TRANSLATION AND VALIDATION IN PASHTO (3): WORLD HEALTH ORGANIZATION DISABILITY ASSESSMENT SCHEDULE 2.0

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ABSTRACT

Objective: To translate and validate the World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0) in Pashto.

Methodology: This study was conducted in Peshawar from July 2015 to January 2016 on 216 participants. The participants consisted of two groups; students (n=111) and patients (n=105) with a mean age of 21.8 ±5.6 years. Three bilingual experts, using forward-backward method, translated WHODAS 2.0 from English to Pashto. Both, English and Pashto versions of WHODAS 2.0 were given to the participants separately. Pashto version of Hospital Anxiety and Depression Scale (HADS) was also given to find out its correlation with WHODAS 2.0. The data were analysed using SPSS v. 20.

Results: The Pashto version of WHODAS 2.0, well discriminated between both groups of participants. Disability scores were significantly higher in patients group of participants as compared to students (p value =0.000). The factorial validity of the Pashto version showed that it is a single factor instrument. WHODAS 2.0 Pashto version had good concurrent validity as there was significant correlation between English and Pashto version of WHODAS 2.0 (r =.82; p value =.000). The Cronbach's alpha coefficient of the Pashto version of WHODAS 2.0 was 0.92. There was a significant correlation between Pashto versions of WHODAS 2.0 and HADS (p =.000).

Conclusion: Pashto version of the WHODAS 2.0 is a valid and reliable instrument to measure disability and can be used in community as well as clinical settings.

Key Words: World Health Organization Disability Assessment Schedule 2.0, Translation, Validation, Pashto

INTRODUCTION

Disability is not a word but a concept that covers impairments, activity limitations and participation restrictions. Over one billion people globally experience disability[1]. In recent past, the definition of disability has encompassed biopsychosocial model and have taken into account the two-way association between a health condition and contextual factors, i.e., personal and en-

vironmental[2]. In this context, World Health Organization (WHO) developed International Classification of Functioning, Disability and Health (ICF) for materializing universally accepted definition and classification of disability[3-6]. ICF defines disability as "a difficulty in functioning at the body, person or societal levels, in one or more life domains, as experienced by an individual with a health condition in interaction with contextual factors"[3,7].

The insight to the implications that a health condition can have on the day-to-day life of an individual can only be provided by assessing disability by such an approach that can verify the ways in which health conditions may affect the individual's daily activities[8]. Various instruments have been developed in this regard but none was based on the ICF model[9-14]. Therefore, World Health Organization developed Disability Assessment Schedule 2.0 (WHODAS 2.0), superseding WHODAS II, to assess disability based on the ICF biopsychosocial conceptual model[15-18].

WHODAS 2.0 assesses perceived disability, in the 30 days preceding its application, associated with the health condition[8]. WHODAS 2.0 is divided into 6 domains, "i.e., i) cognition; ii) mobility; iii) self-care; iv) getting along; v) life activities; and vi) participation"[3]. Two versions (36 items and 12 items) of WHODAS 2.0 have been developed and both are available as interviewer, self and proxy-administered forms[3]. However, another version (12+24 item) has also been reported that can be administered in an interview[8,19]. High internal consistency (α = 0.86), good concurrent validity when compared with other disability assessing tools and the effect sizes ranging from 0.44 to 1.38 for various health interventions targeting different health conditions, has been reported for WHODAS 2.0[17].

In a recent systematic review, it has been reported to be translated in 47 languages[19]. Silveira et al[20] have reported detailed cross-cultural adaptation in Portuguese language. However, no such work on validation and translation of WHODAS 2.0 has been carried out in Pakistan. Thus, it is important to validate the questionnaire in all the major local languages of Pakistan. Khyber Pakhtunkhwa, a province of Pakistan, is located in the northwest region of the country. The province has a population of over 30 million and ranks third among provincial economies in Pakistan[21]. Therefore, it is important to translate and validate the instrument in Pashto to use for the people in Khyber Pakhtunkhwa, as most of the population speaks Pashto and secondly, the translated instrument in Pashto can be a useful tool for clinicians and researchers to assess disability.

METHODOLOGY

This study was conducted, on 216 participants, simultaneously in the psychiatry outpatient departments of teaching hospitals of Peshawar (patients =105) and Peshawar Medical College (students =111) from July 2015 to January 2016, after having ethical approval from the Institutional Review Board of Prime Foundation. Further details of the methodology used, analysis conducted, demographics and limitations have been reported, elsewhere[22]. The correlation between the Pashto version of WHODAS 2.0 and Pashto version of Hospital Anxiety and Depression Scale (HADS) was found out by using Pearson correlation.

RESULTS

The result of discriminant validity showed that the Pashto version of WHODAS 2.0 well discriminated between both groups of participants. Disability scores were significantly higher in patient group of participants as compared to students (p =.000, Table 1).

According to the factorial validity of the scale, the percentage of variance was 52.55%, with an Eigen value of 6.305 (Table 2).

WHODAS Pashto version has high concurrent validity as we have found significant correlation (r =.82; p =0.001) between English and Pashto versions of WHODAS 2.0.

The internal consistency reliability of the Pashto version of WHODAS 2.0 was 0.92, which is superb.

The results of correlation between the Pashto version of WHODAS 2.0 and HADS showed a significant positive correlation at p <0.01 level (r =.427). It also indicated significant positive correlation (p <0.01) between WHODAS 2.0 and HADS subscales of Anxiety and Depression (Table 3).

DISCUSSION

This study was done to translate and validate WHODAS 2.0 in Pashto. The results showed that WHODAS 2.0 Pashto version is psychometrically reliable and valid enough to use to assess disabilities in a variety of clinical settings, similar to the findings of the originally developed scale[17].

WHODAS 2.0 Pashto version contains high discriminant validity as the tool discriminates well between the clinical and non-clinical samples for Pashto speaking population. Some other studies[2], while exploring discriminant validity of WHODAS also found that WHODAS was valid enough to differentiate between clinical-severity groups in chronic disease patients and severe patients reported more disability than mild patients[2].

In our study, while computing factorial validity of Pashto version of WHODAS 2.0, we found that the items explained 52.55% of the variance with single factor with the Eigen value greater than 1 (i.e., 5.15) as recommended by Kaiser[23]. These findings are also in line with

Table 1: Discriminant validity of WHODAS 2.0 between two groups (n=216)

Scales	Groups				t-value	Sig
	Students (n=111)		Patients (n=105)			
	M	SD	M	SD		
English WHODAS 2.0	9.31	7.49	17.68	8.69	-7.59***	.000
Pashto WHODAS 2.0	7.83	7.54	16.67	9.71	-7.49***	.000

*** = p <0.01 level; ** = p <0.05 level

Table 2: Factor loadings of the Pashto version of WHODAS 2.0 in the factor solution obtained through Varimax rotation, item total score correlation and Cronbach's alpha, if item deleted (n=216)

S. No.	WHODAS 2.0 Scale	Factor 1	Correlation with total score	Cronbach's Alpha if deleted
1.	Item 1	**.620**	.554***	.914
2.	Item 2	**.752**	.694***	.908
3.	Item 3	**.757**	.700***	.908
4.	Item 4	**.731**	.670***	.909
5.	Item 5	**.649**	.584***	.913
6.	Item 6	**.681**	.616***	.912
7.	Item 7	**.707**	.644***	.911
8.	Item 8	**.714**	.647***	.911
9.	Item 9	**.765**	.701***	.908
10.	Item 10	**.720**	.659***	.910
11.	Item 11	**.762**	.699***	.908
12.	Item 12	**.818**	.766***	.905

Eigen Values =6.305

Percentage of Variance = 52.545

Kaiser-Myer-Olkin Measure of Sampling Adequacy =.907

Bartlett's Test of Sphericity, Approximate Chi-Square =1429.345***

Bold: greater values of factor loadings in every item (>0.4).

*** p <.001

Table 3: Correlation of Pashto version of WHODAS 2.0 with Pashto version of HADS and its sub-scales using Pearson correlation (n=216)

S. No.	Scales	I	II	III	IV
I	WHODAS 2.0	1			
II	Overall HADS	.427*** (.000)	1		
III	Anxiety Sub-scale	.419*** (.000)	.886*** (.000)	1	
IV	Depression Sub-scale	.307*** (.000)	.831*** (.000)	.478*** (.000)	1

*** = p <0.01 level; ** = p <0.05 level

the studies conducted by Marx et al[24] and Saltychev et al[25]. These authors found WHODAS 2.0 to contain single factor with 55% variance[24] and with an Eigen value of 5.15[25].

The comparison of construct validity of the Pashto version of WHODAS 2.0 showed similar findings to the results of the study by Silva et al[8]. The results of concurrent validity of English and Pashto versions of WHODAS 2.0 showed significant positive correlation, which proves that this instrument can effectively be used in both the languages.

The internal consistency of WHODAS 2.0, Pashto version, is in line with the reliability of other studies, which have reported the value of Cronbach's alpha to be >0.7, 0.84, 0.93, >0.82, 0.86, and 0.96, respectively[2,8,26-29].

The results of correlation of WHODAS 2.0, Pashto version, showed that it has a significant correlation with anxiety and depression scores of Pashto version of HADS, which means that those who had more disability were more anxious or depressed. Thus, this could be considered as a supplementary evidence to suggest the validity of WHODAS 2.0, as a questionnaire. Few studies have reported a correlation of WHODAS 2.0 with SF-36 (Short Form-36 Health Survey) [2,28,29] while Habtamu et al [27] reported positive correlation with BPRS-E (Brief Psychiatric Rating Scale - Expanded version) ; Marx et al[24] with IPF (Inventory of Psychosocial Functioning) and Ustun et al [17] reported high correlation with the overall score on the LHS (London Handicap Scale), WHOQOL (WHO Quality of Life measure) and FIM (Functional Independent Measure) .

CONCLUSION

The results provide clear support to the WHODAS 2.0 utilization as an interdisciplinary instrument to measure disability. The Pashto version of WHODAS 2.0 is reliable, valid and adequate tool to evaluate disability in patients and community. This may help in developing policies based on evidence of populations' needs, considering their disability.

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