



Research article

Standardization of pediatric evaluation of disability inventory (pedi) in Tamillanguage

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ABSTRACT

The study aims to standardize Paediatric Evaluation of Disability Inventory (PEDI) in Tamil Language. Quantitative research design. Bilingual method was used to translate PEDI in Tamil language. Sixty participants were recruited through convenience sampling to establish content reliability of Tamil version of Paediatric Evaluation of Disability Inventory and eighteen participants included to establish concurrent validity of Tamil version of Paediatric Evaluation of Disability Inventory. Correlation was done between ISAA and Tamil version of Pediatric Evaluation of Disability Inventory to establish concurrent validity. The content reliability showed a highly statistically significant correlation for typical children and atypical children's functional skills and caregiver assistance on Self-care, Mobility and social functioning. The internal consistency was excellent between typical and atypical children for both domains respectively. The results found that there was a negative correlation between Indian Scale for Assessment of Autism and Tamil version of Paediatric Evaluation of Disability Inventory in typical and atypical children. The Tamil version of Paediatric Evaluation of Disability Inventory is a reliable and valid tool to identify children with disabilities in Tamil Nadu. This tool can be used for screening, intervention and research purpose

Keywords: Self-care, Mobility, Social functioning, Disability

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INTRODUCTION

Disability is a multidimensional and complex terminology and through the past years, it is identified with social and physical barriers⁽¹⁾. Disability is the umbrella term that includes the following factors like impairment, limitation inactivity, and restriction in participation. Impairment refers to loss of body function or ability, wherein activity limitation is an inability to carry out the functional activity, restrictions in limitation are problems encountered by an individual in the involvement of life events⁽²⁾. Persons with a disability can often experience problem arising out of their health status⁽³⁾.

Based on the 2011 census 121 Cr population are suffering from one or other kind of disability. the data collected as per research indicates the following among which 48.5 percentage (visual), 27.9 percentage (movement), 10.3 percentage (mental), 7.5 percentage (speech), 5.8 percentage (hearing). Significant numbers of disabled as reported across the country are: 3.6 million population in Uttar Pradesh, 1.9 million in Bihar, 1.8 million in West Bengal, 1.6 million of the population in both Tamilnadu and Maharashtra⁽⁴⁾. In Tamilnadu, the higher number of disabled populations is females than males. In Tamilnadu, 1.6 percent of the population suffers from

physical or mental disabilities⁽⁵⁾. All India Institute of Speech and Hearing (AIISH, 2017) reveals that 60.29 percentage of males and 39.71 percentage of females were affected by speech disability, and in Arunachal Pradesh males are more affected than females⁽⁶⁾.

In India as of 2016, the disabled population is 121 crores among which 2.68 crores persons are disabled which is about 2.21 percent of the total population⁽⁷⁾. The percentage population of males who are disabled is 56 percent and females are 44 percent whereas 69 percent of the disabled population of India lives in rural areas⁽⁸⁾. According to a national statistical office (NSO) survey performed in 2018, a higher percentage of men than women in India have disabilities⁽⁹⁾. According to evidence, using an instrument to measure functional ability produced in a different cultural context and practical setup may not be possible without first determining the instrument's applicability in the recipient's country's cultural and practical environment⁽¹⁰⁾. Over the last decade, the PEDI has been the most widely used measure for determining the effectiveness of intervention programs for children with disabilities. The PEDI Programme has switched the focus from developmental to functional thinking⁽¹¹⁾. The assessment of impairments frequently focuses on

clinical measurements from the previous year, which do not provide sufficient information about individual functioning in daily activities⁽¹²⁾. PEDI has both discrimination and evaluation purposes, such as determining eligibility for disability-related services and determining if the intervention should be changed⁽¹³⁾. Several international users reported a number of difficulties in adapting PEDI to their own culture. One of the most significant issues in the translation of PEDI is the difficulty in finding comparable words in each country's language. Cultural differences necessitated item adaptations and additions to PEDI. Differences between the American and normative data may be due to different parenting experiences⁽¹⁴⁾. Some of the items on the PEDI's subscales are irrelevant in the context of the population. As a result, the current study was conducted in order to translate PEDI into Tamil in order to eliminate cultural influences and to better comprehend the Tamil-speaking population⁽¹⁵⁾.

METHODOLOGY

This study obtained approval from the institutional Ethical committee of SRM Medical College and Research Centre. Ethical Clearance No: 2086/IEC/2020. It was a quantitative research design. The purpose of the study was explained to the individual who is professionally educated in Tamil with excellent knowledge of English. The bilingual method was used to translate PEDI into the Tamil language. The individual who is professionally educated in Tamil has translated PEDI into Tamil and back translation of Tamil version of PEDI into English by another individual professionally educated in English. The purpose of the study was explained to parents of typically developing and developmental disorder and informed consent was obtained from them. Parents of typically developing children (n=30) and parents of children with Developmental disorders (n=30) were included in the study based on screening criteria. Tamil and English version of PEDI was given to participants to establish reliability and validity of Tamil version of PEDI. ISAA (Indian Scale for Assessment of Autism) has been distributed to 18 parents of children with ASD to establish concurrent validity of Tamil version of PEDI. Data was collected for the analysis.

Data analysis

Table 1. Internal consistency & Item-Item correlation of Tamil version of PEDI- Typical children

Items	Intra-class coefficient of correlation	Cronbach Alpha α
Functional skills	0.768	0.908
Self-care		
Mobility		
Socialfunctioning		
Care giver assistance	0.850	0.944
Self-care		
Mobility		
Socialfunctioning		

ICC and Cronbach alpha were used to identify the internal consistency and item- item correlation of Tamil version of PEDI. The results showed that internal consistency was excellent (Cronbach's

alpha (α) = 0.908, 0.944 respectively) on functional scores and caregiver assistance in the Selfcare, Mobility, Social functioning domain in typical children. Further it showed that item –item correlation was good on functional skill scores and caregiver assistance in the Selfcare, Mobility, Social functioning (ICC = 0.768, 0.850 respectively) in typical children.

Table 2. Internal consistency & Item-Item correlation of Tamil version of PEDI- Atypical children

Items	Intra-class coefficient of correlation	Cronbach Alpha α
Functional skills	0.905	0.760
Self-care		
Mobility		
Social functioning		
Care giver assistance	0.940	0.839
Self-care		
Mobility		
Social function		

ICC and Cronbach alpha was used to identify the internal consistency and item-item correlation of Tamil version of PEDI. The results showed that internal consistency was excellent (Cronbach's alpha (α) = 0.760, 0.839 respectively) on functional scores and caregiver assistance in the Selfcare, Mobility, Social functioning domain in typical children. Further it showed that item –item correlation was good on functional skill scores and caregiver assistance in the Selfcare, Mobility, Social functioning (ICC = 0.905, 0.940 respectively) in typical children.

Table 3. zdgy4EDCCurrent Validity of Tamil version of PEDI

Population	Version of PEDI	Mean	SD	R Value	p Value
Typical	Tamil	247.94	34.350	-0.637	0.004**
	ISAA	51.56	8.155		
Atypical	Tamil	204.67	46.458	-0.738	0.000**
	ISAA	98.44	16.610		

Pearson correlation coefficient was used to identify the concurrent validity of Tamil version of PEDI in typical and atypical children. The result found that there was a statistically significant negative correlation between the scores obtained by Tamil version of PEDI scale and Scores obtained by ISSA scale (R = -0.637, P = 0.004; R = 0.738, P = 0.000 respectively).

DISCUSSION

Table No. 1 and Table No. 2 showed an excellent internal consistency on the domains of functional skills and caregiver assistance in typical children and atypical children. The result is consistent with previous studies which examined the internal consistency of the original version of PEDI, the Turkish version of PEDI, and the Chinese version of PEDI.

Table No. 3 was used to identify the concurrent validity of the Tamil version of PEDI in typical and atypical children. The result found that there was a statistically significant negative correlation between the scores obtained by the Tamil version of the PEDI scale and scores obtained by the ISSA scale. The negative correlation valve shows that if the Tamil version of PEDI increases then the ISAA scale scores decreases and vice versa. It depicts that Tamil version of the PEDI correctly identify typical and atypical children. The result is

consistent with the previous studies which examined the concurrent validity of Chinese version of PEDI and Korean version of PEDI. Tamil version of the PEDI can be used for early intervention to identify pediatric disability population in Tamilnadu. It can be used for screening, intervention and research purpose in pediatric population in Tamilnadu. The sample size might have been affected the results of the study and this study yielded that approximately more female than male, the ratio of gender was not equal

CONCLUSION

The purpose of the study was to standardize the PEDI in Tamil language. PEDI was translated into Tamil language through bilinguistic method. Sixty parents of typical and atypical children were included in the study through convenience sampling method. Both English and Tamil version of PEDI was given to the parents of typical and atypical children. ISAA and Tamil version of PEDI has been distributed to 18 parents of children with ASD to establish concurrent validity of the Tamil version of PEDI. The results showed that the Tamil Version of PEDI has adequate content reliability, internal consistency in items and concurrent validity. The current study concluded that Tamil version of PEDI is a reliable and valid tool to identify pediatric disabilities.

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