



Brief report

Spanish validation of the Exercise Therapy Burden Questionnaire (ETBQ) for the assessment of barriers associated to doing physical therapy for the treatment of chronic illness



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ABSTRACT

Background and objective: To validate the Spanish version of the Exercise Therapy Burden Questionnaire (ETBQ) for the assessment of barriers associated to doing physical therapy for the treatment of chronic ailments.

Patientes and methods: A sample of 177 patients, 55.93% men and 44.07% women, with an average age of 51.03 ± 14.91 was recruited. The reliability of the questionnaire was tested with Cronbach's alpha coefficient, and the validity of the instrument was assessed through the divergent validation process and factor analysis.

Results: The factor analysis was different to the original questionnaire, composed of a dimension, in this case determined three dimensions: (1) General limitations for doing physical exercise. (2) Physical limitations for doing physical exercise. (3) Limitations caused by the patients' predisposition to their exercises. The reliability of the test–retest was measured through the intraclass correlation coefficient (ICC) and the Bland–Altman plot. Cronbach's alpha was 0.8715 for the total ETBQ. The ICC of the test–retest was 0.745 and the Bland–Altman plot showed no systematic trend.

Conclusion: We have obtained the translated version in Spanish of the ETBQ questionnaire.

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Validación en español del cuestionario «Exercise Therapy Burden Questionnaire» para la evaluación de las barreras asociadas a la práctica de ejercicio físico para el tratamiento de enfermedades crónicas

RESUMEN

Palabras clave:

Modalidades de terapia física
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Antecedentes y objetivo: Validar la versión en español del cuestionario «Exercise Therapy Burden Questionnaire» (ETBQ) para la evaluación de las barreras asociadas a la realización de terapia física para el tratamiento de enfermedades crónicas.

Pacientes y métodos: Se reunió una muestra de 177 pacientes, con un 55,93% de varones y un 44,07% de mujeres, y una edad media de $51,03 \pm 14,91$. Se probó la fiabilidad del cuestionario mediante el coeficiente alfa de Cronbach, y se evaluó la validez del instrumento a través del proceso de validación divergente y el análisis factorial.

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Resultados: El análisis factorial fue diferente al del cuestionario original, que se componía de una dimensión, y en este caso determinaba 3 dimensiones: 1) Limitaciones generales a la práctica de ejercicio físico; 2) Limitaciones físicas para la realización de ejercicio físico, y 3) Limitaciones causadas por la predisposición de los pacientes a la práctica de ejercicio. La fiabilidad de la prueba-reprueba se midió mediante el coeficiente de correlación intraclass (ICC) y la gráfica de Bland-Altman. El valor alfa de Cronbach fue de 0,8715 para ETBQ total. El ICC para la prueba-reprueba fue de 0,745, y la gráfica de Bland-Altman no reflejó ninguna tendencia sistemática.

Conclusión: Hemos obtenido la versión traducida al español del cuestionario ETBQ.

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Introduction

Chronic disease is defined as that which lasts more than 24 weeks, limiting a person's life, requiring care and supervision, whether because of the seriousness of such a disease or because of the effects of its treatment.¹ The therapeutic physical exercise consists of prescribing a programme of physical exercise with the aim of alleviating symptoms, decreasing disability and maintaining or halting the deterioration in health.² The treatment of chronic illness must be followed lifelong in most cases, so in addition to following a treatment routine consisting of medication and doctor's visits, the patient must take regular physical exercise. This affects patients' lives, and they experience what is known as the "treatment burden".³

The translation of The Exercise Therapy Burden Questionnaire⁴ (ETBQ) into Spanish, originally created and validated in French, would allow the creation of multidisciplinary treatments that take into account the physical and psychological burdens that occur when working with therapeutic exercise in Spanish-speaking patients.

The aim of this study was to translate into Spanish, and validate the Exercise Therapy Burden Questionnaire (ETBQ) to assess the barriers facing patients with chronic ailments to doing the exercise prescribed by the doctor or physiotherapist.

Method

Participants

A transversal study was made with participants with the following criteria for inclusion: they had been prescribed exercise as part of their treatment, were aged over 18, had been diagnosed with chronic illness, spoke and understood Spanish, and had signed the informed consent form. The exclusion criteria were: cognitive problems that would hinder their understanding of the questionnaire.

Design

The data were collected between April and December 2016, in a voluntary not probabilistic manner, in the Huerca healthcare centre in Almería, the municipal sports centre and in the senior citizens' day centre in Aguilas (Murcia). The data were collected informally, in three ways: on paper, by phone, or via a Google email platform.

A sample of 57 patients was used for the retest, who repeated the same questionnaire between one and two weeks after first having done so.

The study was previously approved by the ethics committee of the province of Almería.

Description of the instrument

The Exercise Therapy Burden Questionnaire⁴ has 10 items to assess the barriers perceived by patients to doing therapeutic

exercise; pain, tiredness, boredom, difficulty, waste of time, self-perception of the disease during exercise, lack of support, lack of motivation, ill adaption to the exercise, and self-perception of the effectiveness of the exercise.

Calculating the sample size

A sample of between 150 and 300 patients was sufficient for a 10 item questionnaire, to obtain a Cronbach's alpha between 0.7 and 0.9, and a factorial analysis of components with less than three factors.⁵

Procedures

Medical, socio-demographic data related to the exercise modality and related to the treatment with physiotherapy were collected. In addition to the ETBQ questionnaire translated into Spanish, self-efficacy for the exercise,⁶ TBQ (the Treatment Burden Questionnaire),⁷ and the EuroQol five dimensions questionnaire⁸ (EQ-5D) in order to validate the divergence.

Translation

The translation was done using the back-translation method according to the following steps⁹: The questionnaire obtained in French was subsequently submitted by committee to the authors of the original ETBQ to determine the equivalence between them.

Statistical analysis

A factor components analysis was done to determine the number of dimensions comprising the questionnaire in Spanish. All the factors above 1 were retained (Kaiser criterion). The internal consistency of the ETBQ in Spanish was measured with Cronbach's alpha, and a coefficient of >0.70 up to 0.95 was considered acceptable.

The reliability of the test-retest was measured through the intraclass correlation coefficient (ICC) and the Bland-Altman plot. In the ICC, a coefficient of ≥ 0.75 was considered an excellent reliability.¹⁰ In the Bland-Altman plot, 95% of the confidence limits were defined as the difference between the two means and the mean ± 1.96 of the two measures. To study the divergence of the total ETBQ with the rest of the questionnaires, Spearman's non-parametric test was used for the questionnaires on self-efficacy for exercise, the TBQ (The Treatment Burden Questionnaire), item 6 of EQ-5D, and the sum of the scores of the five remaining items of the EQ-5D. The software used for the statistics was R $\times 64$ 3.3.2 and SPSS version 22.0.

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