A Comparative study of Prevalence and Factors associated with Disability in an Urban and Rural area of Mysore

N.C. Ashok [1], Syed Yunus Zama[2], Praveen Kulkarni[3]

[1]Professor and Head, [2]Asst. Professor, [3]Lecturer

Department of Community Medicine JSS Medical College, Mysore-570015, Karnataka, India.

Abstract

Background: It is estimated that about 10% of the people in the world are disabled. The disability rate in the developed regions is 8.5% and in the developing regions is 4.8%.

Objectives: To estimate the prevalence of disability in urban and rural areas and to describe the difference in factors associated with disabilities in urban and rural areas.

Methodology: This Cross sectional study was conducted in an urban slum of Mysore city and a rural and urban field practice area of JSSMC, Mysore. The study included 6,000 persons who were permanently residing in the study areas.

Results: The prevalence of disability in the urban area was 19.27% and that in the rural area was 28.07%.

Conclusion: The overall prevalence was observed to be higher in the rural areas as compared to the urban area.

Key words: disability, prevalence, cross sectional study, factors associated, rural, urban.

Introduction

The new concept of disability by World Health Organization " explicitly contemplates an assessment of "environmental factors" including the physical environment , the social environment and the impact of attitudes, and of "personal factors" which correspond to the personality and characteristic attributes of an individual[1]. This includes not only physical disability, but also social, cultural, economic and psychological disabilities.

It is estimated that about 10% of the people in the world are disabled [2]. The disability rate in the developed regions is 8.5% and in the developing regions is 4.8% [3]. Although the disability rates in the developed countries are higher, the problem in developing countries is acute due to the larger population in the developing countries.

In India, the prevalence rate of disability estimated by various studies ranged from 1to 6.7% [4,6]. The National Sample Survey Organization (NSSO) of India has estimated the prevalence of disability at the national level by covering the entire nation. The prevalence rates were 1.8% in 1981, 1.9% in 1991 (covering 4 disabilities- Visual, Locomotor, Speech and Hearing) and1.8% in 2002. Prevalence rate in rural area was higher (1.84%) compared to the urban areas (1.44%) [1]. Census authorities have estimated the prevalence rate of disability at the national level in 2001 to be 2.1% [7].

With this background the present study was undertaken with the objective to estimate the prevalence of disability in an urban slum and rural population and to describe the factors associated with the difference in the prevalence rates between the urban and rural areas.

Materials and Methods

This Cross sectional study was conducted in an urban slum of Mysore city and a rural area (Suttur village) under the urban and rural field practice area of JSSMC, Mysore. The sample size was calculated based on the NSSO - 2002 estimated prevalence of disability as 1.8% with 20% relative allowable error was 5,455 rounded off to 6,000. This was allocated in equal proportion of 3000 to urban and rural areas respectively. According to NFHS-3 the average family size was found to be 4.5   5 thus 1200 households were included in the study of which 600 from urban and rural areas respectively.

In both urban and rural areas the houses were

Address for correspondence

Dr. Praveen Kulkarni

Lecturer, Department of Community Medicine

JSS Medical College, Mysore-570015, Karnataka, India.

E- mail: prakulfi@gmail.com

enumerated and numbered. From this 600 households were selected by using simple random sampling method. All the members residing in the houses were included for the study.

The details regarding sociodemograhic characteristics and presence of disability in any of the household members collected from an adult responsible respondent in the family using a pre tested semi structured questionnaire by interview technique. NSSO definitions on disability were adopted for identifying disabilities. Those persons suspected with disability were evaluated by simple tests to confirm the presence of any disability. The children with suspected speech disability were identified by assessing their developmental milestones as well as by asking them to speak a sentence. Among the adults also, a similar methodology of asking them to speak a sentence was adopted for identifying speech disability.

The households, which could not be contacted during the initial visit, were revisited twice and those, which were not available after 3 visits, were treated as non-respondents.

Results

Among 5832 subjects included in the study 2698 (46.3%) were from urban area and 3134 (53.7%) were from rural area. Majority 1485 (55%) from urban and 1706 (54.4%) from rural areas were in the age group of 16-45 years. 1368 (50.7%) and 1596 (50.9%) of the subjects were males from urban and rural areas respectively. There were more number of illiterates in rural area (48.8 %) compared to the urban area (20.5%) which was found to be statistically significant. Majority of the subjects 1699 (62.8%) and 1837 (58.6%) in both urban and rural areas were unemployed. (Table1)

Among 5832 subjects screened, the overall prevalence rate of disability was observed to be 140 (24/1000 population). The prevalence rate was 52 (19.27/1000 population) in urban areas and 88 (28.07/1000) in rural areas respectively.

From table 2 it was observed that age specific prevalence rates in the age group of 46-60 years was higher in the rural area (49.38/1000) ally significant. Compared to urban area (25.47/1000), however this difference was not statistically significant. Sex specific prevalence rate was more among males in the rural area (31.95/1000) compared to urban area (19/1000) which was found to be statistically

significant. Among females, there was a marginally higher prevalence rate in the rural area (24.05/1000 persons) as compared to the urban area (19.54/1000 persons). However, this difference was not statistically significant.

The prevalence rates of disability showed declining trends with increase in educational status in both the urban and rural areas. It was found that in both the urban and rural areas, the highest prevalence rate was among the illiterates (39.19/1000 in rural and 36.10/1000 in urban area) whereas the lowest prevalence rates were found among persons with high school and above educational status (9.72/1000 persons in rural area and 14.33/1000 in urban area). However the difference was not found to be statistically significant.

The prevalence rate was higher among the semiskilled workers in both the urban (35.08/1000) and rural areas (33.41/1000) with no significant difference between the two groups. Prevalence of disability among married persons in the urban area was lower (14.70/1000) compared to the rural area (25.86/1000) which was found to be statistically significant. The prevalence rate among the persons residing in nuclear family in urban area (13.77/1000) was lower compared to the rural area (25.27/1000) which was found to be statistically significant.

Among the type of disabilities it was observed that in the rural areas visual disability was highest (9.57/1000) followed by locomotor (7.01/1000) and hearing disabilities (6.7/1000); whereas among urban areas prevalence of locomotor disabilities was highest (5.55/1000) followed by visual and hearing disabilities (4.80/1000). There was statistically significant difference between prevalence rate of visual disabilities among urban and rural areas.

Discussion

The overall prevalence rate of disability observed in the present study was 24/1000 population, which was higher than the national estimate of 18/1000 as per NSSO-2002. In the present study, the prevalence rate in the rural and urban areas was 28.07/1000 and 19.27/1000 respectively. As per NSSO- 2002 estimates the prevalence rate of disability observed in the rural (18.46/1000) and urban (14.49/1000) areas in NSSO (2002) were also lower than the findings of the present study. The rural-urban differences in both studies were similar showing that the prevalence rate in the rural area was

Table 1. Socio- demographic profile of study population in the urban and rural areas

Variables	Classification	Urban (2698)	Rural (3134)	*p*
Age (Years)	0 – 4	208 (7.70)	227 (7.24)	0.766
	5 – 15	546 (20.23)	608 (19.40)	0.336
	16 – 45	**1485 (55.04)**	**1706 (54.43)**	0.444
	46 – 60	314 (11.63)	405 (12.92)	0.233
	61- and above	142 (5.26)	188 (5.99)	0.244
Sex	**Males**	**1368 (50.70)**	**1596 (50.92)**	0.878
	Females	1330 (49.30)	1538 (49.07)	0.819
Education	Not literate	554 (20.53)	1531 (48.85)	0.001
	Primary School	556 (20.60)	634 (20.22)	0.705
	Middle School	332 (12.30)	146 (4.65)	0.001
	High School	**808 (29.94)**	**614 (19.59)**	0.001
	PUC/ diploma	252 (9.34)	139 (4.43)	0.001
	Graduate	156 (5.78)	58 (1.85)	0.001
	PGs /Professionals and above	40(1.48)	12 (0.38)	0.001
Occupation	Semiskilled	57 (2.11)	419 (13.36)	0.001
	Unskilled	513 (19.01)	724 (23.10)	0.002
	Others	429 (15.90)	153 (4.88)	0.001
	Unemployed	**1699 (62.97)**	**1837 (58.61)**	0.001
Marital status	**Married**	**1292 (47.88)**	**1585 (50.57)**	**0.020**
	Unmarried	1241 (45.99)	1383 (44.12)	0.145
	Widow / widower	165 (6.11)	166 (5.29)	0.872
Type of Family	**Nuclear**	**1887 (69.94)**	**1662 (53.03)**	0.001
	Joint / Extended	811 (30.05)	1472 (46.96)	0.001

Note: Figures in parenthesis represent percentage, * Two proportion Z test

Table 2. Prevalence rate of disability according to Socio-demographic Variables

Variable	Classification	Urban		Rural		P Value
		Persons covered	Prevalence rate / 1000 persons	Persons covered	Prevalence rate/1000 persons	
Age (Years)	0-4	208	-	227	17.62	-
	5-15	549	16.39	608	23.02	NS
	16-45	1485	12.79	1706	15.24	NS
	46-60	314	25.47	405	49.38	NS
	61 and above	142	112.67	188	127.65	NS
	Total	**2698**	**19.27**	**3134**	**28.07**	
Sex	Male	1368	19.0	1596	31.95	0.038
	Female	1330	19.54	1538	24.05	NS
	Total	**2698**	**19.27**	**3134**	**28.07**	
Education	Not literate	554	36.10	1531	39.19	NS
	Up to middle school	888	15.76	780	25.64	NS
	H/S & above	1256	14.33	823	9.72	NS
	Total	**2698**	**19.27**	**3134**	**28.07**	NS
Occupation	Semi Skilled	57	35.08	419	33.41	NS
	Unskilled	513	23.39	724	26.24	NS
	Others*	429	4.66	153	6.53	NS
	Unemployed	1699	21.18	1837	29.39	NS
	Total	**2698**	**19.27**	**3134**	**28.07**	
Marital status	Married	1292	14.70	1585	25.86	0.03
	Single/ unmarried	1241	17.72	1383	23.86	NS
	Widow/ widower	165	66.26	166	84.33	NS
	Total	**2698**	**19.27**	**3134**	**28.07**	
Type of family	Nuclear	1887	13.77	1662	25.27	0.012
	Joint/ Extended	811	32.05	1472	31.25	NS
	Total	**2698**	**19.27**	**3134**	**28.07**	

(Professionals, Semi professionals, Clerks, Shop owners, farm owners and Skilled workers)

higher than the urban area.

The prevalence rate of disability observed in the census 2001 for Karnataka were 18.9/1000 and 15.6/1000 in the rural and urban areas respectively which were slightly lower compared to the present study. The results when compared with other studies indicated that in a study undertaken at Gorakhpur slum population with persons below 20 years of age, a prevalence rate of handicapped of 0.88 percent was observed [4] and in another study carried out in the rural areas of Pune showed a prevalence of handicapped of 1.97 percent which were almost similar to the present study.

In the present study, it was observed that the age specific prevalence rate in both the urban and rural areas were higher in the age group of 46-60 years. Similar observations were recorded in NSSO-2002. The sex specific prevalence rate was higher in males among rural area compared to the urban area. This was in par with the findings in NSSO (2002) where the prevalence rate was higher among the rural males compared to urban.

The comparison of the percent disability observed in the present study with Census and NSSO indicated that although the trend looks to be somewhat similar to NSSO, there were large differences with the census estimates. As mentioned earlier the present study adopted the definition of NSSO with modification. The definition adopted for mental disability was based on the manual of identification and needs assessment of disability [8]. The results indicated that a large difference was observed in the locomotor disability between the three studies. This is mainly due to the differences in the definition. The NSSO definition focus on activity status and also have included paralysis, amputation, dysfunction and dwarfs whereas the census concentrated on the lack of movement or unable to use them and in our study the difference observed with NSSO may be due to the differences in the data collection procedure. The data collection in the present study was undertaken by a medical person who could examine the cases in detail whereas in NSSO and Census, it was mainly lay investigators.

Conclusion

The overall prevalence was observed to be higher in the rural areas as compared to the urban area. The disabilities were observed to be higher in persons with older age groups and also in persons with lower educational status.

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