Official Title of the Study:

Turkish version of the Chalder Fatigue Scale: An investigation of its psychometric properties in healthy young adults

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This research was carried out in 2 stages. The first stage of the research was to develop the Turkish version of the Chalder Fatigue Scale (CFS), and the second stage was to examine the psychometric properties of the scale.

Stage 1: Adaptation of the CFS into Turkish

Adaptation of the CFS into Turkish was completed in 6 steps and the procedures was described below.

Step 1-Translation: Two bilingual Turkish translators participated; one of them was a physiotherapist who knows the instrument, and the other one was English linguist who had no professional relation with the medical field, nor information about the CFS. They carried out the translation of the CFS from English into Turkish independently, generating the translated versions (T1 and T2).

Step 2-Synthesis: The two translators and the researchers discussed the T1 and T2. After the two translated versions were compared, they synthesized the versions into one translated version (T12) by reaching an agreement.

Step 3-Back translation: Two native English speaker with fluent Turkish language, who were not familiar to the original instrument, carried out the back translation of the T12 from Turkish into English so the re-translated versions (TR1 and TR2) were formed.

Step 4-Expert committee review: A committee of the researchers and the translators compared the original CFS with five translated versions (T1, T2, T12, TR1, TR2), obtained in the first 3 steps, to check whether all instruments were similar. The consensus index among the judges was calculated as $\geq 80\%$ for each of the items in scale. The committee verified the items adequate in accordance with following equivalencies: semantic, idiomatic, experimental, and conceptual. Then, the translators and researchers agreed on the prefinal Turkish version of the CFS (pCFS-T)

Step 5-Pretesting: The pCFS-T was tested on 56 volunteer healthy young adults. While answering the scale, the participants asked to evaluate the comprehensibility of the items according to three-point likert scale (clearly/partially/not understandable). The aim of this strategy was to establish whether the pCFS-T was intelligible for this population. After the pretesting, it was determined that the all participants rated each of the items in the scale as ‘clearly understandable’.

Step 6- Final Version: All the reports and forms submitted the original developer and then she approved that a reasonable translation had been achieved certainly. Thus, the final version of the CFS (CFS-T) was eventually generated as in pCFS-T.

Stage 2: Investigating Psychometric Properties of the Chalder Fatigue Scale-Turkish

Investigation of reliability

Test-retest reliability and internal consistency of the scale were examined. In order to determine the test-retest reliability, CFS was administered to individuals, at least 3 days and at most 7 days after the test. In the retest session, only CFS was applied to individuals. Cronbach Alpha for internal consistency and Intraclass Correlation Coefficient for test-retest reliability was used in the statistical analysis.

Investigation of validity

In our study, criterion and construct validity of CFS were investigated. The criterion validity of the scale was investigated with concurrent validity and predictive validity. To test the concurrent validity of the Chalder Fatigue Scale, its relationship with the Checklist Individual Strength (CIS) fatigue scale was examined. To test the predictive validity of the CFS, the ability of the scale to detect fatigued individuals who determined with CIS cut off score was examined with Receiver Operating Characteristics curve. The construct validity of the scale was investigated with Explanatory Factor Analysis, Confirmatory Factor Analysis and hypothesis testing. The hypothesis tests were applied to determine the relationship between CFS and Visual Analogue Scale, Beck Depression Scale, Pittsburg Sleep Quality Index, Nottingham Health Profile. In order to investigate the known group validity of the scale, a hypothesis test was applied to discriminate the scores of men and women with Mann-Whitney *U* test. To analyze all relationships, Spearman Correlation Coefficient was used.