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Original Research Article

Profile of patients coming to the department of physical medicine and rehabilitation for locomotor disability certification: a 5-years observational study

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ABSTRACT

Background: The persons with locomotor disability are eligible for various social welfare benefits from the Government under 'The persons with disabilities (Equal opportunities, protection of rights and full participation) Act, 1995' along with other causes of disabilities like blindness, hearing impairment etc. and recent enactment of the Rights of Persons with Disabilities (RPwD) Act, 2016. Understanding the utilization of services is crucial in enhancing assistance for individuals with certifiable disabilities. This study aimed to observe the clinico-demographic profile of patients coming to outpatient Department of Physical Medicine and Rehabilitations for locomotor disabilities certification and 5 years' trend in the number of patients getting disability certificate.
Methods: This retrospective study was based on the data taken at time of disability certification in a multispecialty tertiary care government medical college in Northern India. All persons with locomotor disability who were issued disability certificate between 2014 and 2018 were included in the study.
Results: A total of 857 patients were issued disability certificates during the study period of 2014 to 2018. Among the 744 adult patients, only 149 (20%) were female. Most of them were urban residents. In locomotor disability, post-polio residual paralysis was the most common diagnosis encountered, followed by amputations and cerebral palsy. Most of the applicants were having a disability of 40-50%.
Conclusions: Awareness has to be generated about the disability benefits and disability certification. Utilisation of services by females should be encouraged. Robust data and literature need to be built up for prevention and management of locomotor disability.

Keywords: Locomotor disability, Certification, Demographic profile

INTRODUCTION

Disability refers to a persistent physical, mental, intellectual, or sensory limitation that, when combined with obstacles, obstructs an individual's complete and efficient engagement in society on par with others. People with disabilities are sometimes referred to as differently abled individuals. Approximately 19.4% of the global adult population experience moderate to severe disabilities, with 3.8% facing severe disabilities.[1,2] Disability can cause immense pain and impose significant burdens on individuals, posing unique challenges for their families. To effectively tackle these challenges, it is crucial to adopt a 'social model', approach, which

recognizes that disability arises from the interaction between an individual's abilities and the social and physical environment they inhabit.[3] Every society must strive to address the disabilities of its members while upholding the autonomy and human rights of disabled individuals, enabling them to lead fulfilling lives.[4] However, each country must tailor its approach to disability based on its own capabilities and strengths. It is important to acknowledge that what may be disabling in one society may not hold the same degree of restriction in another due to cultural and local variations. For instance, physical disabilities in a rural setting may not be as limiting as in an urban environment with abundant resources. Furthermore, societies differ in the level of resources available to support individuals in compensating for or adapting to disability. As per Census of India (2011), about 27 million people live with disability in India, constituting about 2.2% of Indian population.[5,6] India, as a signatory to the United Nations convention on the rights of persons with disabilities, has enacted the Rights of Persons with Disabilities (RPwD, 2016) Act, which follows a right-based approach with a more expanded scope of disabilities and a clearly defined role of institutions. The certification toward 'benchmark disability' (≥40%) enables the person to get special provisions such as educational and employment reservations, benefits in land and housing schemes, and social security benefits, among others.[7] In order to benefit from various government scheme benefits like pension, rail concessions, income tax deductions, treatment insurance, financial aid for education, housing, and employment, it is mandatory to have a disability certificate. Surprisingly only 35% of persons with disabilities had certificates in the year 2010.[8] Research on disability within the Indian context has primarily overlooked the analysis of trends or patterns related to disability certificates, as well as the utilization of services associated with these legal certifications.[9] Previous studies have only touched upon the data concerning disability certificates issued by Indian canters on mental illness, no such study on locomotor disability.[10-12] The implementation of the RPwD Act in December 2016 and the increased focus on supporting individuals with verifiable disabilities, it is crucial to examine the data on disability certificates issued by hospitals in India. This data can provide valuable insights into the characteristics of patients who obtain certification and their utilization of services. Creating awareness within the community about the benefits available to the affected population is of utmost importance. By encouraging individuals to apply for certificates at designated centres, they can ensure they receive the entitled benefits from the State.

METHODS

This retrospective study was conducted in the department of Physical Medicine and Rehabilitation (PMR) at VMMC and Safdarjung Hospital, New Delhi, a tertiary care hospital run by central government. Anonymity was ensured in conformity to the Declaration of Helsinki. The study aimed to assess and describe the pattern and profile of patients for disability certifications based on 5-years (2014-2018) records. All individuals availing the service who were issued a disability certificate for locomotor disability between 2014-2018 were included while the individuals with multiple disability or non-locomotor disability and after initial assessment having permanent physical impairment less than forty percent were excluded from the study. Following the standard protocol, individuals who require a disability certificate were asked to submit an application using the designated form, accompanied by the required documents such as proof of identity. Subsequently, a disability evaluation and clinical assessment was carried out on a scheduled date. Disability was assessed as per the locomotor disability assessment guideline. Those with a locomotor disability diagnosis and ≥40% disability were issued a disability certificate. Details of all requests, disability certificates and clinico-demographic profile were recorded in a disability register maintained by the nursing officer in the PMR outpatient service. Furthermore, a duplicate copy of the certificate is retained for record-keeping. The facility has been designated as the nodal hospital for issuing locomotor disability certificates specifically for particular district of Delhi. Other hospitals were responsible for catering to the remaining districts in Delhi. Following the institution's policy, disability certificates were also granted to registered patients in long-term follow-up, regardless of their location within or outside Delhi. Information on available parameters (age, gender, residence area, percentage of disability & diagnosis) was retrieved and coded in the excel sheet in a deidentified manner. Statistical analysis was done using SPSS 21 software. Only descriptive analysis was done. The categorical data like age groups, sex, disability percentage category were expressed by frequency and proportion separately for adult and children. The year wise major diagnosis category was expressed by multiple bar diagram while the annual number of persons was presented by line diagram.

RESULTS

A total of 857 patients were issued disability certificates over the 5-year period starting from January 2014 to December 2018. Among them 744 were adults and 113 were children.

Most of them were urban residents, as the hospital gives disability certification services to the urban locality specified by Government of India. The demographic profile and disability percentages of adult and child applicants are shown in Table 1 and 2, respectively. The main purposes for which people applied for disability certificate were, for getting disability benefits, for school/college admission, for medicolegal issues, for government accommodation, who lost their existing disability certificate or those who wanted any change in name or photograph in their existing certificate. A significant portion of the applicants were pre-medical aspirants.

Table 1: Distribution of adult applicants.

Parameter	Category	2014 (n=115) Frequency (%)	2015 (n=117) Frequency (%)	2016 (n=163) Frequency (%)	2017 (n=151) Frequency (%)	2018 (n=198) Frequency (%)	Total (n=744) Frequency (%)
Age (years)	18-29	44 (38.3)	40 (34.2)	75 (46.0)	43 (28.5)	77 (38.9)	279 (37.5)
	30-39	21 (18.3)	33 (28.2)	33 (20.3)	42 (27.8)	56 (28.3)	185 (24.9)
	40-49	27 (23.5)	22 (18.8)	31 (19.0)	40 (26.5)	32 (16.2)	152 (20.4)
	50-59	14 (12.2)	6 (5.1)	15 (9.2)	19 (12.6)	15 (7.6)	69 (9.3)
	60-69	5 (4.4)	10 (8.6)	2 (1.2)	5 (3.3)	8 (4.0)	30 (4.0)
	70-79	3 (2.6)	5 (4.3)	3 (1.8)	2 (1.3)	8 (4.0)	21 (2.8)
	≥80	1 (0.9)	1 (0.9)	4 (2.5)	0	2 (1.0)	8 (1.1)
Sex	Male	98 (85.2)	92 (78.6)	123 (75.5)	119 (78.8)	163 (82.3)	595 (80.0)
	Female	17 (14.8)	25 (21.4)	40 (24.5)	32 (21.2)	35 (17.7)	149 (20.0)
Disability percentage	40-50	22 (19.1)	33 (28.2)	53 (32.5)	50 (33.1)	67 (33.8)	225 (30.2)
	51-60	28 (24.4)	12 (10.3)	20 (12.3)	29 (19.2)	38 (19.2)	127 (17.1)
	61-70	13 (11.3)	14 (12.0)	26 (16.0)	27 (17.9)	27 (13.6)	107 (14.4)
	71-80	27 (23.5)	28 (23.9)	30 (18.4)	26 (17.2)	41 (20.7)	152 (20.4)
	≥80	25 (21.7)	30 (25.6)	34 (20.9)	19 (12.6)	25 (12.6)	133 (17.9)

Table 2: Distribution of child applicants.

Parameter	Category	2014 (n=28) Frequency (%)	2015 (n=23) Frequency (%)	2016 (n=27) Frequency (%)	2017 (n=10) Frequency (%)	2018 (n=25) Frequency (%)	Total (n=113) Frequency (%)
Age (years)	≤5	5 (17.9)	5 (21.7)	4 (14.8)	1 (10.0)	3 (12.0)	18 (15.9)
	6-10	11 (39.3)	5 (21.7)	4 (14.8)	2 (20.0)	8 (32.0)	30 (26.6)
	11-15	7 (25.0)	6 (26.1)	11 (40.7)	4 (40.0)	11 (44.0)	39 (34.5)
	16-17	5 (17.9)	7 (30.4)	8 (29.6)	3 (30.0)	3 (12.0)	26 (23.0)
Sex	Male	22 (78.6)	13 (56.5)	20 (74.1)	8 (80.0)	19 (76.0)	82 (72.6)
	Female	6 (21.4)	10 (43.5)	7 (25.9)	2 (20.0)	6 (24.0)	31 (27.4)
Disability percentage	40-50	7 (25.0)	9 (39.1)	11 (40.7)	2 (20.0)	8 (32.0)	37 (32.7)
	51-60	3 (10.7)	3 (13.0)	4 (14.8)	1 (10.0)	5 (20.0)	16 (14.2)
	61-70	1 (3.6)	1 (4.4)	2 (7.4)	0 (0.0)	1 (4.0)	5 (4.4)
	71-80	8 (28.6)	6 (26.1)	5 (18.5)	4 (40.0)	6 (24.0)	29 (25.7)
	≥80	9 (32.1)	4 (17.4)	5 (18.5)	3 (30.0)	5 (20.0)	26 (23.0)

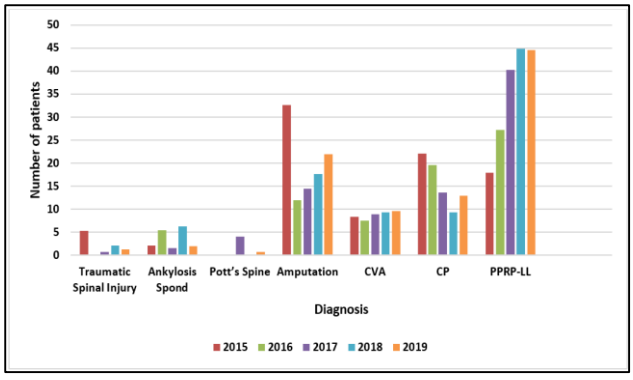

Figure 1: Distribution of major diagnosis for which disability certificates were issued over the period of 5 years (2014-2018).

CVA-cerebral vascular accident, CP-cerebral palsy, PPRP-LL-post-polio residual paralysis lower limb.

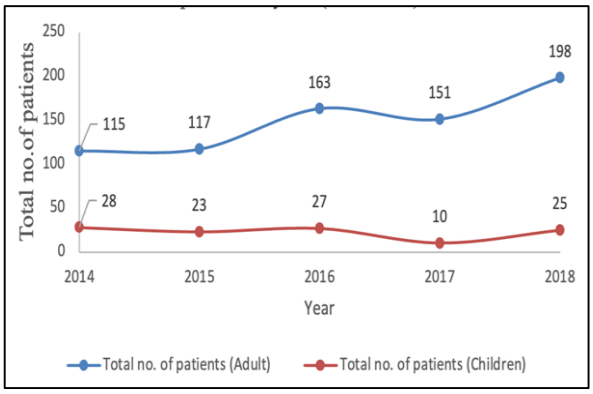

Figure 2: Trend of patient numbers over the period of 5 years.

The most common diagnosis which we had encountered were amputations, cerebral palsy, post-polio residual paralysis (PPRP), spinal cord injuries as shown in Figure

1 and 2 depict the trend of disability certification in adult and children over five years.

DISCUSSION

The rights of persons with disabilities act defines locomotor disability as the incapability of an individual to perform distinct activities associated with the movement of oneself and objects, resulting from the affliction of the musculoskeletal or nervous systems, or both.[1] To our knowledge, this is the first study to find out the disability trend of locomotor disability and describe the clinical and demographic characteristics in India. It improves our understanding of how disability is distributed among different types of locomotor disabilities as well as the demographic variation in terms of age, sex, cause of locomotor disability etc. Among different types of locomotor disabilities, cerebral palsy is one of the commonest cause of childhood disability so that most of the disability certificate seeker in children were suffering from cerebral palsy and 51.10% in between 6-15 years of age probably due to for taking admission in special school and other disability benefits. Over five years out of 113 children 82 (72.6%) applicants were male, might be due to parents are more attentive for male child in India. There is almost linear trend for disability certification in children population over five years from 2014-2018 except in 2017.

In adult there is continuous increase in number of disability certificate holder form 115 in 2014 to 198 in 2018 over five years might be due to more facilities and awareness campaign about disability certification benefits by government agencies and NGOs. Out of 744 adults 464 i.e., 62.4% in between age group of 18-39 years likely due to requirement of disability certificate for reservation in admission and employment/jobs. 80% adults are male and approximately 30.20% have disability percentage between 40-50%. In study by Mishra et al on economic gradient of onset of disability in India observed a clear economic gradient of onset of disability both overall and by specific type of disability.[13] This gradient was strongest for locomotor and speech disabilities. Disabled individuals are more vulnerable to economic disempowerment than non-disabled individuals.[14] Previous research indicated that individuals with lower socioeconomic status are more likely to experience higher levels of disability. This could be attributed to limited access to quality healthcare and inadequate healthcare services. Additionally, the literature consistently shows that there is a higher prevalence of disability among males compared to females. This gender disparity may be attributed to the fact that males tend to bear a greater burden of non-communicable diseases (NCDs) and are more prone to accidents and injuries compared to females.[18] Limitation of the study was a hospital-based study using routinely collected registry data, more robust data about utilisation pattern of disability certificate and primary purpose of certificate with larger sample size is needed.

CONCLUSION

Male and young adult persons are most common group of people getting certified in the centre. In case of children, 11-15 years group and male are most common. The disability category is more frequent in the severe category in case of children. These findings may vary from place to place depending upon the standard of the health care system and the awareness among the disabled population. This study may help the treating physician, surgeons, insurance companies, and governments to understand the magnitude of the problem so that the government can allocate resources to a particular region of the country. The physician responsible for the treatment will possess a superior ability to elucidate the concept of disability to patients by means of a comprehensive evaluation, thereby enabling patients to obtain certification and avail themselves of the associated benefits.

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