The Relationship between Disability Level and Facility Recommendation for the Intellectually Disabled and the Physically Disabled Persons

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Abstract

The purpose of this study was to investigate the relationship between diagnosed levels of impairment and recommended types of facilities for individuals with intellectual disabilities or physical disabilities. Ninety-one individuals with intellectual disabilities and 71 with physical disabilities were assessed through the Prefectural Rehabilitation Counseling Center. Three professional psychologists administered psychological tests, and four professional social workers administered scales to measure adaptive functioning. Two results were revealed: (1) Mental ability significantly related to ability of daily living across both groups - with intellectual and physical disabilities; and (2) For the sample of individuals with intellectual disabilities, milder intellectual impairment was associated with recommendations for a working facility whereas with physical disabilities such associations were not found.

Key Words: Recommended facility type, Disability level, Intellectually disabled, Physically disabled

Introduction

In Japan, there are approximately 342,000 adults classified as intellectually disabled and 3,426,000 adults classified as physically disabled, according to the 2002 national statistics (The Policy Research Group for Persons with Disabilities, 2003). Across Japan, there are currently 73 Prefectural Rehabilitation Counseling Center for Intellectually Disabled and 69 Prefectural Rehabilitation Counseling Center for Physically Disabled (Iida, 2003). One of the main responsibilities of the Prefectural Rehabilitation Counseling Center is to provide services for adults with disabilities. Services include consultations for adults diagnosed with these disabilities, support to their families, and collaborations with municipal governments and related organizations.

The Prefectural Rehabilitation Counseling Center services are provided through each multidisciplinary staff. The staff team includes Medical Doctors with various specialties (i.e., psychiatric, orthopedic), Case Workers, Public Health Nurses, Physical Therapists, Occupational Therapists, Speech Therapists, Clinical Psychologists and Nursery Teachers. The Center holds various roles as both consultant and expert evaluator from the various perspectives - medical, psychological and occupational - represented by the multidisciplinary team.

Additionally, the staff collaborates with local public and private care facilities to connect families with additional resources and support. A key component of the evaluation process is the referral made by the evaluation team to these local facilities.

Facilities for Adults with Intellectual Disabilities were mainly divided into two groups; i.e., Rehabilitation Facility which offers rehabilitation services, Working Facility which offers working opportunities. These facilities were also divided into two groups; i.e., Residential where intellectually disabled lives, Commute where intellectually disabled commutes from their house.

Facilities for Adults with Physical Disabilities were mainly divided into three groups; i.e., Rehabilitation Facility which offers rehabilitation services, Working Facility which offers working opportunities and Care Facility where offers care services. Rehabilitation Facilities were divided into two groups; i.e., for physically disabled, for severe physically disabled. And Working Facilities were also divided into two groups; i.e., Residential where physically disabled lives, Commute where physically disabled commutes from their house.

Within the last year, the administrative organization for disabilities' services has undergone a transition. The conventional system was structured so that the welfare administrative offices maintained the evaluation and decision-making of service provisions, including referrals to welfare facilities and home-helpers. A new system was introduced this year in which the "user" (individual with disabilities) selects services and directly contracts with service providers. This transition to a new system was based on the concept of Normalization - to respect the decision of the disabled and to establish the equal relationship between service providers and "users". Consequently, all persons with intellectual or physical disabilities are no longer required to be evaluated and recommended for a particular facility (and service provision) through the Prefectural Rehabilitation Counseling Center.

Completing assessments to determine the appropriate facility and service provision for each case has been an important role of the Prefectural Rehabilitation Counseling Center. As the system has undergone change, however, evaluation cases of physical and intellectual disabilities within the counseling center have decreased tremendously this year. At the same time, management of the disabilities' services provided within the prefecture has become one of the center's main responsibilities. This transition to a new system and the shift in the role of the counseling center highlights the importance of closely examining the characteristics and needs of individuals diagnosed with either intellectual or physical disabilities.

This examination of intellectual and physical disabilities consisted of two studies. Across both studies, analyses were conducted of the medical, social, and psychological assessment information collected for each case. Study 1 was conducted to examine diagnosed cases of intellectual disabilities. Study 2 focused specifically on diagnosed cases of physical disabilities. In this study, physical disabilities were divided into two categories - disorders of cerebral functions and other physical disabilities. The purpose of both study 1 and 2 was two-fold: (1) to investigate the relationship between mental ability and ability of daily living; and (2) to investigate the relationship between diagnosed level of impairment (in intellectual or physical ability) and recommended facility type.

Three hypotheses were suggested across both studies. First, significant correlation between mental ability and ability of daily living would be detected in intellectual disabilities. Second, significant correlation between mental ability and ability of daily living would be detected in disorders of cerebral functions. It was predicted that both mental ability and ability of daily living would decline in these cases. However, significant correlations would not be detected in other physical disabilities because decline in ability of daily living would be more severe than decline in mental ability. Third, in both intellectual and physical disabilities persons with milder impairment's disabilities would be judged to use working facility.

Study 1 (Intellectual Disabilities Cases)

Method

Participants

One hundred sixty-one cases were assessed from April 2002 to March 2003 in the Miyagi Prefectural Rehabilitation Counseling Center for Physically Disabled and Intellectually Disabled. Ninety-one (58 men, 33 women) who were assessed for facility use were included in this study. Participants ranged in age from 17 to 69 (mean age=35.78; *SD*=14.45). Of ninety-one participants, eighty-nine had Intellectually Disabled Person's Certificate. Forty-three had Grade A certificate, and forty-six had Grade B certificate (Grade A is severer than Grade B). Sixteen also had Physically Disabled Person's Certificate. Ten had Grade 1 certificate, five had Grade 2 certificate, and one had Grade 4 certificate.

Characteristics of their disabilities are presented in Table 1. The category of mental disorders was largely represented by epilepsy. Physical disabilities were primarily characterized by impairment of the limbs or trunk. Eight cases were categorized by double characteristics (dual diagnoses), and one had triple diagnoses.

Measures

Mental Retardation is defined in the DSM-IV by functional restrictions across both mental ability and adaptable behaviors (American Psychiatric Press, 1994). Therefore when evaluating cases with the diagnosis of mental retardation, it is important to focus on the level of restriction in their daily life. In order to determine this, both mental tests

Table 1. Complications in Intellectural disabilities

Complications	number
Epilepsy	17
Schizophrenia	4
Manic-Depressive Psychosis	1
Reactive Psychosis	5
Other Mental Disorder	6
Impairment of the limbs or trunk	12
Visual Impairment	2
Hearing Impairment	1
Kidney or Cardiac or Bladder Impairment	4
Total	52

and a scale to measure adaptive behaviors were administered.

Mental tests. Tanaka-Binet intelligence test was administered in 88 cases, Wechsler Adult Intelligence Scale - Revised (WAIS-R) in 2 cases, and Kohs' block design test in one case. Based on ranges of the Intelligence Quotient, level of mental disability was classified across five levels - normal, mild, moderate, severe and profound. Three professional psychologists in Miyagi Prefectural Rehabilitation Counseling Center carried out these tests. To assess their mental disorders, psychiatric situations were also considered from the medical viewpoint by psychiatrists on all cases.

Adaptive behaviors scale. Persons with mental retardation show several obstacles in their daily life; for example living, learning, work and so on. To assess their abilities of daily living, a scale to measure adaptive behaviors was used in this study (Sakurai, 1987). This scale is used in daily assessment situation in common at Miyagi Prefectural Rehabilitation Counseling Center for Physically Disabled and Intellectually Disabled. This scale consisted items focused on behaviors across 5 areas of adaptive functioning - Self-Help, Locomotion, Communication, Learning and Occupation. Each area was measured across 4 levels - Mild impairment, Moderate impairment, Severe impairment and Profound impairment. These 4 levels were shown as signpost through a standardization process (Sakurai, 1987). Approximately three (per five) fields show same level, the best three same fields' level was defined as disabled person's impairment scale. Four professional social workers in Miyagi Prefectural Rehabilitation Counseling Center carried out this assessment.

Analytic Procedure

Spearman correlation coefficients were used to compute the relationship between mental ability and ability of daily living. R^2 and Fisher's tests were used in order to compare intellectual ability between Rehabilitation Facility's cases and Working Facility's cases. Differences were assessed with two-sided tests. Data were analyzed with SPSS 10.0 for Windows.

Results

1. Relationship between mental ability and ability of daily living.

The relationship between results from the mental test and impairment scale for adaptive behaviors are presented in Table 2. There was significant positive correlation between mental ability and ability of daily living (r=0.864, p<.01). Therefore the hypothesis was ensured that impairment's level of mental ability was apt to match to the same

Table 2. Mental ability and Ability of daily living in intellectural disabilities

Ability of daily living / Mental ability	Self-help	Mild Impairment	Moderate Impairment	Severe Impairment	Profound Impairment	Total
Normal Mental Ability	2					2
Mild Mental Retardation		10	3	1		14
Moderate Mental Retardation		2	28	6	1	37
Severe Mental Retardation			2	21	1	24
Profound Mental Retardation					14	14
Total	2	12	33	28	16	91

Table 3. Intellectual ability and Facility's type in intellectual disabilities

Facility type / Level of Intellectual ability	Rehabilitation Facility		Working Facility		Residencial Facility for Adults with Intellectual Disabilities	Commute Facility for Adults with Intellectual Disabilities	Advice to apply to other law	Others	Total
	Residential	Commute	Residential	Commute					
Normal							1	1	2
Mild	1		2	6	5			1	15
Moderate	8	3	5	5	8	2			31
Severe	9	4		3	10	1	2		29
Profound	6	5			1		2		14
Total	24	12	7	14	24	3	5	2	91

impairment's level of ability of daily living.

And sixteen cases showed differences between mental ability and ability of daily living in Table 2. Twelve cases out of these (75%) had some complications; for examples Epilepsy, Schizophrenia, Autism, Dementia, Impairment of the limbs or trunk and so on. Therefore it was expected that persons with only intellectual disabilities would show more significant correlation between mental ability and ability of daily living.

2. Relationship between diagnosed impairment's level of intellectual disabilities and judged facility's type

Level of impairment in intellectual abilities was diagnosed by medical, psychological and social assessments for each case. Based on the level of impairment, a determination of the appropriate facility type was made for each case. These results are presented in Table 3.

Rehabilitation Facility cases were comprised of both Residential and Commute cases. Working Facility cases were also comprised of both Residential and Commute cases. There was significant bias in comparison of intellectual ability between Rehabilitation Facility's cases and Working Facility's cases (x^2 (3)=74.21, p<.01). As results of Fisher's tests, the rate of Mild and Moderate Intellectual Disability was associated significantly with referrals to Working Facility and the rates of Severe and Profound Intellectual Disability were significantly associated with Rehabilitation Facility cases. This meant that persons with severer intellectual impairment's disabilities were apt to be judged to use rehabilitation facility and persons with milder intellectual impairment's disabilities were apt to be judged to use working facility.

Study 2 (Physically disabled cases)

Method

Participants

Seventy-one cases (56 men, 15 women) were included in this study. Each of these cases was directly assessed and referred to facilities between April 2002 and March 2003 in the Miyagi Prefectural Rehabilitation Counseling Center for Physically Disabled and Intellectually Disabled. Participants ranged in age from 15 to 85 (mean age=46.54; *SD*= 15.61). All seventy-one had Physically Disabled Person's Certificate. Thirty-eight had Grade 1 certificate, twenty-two had Grade 2 certificate, six had Grade 3 certificate, one had Grade 4 certificate, three had Grade 5 certificate and one had Grade 6 certificate

(Grade 1 is more severer than Grade 6).

Four with cerebral palsy also had Intellectually Disabled Person's Certificate. Three had Grade A certificate, and one had Grade B certificate. Eleven also took nursing-care insurance for the elderly. Five took Grade 4 insurance, two took Grade 3 insurance, two took Grade 2 insurance and two took Grade 1 insurance (Grade 4 is severer than Grade 1).

Measures

Mental Tests. Hasegawa's dementia rating scale was administered to 37 cases, WAIS-R to 6 cases, Kohs' block design test to 5 cases and Tanaka-Binet intelligence test to one case. In the remaining 21 cases, only observation of behaviors was conducted. Based on the results from these tests and observations, mental ability was classified across five levels - normal, mild, moderate, severe and profound. Three professional psychologists in Miyagi Prefectural Rehabilitation Counseling Center carried out these tests. Rehabilitation Medical Doctors also consulted on all cases.

Adaptive behaviors scale. To assess their daily life functioning and abilities, a scale measuring adaptive behaviors was also used in this study. Three professional psychologists in the Miyagi Prefectural Rehabilitation Counseling Center administered interviews, including a social assessment scale. One psychologist in the Miyagi Prefectural Rehabilitation Counseling Center rated the adaptive behaviors of all cases based on this scale.

Analytic Procedure

Spearman correlation coefficients were used to compute the relationship between mental ability and ability of daily living. R^2 and Fisher's tests were used in order to compare intellectual ability among Rehabilitation Facility cases, Care Facility cases and Working Facility cases. Differences were assessed with two-sided tests. Data were analyzed with SPSS 10.0 for Windows.

Results

1. Nature of impairment and facility type

The relationship between the nature of the impairment and the referred facility type are presented in Table 4. Cerebral Palsy, Cerebrovascular Disorder, Head Injury and Other Disorders of Cerebrum Functions were grouped as Disorders of Cerebral Functions. The remaining impairments were grouped as Other Physical Disabilities. Among causes of impairment, cerebrovascular disorders occupy the most prominent place; more clients in this category than in others.

2. Relationship between mental ability and ability of daily living

The relationship between mental ability and ability of daily living in Disorders of Cerebral Functions are presented in Table 5. There was significant positive correlation between mental ability and ability of daily living (r=0.549, p<.01).

The association between mental ability and ability of daily living in Other Physical Disabilities are also presented (Table 6). Contrary to hypothesis, significant positive cor-

Table 4. Impairment's cause and Facility's type in physical disabilities

Impairment's cause \ Facility type		Rehabilitation Facility		Working Facility		Care Facility for Severe Physically Disabled	National Physical Rehabilitation Center	Advice to apply to other law	Total
		Facility for Physically Disabled	Facility for Severe Physically Disabled	Residential for Severe Physically Disabled	Commute for Physically Disabled				
Disorders of Cerebrum Functions	Cerebral Palsy	1	1		5	1			8
	Cerebrovascular Disorder	2	3	1	5	4		1	16
	Head Injury		1	1	3		1		6
	Other Disorders of Cerebral Functions				3	1			4
Other Physical Disabilities	Cervical · Spinal Cord Injury	1			2				3
	Bone · Joint Disease(Rheumatism etc.)				2				2
	Neural · Muscle Disease				4	1			5
	Dismemberment	2						1	3
	Spinocerevellar Degeneration				5				5
	Other Orthopecidal Impairment	1			4	1			6
	Hearing Impairment			1					1
	Visual Impairment			1	1	1	1		4
	Kidney/Cardiac/Respiratory Impairment				6			2	8
Total		7	5	4	40	9	2	4	71

Table 5. Mental ability and Ability of daily living in Disorders of Cerebrum Functions

Mental ability \ Ability of daily living	Self-help	Mild Impairment	Moderate Impairment	Severe Impairment	Profound Impairment	Total
Normal Mental Ability	2	7	1	2	1	13
Mild Mental Retardation		5	1	2	2	10
Moderate Mental Retardation			1			1
Severe Mental Retardation		1		5	2	8
Profound Mental Retardation					2	2
Total	2	13	3	9	7	34

Table 6. Mental ability and Ability of daily living in Other Physical Disabilities

Mental ability \ Ability of daily living	Self-help	Mild Impairment	Moderate Impairment	Severe Impairment	Profound Impairment	Total
Normal Mental Ability	6	7	3	2	4	22
Mild Mental Retardation		2	2		1	5
Moderate Mental Retardation			2		1	3
Severe Mental Retardation			1	3	3	7
Profound Mental Retardation						0
Total	6	9	8	5	9	37

relation was also found between mental ability and ability of daily living (r=0.461, p<.01).

These results suggested that in physical disabilities impairment's level of mental ability was also apt to match to the same impairment's level of ability of daily living. It was proved that the viewpoints from mental ability and ability of daily living were valuable in both intellectual and physical disabilities.

3. Relationship between diagnosed impairment's level of physical disabilities and judged facility's type

Based on information from medical, psychological and social assessments, recom-

Table 7. Physical impairment's grade and Facility's type in physical disabilities

Physical impairment's grade \ Facility type		Rehabilitation Facility		Working Facility		Care Facility for Severe Physically Disables	National Physical Rehabilitation Center	Advice to apply to other law	Total
		for Physically Disabled	for Severe Physically Disabled	Residential for Severe Physically Disabled	Commute for Physically Disabled				
Severe	Grade 1	1	3	2	3	19		3	31
	Grade 2	3		4	1	7		1	16
	Grade 3	2	1	1		3	1		8
Mild	Grade 4					10	1		11
	Grade 5	1		2		1			4
	Grade 6		1						1
Total		7	5	9	4	40	2	4	71

mendations of the appropriate facility type were made for each case. The association between physical impairment certification grade and recommended facility type are presented in Table 7.

Rehabilitation Facility cases were comprised of both Residential and Commute cases. Working Facility cases were also comprised of both Residential and Commute cases.

Severe Impairment was comprised of Grade 1, 2 and 3. Mild Impairment was comprised of Grade 4, 5 and 6.

There was significant bias in comparison of physical impairment's grade among Rehabilitation Facility's cases, Care Facility's cases and Working Facility's cases ($x^2(2)=5.23$, $p<.05$). Fisher's tests revealed that the rate of Severe Impairment was significantly lower in Care Facility cases and the rate of Mild Impairment was significantly greater in Care Facility cases. Therefore in physical disabilities the hypothesis wasn't proved that persons with milder physical impairment's disabilities would be judged to use working facility.

Discussion

In this study two results were proved. First, the viewpoints from mental ability and ability of daily living were valuable in both intellectual and physical disabilities. This meant that assessment activity from such viewpoints has validity and fruitfulness. And second, different tendencies were observed between intellectually disabled and physically disabled with regard to relationship between diagnosed impairment's level of disabilities and judged facility's type. Though in intellectual disabilities' cases diagnosed impairment's level of intellectual disabilities related to judged facility's type, in physical disabilities' cases only physical impairment's grade did not relate. In physical disabilities' cases it was suggested that other attributions as soon influenced to judged facility's type; for example mental disorders, the period from the start of disabilities, supports from family and surroundings, the complete degree of facilities and so on. Especially, it was surprising fact that many persons with mild physical impairment's disabilities would be judged to use care facility though it might be natural for them to be judged to use working facility. One reason was few working facility in Miyagi Prefecture. And other reason was that many persons with physical disabilities desired for care facilities because many care

facilities were equipped with new modern conveniences.

Though these persons took assessment in Rehabilitation Counseling Center, the distribution between diagnosed impairment's level of physical disabilities and judged facility's type wasn't appropriate. Much less I could expect proper usage of facility agreeable to each persons' impairment's level because disabilities are no longer required to be evaluated and recommended for a particular facility from this year. In this sense it may keep' confusions on facility usage in the future.

Kashimoto (2003) indicated that municipal governments must catch disabilities' situations and needs of individuals diagnosed with either intellectual or physical disabilities in supporting care system. And he insisted that municipal governments should appeal for technical advices from Rehabilitation Counseling Center in supporting process for disabled persons.

In the philosophy of Normalization it is natural for disabled persons to spend usual life. For persons who want to work, it is necessary to gain support for working. For persons who want to live near home, it is necessary to gain support to live near home. But on the other hand because of financial difficulty in local government, it is recommended to be more independent if disabled persons have possibility even in welfare context; i.e., working facility is better than care or rehabilitation facility, and commute facility is better than residential facility. It is necessary to keep balance between needs and costs. For persons with needs for such transition, support is necessary.

Each Prefecutual Rehabilitation Counseling Center needs to improve back-up system of local rehabilitation for intellectually disabled and physically disabled. And through transition from judgment to advice, it is important to contribute more for disabled welfare.

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