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On Question of Feasibility of Community Based Rehabilitation (CBR) for the Disabled in India: A Trend Away from the Normative Plinth

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Abstract

The incidence of disability is fast increasing in the industrialized world that we live in. The World Health Organization (WHO), 2010 study indicates that at least 10% of the population of a developing nation suffers from one kind of disability or another. However, the statistics generated from two rounds of decadal Indian census reports (2001 and 2011) the percentage of disabled to the total population at a bare minimum (2.13% and 2.21%), exposing the casualness in the measuring technique. A study on the funds allocation from the central pool towards rehabilitation in India between 2004-2005 and 2013-2014 has reflected that the flow has not been need-based. Grossly violating the basic principles of the Community Based Rehabilitation plinth that promises rehabilitation for the disabled at their places of residence, the flow of funds has been opportunity based or need based from the perspective of the service provider.

Introduction

The incidence of disability is increasing fast in the industrialized world order that we live in today. With around 500 million people with disability in this world (UN documents, 2007), the need to generate effective measures for rehabilitation is becoming a growing concern for planners.

The rehabilitation environment in developing nations needs to be specially addressed because the disabled here are generally extremely poor. The Development Action Report, World Health Organization Action Plan 2006-2011 (key activity No. 6) reports even after 25 years of the adoption of Community Based Rehabilitation (CBR) only five to 15 per cent of the people with disability have access assistive device/technology in developing countries.

The position of the disabled in India has also been contrary to the UN Enable Convention that targets mainstreaming of PWD and promotes availability of assistive technologies, giving priority to technologies at an affordable cost.

Literature Review

The world of Person with disabilities PWDs in India is chequered with physical, economic and social barriers towards their mainstreaming [1]. Poor management of the CBR programme [2], the plinth for rehabilitation management in India, inability to decentralize rehabilitation services [3], lack of coordination between the Government and the NGOs [4] are identified as key deterrents towards the intervention process. The sharp under-enumeration in disability figures (2.13% and 2.21% of the total population as per Census 2001 and 2011 as against the 10% stipulated norms of WHO) reflects the political vision in undermining the problem and setting aside a paltry

sum towards rehabilitation management [5]. The under-enumeration of disability figures allocates a small national budget towards rehabilitation management which in turn is able to touch the problem at its fringe.

The Survey of the Disabled persons (the latest report with comprehensive national coverage) conducted by the National Sample Survey Organization of India [6] indicates that 83.8% of the total PWD (locomotor disabled) with prescriptions for assistance did not get any assistance in the form of aids and appliances. The government assistance, when available, was mainly in the form of acquisition of generalized mobility aids as wheel-chairs and tricycles and crutches while most of the case-specific acquisition of prosthetics and orthotics was from outside purchase (NSS Report 485(58/26/1) pages A-430 and A-433). Visual aids in the form of high powered glasses were procured by 75% PwDs out of the total visually impaired with prescriptions for assistance.

Disaggregation of National Sample Survry Organization (NSSO) data from the national level reveals the non-acquisition rate for PWD with locomotor disability to be 85.1% for the rural category and 80.6% for the urban category whilst 7.63 million PWD reside in rural and 2.93 million PWD stay in urban settlements. This trend questions the working of the delivery system indicating a gross violation of the basic plinth of CBR in India that promised social integration, equalization of opportunities and delivery of rehabilitation programme for the disabled at their doorstep.

The Problem

In 1970 the World Health Organization (WHO) introduced Community Based Rehabilitation (CBR) programme targeted to provide rehabilitation services for all disabled irrespective to their income level at their place of residence. The concept arose due to "serious mismatch in the allocation of human and financial resources

devoted to disability rehabilitation" [7]. It was supposed to work on a pyramidal hierarchy structure with the central administration at the top, regional or state level administration in the middle and community level service providers at the plinth. Though in India the CBR implemented since 1999, its performance is reflected in the abysmally high absolute and relative non-acquisition rates and in the inequity in the distribution pattern of the overall supply chain.

Aim of the Study

To establish the inequity in distribution, this paper would analyze the correlation pattern of the grants-in-aid disbursed from the central pool to different Indian states (administrative divisions within India) with the percentage of disabled population in that administrative division. If the correlation coefficient is found out to be statistically insignificant, as the NSSO data and the literature review predicts it to be, the researchers would look for other determinants that might have governed the disbursement pattern.

Two rounds of decadal census data on disability statistics (2001 and 2011) would be used to infer on the trend.

Method

With 2001 census data on PWD

Data on grants-in-aid disbursed to different states from the Central pool towards disability rehabilitation is culled from the Ministry of Social Development and Empowerment Web-site for years 2004-05 and 2009-10. The years are so chosen to monitor the movement of funds on the fifth and the tenth year of the publication of the 2001 population census to substantiate whether the planning mechanism followed the need-based criterion and is equitable. No scheme specific data is, however, available for this period.

Correlations with the government disbursement towards disability rehabilitation in 2004-05 and 2009-10 with (a) the number of PWD in the state (b) the percentage of PWD in the state to the total state population using the SP&SS 18 software are run.

Taking both (a) and (b) as independent variables and fund disbursement as the dependent variable bivariate regressions are conducted to look into the causal relationship between the variables under consideration.

If the correlation coefficients from the above exercises are weak and statistically not significant, we would look for other determinants that might have governed the disbursement pattern for the grants-in-aid. The series data on the proposed indicator would be correlated with the grants-in-aid data series and the result tested for significance. We would assign two sets of ranks to each state, one generated on the basis of the proposed indicator and the other on the basis of the fund disbursed to NGOs. We would calculate the Rank Correlation using the Spearman's Rank Correlation formula.

With 2011 census data on PWD

Data on number of disabled for each state as per Census 2011 is correlated with grants in aid disbursements for each state for 2013-14 (the latest data available) under Deen Dayal Rehabilitation Scheme (DDRS), a blanket scheme towards rehabilitation management and Assistance to Disabled Persons for Purchase/Fitting of Aids/Appliances (ADIP) (a specific scheme for aids/appliances supply).

Taking the number of PWD in the state as an independent variable and fund disbursements under DDRS and ADIP as dependent variables we run two regressions and test the result for statistical significance.

Statistical inferences

The degree of association between the funds disbursed to state NGOs for PWD rehabilitation and the number of disabled in the state are weak and statistically not significant. The values of r^2 are too week, indicating that relative amount of variation in the dependent variable (flow of funds to states) could not be statistically explained by the independent variable (the number of disabled person in each state or the % of state PWD to state population) in 2004-05 and 2009-10. (The background data for this exercise is presented in Table 2). The results of these exercises are presented in Table 1.

Degrees of association, causal and otherwise Column 1	2004-2005 funds Column 2	2009-2010 funds Column 3	Spearman's rank (Relates rank between flow of funds to regions and its respective HDI) Column 4
With the number of PWD in state as a variable	0.126	0.182	0.72 (p<0.01) For 2004-05
With the % of PWD in state to state population as a variable	-0.013	0.03	0.54 (p<0.05) For 2009-10

Table 1: Correlation Coefficients with 2001 Census figures on PWD and 2004-2005, 2009-2010 funds, Spearman's rank results

As the disbursal of funds to states is weekly correlated to (a) the number of PWD in the state (b) the percentage of PWD in the state to the total state population, the researchers conclude that the flow of funds was asymmetric, against the normative plinth of CBR and was not guided by the need-based criterion from the point of view of prospective beneficiaries.

Discussion on other factors governing PWD rehabilitation fund allocation

Disaggregating the data series on grants-in-aids for individual states reveals that the funds have been allocated to NGOs, statutory bodies, trusts that offer its services in the field of disability rehabilitation. So the number of NGOs registered in a state or a composite quality indicator of all recipients therein could have served as a proxy variable determining the formula for fund dispersal.

It has been pointed out in the Ministry of Social Justice and Empowerment website that "the presence of non-government organizations is not uniform throughout the nation. There are certain spheres of activities that attract more voluntary organizations just as their concentration in some regions." As the government acknowledges this sector to be unregistered, under-mapped and non-accredited, the number of NGOs working from a state towards a cause is unknown and its performance parameter impossible to ascertain.

However, literature on the traditional public sector private sector debate indirectly infer on the reason of concentration of NGOs in a particular state. Majority of private sector units worldwide tend to

conglomerate in sectors where operations are comparatively easier [8]. They unmistakably plan to set up shops in zones with better infrastructure and better facilities for upcoming industries [9]. This thread of observation has been picked up and extended here to hypothesize that state with higher Human Development Indices (HDI) have better work environment and thus witnessed a spurt in NGO activities. And in turn more requisitions for funds have been put forward by the state. This paper infers that the quantitative figures of the state human development index would act as a dummy for the conductivity of the work environment and amounts of funds sought by service providers in the state.

On this basis, we assign two sets of ranks, one the HDI rank the other according to the fund disbursed to NGOs to each state. The Rank Correlation, using the Spearman's Rank Correlation formula is reported in Table 1, Column 4, (Background data for the exercise in Table 2). Spearman's rank correlation figures are 0.72 (p<0.01) (for 2004-05) and 0.54 (p<0.05) (for 2009-10). The two sets of ranks are strongly associated with one another.

States	HDI values 2001	Funds to state NGOs in 2004-2005 (in Rs million)	HDI values 2006	Funds to state NGOs in '09-10 (in Rs million)	No of PWD in states (in million)	% of disabled population of state to total state population
Andhra Pradesh	0.416	74.85	0.585	14.65	1.36	1.78
Arunachal Pradesh	-	0.31	0.647	0	0.03	2.75
Assam	0.386	0.46	0.595	32.75	0.53	1.99
Bihar	0.367	0.51	0.507	0.89	1.88	2.27
Chhattisgarh	-	0.43	0.549	0.75	0.42	2.02
Gujarat	0.479	27.79	0.634	5.78	1.04	2.05
Haryana	0.509	26.37	0.643	0.50	0.45	2.13
Himachal Pradesh	-	1.68	0.667	0	0.15	2.47
Jharkhand	-	0.19	0.574	0	0.45	1.67
Karnataka	0.478	18.02	0.622	2.1	0.94	1.78
Kerala	0.638	18.91	0.764	14.00	0.86	2.70
Madhya Pradesh	0.394	16.02	0.529	0.64	1.40	2.32
Maharashtra	0.523	15.17	0.689	7.25	1.57	1.62
Manipur	-	2.61		-	0.03	1.39
Meghalaya	-	3.05		-	0.03	1.30
Mizoram	-	0.37		-	0.01	1.12
Nagaland	-	-		-	0.03	1.51
Orissa	0.404	12.68	0.537	6.67	1.02	2.77
Punjab	0.537	16.01	0.668	0.55	0.42	1.72
Rajasthan	0.424	0.68	0.541	6.80	1.41	2.50
Tamil Nadu	0.531	25.13	0.666	0.75	1.64	2.63
Tripura	-	1.35		-	0.05	1.57
Uttar Pradesh	0.388	12.52	0.528	25.05	3.45	2.08
Uttaranchal		2.61	0.652	0.37	0.19	2.24
West Bengal	0.472	14.35	0.642	2.83	1.84	2.30
Spearman's rank		0.72**		0.54*		
Source: Ministry of Social Justice & Empowerment Web Site and National Development Report						

[**]Significant at both 0.05 and 0.01 significance levels [*]Significant at 0.05 significance level

Table 2: HDI values 2001, 2006, funds to state NGOs in 2003-2004 and 2009-2010 (in million), Number of PWDs in state and % of disabled population to state population.

The results of two correlations with disability statistics as per 2011 census are as follows

The correlation coefficient (r^2) is 0.50 for the first series with grants in aid towards the DDRS scheme as the dependent and state PWD statistics by 2011 census as the independent variable. (Table 3, results with background data). That is the independent variable has been able to explain 50% of the movement in the dependent variable, the flow of DDRS scheme funds from the central pool to different states.

The correlation coefficient (r^2) is 0.85 (p<0.001) for the second series with grants in aid towards ADIP as the dependent variable and state PWD statistics by 2011 census as the independent variable in the bi-variate regression model. (Table 3, results with background data). In this case the number of PWD in any state has been a strong guiding factor towards fund dispersal from the central pool for this scheme.

States	PWD by Census 2011 (in absolute number)	Grants-in-aid allocation for the ADIP Scheme in 2013-2014 (in million)	Grants-in-aid allocation for the DDRS Scheme in 2013-2014 (in million)
Andhra Pradesh	2266607	33.1	155.63
Bihar	2331009	45.0	9/03
Chhattisgarh	624937	10.4	8.05
Goa	33012	0.6	0.32
Gujarat	1092302	25.4	11.38
Haryana	546374	10.9	27.32
Himachal Pradesh	155316	4.3	3.95
Jammu & Kashmir	361153	7.6	0.37
Jharkhand	769980	11.1	0.38
Karnataka	1324205	22.5	48.55
Kerala	761843	20.4	57.28
Madhya Pradesh	1551931	33.0	12.01
Maharashtra	2963392	38.3	14.61
Orissa	1244402	24.1	60.85
Punjab	654063	9.6	1.35
Rajasthan	1563694	33.4	15.91
Tamil Nadu	1179963	39.1	38.11
Uttar Pradesh	4157514	82.8	59.00
Uttarakhand	185272	5.3	2.79
West Bengal	2017406	38.9	33.77
Andaman & Nicobar	6660	0.6	0
Chandigarh	14796	0.4	0
Dadra & Nagar Haveli	3294	0.3	0
Daman & Diu	2196	0.6	0

Delhi	234882	5.7	22.92
Lakshadweep	1615	0.3	0
Pondicherry	30189	1.3	0.62
Arunachal Pradesh	26734	5.3	2.01
Assam	480065	65.1	16.23
Manipur	54110	4.2	32.48
Meghalaya	44317	4.0	1.54
Mizoram	15160	3.4	0.20
Nagaland	29631	3.7	0
Sikkim	18187	2.2	0
Tripura	64346	7.1	2.51
		r^2 : 0.85 (p<0.001)	r^2 : 0.54 (p<0.05)
Source: Disability statistics, 2011 Census, Annual General Report, Ministry of Social Justice and Empowerment, Government of India			

Table 3: Funds to state NGOs in 2013-2014 (in million) for the ADIP and DDRS schemes, Number of PWDs in state (in absolute number).

Discussions

The correlation results and its statistical non-significance proves that the disbursal guiding mechanism instead of being need-based from the point of view of individual recipients has been need-based from the point of view of the service provider for the 2004-2005 to 2013-2014 decade. The correlation coefficients have been found to be extremely weak and statistically insignificant when the grants-in-aid data has been correlated with the number of PWD or the percentage of PWD in each state to the national total.

The requisition from NGOs has been the guiding principle towards grants-in-aid allotment from the central pool for the entire period of study. The requisition has been governed by the working environment of the state or in quantitative terms the HDI of the state. That is, states with higher HDI are able to bag greater shares of the fund while the poorer but needier states had to manage with the paltry aid. This inequity in fund transfer and opportunities has adversely affected the disability rehabilitation management performance in India in general and the feasibility of CBR in particular.

However, for the ADIP scheme funds (2013-2014) that targets recipients with prescriptions for aids and appliances, the correlation coefficient has been 0.85, indicating that the flow of funds in this case has been focused towards the actual beneficiary. This pattern of fund flow is equitable, in tune with the CBR philosophy and is being viewed as a move towards trend reversal improving the efficacy of the supply chain of rehabilitation management in India.

Conclusion

Borrowing from the famous argument in Poverty and Famines: An Essay on Entitlement and Deprivation, [10-12] that the supply chain is seldom affected by the paucity of funds, but from inequalities built into mechanisms for distributing it, bottlenecks in supply chain, asymmetric information, mismatch in demand and supply. Though the coverage of CBR has increased from 292.07 million in 2004-05 to 639.27 million in 2013-14 (Annual Reports, Ministry of Social Justice and Empowerment) during the last decade under consideration, it has failed to penetrate to the grassroots, the level where its presence were imperative. This absence has been reflected in the poor and inequitable non-acquisition rates that the national comprehensive report on disability revealed. It is expected that the second generation working of CBR would be responsible and more committed to its social outreach considerations. Rather than adopting the easy escape route to set shops in the most conducive environment, they would gear up to brace the challenge to serve the neediest at their doorstep.

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