E-Poster

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Validity of the Greek Adaptation of the Modified Barthel Index (Shah version) in Neuro-Rehabilitation Patients

Topic: Miscellaneous

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BACKGROUND

The Barthel Index is among the most widely used measures of physical functioning and has been modified by Shah et al, who developed a five-step scoring system providing the scale with greater sensitivity and reliability. Our aim was to create a culturally adapted Greek Modified Barthel Index (MBI) and validate it on a neuro-rehabilitation population.

METHODS

The MBI was adapted based on the World Health Organization guidelines of translation and adaptation of instruments and was administered on 50 stroke and 50 Spinal Cord Injury (SCI) patients. Construct validity of the Greek MBI was assessed in two ways. Firstly, assessing convergent validity of the MBI questionnaire by establishing its correlation to the 36 Item Short Form Survey (SF-36) physical functioning subscale and the Katz Index of Independence in Activities of Daily Living (Katz Index) total score, instruments already validated in Greece, using the Pearson's correlation coefficient. Secondly, by fit of the data to the one-parameter Item Response Theory (Rasch) model, equivalent to a test of the theoretical construct validity and adequacy of the scale.

RESULTS

Rasch analysis revealed that items "stair climbing" and "ambulation" showed MnSQ values > 1.4 whereas, "bathing" and "personal hygiene" presented MnSQ values < 0.6, which proved the items misfit, as determined by the Infit and Outfit statistic. Thus, the unidimensionality of the scale was rejected and a two-factor structure was adopted (Factor 1 "Transfers and Activities of Daily Living", Factor 2 "Mobility"). Very high correlation was found between Katz Index score with MBI Factor 1 ($r = 0.888$, $p < 0.001$) and total score ($r = 0.873$ $p < 0.001$) respectively and high correlation with MBI Factor 2 ($r = 0.561$, $p < 0.001$). High correlation was observed between the SF-36 physical functioning subscale score with MBI Factor 1 ($r = 0.522$, $p < 0.001$), MBI Factor 2 ($r = 0.590$, $p < 0.001$) and MBI Total score ($r = 0.580$, $p < 0.001$) respectively. In the stroke and SCI groups, very high correlation was observed between the MBI Total score and the Katz Index score ($r = 0.905$, $p < 0.001$ and $r = 0.871$, $p < 0.001$ respectively) and high correlation was recorded with the SF-36 physical functioning subscale ($r = 0.590$, $p < 0.001$ and $r = 0.574$, $p < 0.001$, respectively).

CONCLUSION

Our results indicated high correlation between MBI subscales and total score with the previously validated questionnaires, satisfying the criterion validity. We conclude that the Greek MBI version has demonstrated satisfactory levels of validity and is an adequate and useful tool for use on Greek neuro-rehabilitation patients.

Statement of Disclosures

None

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