FATIGUE SEVERITY SCALE (FSS)

BETROUWBAARHEID

Bijkomende studies beoordeelden de interrater reliability, met hoge resultaten tot gevolg. De Chronbach's alpha coëfficiënten varieerden tussen 0.89 en 0.94. Ook de stabiliteit was hoog (ICC tussen 0.82 en 0.84, r=0.82 en Lin's correlatiecoëfficiënt r=0.88) (Anton, H.A., Miller, W.C. & Townson, A.F. 2008; Kleinman, L. et al. 2000; Valko, P.O., Bassetti, C.L., Bloch, K.E., Held, U. & Baumann, C.R. 2008).

VALIDITEIT

Drie studies bestudeerden de *construct validity* van de Fatigue Severity Scale (FSS). De FSS was significant gecorreleerd met de subschaal vitaliteit van de SF-36 (r=-0.76), de Visual Analogue Scale (VAS) (r=0.69 en r=0.75) en de VAS-fatigue (r=0.67) (Anton, H.A., Miller, W.C. & Townson, A.F. 2008; Kleinman, L. et al. 2000; Valko, P.O., Bassetti, C.L., Bloch, K.E., Held, U. & Baumann, C.R. 2008).

REFERENTIES

Valko, P. O., Bassetti, C. L., Bloch, K. E., Held, U., & Baumann, C. R. (2008). Validation of the fatigue severity scale in a Swiss cohort. *Sleep, 31,* 1601-1607.

Kleinman, L., Zodet, M. W., Hakim, Z., Aledort, J., Barker, C., Chan, K., Krupp, L., & Revicki, D. (2000). Psychometric evaluation of the fatigue severity scale for use in chronic hepatitis C *Qual Life Res, 9,* 499-508.

Anton, H. A., Miller, W. C., & Townson, A. F. (2008). Measuring fatigue in persons with spinal cord injury. *Arch Phys Med Rehabil, 89,* 538-542.

MULTIDIMENSIONAL FATIGUE SYMPTOM INVENTORY (MFSI)

BETROUWBAARHEID

De interne samenhang (*internal consistency*) van de MFSI was hoog (α=0.91 en α=0.93) in een steekproef van 55 CVA patiënten. De stabiliteit werd nagegaan door de test- retest methode. De procentuele overeenkomst lag tussen 39 tot 60%, de overeenkomst uitgedrukt in Cohen's Kappa varieerde tussen ĸ= 0.48 en ĸ=0.69. De interbeoordelaars betrouwbaarheid was hoog (ĸ >0.81; 84 tot 93% overeenkomst) (Mead, G. et al., 2007).

VALIDITEIT

Er was consensus tussen experten over het instrument met betrekking tot de doelgroep, meerbepaald CVA –patiënten (*face validity).* De MFSI was matig tot hoog gecorreleerd met andere schalen *(construct validity)*. De MFSI correleerde het best met de subschaal 'moeheid' van de "Profile of Mood States" (r=0.75; *p*<0.001) (Mead, G. et al., 2007).

REFERENTIES

Mead, G., Lynch, J., Greig, C., Young, A., Lewis, S., & Sharpe, M. (2007). Evaluation of fatigue scales in stroke patients. *Stroke, 38,* 2090-2095.

FUNCTIONAL ASSESSMENT OF CHRONIC ILLNESS THERAPY- FATIGUE SCALE

BETROUWBAARHEID

De interne samenhang werd berekend via de Chronbach's alpha coefficient (α=0.96). De stabiliteit was hoog (ICC=0.95) (Chandran, V., Bhella, S., Schentag, C., & Gladman, D. D. 2007).

VALIDITEIT

De FACIT-F correleerde hoog met andere schalen, wat de *'criterion validity'* bekrachtigde (Chandran, V., Bhella, S., Schentag, C., & Gladman, D. D. 2007).

REFERENTIES

Chandran, V., Bhella, S., Schentag, C., & Gladman, D. D. (2007). Functional assessment of chronic illness therapy-fatigue scale is valid in patients with psoriatic arthritis. *Ann.Rheum.Dis., 66,* 936-939.

FATIGUE SYMPTOM INVENTORY

VALIDITEIT

Een cut-off score van ≥ 3 hield de beste sensitiviteit (0.81) en specificiteitsratio's (0.69 en 0.70) in, indien vergeleken met de subschaal vitaliteit van de SF-36. De studie bestudeerde enkel vrouwen waar kanker al dan niet voorkwam in de voorgeschiedenis (Donovan, K. A., Jacobsen, P. B., Small, B. J., Munster, P. N., & Andrykowski, M. A., 2008b)

REFERENTIES

Donovan, K. A., Jacobsen, P. B., Small, B. J., Munster, P. N., & Andrykowski, M. A. (2008). Identifying clinically meaningful fatigue with the Fatigue Symptom Inventory. *J.Pain Symptom.Manage., 36,* 480-487.

Fatigue Severity Scale

Krupp LB., LaRocca NG., Muir-Nash J., Steinberg AD. (1989)

Author (Year)	Setting	Sample (n)	Design	Reliability	Validity
(Anton, H. A., Miller, W. C., & Townson, A. F., 2008)	Tertiary spinal cord rehabilitation facility	Community-living subjects with spinal cord injury (n=48)	Methodologic study	IC S	CsV
(Kleinman, L. et al., 2000)	Clinical centers in several countries (Australia, Canada, France, Germany, Grait-Brittain, Mexico, New Zealand, Spain, Switzerland, Taiwan, US)	Patients with chronic hepatitis C (n=1225) (baseline data were used from 3 clinical trials)	Not specified	IC S	CsV
(Valko, P. O., Bassetti, C. L., Bloch, K. E., Held, U., & Baumann, C. R., 2008)	Neurology and pulmonary Departments of the University Hospital of Zurich, Switzerland	Healthy subjects(n=454), Patients with MS (n=188), Patients with recent ischemic stroke (n=235), Patients with sleep-wake disorders (n=429)	Validation study	IC S	CsV

Betrouwbaarheid/ fiabilité: Stability (S), Internal Consistency (IC), Equivalence (E)

Validiteit/ validité: Face Validity (FV), Content Validity (CtV), Criterion Validity (CrV), Construct Validity (CsV)

Sensitivity (Sen), Specificity (Sp), Positive Predictive Value (PPV), Negative Predictive Value (NPV), Receiver Operating Curve (ROC), Likelihood   Ratio (LR), Odds Ratio (OR), Area Under the Curve (AUC)

Results reliability	Results validity	Commentary
IC α= 0.89 **S** ICC= 0.84 (CI 95%, 0.74-0.90)	**CsV** The FSS was correlated with: - VAS-F: r=0.67 (*P*<0.000) - CES-D: r=0.58 (*P*<0.001) - SF-36 vitality score: -0.48 (*P*<0.010)	The sample consisted of persons with motor complete spinal cord injury. Because fatigue is a problem both in incomplete and complete spinal cord injury, the generalizability is limited.
IC α=0.94 **S** ICC= 0.82 Pearson correlation: 0.82 (P<0.0001)	**CsV** The FSS was correlated with: - VAS: r=0.75 (P<0.0001) - SF-36 vitality subscales: r=-0.76 - Other subscales of SF-36: r=-0.46 to r=-0.67 (P<0.0001); moderate correlation	
IC α=0.93 **S** Lin's correlation coefficient: 0.88 (95%CI:0.84 to 0.92)	**CsV** The FSS was highly correlated with VAS (r=0.69, P<0.01)	

Betrouwbaarheid/ fiabilité: Stability (S), Internal Consistency (IC), Equivalence (E)

Validiteit/ validité: Face Validity (FV), Content Validity (CtV), Criterion Validity (CrV), Construct Validity (CsV)

Sensitivity (Sen), Specificity (Sp), Positive Predictive Value (PPV), Negative Predictive Value (NPV), Receiver Operating Curve (ROC), Likelihood   Ratio (LR), Odds Ratio (OR), Area Under the Curve (AUC)

Multidimensional Fatigue Symptom Inventory (MFSI)

Stein KD, Martin SC, Hann DM, Jacobsen PB (1998)

Author (Year)	Setting	Sample (n)	Design	Reliability	Validity
(Mead, G. et al., 2007)	Hospital stroke wards and the community (stroke clinics, community nurses)	Stroke patients (n=55)		S IC	CsV

Betrouwbaarheid/ fiabilité: Stability (S), Internal Consistency (IC), Equivalence (E)

Validiteit/ validité: Face Validity (FV), Content Validity (CtV), Criterion Validity (CrV), Construct Validity (CsV)

Sensitivity (Sen), Specificity (Sp), Positive Predictive Value (PPV), Negative Predictive Value (NPV), Receiver Operating Curve (ROC), Likelihood Ratio (LR), Odds Ratio (OR), Area Under the Curve (AUC)

Results reliability	Results validity	Commentary
IC α=0.91 and 0.93 **S** Test-retest Percentage agreement for the individual items ranged from 39% to 60%. Kappa values ranged from 0.48 to 0.69. **E** *Interrater reliability* Kappa values for individual items were above 0.81. % agreement for the individual items ranged from 84 to 93%	**FV** Face validity was assessed by expert consensus (specific for stroke patients). **CsV** Convergent validity The convergent validity was assessed by correlating the total scores with other total scales scores (Spearman correlation). The MFSI was compared with: - Fatigue Assessment Scale: 0.71 (<0.001) - Fatigue subscale of the Profile of Mood States: 0.75 (<0.001) - Vitality subscale of the SF-36v2: 0.47 (<0.001) This resulted in moderate to high validity.	The sample was not representative, because the patients were not consecutive. The interviewer may have remembered the answers of the first interview. Reliability could have been biassed.

Betrouwbaarheid/ fiabilité: Stability (S), Internal Consistency (IC), Equivalence (E)

Validiteit/ validité: Face Validity (FV), Content Validity (CtV), Criterion Validity (CrV), Construct Validity (CsV)

Sensitivity (Sen), Specificity (Sp), Positive Predictive Value (PPV), Negative Predictive Value (NPV), Receiver Operating Curve (ROC), Likelihood Ratio (LR), Odds Ratio (OR), Area Under the Curve (AUC)

Functional Assessment of Chronic Illness Therapy- Fatigue Scale

Cella D, Yount S, Sorensen M, Chartash E, Sengupta N, Grober J. (2005)

Author (Year)	Setting	Sample (n)	Design	Reliability	Validity
(Chandran, V., Bhella, S., Schentag, C., & Gladman, D. D., 2007)	University of Toronto Psoriatic Arthritis Clinic, Canada	(n= 135)	Validation study	IC S	CrV CsV

Betrouwbaarheid/ fiabilité: Stability (S), Internal Consistency (IC), Equivalence (E)

Validiteit/ validité: Face Validity (FV), Content Validity (CtV), Criterion Validity (CrV), Construct Validity (CsV)

Sensitivity (Sen), Specificity (Sp), Positive Predictive Value (PPV), Negative Predictive Value (NPV), Receiver Operating Curve (ROC), Likelihood   Ratio (LR), Odds Ratio (OR), Area Under the Curve (AUC)

Results reliability	Results validity	Commentary
IC α=0.96 **S** ICC= 0.95	**CrV** The FACIT-C was correlated with: - Modified Fatigue Severity Score: r=0.79 (95% CI -0.85 to -0.72) - SF-36 vitality subscales: r=-0.76 Other subscales of SF-36: r=-0.46 to r=-0.67 (P<0.0001); moderate correlation	

Betrouwbaarheid/ fiabilité: Stability (S), Internal Consistency (IC), Equivalence (E)

Validiteit/ validité: Face Validity (FV), Content Validity (CtV), Criterion Validity (CrV), Construct Validity (CsV)

Sensitivity (Sen), Specificity (Sp), Positive Predictive Value (PPV), Negative Predictive Value (NPV), Receiver Operating Curve (ROC), Likelihood   Ratio (LR), Odds Ratio (OR), Area Under the Curve (AUC)

Fatigue Symptom Inventory

Hann DM, Jacobsen PB, Azzarello LM, Martin SC, Curran SL, Fields KK, Greenberg H, Lyman G. (1998)

Author (Year)	Setting	Sample (n)	Design	Reliability	Validity
(Donovan, K. A., Jacobsen, P. B., Small, B. J., Munster, P. N., & Andrykowski, M. A., 2008a)	United States	Women with or without a history of cancer (n=265)	Validation study		CrV Sen Sp

Betrouwbaarheid/ fiabilité: Stability (S), Internal Consistency (IC), Equivalence (E)

Validiteit/ validité: Face Validity (FV), Content Validity (CtV), Criterion Validity (CrV), Construct Validity (CsV)

Sensitivity (Sen), Specificity (Sp), Positive Predictive Value (PPV), Negative Predictive Value (NPV), Receiver Operating Curve (ROC), Likelihood   Ratio (LR), Odds Ratio (OR), Area Under the Curve (AUC)

Results reliability	Results validity	Commentary
	CrV The AUC was 0.75 for each FSI measure when the 25 th percentile on the vitality scale (subscale of SF-36) was used as criterion. A cut-off of ≥ 3 was the most optimal cut-off for identifying fatigue. With this cut-off score on the FSI average: **sen** 0.81 **sp** 0.69 (Vitality scale as criterion). On the FSI composite: **sen** 0.81 **sp** 0.70	Only women were present in the sample. The findings were not cross-validated into another sample (cut-off score ≥3).

Betrouwbaarheid/ fiabilité: Stability (S), Internal Consistency (IC), Equivalence (E)

Validiteit/ validité: Face Validity (FV), Content Validity (CtV), Criterion Validity (CrV), Construct Validity (CsV)

Sensitivity (Sen), Specificity (Sp), Positive Predictive Value (PPV), Negative Predictive Value (NPV), Receiver Operating Curve (ROC), Likelihood   Ratio (LR), Odds Ratio (OR), Area Under the Curve (AUC)