

**A RETROSPECTIVE ANALYSIS OF DISABILITY EVALUATION
FINDINGS IN PERSONS WITH PHYSICAL DISABILITIES: EXPERIENCE
OF OCCUPATIONAL THERAPISTS FROM AN INDIAN PERSPECTIVE**

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ABSTRACT

This study aimed to analyse the disability evaluation findings in persons with physical disabilities and to highlight the importance of the occupational therapist's role from an Indian perspective. One hundred and thirteen persons (100 men, 13 women, mean age 46 years) whose records were analysed in this study were referred to the occupational therapy out-patient department for disability evaluation for various reasons. A thorough medical and occupational history, therapeutic activity performance, tabletop tasks and an interview with care givers were also part of the assessment. Of the 113, 107 were referred from neurology, 3 from orthopedics and 3 from general surgery. A strong association ($r = -0.81$, $p < 0.0001$) was found between Activities of Daily Living (ADL) status and the disability score. There was also a strong agreement between reasons for evaluation and suggestions made by the therapists ($Kappa = 0.902$, $p < 0.0001$). All people fit for duty or light duty had a lower disability score and higher ADL status and vice versa. It was observed in certain cases that some standardised tests like LOTCA when included, helped the therapists in deciding on their comments/suggestions. The authors conclude that an occupational therapist plays an important role as one of the team members for disability evaluation.

INTRODUCTION

Occupational therapy services include evaluation and treatment of persons with physical and psychological disabilities. Evaluation is the first step towards the therapeutic treatment plan, and is the process of determining how a client's physical and/or psychological problems are interfering with his/her competence in occupational performance areas.

In the Indian context, a person with disability is a person with not less than 40% of any

disability as certified by a medical authority (1). Disability evaluations are done for various reasons including primary, secondary and tertiary prevention of impairments. Disability evaluation gives an occupational therapist an opportunity to interact with persons with disability, understand their perspectives and develop a treatment plan that is meaningful, can ease their discomfort, calm and assist in reintegration into their community.

METHOD

All persons with disabilities (N = 113) whose records were analysed in this study were referred to the occupational therapy out-patient department for disability evaluation for various reasons from General Medicine, Neurology, Neurosurgery, Orthopedics and General Surgery units of our Hospital. All clients were managed for their illness in our hospital or other government Hospitals. Of 113 persons with disabilities referred from June 2005 to October 2007, 100 were males and 13 were females between the ages of 5 to 80 years with mean age of 46 years. Every person with a disability underwent disability evaluation based on “Guidelines for evaluation of various disabilities and procedure for certification by Ministry of Social Justice & Empowerment Notification, June 2001” (2), and Activities of Daily Living (ADL) scoring using Gosumec Functional Independence Measure Profile. In some clients certain standardised tests were included such as LOTCA (Loewenstein Occupational Therapy Cognitive Assessment) (3). A thorough medical and occupational history, therapeutic activity performance, tabletop tasks and an interview with the client’s care givers were also the part of our assessment. Persons with intellectual disabilities were referred to a clinical psychologist for assessment. In some clients clinical cardiopulmonary evaluations were done. One occupational therapy staff, a postgraduate student and an intern were involved in each client evaluation. On completion of assessment, all clients were given the findings along with appropriate suggestions and sent back to the referring physician/surgeon of our hospital for the disability certificate.

RESULTS AND DISCUSSION

Of all persons with disabilities (N=113) evaluated for disability score, 94.69% (N=107) were referred from neurology (95 men and 12 women), 2.65% (N=3) were from orthopedics (2 men and 1 woman), and 2.65% (N=3) were from general surgery (all men). Of the 107

from neurology, 29.9% (N=32) were affected on the left side, 45.8% (N=49) on the right side, and 24.3% (N=26) had bilateral difficulties. Table 1 shows the diagnosis of the clients.

Table 1. Diagnosis of referred clients

Diagnosis (N =113)	Number	Percentage
Cerebro vascular accidents	85	75.22%
Guillian Barre Syndrome	02	1.76%
Infective conditions (Cerebral malaria, encephalitis), Space occupying lesions	03	2.65%
Primary muscular disorders	03	2.65%
Epilepsy with or without mental retardation	03	2.65%
Wilson's disease	01	0.88%
Amputation	03	2.65%
Parkinson's disease	02	1.76%
Rheumatoid arthritis	01	0.88%
Post -polio residual paralysis	01	0.88%
Fracture with Brachial Plexus Palsy	01	0.88%
Systemic lupus erythematosus and deep vein thrombosis	01	0.88%
Myasthenia Gravis	01	0.88%
Spinal misorders (Myelopathy, myelomeningocele)	03	2.65%
Cerebellar disorders	03	2.65%

Duration of onset of illness varied from 1 month to 30 years, prior to their referral to our department. Twenty five persons with disabilities were referred within 6 months of illness of which 21 (84.00%) were fit for duty or light duty. Of the remaining, 2 were unfit, 1 was assessed for extra time for examination and 1 for concession. The rest (88 persons with disabilities) were referred 6 months after onset of illness for evaluation.

Table 2 shows the degree of disability in the referred clients and the reasons for referral for evaluation.

Table 2. Degree of disability and reasons for evaluation

No. of clients		Reasons for Evaluation					
Degree of Disability & Disability Score		Applying for job in quota	Concessions /benefits	Extra time for exam paper	For fitness for Job	For lack of fitness for job	Total
1.	Nil (0%)	0	0	0	11	0	11
2.	Mild (<40%)	0	5	1	23	1	30
3.	Moderate (> 40% & < 75%)	1	4	2	4	0	11
4.	Severe (75% & above)	0	14	0	25	18	57
5.	Profound (100%)	0	3	0	0	1	4
Total		1	26	3	63	20	113

Correlation of Disability Scores and Activities of Daily Living (ADL) status was carried out using Spearman's Correlation as seen in Table 3 and 4.

Table 3. Disability Score and ADL Status

	N	Min.	Max.	Mean	S.D.
Disability Score	113	0.00	100.00	50.70	26.65
ADL Status	113	1.00	6.00	4.63	1.49

Table 4. Correlation of Disability Score Vs ADL Status

Correlation of Disability Score & ADL Status	'r'	'p'
Spearman's Correlation (N=113)	-0.810	<0.0001*

* Correlation is significant at the 0.01 level (2-tailed).

We found a strong association ($r = -0.81$, $p < 0.0001$) between ADL status and Disability Score. All persons with disabilities fit for duty or light duty had a lower disability score and higher ADL status and vice versa. ADL status scoring uses a more functional approach towards evaluation and helps the therapists in decision making for appropriate suggestions and comments.

A test of agreement i.e. Cohen's Kappa's Reliability Test was used for assessing the agreement between the reasons for evaluation and the suggestions made by the therapists, the result of which is presented in Tables 5 and 6.

Table 5. Reasons for evaluation Vs therapist's suggestions

No. of clients	Reasons for Evaluation					
	Conce- sion	Fitforduty	Extra Time forexam	Light duty	Unfit	Total
Concession/benefits	22	0	0	0	5	27
Extra time for exam	0	0	3	0	0	3
Fitness for job	0	20	0	41	2	63
Unfit for job	0	1	0	0	19	20
Total	22	21	3	41	26	113

**Table 6. Reasons for Evaluation Vs Therapist's Suggestions
(i.e. Fitness Vs Unfit for Job)**

Evaluation Done For	Fit for duty / light duty	Unfit	Total
Fitness for job	61	2	63
	96.8%	3.2%	100.0%
Unfit for job	1	19	20
	5.0%	95.0%	100.0%
Cohen's Kappa = 0.902 (i.e. perfect agreement between evaluation done & suggestion by therapist)			

We found a strong agreement between reasons for evaluation and suggestions made by the therapists (Kappa = 0.902, $p < 0.0001$). However, keen clinical observation suggested ruling out those who malingering for undue benefits. As seen in Table 5, there was one person who had come to be certified as unfit for job, inspite of being fit for duty. This may be due to factors such as low motivation, low self esteem or attempt to get the benefits available for persons with disabilities. On the other hand there were 2 persons with disability who came to be certified as unfit for job, but wanted to resume work, which shows good motivation and willingness to work.

Mann Whitney “U” Test was performed for comparing the LOTCA score with the Disability Score. But the test could not be applied as the data available was only of 7 persons. However, the descriptive (mean and S.D.) values for the degree of disability are given in Table 7.

Table 7. Degree of Disability Vs LOTCA Score

Number of Clients		LOTCA Score	
Degree of Disability	N	Mean	SD
Mild (< 40%)	3	65.33	6.51
Moderate (> 40% & < 75%)	4	52.75	15.19
Total	7	58.14	13.22

A larger sample is required for conclusions about statistically significant importance of LOTCA scoring in addition to disability evaluation as per the guidelines of Government of India, in areas of cognition and perception. Our clinical observation suggested that standardised tests such as this should be included for appropriate suggestions and comments or there should be some percentage allocated for cognitive - perceptual deficits in the disability evaluation guidelines.

CONCLUSION

From our analysis we found a strong association between ADL status and disability score. We also found a strong agreement between the reasons for evaluation and suggestions made by therapists.

An occupational therapist thus plays an important role as one of the team member for disability evaluation and for rehabilitation. It is mandatory on the part of the therapist to have expertise and skills in clinical evaluation, along with knowledge of rules and regulations for persons

with disability in India. Occupational therapists can play a role in the preparation of the disability evaluation guidelines, as we use a holistic approach towards persons with disabilities.

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