Verbal Rating Scale (VRS)

Plusieurs auteurs

Instrument de mesure	Verbal Rating Scale
Abréviation	VRS
Auteur	Plusieurs auteurs
Thème	Management des symptômes de la douleur
Objectif	Evaluer la douleur chez le patient
Population	Non spécifiée
Relevé	Dispensateur de soins
Nombre d'items	1 item
Présence du patient requise	Oui
Localisation de l'instrument de mesure	Herr, K. A. & Mobily, P. R. (1993). Comparison of selected pain assessment tools for use with the elderly. *Appl.Nurs.Res., 6,* 39-46.

Objectif

Contrôle de la douleur chez le patient à l'aide d'un autorapport sur une échelle à un item avec différentes descriptions de douleur.

Groupe cible

La Verbal Rating Scale (VRS) a déjà été validée au sein d'une large population ; ce tant chez des adultes que chez des personnes âgées (dont aussi des personnes âgées avec un fonctionnement cognitif amoindri). Des études étudiant la fiabilité et la validité de la VRS chez les enfants sont toutefois rares.

L'étude de la validité de la VRS est notamment rapportée chez des patients en chirurgie (Jensen, Chen & Brugger, 2002), des personnes âgées (Herr, Spratt, Mobily & Richardson, 2004), des patients AVC (Benaim et al., 2007); des patients souffrant d'un traumatisme (Puntillo & Neighbor, 1997), des déments (Chibnall & Tait, 2001; Kaasalainen & Crook, 2003; Pautex et al., 2005; Pautex et al., 2006; Taylor & Herr, 2003; Ware, Epps, Herr & Packard, 2006), des patients oncologiques (Paice & Cohen, 1997), des enfants (Wong & Baker, 1988), …

Description

La VRS en tant qu'instrument de mesure comprend différentes descriptions de douleur qui sont classées par intensité croissante de la douleur. Il existe cependant de nombreuses variantes de la VRS. Des descriptions de douleur fréquemment utilisées sont entre autres « aucune douleur – faible – moyenne - vive – extrême » et

« aucune douleur – très faible – moyenne – pénible – vive – insupportable ». Cette dernière combinaison fait partie du McGill Pain Questionnaire, du Present Pain Inventory (PPI), et est souvent utilisée comme VRS (Melzack, 1975). Les termes reçoivent un score en attribuant un chiffre à chaque adjectif (0 – 5).

D'autres noms employés pour la VRS sont Verbal Descriptor Scale (VDS), Verbal Pain Scale (VPS) et Simple Descriptor Scale (SDS). Une variante équivalente est aussi l'Iowa Pain Thermometer (Herr, Spratt, Garand & Li, 2007). Il s'agit ici chaque fois d'instruments de mesure équivalents. De petites différences peuvent se retrouver dans les adjectifs que l'on utilise entre les différents instruments de mesure.

Fiabilité

La fiabilité de la VRS a été amplement étudiée dans les études de Benaim et al. (2007), Chibnall & Tait (2001), Herr et al. (2004), Kaasalainen & Crook (2003), Pautex et al. (2005), Pautex et al. (2006), Taylor & Herr (2003), Ware et al. (2006), Wong & Baker (1988).

A l'exception de l'étude de Chibnall & Tait (2001) et Benaim et al. (2007), le *test – retest* montre des corrélations assez importantes (r > 0.70). Ces corrélations sont inférieures pour les personnes âgées avec un fonctionnement cognitif amoindri, bien que la moyenne soit toujours de 0.40 – 0.97. Kaasalainen & Crook (2003) en concluent donc que la VRS est un instrument de mesure fiable et adéquat pour les personnes démentes.

Le *coefficient alpha de Cronbach* entre la VRS et d'autres échelles de mesure à un item (VAS – Numeric Rating Scale – Verbal Numeric Scale – Faces Pain Scale) était de $\alpha = 0.97$ (Herr et al., 2004).

L'*interrater reliability* a donné une corrélation de respectivement r = 0.46 – 0.52, r = 1.00, r = 0.80 et r = 0.95 dans les études de Benaim et al. (2007), Herr et al. (2004) Pautex et al. (2005) et Pautex et al. (2006).

Validité

La VRS est un instrument de mesure valide pour le contrôle de la douleur chez le patient. La *concurrent validity* a été vérifiée dans les études de Benaim et al. (2007), Jensen, Engel, McKearnan & Hoffman (2003), Paice & Cohen (1997), Pautex et al. (2005), Puntillo & Neighbor (1997), Taylor & Herr (2003) et Ware et al. (2006). La corrélation entre la VRS et d'autres échelles de douleur est majoritairement élevée ; dans la plupart des études, on note une corrélation supérieure à 0.70.

Pour contrôler la *construct validity* de la VRS, Herr et al. (2004) et Jensen et al. (2003) ont effectué une *analyse des principaux composants.* Au départ des scores de douleur sur les différents instruments de mesure à un item, 1 facteur a été abstrait. Une *analyse des facteurs* sur les différents scores de douleur VRS sur la base de mesures répétées pendant 12 jours a également débouché sur 1 facteur (Chibnall & Tait, 2001).

La *convergent validity* a été étudiée dans l'étude de Jensen et al. (2003) et de Kaasalainen & Crook (2003) en corrélant la VRS respectivement à des éléments tels que la dépression et des observations comportementales en cas de douleur. Les corrélations rapportées étaient moyennes. Cela peut indiquer que ces éléments rattachés se distinguent quelque peu de la douleur et que la VRS ne mesure que l'élément « douleur ».

La VRS est également sensitive aux sensations douloureuses avec intensité croissante de la douleur (Herr et al., 2004) et au traitement de la douleur au moyen d'analgésiques (Jensen et al., 2002).

Convivialité

La convivialité de cet instrument n'a pas été étudiée. En tenant compte de l'ampleur de l'instrument de mesure, nous pouvons partir du principe que la VRS se lit rapidement et facilement. Si nous évaluons la préférence des patients pour un instrument de mesure donné, la VRS obtient un assez bon score (Herr et al., 2004; Paice & Cohen, 1997; Puntillo & Neighbor, 1997). Il s'avère également que la VRS est bien compréhensible pour les patients et ne génère que peu ou pas de problèmes lors du relevé (Herr et al., 2004; Paice & Cohen, 1997; Pautex et al. 2006; Taylor & Herr, 2003).

Remarques

Une comparaison entre différents instruments de mesure démontre que la VRS peut être indiquée pour la mesure de la douleur chez les personnes âgées, et plus spécifiquement chez les personnes d'un âge avancé et chez les déments (Herr et al., 2004; Herr et al., 2007; Kaasalainen & Crook, 2003; Pautex et al., 2005; Pautex et al., 2006; Taylor & Herr, 2003; Ware et al., 2006). Sur la base de leurs résultats, Kaasalainen & Crook (2003) et Pautex et al. (2005) conseillent l'utilisation de la VRS chez les déments. Outre la VRS, la FPS s'avère aussi être un instrument fiable et valide chez les personnes âgées et les personnes avec un fonctionnement cognitif amoindri (Freeman, Smyth, Dallam & Jackson, 2001; Pautex et al, 2006, Taylor & Herr, 2003, Ware et al., 2006).

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Localisation de l'instrument de mesure

Herr, K. A. & Mobily, P. R. (1993). Comparison of selected pain assessment tools for use with the elderly. *Appl.Nurs.Res., 6,* 39-46.

VERBAL RATING SCALE (VRS)

VERSCHEIDENE AUTEURS

Author (year)	Setting	Sample (n)	Design	Reliability	Validity
Jensen, M. P., Chen, C., & Brugger, A. M. (2002)	Not specified.	123 patients who had undergone knee surgery and 124 women who had undergone a laparatomy . (n = 227)	Repeated measures design: Baseline measurement with 16 additional measures up to 24h following surgery.		Sen
Chibnall, J. T. & Tait, R. C. (2001)	A proprietary subacute care facility.	Cognitively impaired and unimpaired older adults over 55 years. (n = 90)	Repeated measures design: Patients made ratings of current pain three times/day for 7 days. They also made retrospective daily, weekly, and bi-weekly ratings of usual, worst, and least pain levels over a 14-day period. Ratings were made on four different scales: a five-point verbal rating scale, a seven-point faces pain scale, a horizontal 21-point (0±100) box scale, and a vertical 21-point (0±20) box scales (measuring pain intensity).	S	CsV

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Results reliability	Results validity	Commentary
	(Sen) *Repeated measures ANOVA:* Dependent variables: VAS and VRS pre- to posttreatment difference scores Independent variables: time and analgeticum treatment - VAS tended to be more sensitive than VRS showing the smallest F values ($p < 0.001$). - A composite measure made up of a standardized average of three measures of outcome (VAS difference score, VRS difference score and a pain relief rating was not more sensitive to treatment effects (analgetica) than any one measure.	
(S) *Intra-class correlation:* VRS' reliability coefficients for cognitively unimpaired and impaired patients was respectively $0.30 \leq r < 0.55$ and $0.15 < r < 0.40$.	**(CsV)** *Factor analyse;* For each day, 12 day-retrospective ratings (usual, worst, least pain for each of four scales) were subjected to a principal-axis factor analysis. A single 'pain intensity' factor emerged and factor loadings for VRS ranged from 0.55 to 0.80.	The horizontal 21-point box scale emerged as the best scale with respect to both psychometrics and validity, regardless of mental status.

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Author (year)	Setting	Sample (n)	Design	Reliability	Validity
Wong, D. L. & Baker, C. M. (1988)	Pediatric units of two general hospitals in the South-Central United States.	Hospitalized children in three age groups: 3 to 7 (n = 52), 8 to 12 (n = 52), and 13 to 18 years (n = 46). (n = 150)	Comparative study. The following six scales were compared on reliability and validity: Simple Descriptive Scale (SDS), NRS, FPS, the Glasses Scale, the Chips Scale, and the Color Scale.	S	CrV
Puntillo, K. A. & Neighbor, M. L. (1997)	A level 1 trauma center emergency department in San Francisco.	Ninety-five English-speaking patients (67 male and 28 female) and 21 Spanish-speaking patients (16 male and 5 female) participated in the study. Study patients were treated in the emergency department for sprains or strains (35%), fractures (19%), contusions (14%), cellulitis or abscesses (12%), or other miscellaneous conditions such as headaches or abdominal/flank pain (20%). (n = 59)	Repeated measures design: patients were asked to use the NRS and VRS (English or Spanish version according the language of the patient) seven times over a 2-hour period, once immediately before and six times after receiving an analgesic.		CrV

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Results reliability	Results validity	Commentary
(S) *Test-retest reliability:* Retest occurred the day after the initial test except in a few instances when it was done 2 to 4 days later. Percentage agreement for the 6 scales was: - SDS: 72.73% - NRS: 75.44% - FPS: 74.24% - Glasses: 75.38% - Chips: 77.27% - Colors: 68.18%	**(CrV)** *Concurrent validity:* Children were asked to list painful events that they had experienced since being hospitalized and rank these from most to least painful. Each scale was also used to rate these painful events. A percentage consistency between the ranking of the events and the responses for each pain scale was calculated. Percentage agreement for the 6 scales was: - SDS: 62.81% - NRS: 60.00% - FPS: 60.43% - Glasses: 63.70% - Chips: 69.06% - Colors: 58.39%	The FPS was the most preferred scale by all age groups. The finding of an increase in validity and reliability with age is consistent with children' s advancing cognitive ability. However, reliability increased only from the 3 to 7 year age group. Reliability decreased in the 13 to 18 year age group for all the scales except for the color scale and the SDS. No one scale demonstrates superiority in validity or reliability. No significant differences exist among the scales for any age group.
	(CrV) *Concurrent validity:* Spearman correlations between scores on the two scales were computed for each of the seven data collection times. Correlations between the two scales were moderate to very high ($r = 0.48$ to 0.96) and statistically significant ($p < 0.05$ to $p < 0.001$) at each of the seven time periods. In fact, there was an increase in the relationship between the two pain scores (NRS and VRS) from the beginning to the end of the study.	Slightly more English speaking patients preferred the NRS (50) over the VRS (35), and slightly more Spanish-speaking patients preferred the VRS (11) over the NRS (9). However, these findings were not statistically significant.

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Author (year)	Setting	Sample (n)	Design	Reliability	Validity
Ware, L. J., Epps, C. D., Herr, K., & Packard, A. (2006)	Not specified.	68 subjects aged 60 years and older whith cognitive impairments. The mean score for the Mini Mental State Examination (MMSE) was 23 (standard deviation = 5.4) with a range from 10 to 30. Fifty-nine percent (n = 40) of the sample scored 24 or greater indicating no cognitive impairment (CI). Forty-one percent (n = 28) scored less than 24 indicating some degree of CI. (n = 68)	Comparative study: Subjects were instructed to recall a vividly remembered pain and rate this remembered pain using the Iowa Pain Thermometer (IPT), the Verbal Descriptor Scale (VDS), a 0 to 10 Numeric Rating Scale (NRS), and the Faces Pain Scale Revised (FPS-R).	S	CrV

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Results reliability	Results validity	Commentary
(S) *Test-retest reliability:* The researcher returned 2 weeks later and reminded subjects of the "vividly remembered pain" identified at the first assessment and asked them to rate that pain again using all four scales. In the cognitively intact group, Spearman rank correlation coefficients between the two-week vividly remembered pain ratings were 0.87 (NRS), followed by the VDS (0.86), IPT (0.81), and FPS-R (0.76). Correlations ranged from 0.77 to 0.89 in the CI group. The FPS-R had the strongest test–retest reliability coefficient (0.89) in this group followed by the IPT (0.82), VDS (0.79), and NRS (0.77).	**(CrV)** *Concurrent validity:* Spearman correlations between pain ratings on the selected scales ranged from 0.64 to 0.90 in the cognitively intact group and from 0.56 to 0.83 in the CI group. The lowest correlations in the CI group and intact group (0.64–0.84) were found between the FPS-R and the other scales (0.56–0.66).	In terms of the concurrent validity, moderate to high inter-tool correlations for the CI and cognitively intact groups were found with the exception of low correlations associated with the FPS-R, suggesting that the FPS-R may measure overall affect as opposed to pain. Four participants with moderate CI were unable to follow directions and complete the VDS and IPT. The NRS had the highest failure rate with six participants with moderate CI and one mildly impaired participant unable to use the scale. No failures occurred when using the FPS-R to evaluate pain. The NRS (n = 12/36, 33%) was the preferred scale in the cognitively intact group, and the FPS-R (n = 13/24, 54%) was the preferred scale in the CI group.

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Author (year)	Setting	Sample (n)	Design	Reliability	Validity
Jensen, M. P., Engel, J. M., McKearnan, K. A., & Hoffman, A. J. (2003)	Not specified.	Persons with cerebral palsy (CP) who have reported the presence of a chronic pain problem. Pain intensity assessment data were available for 24 participants from the survey study and 45 participants from the longitudinal study (n = 69)	Comparative study . Study participants were recruited from 2 other ongoing studies (a single-assessment survey and a 2-year longitudinal study). A subgroup of those who reported ongoing problems with pain were recruited to participate in a longitudinal study and completed measures of pain and pain impact at 5 time points (11- and 21 point NRS, 5- and 16 point VRS, 6- and 7 point FPS). All of the current study participants came from the same population		CrV CsV

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Results reliability	Results validity	Commentary
	(CrV) *Concurrent validity:* There was a strong association among all measures, with the 21-point NRS showing the most consistently strong (all r 's > 0.80) association with the other measures. However, even the weakest association (r = 0.59), found between the NRS-11 and the FPS-7, indicated a great deal of overlap between these 2 measures. **(CsV)** *Factorananalyse:* A single factor emerged. The loadings, all 0.90 or greater (except NRS-11 0.80), support the validity of each of the scales as measures of pain intensity. *Convergent validity:* Correlation coefficients between each of the 6 measures and measures of pain interference (a modified version of the Pain Interference Scale of the Brief Pain Inventory) and depression (Center for Epidemiological Studies–Depression Scale, CES-D), were all in the expected direction, although some variability in the coefficients can be seen. The 7-point Faces scale appeared to be most strongly associated with these 2 measures, the NRS-11 and VRS-5 showed the weakest associations with pain interference, and the VRS-5 showed the weakest association with depression. The difference between the association between the NRS-11 and pain interference (r = 0.25) and the 7-point Faces scale (r = 0.50) was statistically significant (t (42) = 2.46, p < 0.05, for the difference between coefficients).	

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Author (year)	Setting	Sample (n)	Design	Reliability	Validity
Kaasalainen, S. & Crook, J. (2003)	A 240-bed long-term-care facility in urban southwestern Ontario, Canada.	4 groups of 130 elderly long-term-care residents: (1) cognitively intact, (2) mildly cognitively impaired, (3) moderately cognitively impaired, and (4) extremely cognitively impaired. (n = 130)	Repeated measures design: FPS, NRS, Present Pain Intensity Scale (PPI) were conducted twice 48 hours apart.	S	CsV

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Results reliability	Results validity	Commentary
(S) *Test-retest reliability:* Test-retest reliability for the three verbal-report scales was moderate to strong for the cognitively intact group (FPS: ICC = 0.84; PPI: ICC = 0.55; NRS: ICC = 0.87) but decreased for the other groups. In addition, the error variances were low for the cognitively intact group (FPS: s2 error = 0.53; PPI: s2 error = 0.71; NRS: s2 error = 1.45) but increased with increasing cognitive impairment.	**(CsV)** *Convergent validity:* The Pearson r correlations of the Pain Assessment in the communicatively Impaired (PACI) tool, a behavioural-observation measure, with the three verbal-report scales (FPS, PPI, NRS) were low to moderate. For the cognitively intact group, all of these correlations were moderate and significant (FPS: $r = 0.66$, $p < 0.001$; PPI: $r = 0.62$, $p < 0.01$; NRS: $r = 0.65$, $p < 0.01$). For the mildly impaired group, none were significant at the $p < 0.05$ level. For the moderately impaired group, the PACI correlated moderately and significantly with the FPS ($r = 0.63$, $p < 0.001$) and PPI ($r = 0.64$, $p < 0.001$). However, the correlation between the PACI and NRS for those with moderate impairment was low and non significant ($r = 0.30$, $p < 0.12$).	Test-retest for the 3 verbal-report scales was moderate to strong for elderly persons with no cognitive impairment but decreased for the other groups. Similarly, error variances were low for those with no cognitive impairment but increased with increasing cognitive impairment. These findings indicate that the level of cognitive impairment decreases the reliability of verbal reports of pain. Test-retest reliability for both the NRS and the FPS was strong for residents without cognitive impairment but declined considerably for those with mild and moderate impairment, suggesting that these tools may not be good choices for use with these two groups. For those with moderate cognitive impairment, the PPI seems to be a more appropriate and reliable tool than the FPS or the NRS.

Betrouwbaarheid: Stability (S), Internal consistency (IC), Equivalence (E)
Validiteit: 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)

Author (year)	Setting	Sample (n)	Design	Reliability	Validity
Pautex, S., Michon, A., Guedira, M., Emond, H., Le Lous, P., Samaras, D. et al. (2006)	Geriatrics hospital and a geriatric psychiatry service.	129 patients aged 65 and older hospitalized during a 15 month-period who met DSM criteria for dementia, with a Mini-Mental State Examination score less than 11 and a Clinical Dementia Rating of 3 or greater. (n = 129)	Repeated measures design. Patients were asked to indicate their current level of pain on different scales (VAS, Faces Pain Scale and Verbal Rating Scale). This was repeated 30 minutes later either by the same investigator (50% of the cases) or by a different examiner who was blinded to the first assessment.	S E	
Paice, J. A. & Cohen, F. L. (1997)	A large tertiary care hospital.	A convenience sample of 50 adult oncological patients with pain. (n = 50)	Comparative study: the SDS was compared with VAS and NRS.		CrV

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Results reliability	Results validity	Commentary
(S) *Intra-rater reliability:* R = 0.96 (p < 0.001) **(E)** *Interrater reliability:* R = 0.95 (p < 0.001)	**(CrV)** *Concurrent validity:* - Correlation between VRS and different scales at first assessment: 7. Correlation VRS – FPS: r = 0.80 (p<0.001) 8. Correlation VRS – VAS: r = 0.67 (p<0.001) 9. Correlation VRS – Doloplus 2 (observational pain scale): r = 0.47 (p<0.001) - Correlation between VRS and different scales at second assessment: 10. Correlation VRS – FPS: r = 0.79 (p<0.001) 11. Correlation VRS – VAS: r = 0.73 (p<0.001) 12. Correlation VRS – Doloplus 2 (observational pain scale): r = 0.63 (p<0.001)	A significant better comprehension of the Verbal Rating Scale (VRS) and the Faces Pain Scale (FPS) scale was found. This might suggest that the VAS is not the most appropriate pain assessment scale for patients with severe dementia.
	(CrV) *Concurrent validity:* -The strong positive correlation between the SDS and the NRS was statistically significant: r = 0.83, p < 0.001. -SDS was also correlated to VAS: r = 0.71, p < 0.001	A majority of subjects (50%) preferred the use of the NRS when comparing the three scales used to measure pain intensity. Fewer patients preferred the SDS (38%), with the VAS chosen least often (12%). Eleven subjects (20%) in this study were unable to complete the VAS or did so with great difficulty. All subjects were able to complete the NRS and SDS without apparent difficulty.

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Author (year)	Setting	Sample (n)	Design	Reliability	Validity
Herr, K. A., Spratt, K., Mobily, P. R., & Richardson, G. (2004)	Subjects were recruited through college bulletin board displays, community faith centers, senior-citizen centers, senior-housing, and long-term facilities.	86 younger adults (age 25-55) and 89 older adults (age 65-94). (n = 175)	Repeated measures design. Noxious heat stimili were delivered to the ventral forearm by an electronically controlled contact thermode. The heat stimili were programmed to last 5 seconds and to present randomly 43°C, 45°C, 46°C, 47°C, 48°C, 49°C or 51°C. A 2 minute trial interval followed each stimulus presentation during which the subject rated the stimulus on 5 scales.	IC E	CsV Sen

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Results reliability	Results validity	Commentary
(IC) *Internal consistency:* Intercorrelations between the scales were all statistically significant at every temperature ($p < 0.001$). *Cronbach's alpha within each scale across the 7 temperature values:* VAS: 0.88 NRS: 0.88 VDS: 0.86 VNS: 0.88 FPS: 0.88 *Cronbach's alpha within temperature across the 5 scales:* 43°C: 0.96 45°C: 0.96 46°C 0.96 47°C: 0.97 48°C: 0.97 49°C: 0.97 51°C: 0.97 **(E)** *Interrater reliability:* VAS: 93.5% agreement NRS: 100% agreement VDS: 100% agreement VNS: 100% agreement FPS: 100% agreement	**(CsV)** *Principal components analysis:* A one-factor model was extracted from the different measurement scales. The correlation of each scale to the isolated factor was as follows: VAS: 0.94 NRS: 0.96 VDS: 0.95 VNS: 0.95 FPS: 0.86 **(Sen)** Each tool demonstrated significant increases in score associated with increase in temperature ($p < 0.001$).	The VAS had a significant higher failure rate (6.7%) in comparison with the NRS, VDS, VNS, and FPS. The VNS demonstrated significantly higher levels of pain report than the other 4 scales. The psychometric scale evaluation was conducted using an experimental pain stimulus instead of using clinical pain stimili. The scales most preferred in order by the total sample: NRS (35.3%); VDS (25.3%); VNS (15.9%); FPS (12.9%); VAS (10.6%).

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Author (year)	Setting	Sample (n)	Design	Reliability	Validity
Taylor, L. J. & Herr, K. (2003)	Not specified.	A convenience sample of 57 volunteers age 58 and older. Seventy-seven percent (n = 44) of the sample scored 24 or less on the mental status exam, indicating some degree of cognitive impairment. The remaining 23% (n = 13) were cognitively intact. (n = 57)	Comparative study: Subjects were instructed to recall a vividly remembered pain and rate this remembered pain using the FPS, the VDS, the NRS and the Iowa Pain Thermometer (IPT).	S	CrV

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Results reliability	Results validity	Commentary
(S) *Test-retest reliability:* The researcher returned 2 weeks later and reminded subjects of the "vividly remembered pain" identified at the first assessment and asked them to rate that pain again using all four scales. Spearman rank correlation coefficients between the 2-week vividly remembered pain ratings ranged from 0.52 to 0.83 in both groups. In the cognitively impaired group, the FPS had the strongest reliability coefficient (0.79), followed by the VDS (0.63), NRS (0.57) and IPT (0.52). In the intact group, the strongest correlation was noted with the IPT (0.83), followed by the FPS (0.81), NRS (0.74), and VDS (0.73).	**(CrV)** *Concurrent validity:* Spearman correlations between present pain ratings on the selected scales were statistically significant ($p = 0.01$) and ranged from 0.81 to 0.96 in the intact group and from 0.74 to 0.83 in the impaired group. The lowest correlation was found between the FPS and VDS ($r = 0.74$).	All of the participants were able to use each of the pain intensity scales to rate their present pain in a manner that allowed interpretation of a single pain score (e.g., not selecting more than one response, selection of options outside the scale range). No failures were noted. The FPS showed strong test-retest stability in the cognitively impaired minority older adults. Of the 35 older adults who identified a scale preference, the FPS was the preferred scale in both the intact group (n = 5, 62.5%) and the impaired group (n = 15, 56%). However, it should be noted that almost 40% of both groups had no preference for a specific pain intensity scale.

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Author (year)	Setting	Sample (n)	Design	Reliability	Validity
Benaim, C., Froger, J., Cazottes, C., Gueben, D., Porte, M., Desnuelle, C., & Pelissier, J. Y. (2007)	2 rehabilitation units.	Patients who suffered a first unilateral middle cerebral artery stroke. A distinction was made between left and right hemispheric stroke patients (LHSP –RHSP). (n = 127)	5 year period prospective study. FPS was compared with vertical VAS and Verbal Ratings Scale.	S E	CrV

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Results reliability	Results validity	Commentary
(S) *Intra-rater reliability (n = 33):* Kappa coefficients for FPS were 0.74 (0.13) and 0.53 (0.10) in LHSP and RHSP, respectively. Kappa coefficients for VRS were 0.39 (0.14) and 0.57 (0.15) in LHSP and in RHSP, respectively. ICC for VAS were 0.78 (0.46–0.92) and 0.90 (0.74–0.96) in LHSP and in RHSP, respectively. **(E)** *Interrater reliability (n = 43):* Kappa coefficients for FPS were 0.64 (standard error = 0.11) and 0.44 (0.09) in LHSP and RHSP, respectively. Kappa coefficients for VRS were 0.46 (0.12) and 0.52 (0.12) in LHSP and in RHSP, respectively. ICC for VAS were 0.72 (95% CI = 0.44–0.88) and 0.86 (0.68–0.94) in LHSP and in RHSP, respectively.	**(CrV)** *Concurrent validity (n = 51):* LHSP scores on the FPS were highly correlated with VAS ($r = 0.82$, $p < 0.001$) and with VRS scores ($r = 0.65$, $p < 0.01$). In the RHSP group, correlations were also high ($r = 0.72, 0.72$; $p < 0.001$ respectively).	Among 71 patients, most LHSP preferred FPS (16/32) to VAS (6/32) and VRS (10/32), most RHSP preferred VAS (18/39) to FPS (11/39) and VRS (10/39). The difference was statistically significant ($p < 0.05$).

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Author (year)	Setting	Sample (n)	Design	Reliability	Validity
Pautex, S., Herrmann, F., Le Lous, P., Fabjan, M., Michel, J. P., & Gold, G. (2005)	The inpatient dementia consultation of the Geneva Geriatric Hospital.	Elderly who met DSM criteria for dementia. (n = 160)	Repeated measures design. Patients were asked to indicate their current level of pain on different scales (horizontal/ vertical VAS, Faces Pain Scale and Verbal Rating Scale). This was repeated 30 minutes later either by the same investigator (50% of the cases) or by a different examiner who was blinded to the first assessment.	S E	CrV

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Results reliability	Results validity	Commentary
(S) *Intra-rater reliability* VRS*:* r = 0.97 (p < 0.001) **(E)** *Interrater reliability:* r = 0.80 (p < 0.001)	**(CrV)** *Concurrent validity:* - Correlation between VRS and different scales at first assessment: 5. Correlation VRS – FPS: r = 0.89 (p<0.001) 6. Correlation VRS – horizontal VAS: r = 0.91 (p<0.001) 7. Correlation VRS – vertical VAS: r = 0.89 (p<0.001) 8. Correlation VRS – Doloplus 2 (observational pain scale): r = 0.31 (p<0.001) - Correlation between VRS and different scales at second assessment: 5. Correlation VRS – FPS: r = 0.89 (p<0.001) 6. Correlation VRS – horizontal VAS: r = 0.85 (p<0.001) 7. Correlation VRS – vertical VAS: r = 0.89 (p<0.001) 8. Correlation VRS – Doloplus 2 (observational pain scale): r = 0.34 (p<0.001)	

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
Validity: 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)

Verbal Rating Scale

Bron: Herr, K. A. & Mobily, P. R. (1993). Comparison of selected pain assessment tools for use with the elderly. *Appl.Nurs.Res., 6,* 39-46.

Instructions: Have the patient circle the words to indicate the intensity of current pain. Document the corresponding number that the patient marks on this tool. A response of "No Pain" is given a value of zero, whereas a response of "Pain As Bad As It Could Be" is given a value of six. Evaluating the numerical value of the pain score or the descriptor selected by the patient over time helps determine whether pain intensity is less following pharmacological and/or nonpharmacological treatments.

Pain as bad as it could be

Extreme pain

Severe pain

Moderate pain

Mild pain

Slight pain

No pain

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Verbal Rating Scale

Instructions : Demandez au patient d'entourer les mots qui correspondent au mieux à l'intensité actuelle de sa douleur. Considérez le nombre correspondant aux mots que le patient a choisi. Pour la réponse "pas de douleur" donnez la valeur 0, alors que pour "la pire douleur qui puisse exister" donnez la valeur 6. Evaluer régulièrement les mots que le patient choisi à intervalle réguliers permet de déterminer si l'intensité de la douleur augmente ou diminue en regard des traitement médicamenteux ou non médicamenteux que vous mettez en œuvre.

- La pire douleur qui puisse exister
- Douleur extrême
- Douleur sévère
- Douleur modérée
- Douleur légère
- Douleur insignifiante
- Pas de douleur

Qu'est-ce que BEST ?

BEST pour Belgian Screening Tools est le nom d'une étude réalisée par l'Université de Gand, service des Sciences Infirmières, à la demande du Service Public Fédéral de la Santé Publique, Sécurité Alimentaire et Environnement.

Objectif de BEST ?

Le but de ce projet est de construire une base de données contenant des instruments de mesures validés scientifiquement. Dans le but d'objectiver les diagnostics et résultats des interventions infirmières, des instruments de mesures fiables et valides doivent être disponibles pour démontrer l'efficience des soins infirmiers.

Notre attention se porte sur les instruments de mesure utilisables pour scorer les interventions infirmières du nouveau Résumé Infirmier Minimum ou DI-RHM.

Que pouvez-vous trouver dans ce rapport ?

Le rapport décrit les différents instruments de mesure. En plus, si nous en avons reçu l'autorisation des auteurs, l'instrument est mis à votre disposition. Les instruments de mesure présentant une fiabilité et une validité élevées ont également fait l'objet d'une traduction vers le néerlandais et le français.

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Daem, M., Piron, C., Lardennois, M., Gobert, M., Folens, B., Spittaels, H., Vanderwee, K., Grypdonck, M., & Defloor T. (2007). Mettre à disposition une base de données d'instruments de mesure validés: le projet BEST. Bruxelles: Service Publique Fédéral Santé Publique, Sécurité de la Chaîne alimentaire et Environnement.