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Original Article

Patterns & trends of deformities in 215 leprosy patients central karnataka –india

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ABSTRACT

A study of 215 leprosy affected patients attending the out patient department of dermatology, venereology and leprosy of Bapuji Hospital attached to J.J.M Medical College at Davangere revealed that 22% had deformities. The patient's sex, type of disease, occupation and educational status seemed to influence pattern of leprosy deformities.

1. Introduction

Deformity is defined as an alteration in the form, shape or appearance of the part of the body i.e., deformity is visible.1 The objective of the present study was to ascertain the correlation between socio-demographic factors and the pattern of deformities in them.

2.Material and method

The study was conducted at the out patient department of dermatology, venereology and leprosy of Bapuji Hospital at J.J.M. Medical College, Davangere between the period April 2008 and March 2011 i.e., for 3 years.

The 215 patients were classified according to the consensus classification of the Indian Association of Leprologists2 and deformities as per WHO grading of deformity.3 The sociodemographic and clinical details were recorded from the patients on a prestructured proforma

3. Results and discussion:

The 215 study subjects included 152 males and 63 females and the overall deformity rate was 22.0%, where the prevalence of leprosy in general population is 0.78 per ten thousand in 2011 year.

The most common type of leprosy being borderline (BT) type in our study accounted for 61.8% of all the cases. The most prevalent deformity is trophic ulceration comprising 54.38%, followed by claw hand deformity 24.56%. The deformities were more with BT Hansen's i.e., 57.89%. Noordeen and Srinivasan reported a disability rate of 35.5% in a part of South India.[4]

Table 1: Deformity According to type of leprosy

Type of leprosy	No. of pts	Type of deformity T	C	Ft	W	Fp	L	R	Total
IL	1	-	-	-	-	-	-	-	-
TT	5	-	-	-	-	-	-	-	-
BT	133	21	6	2	1	1	1	1	33
BL	42	4	4	1	-	-	-	-	9
LL	17	3	1	-	-	1	-	-	5
PN	17	3	3	2	1	-	-	1	10
Total	215	31	14	5	2	2	1	2	57

***** T:Trophic ulcer, C:claw hand, Ft:Foot drop ,W:Wrist drop, FP:Facial palsy, L:Lagophthalmos, R:Reaction Hand*

IL-Indeterminate Leprosy, TT-Tuberculoid Leprosy, BT-Borderline Tuberculoid, BL-Borderline Lepromatous, LL-Lepromatous leprosy, PN- Pure neuronal

The youngest patient was 10 year old with BT Hansen's. The oldest patients being 75 years, one with BT Hansen's and other with BL Hansen's. The maximum deformities 33.33% were seen in the age group of 20-29 years followed by 28.07% in the age group > 50 years. Again among them, trophic ulceration was the commonest deformity. Deformities are not common in children, reason for this is that leprosy in them is often of self limiting type and there is no general progress of the disease. Further, disease is likely to be of short duration in children and so would not have spread widely in the body to produce deformities.1 The increase in the deformity rate with age was probably due to combined effects of age and duration factors.[5]

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Table 2: Deformity According to age of patient

Age group' (yrs)	No. of pts	Type of deformity T	C	Ft	W	Fp	L	R	Total
10-19	22	-	2	1	-	-	-	-	3
20-29	64	9	5	1	1	1	1	1	19
30-39	46	5	5	1	-	-	-	-	11
40-49	38	5	2	-	1	-	-	-	8
>50	45	12	-	2	-	1	-	1	16
Total+	215	31	14	5	2	2	1	2	57

The study included 70.69% of male patients and 29.30% of female patients among 215 total patients which gives a M:F ratio of 2.3 :1. A study of 600 cases at Jamnagar, Gujarat in 2002 showed M:F ratio as 3:1.6 The present study showed male patients had more deformities i.e., 75.44% and female patients suffered with 24.56% of deformities. Lesser exposure to hard work has been implicated as one of the possible factors that may account for lower deformity rate among female patients. The prevalence of disease is not only lower in women, but women also tend to suffer more often from the benign form like the non-lepromatous type. The women also tend to suffer less nerve damage compared to men. The reason for the favoured position of women is not known.[1]

Table 3: Deformity According to sex of patient

Sex of patient	No. of pts	Type of deformity T	C	Ft	W	Fp	L	R	Total
Male	152	21	12	5	2	2	1	-	43
Female	63	10	2	-	-	-	-	2	14
Total	215	31	14	5	2	2	1	2	57

In this study, illiterates were 44.65% and literates were 55.35%. The educational status did not seem to influence the prevalence of deformities in them in our study.

Table 4: Educational status and type of deformities

Education	No. of pts	Type of deformity T	C	Ft	W	Fp	L	R	Total
Illiterate	96	17	5	3	1	1	1	1	29
Literate	119	14	9	2	1	1	-	1	28
Total	215	31	14	5	2	2	1	2	57

Deformities were more in patients who were professionals by occupation (40.35%) as labourers, barbers, mason etc. with trophic ulceration (47.82%) and claw hand deformity (34.8%). Heavy manual labour and specific occupations causing reported trauma to an anaesthetic part are likely to lead to ulceration, tissue damage and even mutilation. Similarly, an occupation involving a lot of walking, climbing, running.[1]

Table 5: Occupation and type of deformities

Occupation	No. of pts	Type of deformity T	C	Ft	W	Fp	L	R	Total
Student	24	2	2	-	-	-	-	1	5
Housewife	40	7	1	-	-	-	-	-	8
Agriculture / farmer / Coolie	78	9	3	4	-	1	1	1	19
Business	21	2	-	-	-	-	-	-	2
Professionals	51	11	8	1	2	1	-	-	23
Total	215	31	14	5	2	2	1	2	57

As borderline Hansen's is the commonest type of leprosy so is the number of deformities in that type. This prevalence of maximum number of deformities in the 20-29 age group might hinder the working capacity of these individuals who are economic backbone of society. The reason for more prevalence of deformities in > 50 years age group may be ignorance regarding the disease by themselves and family members. The higher prevalence of deformities in male patients may be due to exposure to more outdoor activities. Education status did not influence much on prevalence of deformities in our study. The presence of increased number of deformities in patients who are professionals by occupation might affect their livelihood.

While early detection and prompt T/t can prevent the onset of deformities, worsening of existing deformities may be prevented if patients are re-trained in their existing skills and taught preventive measures and use of devices.

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