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ORIGINAL ARTICLE

Translation and Validation Scale for Assessment and Rating of Ataxia in Urdu Language for Cerebral Palsy Patients

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ABSTRACT

Aim: To translate the Scale for assessment and rating of Ataxia from English to Urdu language
Methods: The study employed a linguistic validation study design with a non-random sample approach and was done at different clinical setups of Lahore. Parents of children with ataxic cerebral palsy with children aged 2 to 15 years old who speak Urdu should contact us. Sara's English version was translated into Urdu by two translators, one with a medical background and the other with a technical background in Urdu, both proficient in Urdu and English. Two individuals with medical and technology backgrounds who are competent in Urdu to English translation reverse translated the translated versions of SARA-Urdu I and SARA-Urdu II into English. The re-translated versions of SARA-Urdu I and SARA-Urdu II were translated back into English (SARA English III and SARA English IV). The translated versions were compared and generated a new Urdu version SARA Urdu-V. The data was entered into the SPSS version 23 application, which was also used to analyze it.
Results: The translated version of the SARA scale has a Cronbach's alpha of 0.883. The inter-item correlation between the total SARA score and the eight domains of gait, stance, sitting, speech disturbance, finger chase, nose finger test, fast alternating hand movements, and heel shin slide was 0.131, 0.046, 0.159, 0.188, 0.136, 0.400, 0.698, and 0.450, respectively, after the translation of the Urdu version of SARA. For test retest reliability, the Pearson correlation value varied from 0.400 to 0.842.
Conclusion: The Urdu version of SARA has appropriate internal consistency and fair inter-item correlation, and hence may be utilized by Urdu speakers.
Keywords: Cerebral palsy, Cerebellar ataxia, Scale for assessment and rating of Ataxia

INTRODUCTION

A well-known neurological condition called cerebral palsy can develop in childhood or maturity. A variety of chronic movement and postural impairments that restrict activities are referred to as cerebral palsy. These are non-progressive issues with the Spastic, Ataxic, Athetoid, and Mixed varieties that affect the growing fetal or newborn brain[1]. A common neurological condition that can begin in childhood and worsen throughout maturity is ataxic cerebral palsy. A variety of chronic movement and postural impairments that restrict activities are referred to as cerebral palsy. These are non-progressive issues with the newborn or fetus' or young child's growing brain[2].

Planning and defining goals for rehabilitation therapy depend heavily on the ataxia exam. A fresh measure called the ataxia evaluation and rating scale was initially applied to spinocerebellar ataxia. There are a total of eight components. Symptoms of cerebellar ataxia are neurological[1]. Eight components make up the ataxia evaluation and rating scale. It comprises heel-shin slides, finger chases, nose finger tests, fast alternating hand movements, stance, sitting, and speech disruption. From each side, movements from 5-8 are examined independently and we calculate mean[3].

Three phases were involved in the translation process. First, two professional native English translators translated into Urdu separately (forward translation). The judge for translation was a translator with a technical background and another with a medical expertise. Second, the scale was back translated into English by two bilingual individuals who were blind to the original English version and worked independently of one another. These two fresh English translations were done into Urdu by two separate medical professionals who were blind to the original and had a diploma in English language proficiency (backward translation)[4].

The majority of people in Pakistan, a multilingual and multiethnic nation, speaks and understands Urdu as their primary language. Sadly, despite being translated into several languages, there is no scale for evaluating and assessing ataxia in Urdu.

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The goal of my study is to convert the Scale for Assessment and Rating of Ataxia into Urdu. Therefore, having a SARA in Urdu will be beneficial for the majority of medical professionals, physical therapists, and parents.

MATERIAL AND METHODS

The study employed a linguistic validation study design with a non-random sample approach and was done at Ghurki Trust Teaching Hospital, Lahore, Rising Sun Institute, Lahore, and The Global Institute, Lahore after permission from Hospital Ethical Committee. Parents of children with ataxic cerebral palsy with children aged 2 to 15 years old who speak Urdu should contact us. Sara's English version was translated into Urdu by two translators, one with a medical background and the other with a technical background in Urdu, both proficient in Urdu and English. Two individuals with medical and technology backgrounds who are competent in Urdu to English translation reverse translated the translated versions of SARA-Urdu I and SARA-Urdu II into English[5]. The re-translated versions of SARA English III and SARA English IV were compared to the original SARA English III and SARA English IV (English version)[6]. The data was entered into SPSS version 23 application, which was also used to analyze it. The study's variables were provided to us in the form of descriptive statistics (tables, graphs, and percentages). After being guaranteed of secrecy, all participants granted their consent.

RESULTS

Internal consistency: The Cronbach's alpha of translated version of SARA scale is 0.883.

Cronbach's Alpha	No of Items
.883	8

Inter-Rater and Intra-Rater reliability: The inter item correlation after translation of the Urdu version of SARA of eight domain that are gait, stance, sitting, speech disturbance, finger chase, nose finger test, fast alternating hand movements, heel shin slide with total score of SARA was 0.131, 0.046, 0.159, 0.188, 0.136, 0.400, 0.698, 0.450 respectively.

	Intraclass Correlation	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.485	.318	.684	8.541	20	140	.000
Average Measures	.883	.788	.945	8.541	20	140	.000

Test re test reliability: Pearson correlation coefficient ranged from 0.400 t0 0.842 for test retest reliability.

Domains	Statistics	Total score of SARA
Gait	Pearson Correlation	0.131
	Sig. (2-tailed)	0.571
Stance	Pearson Correlation	0.046
	Sig. (2-tailed)	0.842
Sitting	Pearson Correlation	0.159
	Sig. (2-tailed)	0.491
Speech disturbance	Pearson Correlation	0.188
	Sig.(2-tailed)	0.413
Finger chase	Pearson Correlation	0.136
	Sig. (2-tailed)	0.556
Nose to finger test	Pearson Correlation	0.400
	Sig. (2-tailed)	0.73
Fast alternating hand	Pearson Correlation	0.698
	Sig. (2-tailed)	0.000
Heel shin slide	Pearson Correlation	0.454
	Sig. (2-tailed)	0.041

DISCUSSION

The main goal was to translate and evaluate the SARA scale for the target demographic in Urdu. Because the scale of the phrases and paragraphs had previously been established as being simple and straightforward, the researcher did not need to make any changes[2]. Oculomotor function is noticeably compromised by several forms of spinocerebellar ataxia, although the SARA scale does not measure this function[7].

Brazilian and Chinese versions both have Cronbach's alpha coefficients of 0.94 and 0.78, respectively, indicating strong internal consistency similar to the present Urdu version of 0.883. The SARA law was translated into Korean in 2014. One physiatrist and one occupational therapist used the K-SARA to assess stroke patients (n=60) with ataxia. Each subject received two ratings. Sara was a true and trustworthy representation of ataxia in Korea[8].

Anja Weyer, MD, et al. carried out a research in 2007 to evaluate the validity and reliability of the SARA scale. With ICCs of 0.98 and 0.99, inter-rater and intra-rater reliability were both quite good. The Cronbach's alpha of 0.97 indicates that internal consistency was strong. Using a factor analysis, it was discovered that one significant component, with an eigenvalue of 6.34, accounted for 52.8% of the variation in the rating findings[9].

Mits Hubsch, S et al carried out a research in 2006 in which reliability and validity were evaluated. The intra-class coefficient (ICC) was 0.98, indicating a good level of inter-rater dependability. With an ICC of 0.90, test-retest reliability was excellent. Cronbach's alpha was 0.94, which indicates that internal consistency was strong. According to a factor analysis validated by the current investigation, the rating findings were driven by a single component[10].

An investigation of the validity and internal consistency of the Chinese SARA for the diagnosis of cerebellar ataxia in 66 individuals with spinocerebellar degeneration was done in 2009. Except for the inter-rater "finger chase" and "rapid alternating hand movement" tests, intra class coefficients (ICC) were consistently larger than 0.8. The Japanese version of SARA is quite accurate and helpful for daily evaluation of cerebellar ataxia[11].

Covid-19 caused data to be gathered from a small number of settings. Some parents and kids were reluctant to complete this scale. Caretakers that lack literacy shouldn't be included in the research. A minority of Pakistanis is unable to read Urdu, hence the SARA scale should also be translated into other languages. Due to its application to a small population, the translated version's generalizability is constrained.

CONCLUSION

The Urdu version of SARA has appropriate internal consistency and fair inter-item correlation, and hence may be utilized by Urdu speakers.

Conflict of interest: Nil

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