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Development of Urdu Version of the Oswestry Disability Questionnaire (ODQ): A Cross-Cultural Adaptation, Reliability Study

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Abstract: Low back pain (LBP) is a main reason of functional disability and most common health related problem in the world. Estimates of lifetime incidences of low back pain (LBP) ranges from 60 to 80%. Evaluating pain and disability are very important to assess outcomes in low back pain patients. The ODQ is a valid, responsive and reliable outcome measure for LBP and disability. There is no availability of validated tool in Urdu language to assess functional outcome of patients with low back pain in Pakistan. The objective of the study was to translate ODQ according to the established guidelines from English (Source language) to Urdu (Target language). The study was a cross sectional survey. The ODQ was translated into Urdu in accordance with the stages recommended by Beaton. The data collection tool used was ODQ-U. The test-retest reliability of ODQ-U tool was calculated in INTRACLASS CORRELATION COEFFICIENT (ICC) using Statistical Package for Social sciences (SPSS). The ODQ-U was completed twice by all participants. During administration the patients were not allowed to ask any question related to the sentences in Reliability, Cross-Cultural Translation, Low Back Pain.

Key words: Modified Oswestry Disability Questionnaire · Development of Urdu Version of the Oswestry Disability Questionnaire (ODQ): A Cross-Cultural Adaptation · Reliability Study

INTRODUCTION

Low back pain (LBP) is a main cause of disability and most common health related problem in the world. Estimates of lifetime incidences of low back pain (LBP) range from 60 to 80% [1]. Approximately 80-90% people with low back pain are expected to relive in 6 months [2, 3].

Evaluating pain and disability are very important to assess outcomes in patients with low back pain by setting their goals and treatment plan. We need responsive, reliable and valid self-assessment measure for quantifying patient's self-assessment of disability. To evaluating pain and disability, The ODQ is a valid, responsive and reliable for LBP patients [4, 5]. In the citation index of science ODQ has 200 or more citations. It has been translated in more than 10 languages and their reliability and validity are comparable with the original version [6, 7].

The main problems which are affecting cross-cultural outcome measures are problems of concepts, illiteracy and language. The process of cross-cultural adaptation, suggested by Beaton [8] and Guillemin [6] in order to obtain idiomatic, semantic, conceptual and experimental equivalencies in translation. Urdu is a standardized language which is spoken mainly in subcontinent and other parts of world. Approximately 64 million population of the world is Urdu speaking [9]. It is official language of Pakistan and some states of India.

Since the English version of ODQ is designed to fulfill the requirements of patients in coinciding countries and culture., there is no availability of validated tool in Urdu language to assess disability of patients with back pain in Pakistan. "The purpose of the current study was to demeanor the cross-cultural adaptation of the Modified Oswestry Disability Questionnaire (ODQ) in translating the original version (English) into the target language Urdu and then to assess the reliability of Urdu version of the Modified Oswestry Disability Questionnaire (ODQ-U).

MATERIALS AND METHODS

Section 1: Translation

Study Design: The type of this study was a qualitative (Cross sectional) study. In the current study, two sets of

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guidelines were being assimilated and used to promote variation and constancy in the translation because of difference in the methods. These guidelines had been given by Beaton *et al*. [10] and Wild *et al*. [11]. This investigation was consisting of five phases. In the first four phases an expert committee developed Urdu version of ODQ and in the last phase, it was qualitatively verified on low back pain patients.

Stage 1 (Forward Translation): The first stage was called forward translation. Two translations of original language questionnaire were made by two translators whose mother language is target language. The two translators were from different backgrounds; translator 1 was aware of concepts used in test, while translator 2 was totally unaware of those concepts.

Stage 2 (Synthesis of Translations): Two translators and a moderator synthesized a version (T12) from first translators' version (T1) and second translators' version (T2)".

Stage 3 (Back Translation): Two translators, without any awareness of concepts used in test, translated T12 version back into original language (B1 and B2). Their mother language was source language (English).

Stage 4 (Expert Committee): All translations had been reviewed by expert committee on the basis of interpretation, experiential, idiomatic and conceptual equivalences.

Stage 5 (Test of Pre-final Version-Pre-Testing): In this stage Cognitive de-briefing of this pre-final version was done leading it to final stage. It was used in 20 patients in out-patients to test constancy of its extents.

Section 2: Test-retest Reliability of Urdu Version Modified ODQ: A qualitative study was directed to assess the. Reliability of the Urdu modified ODQ. Data was collected by twenty patients in the Physical Therapy department of Ghurki Trust Teaching Hospital Lahore. All partaking patients were waiting for physical therapy treatment. The patients were questioned about the region of symptoms and requested to participate in the present study. All patients were given well-versed Consent.

To check the test-retest reliability firstly translated ODQ-U had been filled by twenty patients and then after 20 to 30 minutes questionnaire refilled by the same patients but patients didn't know inform about the second administration to avoid recognition of first questionnaire.

Initially, the patients were informed about of the Urdu modified ODQ-U by the investigator and the patients were permissible to ask the investigator if they had any queries regarding Urdu modified ODQ. After first administration of ODQ-U, all patients were asked to wait for treatment session. Then After 20 to 30 minutes the patients were again questioned about the current position of LBP to confirm that the pain still existed in same intensity and were asked to fill ODQ-U again. The questionnaires from two administrations were composed for data analysis.

RESULTS

The ODQ-U was completed twice by all participants. During administration the patients weren't allowed to ask any question relating to the conception of the sentences of ODQ-U. After analyzing LBP patients (n = 20) the test-retest reliability assessment of the total score was ICC=0.91.

DISCUSSION

In section 1, in cooperation with all investigators and an external translator, the ODQ-U was accepted for conceptual precision and simple settings by the consent of the researcher. In second section, the ODQ-U was assessed for the test-retest reliability. The results of all items showed good reliability, with values ranging from 0.80 - 1.00. The value of reliability was 0.918. The results showed that the ODQ-U was reliable for the assessment of disability in Pakistani (Urdu speaking) population with LBP.

The consequences of good test-retest reliability from the current study were sturdily related to past studies of the novel versions of the ODQ and all the

Table 1: The interclass correlation coefficient for test re-tests reliability of each question:

Pain intensity	.91
Personal care	.91
Lifting	.75
Walking	.91
Sitting	.91
Standing	.88
Sleeping	1
Social life	.88
Travelling	.88
Employment	.88
Total	.91

translated versions. Fairbanks *et al*. [12] stated the test-retest reliability over 24 hour's interval was 0.99. The reliability of Japanese version ODQ with ICC value was 0.93 over a time interval of 24 hours [16].

The Korean version by 48 hours' time interval of ODQ has a good reliability of 0.91. [13]. The Greek version presented a_Cronbach's alpha coefficient of 0.83 [14] and the Norwegian version showed 0.88 [17] by ICC for the test-retest reliability. The Turkish version showed 0.93 reliability by 7 days' time interval [15].

The current study was selected 20-30 minutes because of the apprehension of the resemblance of pain intensity and the suitability of all patients. All participants were patients that came for the treatment session in outdoor Physical Therapy department of Ghurki Trust Teaching Hospital Lahore. According to recommendations initially, the patients were informed about the Urdu modified ODQ-U by the investigator and the patients were permissible to ask the investigator if they had any quarries regarding Urdu modified ODQ.

The researchers also asked about the recognition of the questionnaire but all the participants refused to recognize the first administration because they didn't know about the second administration. Results concluded that ODQ-U had a satisfactory psychometric property of reliability so it is practicable for Pakistani physiotherapists to use the ODQ-U for evaluating patient's disability.

In 2014 Ibrahim Farooq Pasha translated ODI in Urdu and used in his study titled Caudal epidural injections for lumbar prolapsed inter vertebral disc: assessment with Urdu version of Oswestry Disability Index. But didn't follow the recommended guidelines of Beaton and Fairbank and didn't check reliability of translated version [12].

CONCLUSIONS

In conclusion, the use of ODQ-U is encouraged by the current study to assess low back pain patients for observing the change over time in LBP and disability scores.

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REFERENCES

1. Edwards, J., J. Hayden, M. Asbridge, B. Gregoire and K. Magee, 2017. Prevalence Of Low Back Pain In Emergency Settings: A Systematic Review And Meta-Analysis. BMC Musculoskeletal Disorders, 18: 143.
2. Koes, B.W., M.W. Van Tulder, R. Ostelo, A.K. Burton and G. Waddell, 2001. Clinical Guidelines For The Management of Low Back Pain In Primary Care: An International Comparison. Spine, 26: 2504-2513.
3. Koes, B.W., M. Van Tulder, C.W.C. Lin, L.G. Macedo, J. Mcauley and C. Maher, 2010. An Updated Overview of Clinical Guidelines For The Management of Non-Specific Low Back Pain In Primary Care. European Spine Journal, 19: 2075-2094.
4. Smeets, R., A. Köke, C.W. Lin, M. Ferreira and C. Demoulin, 2011. Measures Of Function In Low Back Pain/Disorders: Low Back Pain Rating Scale (Lbprs), Oswestry Disability Index (Odi), Progressive Isoinertial Lifting Evaluation (Pile), Quebec Back Pain Disability Scale (Qbpds) and Roland-Morris Disability Questionnaire (Rdq). Arthritis Care & Research, 63: 158-173.
5. Maughan, E.F. and J.S. Lewis, 2010. Outcome Measures In Chronic Low Back Pain. European Spine Journal, 19: 1484-1494.
6. Fairbank, J.C. and P.B. Pynsent, 2000. The Oswestry Disability Index. Spine, 25: 2940-2953.
7. Roland, M., 1989. Back Pain: New Approaches To Rehabilitation And Education, Manchester University Press, pp: 258.
8. Mousavi, S.J., M. Parnianpour, H. Mehdian, A. Montazeri and B. Mobini, 2006. The Oswestry Disability Index, The Roland-Morris Disability Questionnaire and The Quebec Back Pain Disability Scale: Translation And Validation Studies Of The Iranian Versions. Spine, 31: 454-459.
9. Faizal, M., N.L. Abdullah, R.D. Alvinson, A.G. Sazelli, C. Nidzam, C. Ahmad and A. Mazlini, 2015. Mother Tongue-Based Bilingual Education Practice For Teaching Primary Mathematics In Rural School. Proceeding Of International Conference On Research, Implementation And Education Of Mathematics And Sciences 2015 (Icriems 2015), Yogyakarta State University, pp: 17-19.

10. Beaton, D.E., C. Bombardier, F. Guillemin and M.B. Ferraz, 2000. Guidelines For The Process of Cross-Cultural Adaptation Of Self-Report Measures. Spine, 25: 3186-3191.
11. Wild, D., A. Grove, M. Martin, S. Eremenco, S. Mcelroy, A. Verjee-Lorenz and P. Erikson, 2005. Principles Of Good Practice For The Translation And Cultural Adaptation Process For Patient-Reported Outcomes (Pro) Measures: Report Of The Ispor Task Force For Translation And Cultural Adaptation. Value In Health, 8: 94-104.
12. Fairbank, J., J. Couper, J. Davies and J. O'brien, 1980. The Oswestry Low Back Pain Disability Questionnaire. Physiotherapy, 66: 271-273.
13. Kim, D.Y., S.H. Lee, H.Y. Lee, H.J. Lee, S.B. Chang, S.K. Chung and H.J. Kim, 2005. Validation of The Korean Version Of The Oswestry Disability Index. Spine, 30: E123-E127.
14. Grotle, M., J. Brox and N. Vollestad, 2003. Cross-Cultural Adaptation Of The Norwegian Versions of The Roland-Morris Disability Questionnaire And The Oswestry Disability Index. Journal of Rehabilitation Medicine, 35: 241-247.
15. Yakut, E., T. Düger, Ç. Öksüz, S. Yörükan, K. Üreten, D. Turan, T. Frat, S. Kiraz, N. Krd and H. Kayhan, 2004. Validation Of The Turkish Version of The Oswestry Disability Index For Patients With Low Back Pain. Spine, 29: 581-585.
16. Fujiwara, A., N. Kobayashi, K. Saiki, T. Kitagawa, K. Tamai and K. Saotome, 2003. Association of the Japanese orthopedic association score with the oswestry disability index, roland-morris disability questionnaire and short-form 36. Spine, 28: 1601-1607.
17. Grotle, M., J.I. Brox and N.K. Vollestad, 2003. Cross-cultural adaptation of the Norwegian versions of the Roland-Morris Disability Questionnaire and the Oswestry Disability Index. Journal of Rehabilitation Medicine, 35: 241-247.