost twice as long as that in men. Furthermore, they suffered a higher proportion of disabilities. There was no evidence to support discrimination against females with leprosy by the health staff or community and female health workers were available in both hospital and primary health care centres to receive and examine female patients. The Discussion refers to the many studies already published on gender issues, identifying a wide range of social, cultural and economic variables attributed by social structure to men and women, and including the impact of stigma, which may be particularly damaging to women in some situations. The main factors that account for late presentation of females with leprosy in this area have however still to be defined. The consequent higher proportion of disability/deformity in women is obviously of considerable concern, underlining the need for further clinical and social research in this part of Nigeria.

Introduction

Nigeria has made good progress in recent years in the control of leprosy under the National Tuberculosis and Leprosy Control Programme (NTBLCP).¹ From a prevalence of 65,010

Correspondence to: E. S. Peters

cases in 1992 (7.1 per 10,000 of the population), there are currently 7128 (0.5 per 10,000 of the population) and since 1996 there has been 100% coverage of all known and newly diagnosed leprosy patients with multiple drug therapy (MDT) as advised by the World Health Organisation (WHO) in 1982.² Unfortunately, yearly incidence (case detection) rates remain relatively high and the disease is still clearly endemic in some parts of Nigeria, including the South Eastern region. A recent study has confirmed that early presentation for diagnosis and treatment is still a problem and that detection rates are lower for women, especially in the rural areas.³ Other authors have indicated that women are less aware of the causation and symptoms of leprosy and have less access to health care coverage than men, thus contributing to their delay in seeking treatment.^{4,5} A similar situation has been reported from Nigeria.⁶ Furthermore, in the traditional societies in most parts of this country, help-seeking by patients is often diverse and heavily influenced by personal and social factors and the influence of indigenous healers.⁷

We report here the results of a hospital-based, retrospective study, based on case records from a leprosy hospital in South Eastern Nigeria, with the main aim of investigating the possibility that women with leprosy in this part of Nigeria are at a disadvantage with regard to early detection and treatment and the avoidance of disability and deformity.

Subjects and methods

This retrospective study was carried out in a leprosy hospital located near Ekpene Obom, Akwa Ibom State, South Eastern Nigeria. The hospital serves both as primary treatment centre as well as a referral centre for the management of leprosy in the five states of the South East of Nigeria (1991 population, 12 million). The field staff also carry out contact tracing in the catchment areas. The study involved a 10-year review of adult leprosy cases presenting for treatment from 1988 to 1997.

The case notes from a total of 2309 patients consisting of 1527 (66.1%) males and 782 (33.9%) females were examined. A thorough analysis of each patient record was carried out to obtain data on age, sex, duration of illness before presentation for treatment, age at onset of illness and pattern of deformity. A standardized questionnaire was used by all staff to record information on each patient. The WHO field classification (multibacillary/paucibacillary) was used to classify the leprosy cases. Statistical analysis of the differences in values for men and women was carried out using Student's *t*-test. *P* values <0.05 were taken to be statistically significant. All data collected were analysed using EN info version 5 computer software. In view of the total of over 2000 case records in this study, together with the predictable difficulties of locating patients, no interviews were attempted. In case of difficulty in recording the interval between the onset of symptoms and first presentation for diagnosis, hospital staff were involved in the best possible interpretation of the written records.

Results

Figure 1 shows the sex distribution of patients under study on a yearly basis. Of the 2309 patients enrolled, 1527 (66.1%) were male, while 782 (33.9%) were female, giving the usual male to female ratio of 2:1.

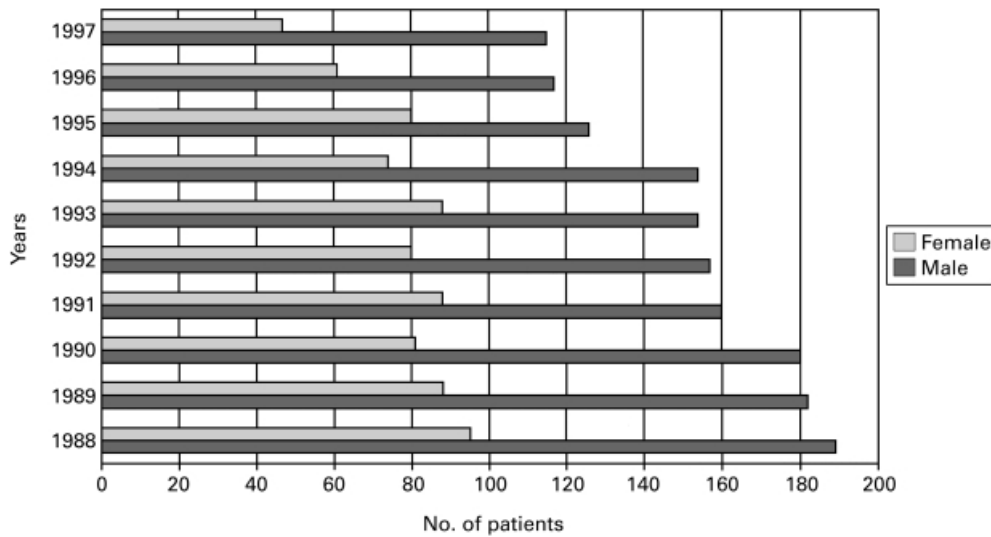


Figure 1. Yearly sex distribution of patients.

Figure 2 shows the disease classification of the study groups. A total of 1925 (83.3%) patients consisting of 1309 males and 616 females had multibacillary (MB) leprosy. The remaining 384 (16.7%) patients, made up of 218 males and 166 females, had paucibacillary (PB) leprosy.

Figure 3 shows the sex (male:female) differences in time of presentation of leprosy

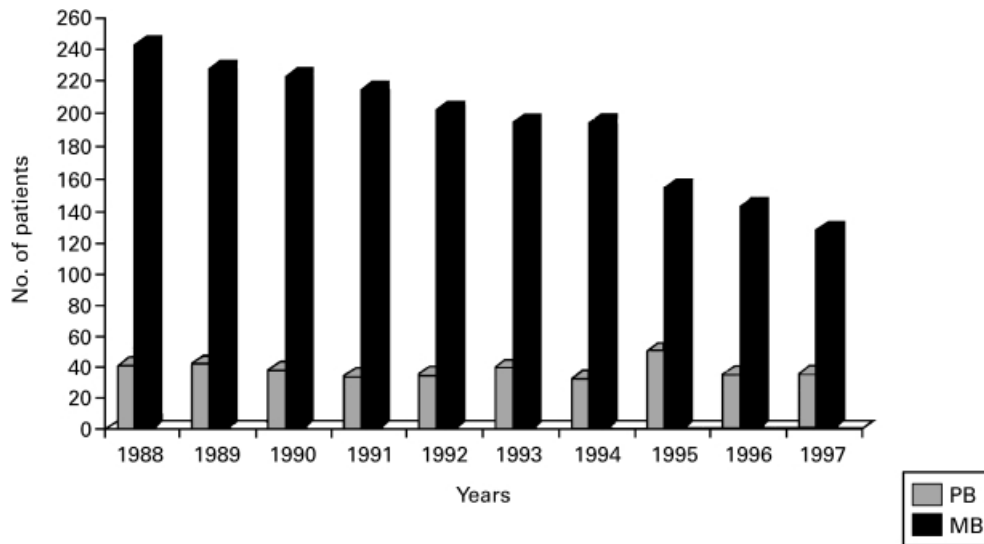


Figure 2. Disease classification of patients into multibacillary (MB) and paucibacillary (PB) leprosy.

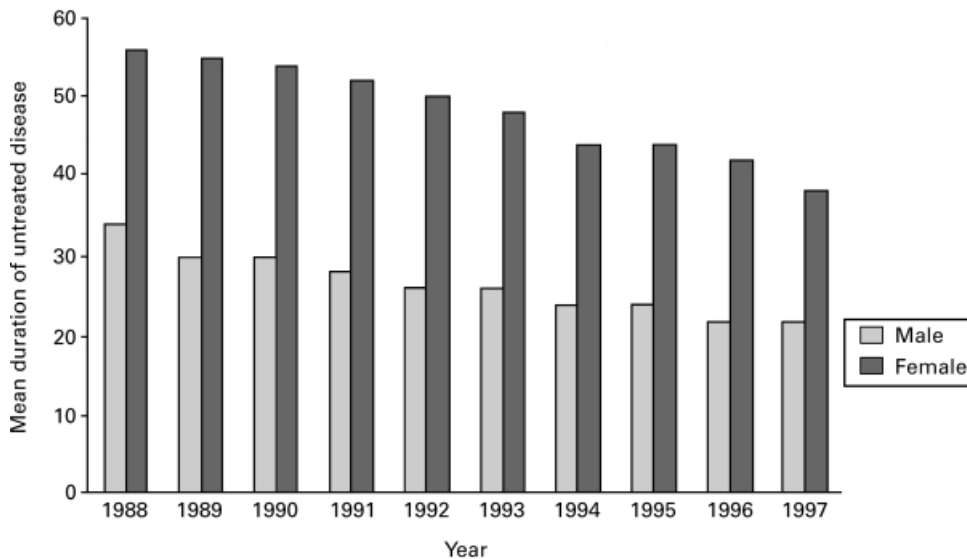


Figure 3. Sex (male:female) differences in time of presentation for diagnosis and treatment.

patients for diagnosis and treatment. Male patients clearly had a shorter duration of untreated disease as they presented early for diagnosis and treatment. Women take, on average, almost twice as long before a diagnosis of leprosy is established. ($P < 0.001$).

Table 1 illustrates the sex (male:female) differences in the deformities. In terms of absolute numbers, more male patients have various types of deformities than female patients. However, as a proportion, significantly more female patients have deformities (385 of 782, or 49%), compared with male patients (658 of 1527, or 42%) ($P < 0.05$).

Discussion

By far the most important finding of this study centres on the longer period of delay in female leprosy patients before reporting for diagnosis and treatment, compared with males. Their higher proportion of disability may reasonably be regarded as a direct consequence of this delay. Recent operational research carried out in other parts of Nigeria on factors influencing

Table 1. Sex (male:female) differences in deformities

Type of deformity/defect	Male	Female	Total no. (%)
Claw hands	92	43	135 (5.2)
Claw toes	103	65	168 (6.4)
Plantar ulcer	75	52	127 (4.9)
Palmar ulcer	67	50	117 (4.5)
Lagophthalmos/corneal ulceration/cataract	17	7	24 (0.9)
Ear and nose ulceration	56	42	98 (3.6)
Palmar insensitivity	105	66	171 (6.6)
Plantar insensitivity	143	60	203 (7.8)

the late reporting of new leprosy patients found that a low level of awareness and knowledge on the symptoms and curability of leprosy was a major factor.¹ However, no significant difference between male and female patients was reported. In attempting to find an explanation for our findings in this part of Nigeria, it has to be kept in mind that we did not address the broader issues of 'gender' or 'gender inequalities' defined as '... a wide range variety of social, cultural and economic variables attributed by social structure to men and women.'^{8,9} However, these important aspects have been covered in the literature based on studies from other parts of the world, including a series of articles and reviews, published in this journal,¹⁰⁻¹⁵ dealing with gender 'inequality', 'sensitivity' and 'differentials'. Furthermore, WHO and the International Federation of Anti-leprosy Associations (ILEP) have repeatedly drawn attention to the importance of women with leprosy in the context of health education, community participation and the paramount importance of ensuring that access to diagnosis and treatment is universally available. In its Seventh Report,¹⁶ the WHO Expert Committee on Leprosy drew attention to the need to abolish any special legal measures that might increase prejudice against leprosy and noted that in some countries the human rights problem is particularly serious among female patients. This is not the situation in any part of Nigeria, and we are not aware of faults in the attitude of health staff or the provision of female health workers to receive and examine women with leprosy. The traditional element of stigma that often characterizes this disease may be important, but our impression is that many other socio-economic factors, including social and educational status, may prevent women from seeking early diagnosis and treatment. The main factors accounting for the late presentation of females in this area are still to be defined. The consequent higher proportion of disability/deformity is obviously of considerable concern, underlining the need for further clinical and social research in this part of Nigeria.

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References

- ¹ Sofola TO, National Co-ordinator, National Tuberculosis and Leprosy Control Programme, Federal Ministry of Health, Lagos, Nigeria. Personal communication.
- ² World Health Organisation. *Chemotherapy of leprosy for control programmes*. Technical Report Series No. 675. Report of a WHO Study Group. WHO, Geneva, 1982.
- ³ Peters EJ, Ansa VO, Imanangha KK, Antia EA. Limitation of deformities by early identification and appropriate management of nerve function impairment in leprosy. Experience at a rural leprosy hospital in Nigeria. *West Africa J Med*, 2000 (in press).
- ⁴ Rao S, Garole V, Walawalkar S *et al*. Gender differentials in the social impact of leprosy. *Lepr Rev*, 1996; **67**: 190-199.
- ⁵ Ulrich NI, Zulueta AM, Caceres-Dittmar G *et al*. Leprosy in women: characteristics and repercussions. *Soc Sci Med*, 1991; **32**: 445-456.
- ⁶ Awotoso N. Effects of socio-cultural belief in patients' perception of leprosy. *Trop Geogr Med*, 1995; **47**: 175-178.
- ⁷ Weg Van de N, Post EB, Lucassen R *et al*. Explanatory models and help-seeking behaviour of leprosy patients in Adamawa State, Nigeria. *Lepr Rev*, 1998; **69**: 382-389.
- ⁸ Rathgeber EM, Viassof C. Gender and tropical diseases: a new research focus. *Soc Sci Med*, 1993; **37**: 513-520.
- ⁹ Viassof C. Gender inequalities in health in the third world: uncharted ground. *Soc Sci Med*, 1994; **37**: 1249-1259.

- ¹⁰ Richardus JH, Mema A, Crofy RP, Habbema JDF. Case detection, gender and disability in leprosy in Bangladesh, a trend analysis. *Lepr Rev*, 1999; **70**: 160–173.
- ¹¹ Robertson LM, Nicholls PG, Butlin R. Delay in presentation and start of treatment in leprosy: experience in an out-patient clinic in Nepal. *Lepr Rev*, 2000; **71**: 511–516.
- ¹² Le Grand A. Women and leprosy: a review. *Lepr Rev*, 1997; **68**: 203–211.
- ¹³ Bainson KA, Van den Borne B. Dimensions and process of stigmatisation in leprosy. *Lepr Rev*, 1998;**69**: 341–350.
- ¹⁴ Shale MJH. A woman with leprosy is in double jeopardy. *Lepr Rev*, 2000; **71**: 5–17.
- ¹⁵ Morrison A. A woman with leprosy is in double jeopardy. *Lepr Rev*, 2000; **71**: 128–143.
- ¹⁶ World Health Organisation. WHO Expert Committee on Leprosy. Technical Report Series 874. Seventh Report. WHO, Geneva, 1998.