Assessment scales in PRM

Oral communications

CO44-001-e
Validation and calibration of a health-related quality of life questionnaire for patients suffering from slowly progressive neuromuscular disease
A. Dany*, C. Barbe (Dr), A. Wolak-Thierry (Dr), I. Morrone (Dr), M. Dramé (Dr), J.L. Novella (Prof), D. Jolly (Prof), F. Boyer (Prof)
*Université de Reims Champagne-Ardenne, Reims, France
b CHU de Reims, Reims, France
© Corresponding author.
E-mail address: antoine.dany@univ-eims.fr (A. Dany)

Introduction Medical care and treatments of patients suffering from slowly-progressive neuromuscular disease (NMD) mainly aim to improve health-related quality of life (HRQOL). To date there is no French HRQOL-measurement tool specifically designed for these patients. Recent works allowed developing a new questionnaire of 26 items named “Quality of Life in Neuromuscular Diseases” (QoL-NMD). It is structured in 3 domains and was constructed using focus groups: Delphi method and exploratory statistical analysis. Our objectives are to validate QoL-NMD using an independent sample and to calibrate the scoring system.

Methods The QOL-NMD and a validated questionnaire (WHO-QOL-BREF) were administered to 153 patients recruited in 8 tertiary hospitals dedicated to NMD. Confirmatory statistical analysis included methods derived from both Items Response Theory (IRT) and Classical Test Theory.

Results Data confirmed the results of the exploratory analysis. The 3 domains of QoL-NMD met IRT assumptions (i.e. unidimensionality, parameter invariance and monotonicity) and showed adequate psychometric properties (Cronbach > 0.7, H > 0.3, test-retest ICC > 0.7). Each domain was calibrated using a parametric IRT model. Comparison to WHOQOL-BREF allowed investigating similarities, discrepancies and putting forward QoL-NMD psychometric superiority.

Conclusion This study led to the validation and calibration of a new HRQOL questionnaire specifically designed for NMD patients. It can now be used in various clinical settings. QoL-NMD has been translated and culturally adapted to English but still require a psychometric validation abroad.

Keywords Health-related quality of life; Neuromuscular disease; Item response theory; Validation; Psychometrics

Disclosure of interest The authors have not supplied their declaration of conflict of interest.

Further readings
http://dx.doi.org/10.1016/j.rehab.2015.07.302

CO44-002-e
Cross-cultural adaptation and validation of the Amputation Body Image Scale (ABIS®) and its shortened version (ABIS-R®) for French speaking patients with lower limb amputation
A. Vouilloz (Dr)*, P. Vuistiner*, I. Loiret (Dr), N. Martinet (Dr), J. Paysant (Prof), Y. Arlettaz (Dr), M. Assal (Dr), O. Borens (Dr), L. Huchon (Dr), F. Luthi (Dr)
* Clinique romande de réadaptation, 1950 Sion, Switzerland
b Institut régional de médecine physique et réadaptation, 54042 Nancy, France
c Hôpital de Martigny, réseau santé Valais, 1011 Lausanne, Switzerland
d Centre hospitalier universitaire Vaudois, 1011 Lausanne, Switzerland
© Corresponding author.
E-mail address: aurelie.vouilloz@crr-uvach.ch (A. Vouilloz)

Aim The Amputation Body Image Scale (ABIS®) and its shortened version (ABIS-R®) are self-administered questionnaires addressing the patient’s perspective, only available in English [1] and Turkish. The aim of this study was the French cross-cultural adaptation and validation of the ABIS (ABIS-F) and its shortened version ABIS-R (ABIS-R-F). Psychometrics properties: internal consistency, test-retest reliability, construct validity.

Method One hundred and twenty-nine patients (23% women), with a mean age of 62 years, with lower limb amputation for at least 1 year (vascular 75%, traumatic 25%) were recruited in 5 clinical centers. Translation and cross-cultural adaptation (ABIS 20 items; ratings of 1-5; high score indicating high body disturbance, and ABIS-R 14 items, ratings of 0–2) were made according to international guidelines. Internal consistency was calculated by the coefficient of Cronbach. Test-retest reliability was assessed by intraclass correlation in a subgroup who completed the ABIS on 2 occasions with an interval of 5 to 7 days. Construct validity was estimated through correlations with SF-36 mental component

1877-0657/
summary (MCS) and SF-36 physical component summary (PCS). Correlations with some scales of the Brief Pain Inventory (BPI): pain severity, highest pain and pain interference with activities. Results High internal consistency (ABIS-F: $\alpha = 0.91$, ABIS-R-F: $\alpha = 0.90$). Test-retest reliability (24 patients) was good: ABIS-F 0.87 [95% CI 0.69–0.95] and for ABIS-R at 0.86 [95% CI 0.66–0.94].

Correlations with SF-36 were negative: ABIS-F/SF-36 CM: $-0.40 [-0.54 to -0.21]$; ABIS-R-F/SF-36 CM: $-0.42 [-0.56 to -0.24]$; ABIS-F/SF-36 CP: $-0.40 [-0.54 to -0.21]$; ABIS-R-F/SF-36 CP: $-0.44 [-0.58 to -0.26]$. Correlations with pain were positive for both ABIS questionnaires: respectively for ABIS-F and for ABIS-R-F: pain severity, 0.39 [0.20–0.54] and 0.38 [0.19–0.53]; highest pain, 0.39 [0.20–0.54] and 0.39 [0.20–0.54]; interference with activities, 0.53 [0.36–0.65] for both. No floor or ceiling effects.

**Discussion/conclusion** The ABIS-F and the ABIS-R-F have the same good psychometric properties as the original ABIS$^\text{a}$ and ABIS-R.$^\text{a}$ They could be applied with confidence in patients with lower limb amputation. The ABIS-R (the shortened version) is as reliable as the ABIS-F (the longer version).

**Keywords** Amputation; Body image scale; French cross-cultural adaptation

**Disclosure of interest** The authors have not supplied their declaration of conflict of interest.

**Reference**


http://dx.doi.org/10.1016/j.rehab.2015.07.303

**CO44-003-e**

**Cross-cultural adaptation, reliability, internal consistency and validation of the Trinity Amputation and Prosthetic Experience Scales-Revised (TAPES-R) for French speaking patients with lower limb amputation**

I. Loiret (Dr)$^a$, P. Vuistinen (Dr)$^b$, J. Paysant (Prof)$^{a,*}$, Y. Arlettaz (Dr)$^c$, M. Assal (Dr)$^d$, O. Borens (Dr)$^e$, L. Huchon (Dr)$^f$, N. Martinet (Dr)$^f$, A. Vouilloux (Dr)$^b$, F. Luthi (Dr)$^b$

$^a$ Institut régional de réadaptation de Nancy, UGECAM Nord Est, Nancy, France

$^b$ Clinique romande de réadaptation de Sion, Sion, Switzerland

$^c$ Hôpital de Martigny, service de chirurgie orthopédique et traumatologique, Switzerland

$^d$ Clinique de la Colline, chirurgie orthopédique, CH Génève, Génève, Switzerland

$^e$ CHUV, service de chirurgie orthopédique et traumatologique, Lausanne, Switzerland

$^f$ CHU de Lyon, Lyon, France

$^{*}$Corresponding author.

E-mail address: jean.paysant@ugecamme.fr (J. Paysant)

**Aim** The aim of this study was the French cross-cultural adaptation and validation of The Trinity Amputation and Prosthetic Experience Scales-Revised (TAPES-R-F), in a lower limb amputation population. This self-reported multidimensional amputee-specific questionnaire$^1$ evaluates with 33 items psychosocial adjustment (3 subscales), activity restriction (1 subscale) and satisfaction with prosthesis (2 subscales).

**Patients and methods** One hundred and twenty-nine patients with a mean age of 62 years and with lower limb amputations for at least 1 year were recruited in 5 clinical centers. Translation and cross-cultural adaptation were made according to international guidelines. Internal consistency of each subscale was measured with Cronbach’s alpha. Test-retest reliability was assessed by intraclass correlation in a sub-group of 24 subjects who completed the TAPES-R twice with an interval of 7 days. Construct validity was estimated through correlations with 2 main components of SF-36 (MCS, PCS). Correlations were also calculated with 3 scales of the Brief Pain Inventory (BPI).

**Results** Cronbach’s alpha was high, ranging from 0.85 to 0.95. Reliability was acceptable to high (ICC = 0.72 to 0.91) for all subscales with the exception of the Social adjustment (ICC = 0.67) and Adjustment to limitation (ICC = 0.42) subscales. The 2 component of SF-36 was significantly correlated with all subscales (PCS: $r$ = 0.24 to 0.66); MCS: $r$ = 0.30 to 0.58), except with aesthetic satisfaction and adjustment to limitation. Regarding the BPI, significant correlations were found for all subscales ($r$ = –0.20 to –0.68) with the exception of adjustment to limitation. Ceiling or floor effects (>15%) were found for all but Activity Restriction and Functional Satisfaction Scales.

**Discussion** The TAPES-R-F has acceptable psychometric properties for most of its subscales. Our results may suggest that the French version is more useful in a population research perspective than in an individual perspective. Other studies are necessary to clarify the role and the psychometric properties of this measure- ment.

**Keywords** Cross cultural adaptation; French; TAPES-R; Psychometric properties; Internal consistency; Reproductibility; Lower limb amputation population

**Disclosure of interest** The authors have not supplied their declaration of conflict of interest.

**Reference**


http://dx.doi.org/10.1016/j.rehab.2015.07.304

**CO44-004-e**

**Validation of a new standardized version of the “400 points assessment”**

C. Burrus (Dr)$^a$, C. Gable$^a$, F. Moureau$^b$, F. Luthi (Dr)$^c$, M.D.R. Pereira Simoes$^c$, P. Lacombe$^c$, O. Deriaz (Dr)$^d$, J. Paysant (Prof)$^d$, M. Konzelmann (Dr)$^{a,*}$

$^a$ Service de réadaptation de l’appareil locomoteur, clinique romande de réadaptation Suvacare, 1950 Sion, Switzerland

$^b$ Institut régional de médecine physique et de réadaptation, 54042 Nancy, France

$^c$ Hospital particular do Algarve-Gambelas, 8005-226 Faro, Portugal

$^d$ Centre médical Rocheplane, 38400 St.-Martin-d’Hères, France

$^{*}$Corresponding author.

E-mail address: michel.konzelmann@crn-uva.ch (M. Konzelmann)

**Aim of the study** The “400 points assessment” (400 PA) is used for 30 years to evaluate hand function assessing 4 dimensions: mobility, strength, monomanoal grip and moving objects, bimanual function. We present results from a preliminary validation study of the new standardized version of the 400 PA.

**Material and method** Multicentric international study, in a rehabilitation setting, with patients suffering of unilateral orthopaedic hand or wrist injury. Correlation (Pearson’s $r$) of the new version of 400 PA with QuickDASH and SF36 Physical Function (PF) for CCV (convergent content validity), and SF36 Mental Function (MF) for DCV (divergent content validity). Intraclass correlation coefficients (ICC) for intrarater and interrater reliability, and Cronbach’s alpha for internal consistency.

**Results** One hundred and sixty-six patients, with a mean pain of 3.4/10 on VAS were included (mean age of 44 years; women 31.9%). Correlation was found moderate with QuickDash: $–0.423$