

## CROSS-SECTIONAL STUDY OF LOCOMOTOR DISABILITIES IN URBAN SLUM AREA OF MUMBAI

Shekhar B Padhyegurjar<sup>1</sup>, Manasi S Padhyegurjar<sup>2</sup>

<sup>1</sup>Professor, <sup>2</sup>Associate Professor, Department of Community Medicine, Karpaga Vinayaga Institute of Medical Sciences (KIMS), Kancheepuram

### Correspondence:

Dr Shekhar B. Padhyegurjar

C/o Dr B. K. Padhyegurjar, 9, Narmada Niwas,

Topiwala Wadi, Station Road, Goregaon (West), Mumbai 400 062.

E-mail : manasipg@gmail.com Mobile: 08015129473, 08122695816

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### INTRODUCTION

Human life is enriched by mechanical, recreational and innovative activities performed by an individual. These actions are restricted by minor impairments and disabilities which results into handicap to perform even regular work thus affecting personal, family and professional life of an individual. In the early stages, intervention for impairment has large medical component, however in the later stage, disability and handicap have huge social and environmental components in terms of dependence and social costs.<sup>1</sup> When compared to auditory, speech or visual disabilities, in loco motor disabilities, scale of measurements is complex due to involvement of multiple components. This study attempts to estimate the prevalence of loco motor disabilities and to assess its relationship with demographic factors.

### MATERIALS AND METHODS

The study was carried out in an urban slum which is the field practice area of a municipal teaching hospital in Mumbai. The study is cross sectional and observation. A minimum sample of 3600 was estimated based on 10% prevalence of locomotor disability as found in pilot study. A household was taken as a single unit by stratified systematic random sampling in two demarcated areas of the slum. All members of the household were included in the study. A sample of 3665 individuals was taken. A structured questionnaire was administered in the local language. Participants were screened for detection of loco motor disabilities by physical examination carried out by trained

health professional. The study was conducted over a period of 3 months. The data was analysed using SPSS software (Version 16). 95 % confidence limits for prevalence, Z-test of difference between two proportions and Pearson's correlation co-efficient with t-test were applied.

### RESULTS

Mean age of the sample was 27.16 years with standard deviation 16.8 years. The sample consisted of 49.33 % females and 50.67 % males. Out of the total sample, 74.4 % were unemployed, 49.3 % were illiterate and 69.3 % were married. Majority of the sample (62.5 %) belonged to lower socio economic class. Among 3665 individuals 205 were identified with loco motor disabilities. The prevalence of loco motor disabilities is 5.59 % (95 % C.L. 4.85 % to 6.33 %). As observed in Table 1, almost half of the screened population were females (49.33%). However among the affected individuals, 71.22% were females. This difference was statistically significant. ( $Z=6.69$ ,  $p=0.0000$ ). Significant difference is also observed in the prevalence among males (3.18%) and females (8.08 %) ( $Z=6.45$ ,  $p=0.0000$ ).

The mean age of affected individuals is 38.89 years with standard deviation 15.1 years. The difference between mean age of screened (27.16 yrs) and affected individuals (38.89 years) is statistically significant ( $Z = 10.76$ ,  $p = 0.0000$ ). Also, the prevalence of loco motor disabilities was found gradually increasing with the advancing age groups (Figure 1). The correlation

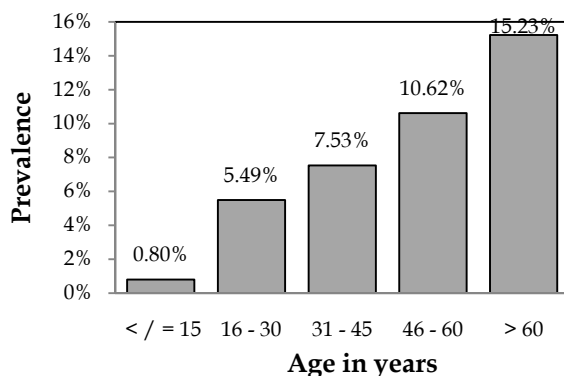
of age group against prevalence was significant ( $r=0.992$ ,  $t=13.69$ ,  $p=0.00000$ ).

**Table 1:** Sex-wise distribution of screened and affected individuals

Sex	Individuals screened (%) (n=3665)	Individuals affected (%) (n=205)	Prevalence (%)
Female	1808 (49.33)	146 (71.22)	8.08 *
Male	1857 (50.67)	59 (28.78)	3.18 *

\*Z=6.45, p=0.0000

Vast majority 197 (96.1 %) of the individuals are aware about their disabilities. Disability duration of 1 to 5 years was reported by 47.32 % of affected individuals. Injury of some kind was stated as a cause of their disability by 21.46 % individuals.



**Fig1:** Prevalence of locomotor disability

## DISCUSSION

The prevalence of loco motor disability was observed to be 5.59 % in the current study. This is high as compared to other studies, where prevalence of <2 % has been reported.<sup>2,3,4</sup>

Prevalence of loco motor disability was found significantly higher in females than in males. Similar findings were observed in several international studies. The study by Reynolds DL et al displays 3.86% prevalence in males and 6.1% in females.<sup>5</sup> The Rotterdam study shows prevalence of 24.5 % in males and 40.5 % in females in the population above 55 years age group.<sup>6</sup> A study conducted in Malaysian community shows a prevalence of 5.2 % in males and 2.6 % in females.<sup>7</sup>

The prevalence of loco motor disabilities increased as age advanced. A study of loco motor disabilities in Malaysian community in Kuala Selangor shows that the prevalence increased with age, being as low as 0.6% in the 7-14 year age group and as high as 20.5% in the above 55 year age group.<sup>7</sup> Similarly physical disability among Canadians reporting overall

prevalence 5.01 % in the adults with 0.62 % in 15 to 24 years age group and 26.47 % in the age group >85 yrs.<sup>5</sup> Similar results were reported by many studies.<sup>2-7</sup>

Injury as a cause of their disability was reported by many affected individuals in the current study. Similar results were also observed in other studies, where loco motor disability due to injury was reported as 31.6 % and 41.2 % respectively.<sup>3,4</sup>

## CONCLUSION

This study has focused attention on the loco motor disabilities in an urban slum area of Mumbai. The overall prevalence of loco motor disabilities is 5.59% showing gradual increase as age advances. India is witnessing a rise in geriatric population due to a steady rise in life span. This will also lead to the increase in the prevalence of loco motor disability in future. The current study indicates significantly high prevalence among females. Thus this health issue needs to be focused on specially through the various health programmes for the females. Policies to control accidents and injury, which have been reported to be the major cause in the current study, will be an effective prevention strategy. The problem of loco motor disability needs to be adequately addressed in the existing National Health Policies, and rehabilitative services at primary health care level especially for females and the geriatric age group, will help to improve the quality of life of affected.

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