The Brief Pain Inventory (BPI)

C. Cleeland, & K. Ryan (1994)

Pain assessment: Global use of the brief pain inventory.

Instrument de mesure	The Brief Pain Inventory
Abréviation	BPI
Auteur	C. Cleeland, & K. Ryan
Thème	Management des symptômes de la douleur
Objectif	Evaluer la douleur chez le patient
Population	Patients admis en service d'oncologie
Relevé	Dispensateur de soins ou patient lui-même
Nombre d'items	32
Présence du patient requise	Oui
Localisation de l'instrument de mesure	Cleeland, C. S. & Ryan, K. M. (1994). Pain assessment: global use of the Brief Pain Inventory. *Ann Acad Med Singapore, 23,* 129-138.

Objectif

Le Brief Pain Inventory (BPI) a pour but de mesurer l'intensité de la douleur chez le patient, ainsi que de vérifier l'influence de la douleur sur la vie du patient. Le BPI offre également des informations sur la perception du patient concernant l'origine de la douleur, les caractéristiques de la douleur et la mesure dans laquelle la douleur est soulagée.

Groupe cible

Le groupe cible pour lequel le BPI a initialement été développé est constitué de patients oncologiques (Cleeland & Ryan, 1994).

Des études ultérieures font cependant aussi état de l'utilisation du BPI chez des patients souffrant de douleurs chroniques. Ainsi, l'instrument de mesure a déjà été validé au sein de populations de patients caractérisées par de l'arthrite, des douleurs lombaires, une sclérose multiple, une neuropathie due au diabète, … (Keller et al., 2004; Mendoza, Mayne, Rublee, & Cleeland, 2006; Osborne, Raichle, Jensen, Ehde, & Kraft, 2006; Tan, Jensen, Thornby, & Shanti, 2004; Zelman, Gore, Dukes, Tai, & Brandenburg, 2005). Par conséquent, l'utilisation du BPI peut être généralisée à l'attention d'une population plus large qu'uniquement les patients oncologiques.

Description

Le BPI est initialement composé de 32 items. Les questions traitent des thèmes suivants :

- L'intensité de la douleur ;
- L'influence de la douleur sur la vie quotidienne du patient ;
- Les perceptions du patient concernant les origines de la douleur ;
- Les caractéristiques de la douleur ;
- La mesure dans laquelle le patient ressent que sa douleur est soulagée.

Selon Cleeland & Ryan (1994), il ne suffit pas d'être au courant de la présence d'une douleur chez le patient. Il est plus important d'en connaître l'intensité. Les « questions sur l'intensité » englobent 4 échelles numériques allant de 0 à 10. On évalue la douleur actuelle, la douleur moyenne, la douleur la plus forte, ainsi que la douleur la plus faible de la semaine écoulée. Ces échelles d'évaluation numériques peuvent également porter sur la douleur du patient au cours des dernières 24 heures.
Il est également crucial d'avoir une idée de la mesure dans laquelle le patient est limité dans son fonctionnement. L'infuence de la douleur sur la vie quotidienne est évaluée à l'aide de 7 questions. Il s'agit aussi d'échelles numériques dont les extrêmes sont limités par les termes « aucune limitation » et « entièrement limité à cause de la douleur ». Les 7 thèmes traitent de l'influence de la douleur sur l'humeur du patient, sur ses déplacements et autres activités physiques, sur son travail, sur ses relations avec les autres, sur sa joie de vivre et sur ses activités sociales.
Un troisième sujet étudie les perceptions du patient concernant l'origine de la douleur (ex. facteurs d'influence, la douleur est-elle due à la douleur ou au traitement ; …).
Les caractéristiques portent notamment sur la localisation de la douleur et sur ses spécificités (ex. brûlante, épuisante, pénétrante, insupportable, …).
Pour terminer viennent plusieurs questions qui évaluent la mesure dans laquelle le patient ressent que sa douleur est soulagée et que l'actuel traitement contre la douleur suffit.

Variantes

Il existe de nombreuses variantes de la version originale du BPI telle que publiée par Cleeland & Ryan (1994). Il s'agit principalement ici de versions abrégées du BPI original. Cleeland a lui-même également conçu la version abrégée BPI short form (BPI-sf) qui ne compte que 9 questions.

Ce qui revient chaque fois dans ces versions adaptées, ce sont les « questions sur l'intensité » et les 7 questions sur l'influence de la douleur sur la vie quotidienne. Une étude de la validité et de la fiabilité du BPI s'axe donc toujours sur ces deux sujets.

Fiabilité

Un *Test-retest* de la BPI-sf a été étudié dans l'étude de Mendoza et al. (2006) , lors de laquelle le questionnaire a été complété chaque jour pendant une semaine auprès de patients atteints d'ostéoarthrite, qui étaient traités par AINS. Les corrélations

étaient supérieures à 0.80, excepté entre la mesure de base et le jour 1. Cela peut cependant être dû à un changement dans le vécu de la douleur suite au traitement antidouleur.

L'*Alpha de Cronbach* a déjà été amplement étudié pour les 4 questions sur l'intensité et les 7 questions portant sur les limitations que le patient éprouve à cause de la douleur (Keller et al., 2004; Mendoza et al., 2006; Mendoza et al., 2004; Osborne et al., 2006; Tan et al., 2004; Tyler, Jensen, Engel, & Schwartz, 2002; Zelman et al., 2005). A l'exception d'une seule étude, le coefficient alpha atteignait toujours 0.80 ou plus. Une valeur supérieure à 0.90 est même souvent rapportée.

Validité

La validité des questions sur l'intensité et des questions sur l'influence de la douleur sur la vie quotidienne a également toujours été amplement étudiée.

Plusieurs études ont comparé les résultats de ces questions avec d'autres échelles de douleur (Keller et al., 2004; Mendoza et al., 2006; Mendoza et al., 2004; Osborne et al., 2006; Tyler et al., 2002; Zelman et al., 2005). Les corrélations sont généralement de modérées à faibles. La moyenne sur les différentes études est de r = 0.34 – 0.81.

Une *analyse des facteurs* a été réalisée dans les études de Keller et al. (2004), Mendoza et al. (2006), Mendoza et al. (2004), Osborne et al. (2006), Tan et al. (2004), Tyler et al. (2002) et Zelman et al. (2005). Deux facteurs sont chaque fois obtenus, excepté dans une étude avec trois facteurs (Mendoza et al., 2006). Comme cela a été développé dans la version originale du BPI, le premier facteur se compose des questions relatives à l'intensité de la douleur et le deuxième facteur englobe les questions sur les limitations dans la vie quotidienne. Les charges factorielles atteignent minimum 0.40 et la variance explicative totale était la plus faible dans l'étude de Tan et al. (2004), à savoir 64%.

La *validité convergente* a été vérifiée en corrélant le BPI à des instruments de mesure qui évaluent l'évolution de la maladie (Mendoza et al., 2006) et le fonctionnement psychologique (Osborne et al., 2006; Zelman et al., 2005) et physique du patient (Tan et al., 2004). Des corrélations significatives ont chaque fois été rapportées dans la direction souhaitée.

Les études de Keller et al. (2004), Mendoza et al. (2006), Mendoza et al. (2004) et Tan et al. (2004) confirment la *sensitivité* du BPI. Les scores de douleur sur le BPI diminuent à mesure que des changements interviennent dans le vécu de la douleur ou que les patients reçoivent un traitement antidouleur.

Convivialité

La convivialité de cet instrument n'a pas été étudiée.
Les auteurs signalent cependant que le relevé du BPI prend en moyenne 15 minutes (Cleeland & Ryan, 1994).

Remarques

A l'aide des résultats susvisés, nous pouvons dire que la BPI-sf est un instrument de mesure valide. En tenant compte de la sollicitation accrue et de la charge de travail chez les dispensateurs de soins, la BPI-sf est peut-être plus indiquée que le BPI dans la pratique infirmière. L'ampleur de la BPI-sf (et donc aussi la durée du relevé) est en effet plus restreinte.
Sur le site web http://www.mdanderson.org/departments/prg/, les auteurs proposent un aperçu des différentes langues dans lesquelles le BPI a été traduit et validé. On peut chaque fois demander une version électronique du BPI ou de la BPI-sf dans la langue souhaitée. Nous faisons donc référence à ce lien, étant donné qu'aucun copyright n'a été obtenu pour proposer l'instrument de mesure par voie électronique. L'instrument est cependant bien repris dans le rapport.

Références

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Localisation de l'instrument de mesure

Cleeland, C. S. & Ryan, K. M. (1994). Pain assessment: global use of the Brief Pain Inventory. *Ann Acad Med Singapore, 23,* 129-138.

BRIEF PAIN INVENTORY (BPI)

C. CLEELAND, & K. RYAN (1994)

U.S.A. (English)

Author (year)	Setting	Sample (n)	Design	Reliability	Validity
Mendoza, T., Mayne, T., Rublee, D., & Cleeland, C. (2006)	A multicenter study.	Group 1: 1019 patients with osteoarthritis (OA) of the hip. Group 2: 477 patients with OA of the knee. (n = 1496)	RCT. Signs and symptoms of OA were treated in a double-blind, placebo controlled RCT. The VAS, Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) and Patient Global Assessment of Arthritis questionnaire were administered at baseline and day 14. The modified Brief Pain Inventory – short form (m-BPI-sf) was administered at baseline and on days 1–7.	S IC	CrV 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
(S) *Test-retest reliability:* Correlations between adjoining assessments were calculated for each of the three subscales in group 1 and 2. All three subscales – namely, pain severity, mood-related interference and activity-related interference – have acceptable test–retest reliabilities (r > 0.80) with the exception of between baseline and day 1. **(IC)** *Cronbach's alpha:* Cronbach aplha was calculated for the pain, mood and activity scales for all 7 days. Alpha coefficients ranged from 0.86 to 0.96 for each scale at baseline and on days 1 and 7. Only at baseline were the alphas (for mood and activity) below 0.90. The results of study group 1 were replicated in group 2: only at baseline were any of the alphas slightly below 0.90.	**(CrV)** *Concurrent validity:* Correlations between m-BPI-sf items and VAS and WOMAC pain scale were rather weak: correlations ranged between 0.39 and 0.65. **(CsV)** *Factoranalyse:* The items fitted into three factors: pain (including average pain in last 24 h, worst pain in last 24 h and pain now), mood (including impact of pain on mood and impact of pain on relationships with others) and activity (impact of pain on walking ability, general activity, ability to do normal work). The three-factor solution accounted for 86% of the scale's variance in the OA group 1 and accounted for 84% in group 2. *Convergent validity:* The association between change from baseline to day 7 in m-BPI-sf scales and changes from baseline to day 14 on Patient's Global Assessment of Arthritis was studied. Patients were categorised as ''improved',' ''no change'' or ''worse'' based on the difference between their baseline and 14-day scores on the Patient's Global Assessment of Arthritis. Patients who reported improved arthritis at day 14 had significant improvement in all m-BPI-sf scales. **(Sen)** Each scale became less negatively and/or more positively skewed over time, indicating that fewer patients reported high levels of pain over the course of the week.	The low test-retest reliabilities between baseline and day 1 across all three subscales in both studies, are reasonable as changes are expected in a patient's pain severity with the administration of a pain intervention. It should be noted that the pain VAS and WOMAC pain scale correlated at 0.48, indicating that the m-BPI-sf items were more strongly related to the criterion variables than the criterion variables were with each other. Preliminary factor analyses indicated that the interference items ''sleep'' and ''enjoyment of life'' did not load stably on any one factor and were conceptually different from the mood and activity items. These items were therefore dropped from analyses.

Reliability: Stability (S), Internal consistency (IC), Equivalence (E)
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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
Mendoza, T. R., Chen, C., Brugger, A., Hubbard, R., Snabes, M., Palmer, S. N., Zhang, Q., & Cleeland, C. S. (2004)	A multicenter study.	Coronary bypass graft surgery (CABG) patients. (n = 462)	RCT. To compare the safety and efficacy of an analgesic drug following CABG in a double-blind, placebo controlled RCT. Pain assessment was registered by a modified version of the BPI (m-BPI). The m-BPI contains 3 severity items and 5 interference items. The 3 pain severity items are “worst pain”, “pain on the average”, and “pain right now”. The 5 interference items are “walking ability”, “mood”, “sleep”, “relations with others”, and “ability to sleep”. The m-BPI was presented to patients beginning on the fourth postsurgical day through at least day 14. A single sternotomy pain item was administered daily during the 2 weeks after surgery.	S IC	CrV 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
(S) *Test-retest reliability:* The test-retest reliability coefficient ranges from 0.72 to 0.95 with the exception of the test-retest reliability coefficient for the Interference subscales on day 4 and 5, which was 0.58. **(IC)** *Cronbach's alpha:* The internal consistency reliability coefficients (day 4 till day 14) ranges from 0.85 to 0.91 for the Severity scores and from 0.90 to 0.92 for the Interference scores.	**(CrV)** *Concurrent validity:* Correlations between the Sternotomy Pain Item and BPI Severity subscales were high (range 0.72 – 0.81). The BPI Interference subscales were only mildly correlated with the Sternotomy Pain Item (range 0.52 – 0.34). **(CsV)** *Factoranalyse:* Factor analyse performed a 2-factor structure. Factor 1 corresponds to the original BPI Severity subscales ("worst pain", "pain on the average", and "pain right now"); factor 2 represents the Interference items ("walking ability", "mood", "sleep", "relations with others", and "ability to sleep"). **(Sen)** As expected, scores on the m-BPI decreased over the 11 days of the study.The changes in the m-BPI were statistically significant, with the exception of the BPI Interference subscales between day 5 and 7 and between day 5 and 8.	Because the Interference subscale was only moderately reliable for day 4 (Cronbach's α of 0.58), day 5 was used as baseline when comparing changes in pain Interference for sensitivity.

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
Zelman, D.C., Gore, M., Dukes, E., Tai, K.S., & Brandenburg, N. (2005)	Not specified.	Patients with painful diabetic peripheral neuropathy (DPN) were enrolled by primary care physicians, endocrinologists, neurologists, and anaesthesiologists. (n = 255)	Validation study. To validate a modified version of the BPI in a population of patients with DPN (BPI-DPN). The BPI-DPN was shortened to the 4-item pain Severity scale and the 7-item pain Interference scale.	IC	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
(IC) *Cronbach's alpha:* Internal consistency reliability measured by Cronbach's alpha was high (0.94) for both the Severity and the Interference scales.	**(CrV)** *Concurrent validity:* Correlations between BPI-DPN scales, Worst Pain and Average Pain, and three alternate pain rating formats (Bodily Pain from the SF-12v2, a single verbal rating scale item of pain severity, and the Pain/Discomfort scale of the EQ-5D) were moderate (range: r = 0.52 – 0.74) and significant (p < 0.001). **(CsV)** *Factoranalyse:* A two factor model was extracted and accounted for 77.6% of the variance. Loadings of Interference items on Factor 1, which was called Interference, ranged from 0.55 (General Activity) to 0.99 (Relations with Others). Loadings of Severity items on Factor 2, which was called Severity, ranged from 0.78 (Pain Now) to 0.94 (Least Pain). The first factor was the stronger of the two factors, explaining 68.4% of variance; and the second factor explained 9.2% of variance. *Convergent validity;* Moderate to weak correlations (all p < 0.001) between the Severity and Interference scales and selected scales measuring function from the SF-12v2 (range: r = -0.33 to -0.65) and the Hospital Anxiety and Depression Scale (HADS) (range: r = 0.45 to 0.62). A test of equal paired correlations shows that Interference is more highly correlated than Severity with the SF-12v2 and HADS measures, with z-scores 2.3 - 5.16, all p < 0.001 (with the exception of the Physical Component Summary, p < 0.01). A significant correlation was measured between BPI-DPN Worst Pain, Average Pain, and the Pain Interference scale and patient reports of medical utilization.	Cronbach's alpha, if any single item was deleted, ranged from 0.91 to 0.93; because dropping any item would reduce Cronbach's alpha, this suggests that all items should be retained. Although Severity is correlated with Interference, they are correlated to a different extent with other measures; taken together with the results of the factor analysis, this supports the idea that they are distinct scales.

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
Keller, S., Bann, C. M., Dodd, S. L., Schein, J., Mendoza, T. R., & Cleeland, C. S. (2004)	Primary care practice clinics.	A convenience sample of patients with arthritis or low back pain (LBP). The following 4 diagnoses can be distinguished: 1. Osteoarthritis 2. Rheumatoid arthritis 3. LBP on worker's compensation 4. LBP not on worker's compensation (n = 250)	Validation study.	IC	CrV CsV Sen
Tyler, E. J., Jensen, M. P., Engel, J. M., & Schwartz, L. (2002)	University medical center.	Fifty adults with cerebral palsy randomly selected. (n = 50)	Validation study. To validate a modification of the BPI Interference subscales. 3 items were added to the 7 original interference items (interference with self-care, recreational activities, and social activities) to obtain a broader-based sample of areas that could potentially be affected by pain.	IC	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
(IC) *Cronbach's alpha:* Reliability coefficients for the BPI Severity and Interference scales were high (Cronbach alpha ranging from 0.82 to 0.95)	**(CrV)** *Concurrent validity:* The BPI was significant related to other measures of pain and the condition-specific scales. Among arthritis patients, the correlation between the BPI scales and the Health Assessment Questionnaire (HAQ), an arthritis-specific measure, was r = 0.58 and r = 0.69.Similar results were found among LBP patients on the Roland Disability Questionnaire (RDQ), a measure specifically designed for patienst with LBP (r = 0.57 and r = 0.81). **(CsV)** *Factoranalyse:* A two factor model was extracted and accounted for 67% of the variance. Factor loadings were all above 0.50. **(Sen)** The BPI has good sensitivity to improvement or change in condition as measured by other pain scales (HAQ, RDQ, SF-36 Health Survey and Chronic Pain Grade).	
(IC) *Cronbach's alpha:* The internal consistency of the 10 modified BPI Interference items was α = 0.89).	**(CrV)** *Concurrent validity:* The composite score generated from the modified BPI Interference items showed a strong and significant association with the average pain over the past 24h as measured by the NRS (r = 0.66, 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
Osborne, T. L., Raichle, K. A., Jensen, M. P., Ehde, D. M., & Kraft, G. (2006)	Not specified.	Community-dwelling persons with multiple sclerosis (MS). (n = 125)	Validation study. To compare and validate the original and 2 modified versions of the BPI Interference Scale. 3 items were added to the 7 original interference items (interference with self-care, recreational activities, and social activities) yielding a 10-item scale. The 12-item scale was expanded with 2 additional items: interference with communication with others, and interference with learning new information and skills.	IC	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
(IC) *Cronbach's alpha:* Internal consistency estimates were high for the three versions of the modified BPI Interference scale (7-item, α = 0.93; 10-item, α = 0.95; 12-item, α = 0.96).	**(CrV)** *Concurrent validity:* Pearson correlation coefficients between the pain interference items and scale scores and ratings of average pain intensity during the past week indicate that the first seven items from the BPI Interference scale were each significantly associated with average pain intensity, with correlations ranging from 0.42 to 0.69. Additionally, each of the five items that was added to this scale was also significantly associated with average pain intensity. However, the correlation coefficients for the two items that were added for the 12-item version of the scale (communication with others and learning new information and skills) demonstrated the weakest associations with pain intensity of all the modified BPI Interference items (r = 0.38 and 0.35, respectively). The scale scores for each of the three versions of the modified BPI Interference scale were all significantly related to average pain intensity (coefficients ranging from 0.61 to 0.63). **(CsV)** *Convergent validity:* Correlations between the pain interference items and scale scores and global psychological functioning, as measured by the SF-36 Mental Health scale, were all significantly and negatively associated with mental health, as were the five items added to the 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)

Results reliability	Results validity	Commentary
	(CsV) *Factoranalyse:* The principal factor analysis examining the items from the modified 7-item version of the BPI Interference scale and the three pain intensity items resulted in a two-factor solution. The first factor accounted for 64.0% of the variance and the second factor accounted for an additional 11.0% of the variance. Each of the seven BPI Interference items had factor loadings greater than 0.40 on Factor 1 and loadings of 0.40 or lower on Factor 2. In reverse, the pain intensity items loaded only on factor 2. The principal factor analysis examining the items from the modified 10-item version of the BPI Interference scale and the three pain intensity items also resulted in a two-factor solution. The first factor accounted for 64.6% of the variance and the second factor accounted for an additional 9.2% of the variance. All 10 interference items had high factor loadings on Factor 1 (factor loadings ranging from 0.59 to 0.94) and loadings of 0.40 or lower on Factor 2. In reverse, the pain intensity items loaded only on factor 2. The principal factor analysis examining the items from the modified 12-item version of the BPI Interference scale and the three pain intensity items resulted in a two-factor solution. The first factor accounted for 63.0% of the variance, and the second factor accounted for an additional 10.0% of the variance. Eleven of the 12 interference items had factor loadings greater than 0.40 on Factor 1, but 2 of these 11 items also had factor loadings greater than 0.40 on Factor 2.	There is no conclusive evidence to suggest that the modified 10 or 12 item scale is more valid than the original 7 item version Interference scale. Additionally, a two-factor solution emerged in the factor analyses of the 3 models, but the pain interference and pain intensity factors were not as distinct from one another in the 12-item version than was observed in the factor analyses examining the 7- and 10-item versions of modified BPI Interference scale. One potential advantage to use the 10-item modified version, as stated by the authors, is that it assesses more of the domains of functioning deemed as relevant according to the WHO ICF recommendations than the original 7-item scale. Therefore, the 10-item version may be possible helpful when assessing pain-related interference with functioning in persons with disabilities and pain.

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
Tan, G., Jensen, M. P., Thornby, J. I., & Shanti, B. F. (2004)	The chronic pain center at a metropolitan Veteran Affairs Medical Center.	440 patients with chronic intractable pain. (n = 440)	Repeated measures design.	IC	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) *Cronbach's alpha:* The Cronbach α internal consistency indicated that the coefficient was 0.85 for the Intensity scale and 0.88 for the Interference scale.	**(CsV)** *Factoranalyse:* A factor analysis was performed, resulting in 2 factors. The first factor consisted of all 7 interference items and accounted for 51.1% of the variance. The second factor consisted of the 4 pain intensity scales and accounted for another 12.5% of the variance. Both factors accounted for 63.6% of the total variance. *Convergent validity:* Correlation between pain interference and disability (Roland-Morris Disability Questionnaire) was r = 0.57, and this was statistically significantly stronger ($t = 5.71$, $p < 0.01$) than the correlation between pain intensity and disability (r = 0.40). **(Sen)** BPI Intensity and Interference scales showed significant changes in the expected direction from visit 1 to visit 3, thus confirming the responsivity of this instrument for detecting improvement with pain treatment.	

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)

Brief Pain Inventory (Short Form)

Bron: Cleeland, C. S. & Ryan, K. M. (1994). Pain assessment: global use of the Brief Pain Inventory. *Ann Acad Med Singapore, 23,* 129-138.

1903

Date: (month) / (day) / (year)

Subject's Initials : _____

Study Subject #:

PLEASE USE BLACK INK PEN

Study Name: _____

Protocol #: _____

PI: _____

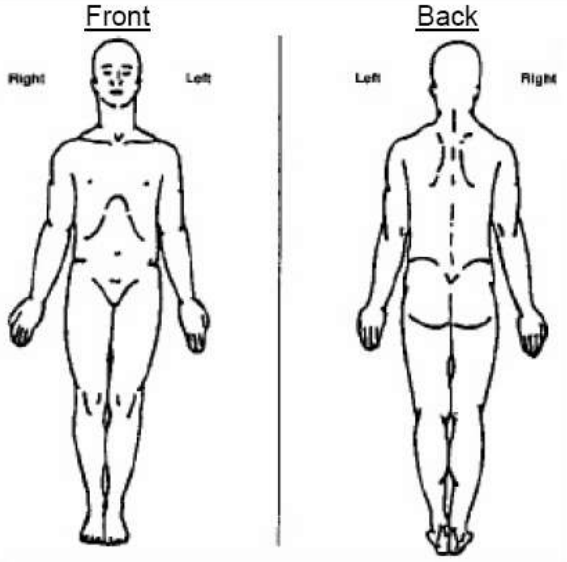
Revision: 07/01/05

Brief Pain Inventory (Short Form)

1. Throughout our lives, most of us have had pain from time to time (such as minor headaches, sprains, and toothaches). Have you had pain other than these everyday kinds of pain today?

☐ Yes ☐ No

2. On the diagram, shade in the areas where you feel pain. Put an X on the area that hurts the most.



3. Please rate your pain by marking the box beside the number that best describes your pain at its worst in the last 24 hours.

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

No Pain — Pain As Bad As You Can Imagine

4. Please rate your pain by marking the box beside the number that best describes your pain at its least in the last 24 hours.

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

No Pain — Pain As Bad As You Can Imagine

5. Please rate your pain by marking the box beside the number that best describes your pain on the average.

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

No Pain — Pain As Bad As You Can Imagine

6. Please rate your pain by marking the box beside the number that tells how much pain you have right now.

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

No Pain — Pain As Bad As You Can Imagine

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1903

Date: (month) / (day) / (year)

Subject's Initials : _____

Study Subject #:

Study Name: _____

Protocol #: _____

PI: _____

Revision: 07/01/05

PLEASE USE BLACK INK PEN

7. What treatments or medications are you receiving for your pain?

8. In the last 24 hours, how much relief have pain treatments or medications provided? Please mark the box below the percentage that most shows how much relief you have received.

0% ☐ No Relief | 10% ☐ | 20% ☐ | 30% ☐ | 40% ☐ | 50% ☐ | 60% ☐ | 70% ☐ | 80% ☐ | 90% ☐ | 100% ☐ Complete Relief

9. Mark the box beside the number that describes how, during the past 24 hours, pain has interfered with your:

A. General Activity

☐ 0 Does Not Interfere ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 Completely Interferes

B. Mood

☐ 0 Does Not Interfere ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 Completely Interferes

C. Walking ability

☐ 0 Does Not Interfere ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 Completely Interferes

D. Normal Work (includes both work outside the home and housework)

☐ 0 Does Not Interfere ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 Completely Interferes

E. Relations with other people

☐ 0 Does Not Interfere ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 Completely Interferes

F. Sleep

☐ 0 Does Not Interfere ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 Completely Interferes

G. Enjoyment of life

☐ 0 Does Not Interfere ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 Completely Interferes

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Brief Pain Inventory (Short Form)

64045

Date: ☐☐ / ☐☐ / ☐☐
(mois) (jour) (année)

Initiales du patient: _____

Numéro d'ordre: ☐☐☐☐

UTILISER DE L'ENCRE NOIRE

Nom de l'étude: _____

Numéro du protocole: _____

Chercheur principal: _____

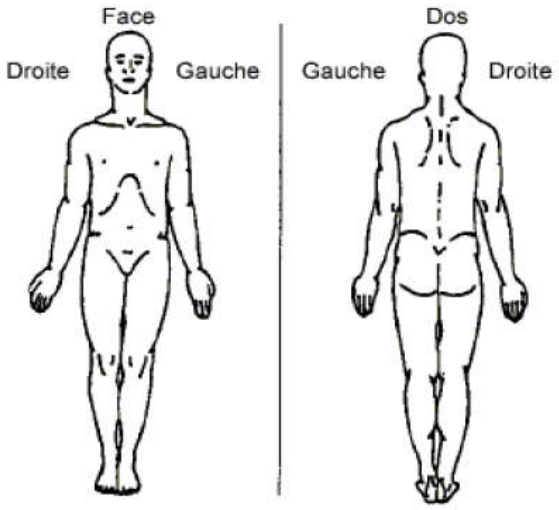
Révision: 01/07/05

Questionnaire concis sur les douleurs (Format Réduit)

1. Au cours de notre vie, la plupart d'entre nous ressentent des douleurs un jour ou l'autre (maux de tête, rage de dents). Avez-vous ressenti d'autres douleurs que ce type de douleurs "familières" aujourd'hui?

☐ Oui ☐ Non

2. Indiquez sur ce schéma où se trouve votre douleur en noircissant la zone. Mettez sur le dessin un "X" à l'endroit où vous ressentissez la douleur la plus intense.



3. SVP, entourez d'un cercle le chiffre qui décrit le mieux la douleur la plus intense que vous ayez ressentie pendant les dernières 24 heures.

☐0 ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10

Pas de douleur — Douleur la plus horrible que vous puissiez imaginer

4. SVP, entourez d'un cercle le chiffre qui décrit le mieux la douleur la plus faible que vous ayez ressentie pendant les dernières 24 heures.

☐0 ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10

Pas de douleur — Douleur la plus horrible que vous puissiez imaginer

5. SVP, entourez d'un cercle le chiffre qui décrit le mieux la douleur en général.

☐0 ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10

Pas de douleur — Douleur la plus horrible que vous puissiez imaginer

6. SVP, entourez d'un cercle le chiffre qui décrit le mieux la douleur en ce moment.

☐0 ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10

Pas de douleur — Douleur la plus horrible que vous puissiez imaginer

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64045

Date: (mois) / (jour) / (année)

Initiales du patient: _____

Numéro d'ordre:

UTILISER DE L'ENCRE NOIRE

Nom de l'étude: _____

Numéro du protocole: _____

Chercheur principal: _____

Révision: 01/07/05

7. Quels traitements suivez-vous ou quels médicaments prenez-vous contre la douleur?

8. Pendant les dernières 24 heures, quel soulagement les traitements ou les médicaments que vous prenez vous ont-ils apporté; pouvez-vous indiquer le pourcentage d'amélioration obtenue?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

☐ Aucune amélioration ... ☐ Amélioration complete

9. Entourez le chiffre qui décrit le mieux comment, pendant les dernières 24 heures, la douleur a gêné votre:

A. Activité générale

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

Ne gêne pas ... Gêne completement

B. Humeur

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

Ne gêne pas ... Gêne completement

C. Capacité à marcher

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

Ne gêne pas ... Gêne completement

D. Travail habituel (y compris à l'extérieur de la maison et les travaux domestiques)

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

Ne gêne pas ... Gêne completement

E. Relations avec les autres

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

Ne gêne pas ... Gêne completement

F. Sommeil

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

Ne gêne pas ... Gêne completement

G. Goût de vivre

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

Ne gêne pas ... Gêne completement

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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.

Les chefs de projet UGent
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Prof. dr. M. Grypdonck

Les collaborateurs du projet UGent
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Le chef de projet UCL
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Le collaborateur du projet UCL
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Le chef de projet FOD
B. Folens

Le collaborateur du projet FOD
M. Lardennois

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.