



DISABILITY DATA –AN EXPERIENCE IN NINE MUNICIPAL WARDS IN KOLKATA

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ABSTRACT

The present study is about the disability status of a population of over 3 lakh in 9 wards of Kolkata Municipal Corporation. The data collected from 4 camps from 2010 to 2012 showed presence of about 0.1% disabled persons. Locomotor cause is commonest (nearly 50%) & mental cause comes next. In the locomotor group postpoliomyelitis and cerebral palsy and stroke are important causes. A substantial number of disabilities in the productive years of life and a large number of preventable cause emphasises the importance of preventive and rehabilitative strategies at the community level.

Keywords:

INTRODUCTION

Mortality and morbidity are the two chief indicators of disease burden in a community since the beginning of present day medicine. Whereas mortality is a more concrete definable entity, it attracts more ready attention at all levels concerned for health care and delivery. On the other hand, morbidity is a less tangible entity with more subjective basis. Disability, which is an integral part of morbidity though important and significant burden on multiple levels of community e.g. the individual, and the society as a whole, has till date received insufficient attention from the policy makers as well as the public in general. The number of studies addressing the handicap imposed by different kinds of disability, e.g. Locomotor, visual, auditory and mental, are few and far between. Still from the viewpoint of comprehensive health policy it is of utmost importance to have concrete data regarding the disability status of the population as a whole. This is because of several reasons e.g. - the social and individual cost of disability, the idea about the need for timely and proper intervention in the original disease process, and also the necessary allocations for the purpose of optimum rehabilitation process of the affected population.

AIMS & OBJECTIVES

Our present study involves an urban population of nearly 321000, spread over 9 municipal wards in Kolkata and attempts to have an idea of the disability status and different demographic characteristics of the same.

MATERIALS AND METHODS

Four (4) disability camps were organised covering 9 municipal wards of Kolkata Corporation over a span of 2 years between August 2010 to July 2012. These camps were organised by local municipal authorities in

collaboration with local clubs and other charitable institutions. Extensive door to door campaign was done before each camp along with other methods of making people aware for registration to the camps. This includes preparation and distribution of leaflets etc. A board of experts including Orthopaedics, Psychiatrist, Neurologist, ophthalmologist, Psychiatrists and clinical psychologist were appointed by the authority of Nil Ratan Sircar Medical College & Hospital for each camp. They screened the population attending the camps and certified the disabled persons for their category and the percentage of disability. The disability was categorised as Locomotor, Visual, hearing, mental or mixed in case having more than one disability. The percentage of disability was certified according to the guide lines given by the ministry of Ministry of Social Justice and Empowerment by the Government of India.

The data collected was analyzed by EXCEL distribution of various categories of disability with respect to age, sex, religion. The distribution of disability percentage under different categories i.e. locomotor, hearing, visual, mental, mixed was also done. The escort requirement under different categories reflected the population with severe activity limitation. Also a broad etiopathological variety giving rise to disability was recorded. Limb distributions of the disabled persons were also recorded.

Results of analysis of Disability data

Wards covered: 75-83

Total population in these 9 wards = 321000 (as per census in 2011)

No. of camps held = 4

Total no. disabled persons (including all categories) reported = 319

Percentage of disabled persons = 0.10%

case of Muslim male.

TABLE 1

Distribution of different categories of disability

Disability category	numbers	percentage
Hearing	53	16.61%
Loco motor	158	49.53%
Mental	77	24.14%
Vision	31	9.72%

Observation: About 50% of the disabled persons belong to the category 'Loco motor' and about 25% belongs to the category 'Mental'. Loco motor and mental problems are the cause of about 75% disability.

TABLE 2

Distribution of different categories of disability with respect to religion and sex

Disability category	SEX	RELIGION		Total
		Hindu	Muslim	
Hearing	Female	17 (54.84%)	3 (13.64%)	20 (37.74%)
	Male	14 (45.16%)	19 (86.36%)	33 (62.26%)
	Total	31	22	53
Loco motor	Female	15 (24.59%)	31 (31.96%)	46 (29.11%)
	Male	46 (75.41%)	66 (68.04%)	112 (70.89%)
	Total	61	97	158
Mental	Female	24 (35.82%)	1 (10.00%)	25 (32.46%)
	Male	43 (64.18%)	9 (90.00%)	52 (67.53%)
	Total	67	10	77
Vision	Female	2 (16.67%)	3 (15.79%)	5 (16.13%)
	Male	10 (93.33%)	16 (84.21%)	26 (83.87%)
	Total	12	19	31
Total		171	148	319

Observation: All kinds of disability are substantially higher in case of male than female.

Hearing and Mental disability are remarkably higher in

TABLE 3

Distribution of different categories of disability with respect to age group

Disability type	Age group				Total
	<20	21-40	41-60	>60	
Hearing	8 (8.00%)	14 (13.86%)	15 (17.44%)	16 (50.00%)	53
Loco motor	29 (29.00%)	65 (64.36%)	52 (60.47%)	12 (37.50%)	158
Mental	56 (56.00%)	12 (11.88%)	9 (10.47%)	0 (0.00%)	77
Vision	7 (7.00%)	10 (9.90%)	10 (11.63%)	4 (12.50%)	31
Total	100	101	86	32	319

Observation: Persons of less than 20 years old mostly suffer from mental disability, persons of 21-60 years old mostly suffer from Loco motor disability and persons of older than 60 years mostly suffer from hearing disability.

TABLE 4

Distribution of disability % under different categories of disability

Disability type	Disability %				Total
	<25%	25%-50%	50%-75%	>75%	
Hearing	0 (0.00%)	5 (9.43%)	33 (62.26%)	15 (28.30%)	53
Loco motor	2 (1.27%)	88 (55.70%)	50 (31.65%)	18 (11.39%)	158
Mental	0 (0.00%)	15 (19.48%)	18 (23.38%)	44 (57.14%)	77
Vision	0 (0.00%)	16 (51.61%)	3 (9.68%)	12 (38.71%)	31
Total	2	124	104	89	319

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TABLE 5

Distribution of escort requirement under different categories of disability

Disability type	Escort requirement		Total
	No	Yes	
Hearing	11 (20.75%)	42 (79.25%)	53
Loco motor	60 (37.97%)	98 (62.03%)	158
Mental	1 (1.30%)	76 (98.70%)	77
Vision	15 (48.39%)	16 (51.61%)	31
Total	87	232	319

Observation: Almost all the persons with mental disability requires escort and as high as about 50% persons with vision disability require escort

TABLE 6

Pathology-wise distribution of Loco motor disability

PATHOLOGY	Frequency	Percentage	Cumulative percentage
PPRP	46	29.11	29.11
CVA	29	18.35	47.46
CP	17	10.76	58.22
AMPUTATION	14	8.86	67.08
POSTTRAUMA	12	7.59	74.68
POSTOPERATIVE	11	6.96	81.64
CONGENITAL	10	6.33	87.97
DEGENERATIVE JOINT DISEASE	4	2.53	90.50
ACHONDROPLASIA	3	1.90	92.40
POST BURN	3	1.90	94.30
KYPHOSCOLIOSIS	2	1.27	95.57
POSTHANSEN	2	1.27	96.83
CTEV	1	0.63	97.46
OA	1	0.63	98.10
RA	1	0.63	98.73

POST SK TB	1	0.63	99.36
ATAXIA	1	0.63	100.00
Grand Total	158		

Abbreviations PPRP (Post polio residual paralysis). CVA (Cerebrovascular accident). CTEV (Congenital talipesquinovarus). RA (Rheumatoid arthritis).OA (osteoarthritis). SK TB (Skeletal TB).CP (Cerebral palsy).

Observation: About 30% of the Loco motor disability is caused by the pathology PPRP and about 88% of Loco motor disabilities are caused by seven pathologies, namely, PPRP ,CVA , CP, amputation, Post trauma, post-operative and Congenital.

NOTE –Some overlapping for etiologies.e.g. Congenital and CTEV , degenerative and OA occurred due to the assignment of etiologies by different groups of experts not having any fixed set of codes for diagnosis.

TABLE 7 DISTRIBUTION OF AFFECTED LIMBS

Limb	Frequency	%	Cum. %
LL	84	53.16	53.16
UL/LL	47	29.75	82.91
UL	24	15.19	98.10
T	2	1.27	99.36
UL/LL/T	1	0.63	100.00
Total	158		

Observation- Nearly 53% cases lower limbs are affected

TABLE 8 - DISTRIBUTION OF UNI/BILATERAL , UPPER/LOWER LIMB, FOCAL DEFICITS

	Frequency	%	Cum. %
UL	70	44.30	44.30
BL	49	31.01	75.31
L	14	8.86	84.17
F	11	6.96	91.14
U	8	5.06	96.20
MF	3	1.90	98.10
Not known	3	1.90	100.00
Grand Total	158		

Observation: About 44% Loco motor disabilities are unilateral

TABLE 9

Distribution of Loco motor/Mixed for Loco motor disability

	Frequency	%
<i>L</i>	150	94.94
<i>M</i>	8	5.06
<i>Total</i>	158	

Observation: Only 5% loco motor disability is mixed type

Summary statistic of the IQ scores of the mental disabled persons:

Min IQ score = 12

Max IQ score = 68

Average IQ score = 37.12

DISCUSSION

In our study the rough prevalence of disability is observed to be 0.10 % (approximately), 319 out of 32100 – a low figure compared to other studies (2, 3, 4). There we have figures ranging from <2% to 5.59%. The reasons seem to be the methodology adopted, participation of the people to the camps, and the yardstick chosen by the board of experts as already mentioned. A door to survey which would have represented a better cross section of the population, was not possible in our study. However we like to point out that different criteria adopted in different studies to certify a man disabled may be one such reason. A stricter criterion of at least 40% disability, as per the guideline of the Ministry of Health, Govt. of India, was the criterion in our study to certify a man "handicapped". A handicapped person, but not all the disabled persons are entitled to certain legal rights. The other studies mentioned usually applied door to door survey with sent questionnaires. There the disability status was determined based on the answers from the participants but no objective documentation of the same was made by a board of experts comprising a 3 member team including at least one expert in a particular field. However it is also to be noted that a previous census (1981) the figure was much lower, around 0.16% (5).

The gender distribution of the disabled persons in our study showed a male: female ratio of 2.3: 1 (male=223, female= 96). The representation of male subjects much higher than other studies. The male: female ratio in the Indian Population Census 2001 was 1.2:1. The under representation of females in our study is probably due to their general reservations to attend clinics and camps etc.

The age distribution (table 1) revealed a peak of the disabled in the age group of 31 to 45 years (27.59%). The prevalence's in other age groups, <15, 15 to 30 & 46 to 60 years are comparable to each other. The age group of 61 or above has a lower prevalence which may be again due to lower attendance of this group to the camps. Our

observation does not fully tally with the other national survey (NSSO 58th round July December 2002) (3). Their observation was the highest % of disability (nearly 25%) existing in the age gap of 61 years or above. Compared to this study, only about 10% of the disabled people fall in this group in our study. This difference seems to us to result from the low attendance of above 60 year age group people to our camps. The camps were conducted primarily to issue handicaps certificates which probably were felt to be of little use to the people of aforesaid agegroups.

However the fact that the 16-45 years age groups had a substantial share of the disabled personal needs attention. In a developing country like ours, people of this age group live most active in this age group and contribute richly to the family committee and as a whole. Hence a higher change of disability in this very group should raise our concern in all possible preventive and rehabilitative aspect.

Analysis of the category of disability (i. e. loco motor, mental etc.) show that almost 50% is due to loco motor causes, a quarter due to mental causes and hearing and visual handicaps together make up another quarter. Again, at variance with the census figure of 2001 and other studies (6, 7), visual handicaps occupies the leading place (49%) and loco motor coming next (28%) in the census 2001. Our study tallies more with NSSO (2002 58th round) data (3). There, locomotive disability came out at the top (57%) followed by hearing (17%) & visual (15%) causes. The reason behind these differences, to our explanation, may be different methodologies adopted in different study protocols. Also the yardsticks to categorise a person disabled vary from study to study. The reason behind these differences, to our explanation, may be the different methodologies adopted in different study protocols. Also the parameters or yardsticks to categorise a person disabled vary from study to study.

Our study has delved into the quantification data related to the disabled persons. To our knowledge no study is available on this aspect, i. e. related to the percentage status of disability. Analysis of our data shows that it is the hearing disability group where approximately 90% are afflicted with 50% disability or above. In the loco motor group this 50% or above disability is around 43%. In the mental or visually handicapped group the figures are 80% and 48% respectively. Two points need attention here. The higher percentage disability (50% or above) affliction in the hearing group (90%) compared to the loco motor group (43%) probably indicates the difference in the methodology applied to certify disability in these different categories. More importantly, a significant number in all categories belong to a high (50% to 75) or very high (75% or above) percentage group (table 5). In the mental group 44 out of 77 persons (57.14%) belong to the very high (75%) disability group. Also 23.38% belong to high (50%-75%) group. In the hearing group too, respective figures are 28.30% & 62.26%.

The high percentage or extent of disability in nearly all categories underscores the pressing need for early

diagnosis, treatment & rehabilitation measures for the disabled persons as a whole.

The need of escort for the disabled is an indirect measure of their degree of dependence on others. Our data shows (table 6) a high % of disabled people need escort. It varies from 51.61% in visually handicapped to 79.25% in auditory handicaps. These high figures indicate again the need for early intervention in the original disease process giving rise to the disability.

A close look at the aetiology wise distribution of the loco motor disability (table-7) reveals that a large fraction of them are preventable to a large extent. This needs further elaboration. The top 3 aetiologies, post polio residual paralysis (PPRP-29.11%), stroke (18.35%) and cerebral palsy (CP-10.76%); together constitute nearly 58.22% of the total. All of them are preventable, partially or fully. Poliomyelitis has been eradicated in many countries and in India too, it is on the brink of eradication. Here lies the importance polio eradication program. CP is also preventable to a large extent. Low birth weight and perinatal trauma to the newborn, two most important causes of CP, can be prevented largely by providing adequate nutrition and institutional deliveries with a proper set up. Cerebrovascular accident or stroke has also modifiable risk factors like smoking and hypertension. Intervention at the community level and early post stroke rehabilitation programs are bound to bring down the number of stroke related disabilities.

Apart from these three causes, trauma (75%), burn (19%), Hansen's disease (1.27%), different kinds of arthritis {Osteoarthritis (OA) 0.63%, Rheumatoid Arthritis (RA) 0.63%} and skeletal TB (0.63%) are other groups where early treatment & adequate rehabilitation might be effective for preventing the late disabilities.

In summary, a considerable number of disabilities arise from preventable causes; highlight the importance of prevention programs at the community level. Prevention of polio, hypertension, malnutrition etc. with adequate nutrition of the community, simple lifestyle modifications to prevent trauma & burn, early detection & treatment of Hansen's disease - all are important factors in reducing the load & extent of disability.

CONCLUSION

Our study, which was based on the data collected from the disability camps organized in 9 municipal wards in Kolkata over a period of 2 years, revealed a prevalence of approximately 0.1% (319 Out of 321000). This low figure may be due to (a) strict criteria to certify a person disabled, stipulated by Central Government guidelines. (b) Lower attendance of disabled persons to the camps, despite extensive campaigning. The high male: female ratio of 2.3: 1 may again be due to poorer attendance of females to the camps for social reasons. The peak affection in the age group of 31 to 45 years and 16 to 30 years - the most productive age groups - point to the sad fact of the wastage of human resources and also the great burden of the disability in the individual, community and social levels.

The aetiology of the disability are varied, loco motor variety coming at the top (about 50%). Extent (i.e. % disability according to the central govt. criteria) of disability in all the categories seems significantly high, reflecting the challenge the disabled persons face in their day to day life. In the loco motor category which comprises the largest group - a large share is due to preventable causes underlying the importance of simple prevention measures at individual community level through prevention programs.

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