

Cross cultural adaptation of shoulder pain and disability index from English into Urdu language: A study of linguistic validity

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ABSTRACT

This Qualitative linguistic validity study based on international guidelines for cross cultural translations of assessment tools, was conducted to adapt Shoulder Pain and Disability Index (SPADI) into Urdu from English and to test the Urdu version of Shoulder Pain and Disability Index, at the University of Health Sciences, Lahore College for Women University and Nawaz Sharif Social Security Hospital, Lahore from 1st July 2016 to 30th December 2016.

In this study 2 independent translators, translated the Original Shoulder pain and disability index into Urdu language and gave the written reports which explained the challenging phrases with all the additional remarks. A third paraphraser compared all the given remarks and formed a final Urdu version which was then translated backwards into English. An expert committee comprised of health professionals and the translators (forward and back translators) reviewed all translations and approved the final Urdu version Shoulder pain and disability index. It was then used in 30 patients to test consistency of its measurements.

The internal consistency of the Urdu version calculated through α coefficient of Cronbach is 0.87 for the pain while for the disability scale it is 0.88 and for the total of both it is 0.85. Intraclass correlation coefficient of the Urdu Shoulder pain and disability index for pain is 0.85 while for the disability it is 0.86 and for the total of both it is 0.73.

Conclusion: The Urdu Shoulder pain and disability index can be used as a reliable tool for the assessment of shoulder pain and disability in Local Urdu speaking population.

Keywords: Cross cultural adaptation, Shoulder Pain, Disability evaluation, Activities of daily living, Language, Physiotherapy, Severity index

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INTRODUCTION

The trend of measuring health status is increasing day by day with the help of multiple questionnaires which are translated in different languages due to high demand of multicultural researches¹. Translation of one questionnaire to another language means that the original questionnaire is being

translated from its original language to another target language. This is also known as cross culture adaptation². For successful adaptation of a health related questionnaire in another language and culture, it is important that both the genre of the same questionnaire should have equal validity and reliability³.

These translated questionnaires are developed to find out the qualities those are not measured directly through the assessment tools like quality of life and pain etc. cannot be measured through any assessment instrument or tool which can be only reported by the patient himself⁴. so this type of attributes should be measured through those scales which are translated in local languages so that the patient could be capable enough to read and understand those questionnaire and can tell about their proper condition⁵. Unfortunately in Pakistan there are not much self-reported questionnaires which are translated into the local language i.e Urdu which render the patients to describe their actual condition and which demands help from the qualified person of the original language version person in order to completely describe their situation. Lack of such translated instruments in the local languages limit the professionals with the two choices, either to develop a new measuring tool and describe its various

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properties in the regional language or to use an already developed tool which is used in other countries in different languages⁶. Many guidelines are available for the successful cross cultural adaptation of the measuring tool but out of these three guidelines show successful results⁷. In Pakistan various self-reported scales have been translated and validated from English into Urdu. SPADI is paraphrased and adapted in different languages world widely. In this study its translation and lingual adaptation are described only. There are also several researches are being conducted world widely to translate the original SPADI into different local languages like Alsanawi et al done a study to adapt the Arabic genre of SPADI and checked its psychometric properties after its translation in Arabic version in 2015⁸ and Chanwit Phongamwon et al in Thai language in 2015⁹. María Torres-Lacomba also performed a study on cultural adaptation of a Spanish version of SPADI and checked its validity and the oxford shoulder score in patients who had undergone through breast cancer surgery. According to her study the translated SPADI had higher test-retest reliability¹⁰. Marloes Thoomes-de Graaf et al also performed a study on the Dutch version of the SPADI which showed good internal consistency because alpha of Cronbach's was 0.94 and a good test-retest reliability which was 0.89¹¹. Similarly, the Ebrahimzadeh et al¹² on the Persian version of SPADI, Martins et al¹³ performed on the cultural adaptation of the Brazilian version of SPADI, Jamnik et al on Slovene version and all studies shows a good reliability between test and re-test. So far in Pakistan there has not been any study on SPADI cross-cultural adaptation which limits its use in the country¹⁴. Therefore this study will provide society with a local language (Urdu) version pain assessment form to easily describe their intensity of pain and disability due to shoulder pathology because SPADI is a widely used self-reported pain scale related to shoulder dysfunction. So the objective of this study was to generate an Urdu version Shoulder Pain and Disability Index from English and to test the Urdu version of SPADI for the assessment of shoulder pain and disability in local Urdu speaking population¹⁵.

METHODOLOGY

This qualitative linguistic validity study in which two sets of guidelines were used to promote intra cultural translation of different assessment tools was performed in Physical Therapy Department of University of Health Sciences and Nawaz Sharif Social Security Hospital and English Department of Lahore College for Women University Lahore in 6 months from 1st July 2016 to 30th December 2016. In this study 2 independent translators who were able to speak both languages i.e Urdu and English, translated the Original SPADI into Urdu language and gave the written reports in which they explained the challenging phrases with all the additional remarks. In next stage a third independent paraphraser compared all the given remarks and items of the 2 formed forward translations and generated Urdu version translation of the measuring tool. In the next step 2 independent translators produced 2 back

translations (English version) of the newly generated Urdu version measuring tool along with the written reports. 1 translator had a vast experience of teaching English literature in the Lahore College for Women University and was well aware of both cultures but had not any previous knowledge of the measuring tool which we want to translate and didn't know with the medical terms and constituents of measuring tool and her mother language was not English. The 2nd translator was related to medical field and knew the medical terms written report was synthesized. An expert committee reviewed all translations, considering semantic, idiomatic, experiential, and conceptual equivalences and approved the final Urdu version SPADI which was then used in 30 patients to test consistency of its measurements through α coefficient of Cronbach and compared with original English version Shoulder pain and disability index so that it can be used as measurable self-reporting tool for shoulder pain and disability. Lead researcher done a semi-structure interview with the 30 patients of shoulder joint Pain and dysfunction. Nawaz Sharif Social Security Hospital was used for the selection of the patients through sampling Purposive. Individuals who met the criteria were further explained about the purpose of the research and filled the patient information sheet and consent form. Volunteers were selected on the below described inclusion and exclusion criteria. On the day of interview researcher asked the participants to sign the consent and sociodemographic form after that they were requested to fill up the Urdu edition of SPADI. Lead researcher took the test reading on 1st session of the 1st day while retest reading on the 2nd session on the 3rd Day.

Conceptual equivalence was checked through backward translation which describe that the generated translation of the measuring tools in Urdu language gives the same meaning when it is translated back into the English language, and content validity was checked on the basis of notes taken during the interview, recordings and debriefing.

The construct validity of the Urdu SPADI was determined through the analysis of the components because any valid measurement tool will be highly marked on one point by the patients in different times. The internal consistency was check through Cronbach alpha score and inter class correlation coefficient.

Criteria of inclusion: Patient who can read and write and speak Urdu with urdu mother language, gained the primary school education and were willing to sign the informed consent form. Two Backward Translator was selected whose mother language was English but can understand Urdu and forward translators were selected whose mother language was Urdu and can understand English. The 3 individuals with minimum 8 years' experience were included as the part of expert committee.

Criteria of exclusion: Those patients who were suffering from diseases other than shoulder joint. Those who had any sight, hearing or Urdu speaking problem. Any Individual who did not fulfil the inclusion criteria or who had mental abnormalities or who was on sedative medication was excluded from the study.

RESULTS

Figure-1 Final Urdu version SPADI

Table-I: Cronbach's alpha and Interclass correlation coefficient

Subscale	Number of items	Cronbach's alpha	Interclass correlation coefficient		
			Intraclass correlation coefficient	95% Confidence Interval	P Value
Pain	5	0.87	0.85	0.81-0.87	0.001
Disability	8	0.88	0.86	0.83-0.88	0.001
Total of both	13	0.85	0.73	0.62–0.80	0.001

The internal consistency of the Urdu version calculated through α coefficient of Cronbach is 0.87 for the pain while for the disability scale it is 0.88 and for the total of both it is 0.85. Intraclass correlation coefficient of the Urdu SPADI for pain is 0.85 while for the disability it is 0.86 and for the total of both it is 0.73.

DISCUSSION

According to available literature SPADI is translated in different languages and adapted in various cultures for the assessment of shoulder joint problems but its Urdu version was still not available in any country due to which illiterate population of the country who can't read the English always remain disable to describe to self-condition through self-reported questionnaires. This non-availability of Urdu SPADI stimulated the researcher to conduct a study on the translation of SPADI

into Urdu language. So the intention of this study was the translation and linguistic validation of Urdu edition of SPADI for the ease of Urdu speaking people with shoulder pathologies. Our research findings tells that the Urdu SPADI can be used as a fruitful measuring tool in glenohumeral joint problems. The whole translated Urdu tool describes excellent internal consistency and fine reliability. The degree of internal consistency and the level of content validity of the Urdu version is beneficial like the original and the other translated versions.

Some difficulties were faced during the study like the conflict of concepts and choice of words at different stages of translation like at the stage of forward translation the translators have some conflicts on the words of undershirt and pull over words, other word which caused the confusion were putting on the pants which was translated by one translator as "patloon" the other translated it as "pajama" the other main conflicts was on the word of 10 pounds which translated as it is but the 2nd translator translated it as 5 Kg. both these conflicts in the choice of words which was then resolves by mutual cooperation in synthesis stage.

The original English SPADI was tested on thirty seven male subjects who had shoulder joint pathologies. Reliability of the original SPADI was 0.64 to 0.66 and the internal consistency was from 0.86 - 0.95¹⁶. The reliability of the other translated versions of SPADI was 0.94 of Bzazilian¹⁷, Danish SPADI has 0.88¹¹, German SPADI have 0.94¹⁸, Turkish SPADI have 0.92¹⁹, while Slovene SPADI have the reliability of 0.94²⁰.

The results of test retest reliability in current study of Urdu SPADI is same like other versions of SPADI. The internal consistency was obtained Cronbach's α which was 0.89 in Brazilian, 0.94 in Danish, 0.95 in German, 0.94 in Turkish, and 0.92 in Slovene version these all are similar to our study findings which is proving excellent internal consistency for the Urdu version of SPADI which is 0.85.

Our numerical values for the validation and cross-cultural adaptation of SPADI are just like the prior validation studies; low level differences in cultural adaptation are acceptable as the measuring tool shows that it is reliable and valid.

CONCLUSION

The Urdu Shoulder pain and disability index can be used as a reliable tool for the assessment of shoulder pain and disability in local Urdu speaking population.

Recommendations: The recommendations for future researchers are to conduct such translational studies on other assessment tools on larger scale in Urdu and other local languages of Pakistan.

CONTRIBUTION OF AUTHORS

Haroon H: Conceived idea, Designed research methodology, Data analysis, Manuscript writing, Data compilation, Data collection, Literature review

Umar B: Literature Search, Designed research methodology, Data interpretation, Statistical analysis

Asim HM: Final critical review of manuscript

Hussain S: Data collection and compilation

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