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GUIDELINES USED IN CROSS CULTURAL ADAPTATION OF PATIENT RATED TENNIS ELBOW EVALUATION SCALE: A NARRATIVE REVIEW

Physiotherapy

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ABSTRACT

This review was done to find out and scrutinize procedures used in cross cultural adaptation of Patient Rated Tennis Elbow Evaluation scale and describe it. Articles were searched from different databases using key words and reviewed critically. PRISMA checklist was used for analysing and reporting articles.8 studies met the criterias for inclusion in the review. The overall rating for the process of cross cultural adaptation process was good. The studies used the guidelines given by Beaton et al, WHO and criterias suggested by Terwee CB et al for cross cultural adaptation of an instrument. Translation and cross cultural adaptation process requires careful selection of the members according to suggested guidelines and should be done with great care to provide best properties.

KEYWORDS

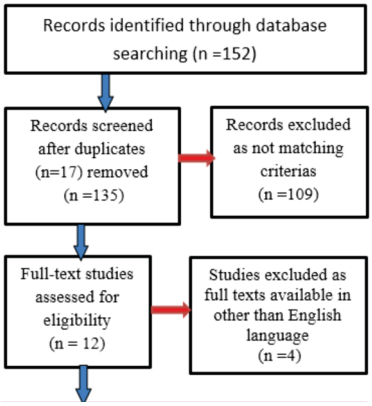
Patient Rated Tennis Elbow Evaluation scale, cross cultural adaptation, guideline, translation, narrative review

INTRODUCTION

There is a surge in the number of multinational and multicultural researches which results in a big need to cross culturally adapt the questionnaire for its use in a target language [1]. If a questionnaire is available in any language with good psychometric properties than it is better to be adapted in the target language by following proper guidelines instead of developing new one [1,2]. Cross cultural adaptation (CCA) is a process that looks at both languages and problems found in the process of cultural adaptation of a questionnaire for its use in another setting [1]. Patient rated tennis elbow evaluation (PRTEE) scale is a reliable and valid measure for acute, subacute and chronic lateral elbow tendinopathy patients[3]. It measures pain (first five questions) and functional difficulties (remaining ten questions) over the past week [4]. It is developed originally in English language by Joy C MacDermid and then cross culturally adapted in many languages. This study aimed to find methodological approaches used for CCA of PRTEE scale published between 2008 to 2021.

METHODOLOGY

Search engines and databases like Google scholar, Scopus, Cochrane review and PubMed were used to review literatures from the year 2008 to 2021. Studies done for CCA of PRTEE scale were identified and analyzed using PRISMA check list for reporting articles [5]. Articles were searched by keywords “cross cultural adaptation or translation” and “patient rated tennis elbow evaluation”, in their abstract and title. Full text articles written in English language were included. Total 152 records identified amongst which 17 duplicates are removed. Remaining 135 articles were screened from which 109 articles were not relevant so excluded as they do not match inclusion criteria. So, 26 articles relevant to study were reviewed from which 04 full texts found in language other than English so excluded. Out of remaining 22 studies 8 studies were available in full text and remaining 14 articles only abstracts were found. Hence final review was performed from 08 full texts articles in which translation or cross cultural adaptation was done. The flow chart of the searching strategy according to PRISMA guidelines is shown in figure 1.



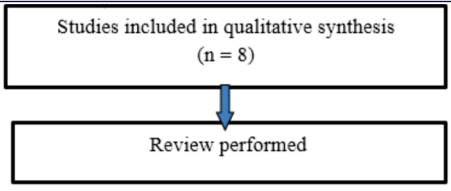


Fig. 1: Prisma Flow Chart Of Searching Strategy

Data extraction was done and author's name, publication year, study population, sample size and guidelines used for cross cultural adaptation (steps used) gathered and extracted. The datas were cross checked by both the reviewers for accuracy and finalized.

Quality of translation or CCA was rated on positive and negative rating scheme [6]. For forward and backward translation (FT & BT) processes, positive rating (+) means translation was performed by at least two independent translators, negative rating (-) means translation performed by only one translator, (?) means translation procedures were doubtful while (0) denotes no information about translation found. For synthesis process; (+) means synthesis was performed, (?) means doubtful design and (0) means no information about synthesis process. For expert committee review rating, (+) means clearly reported the existence of an expert committee, (?) means doubtful design, (0) means no information about expert committee. Pretesting stage was rated as (+) if performed pretesting, (?) if doubtful design, (0) if no information about pretesting [6].

RESULT

Cross cultural adaptation or translation of PRTEE published in English language was found in eight full text articles. They were of Swedish [7], Turkish [8], Italian [9], Dutch [10], Greek [11], French [12], Gujarati [13] and Persian [14]. They were summarised in Table 1. Quality of CCA and other findings were summarized in Table 1.

Forward translation and synthesis were rated positive in all articles (100%). Backward translation and pretesting was rated positive in 6 articles (75%). Expert review was rated positive in 6 articles (75%).

Three guidelines were found in this review. Guideline given by Beaton et al [1], WHO [15] and by Terwee CB et al [16]. They all gave properly defined steps for the whole process of cross cultural adaptation.

DISCUSSION

It is now recognized that if measures are to be used across cultures, the items must not only be translated well linguistically, but also must be adapted culturally to maintain the content validity of the instrument at a conceptual level across different cultures [17]. The term “cross-cultural adaptation” is used to encompass a process that looks at both language (translation) and cultural adaptation issues in the process of preparing a questionnaire for use in another setting. According to our inclusion

criterias we reviewed 8 full texted articles which are written in English language.

Common guideline used in 6 out of 8 articles was given by Beaton et al, one article [11] used mixed method given by Beaton et al [1] and Terwee et al [16] while translation in Gujarati language is done by WHO method [15]. According to Guillemin et al if any questionnaire to be used in new immigrants not speaking English but of the same source of country and is to be used in another country and another language than it should be translated and cross culturally adapted as well [17].

Recommended numbers of translators and characteristics of them varies in studies. But most of them followed criterias given by Beaton et al. According to Beaton et al there should be two bilingual forward translators from whom one is aware and one is unaware of the purpose of the translation and having target language as mother tongue, synthesis should be done by two translators and an observer, back translation by another two bilingual translators unaware of the concept and having English as first language. Expert committee should include methodologist, developers, translators and language professionals. They reach consensus by reaching four equivalences - semantic, idiomatic, experiential, conceptual and form prefinal version to be tested on field. Testing of a prefinal version should be done on 30-40 persons. In final stage is submission of all the reports and forms to the developer of the instrument or the committee keeping track of the translated version [1].

Table- 1 Summary Of Studies Included And Rating, n=sample Size, FT- Forward Translation, BT- Backward Translation, + =positive Rating; = Negative Rating; 0=no Information Available; ? = Not Clear.

Language	Author and year	Ethical Yes (√) No (×)	Guideline used	Rating scheme for translation/CCA					Psychometric properties of CCA versions assessed(√) or not(×)	CCA (mean age in years)	Population used for Psychometric properties assessment(n)
				FT	Synthesis	BT	Expert Committee	Pre testing(n)			
Swedish	Nilsson, 2008	√	Beaton et al.	+	+	+	+	+ 10(LET)& 10 (Healthy)	√	46	unilateral LET(54)
Turkish	Altan, 2010	√	Beaton et al.	+	+	+	?	0	√	47.52±9.36	acute and chronic LET(50)
Italian	Cacchio, 2012	√	Beaton et al.	+	+	+	+	+ 10(LET)& 10 (Healthy)	√	39±15.7	unilateral chronic LET(95)
Dutch	Van Ark, 2014	×	Beaton et al.	+	+	+	+	+ 10	√	29±13.5	Healthy(90) and LET(32)
Greek	Stasinopoulos, 2015	√	Beaton et al, Terwee CB et al.	+	+	+	+	+ 12 (LET)	√	46.7±9.5	chronic LET(82)
French	Kaux, 2016	×	Beaton et al.	+	+	+	+	+ 5 (LE)& 5(Asymptomatic)	√	39±12	at risk asymptomatic athletes(60), LET(55)
Gujarati	Trivedi, 2018	×	WHO method	+	+	_	?	30	×	×	×
Persian	Mansoori, 2019	--	Beaton et al.	+	+	-	+	?	√	28.1±7.65	tennis players having LET(102), healthy(40)

Translation in Gujarati was done by WHO method in which forward translation, synthesis, back-translation, expert panel review and testing of prefinal version on 30 participants. There was no cultural adaptation done and had suggested to do so [13]. According to WHO the translations should not be literal linguistic word to word translation but it should be conceptual and easily understandable. Pretesting should be performed on each age group (18 years old and above) of both the genders from different socioeconomic groups (minimum 10 for each sections).

Adaptation in Greek was done in three phases. In phase one they did translation and adaption into the Greek culture and language. Second phase was assessment of the comprehensibility of the pre-final version and modification while third phase was assessment of validity and reliability of the final version [11]. It was suggested to follow the guidelines and perform reliability and validity assessment on target population to achieve acceptable properties of a questionnaire.

CONCLUSION

Minimum two translators are advisable to provide mixed perspectives. Expert committee should include lay people also for easy understanding. Back translation is an essential stage of CCA that helps in making decisions. The process of CCA of a questionnaire is time taking, requires skill, knowledge, experience and has many challenges. It should be done by following essential guidelines so can provide best psychometric properties.

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