

DOULEUR NEUROPATHIQUE EN 4 QUESTIONS (DN4)

SWEDISH TRANSLATION (tested in spinal cord injury patients)

Bibliographic information for original (French) questionnaire

Reference

Bouhassira D, Attal N, Alchaar H, Boureau F, Brochet B, Bruxelle J, Cunin G, Fermanian J, Ginies P, Grun-Overdyking A, Jafari-Schlupe H, Lantéri-Minet M, Laurent B, Mick G, Serrie A, Valade D, Vicaut E. Comparison of pain syndromes associated with nervous or somatic lesions and development of a new neuropathic pain diagnostic questionnaire (DN4). *Pain*. 114: 29-36, 2005.

PubMed identifier (PMID): <http://www.ncbi.nlm.nih.gov/pubmed/15733628>

Bibliographic information for translated (Swedish) questionnaire

Reference

Hallstrom H, Norrbrink C. Screening tools for neuropathic pain: Can they be of use in individuals with spinal cord injury? *Pain* 152: 772-779, 2011.

PMID: <http://www.ncbi.nlm.nih.gov/pubmed/21272997>

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Properties of the translated questionnaire

Purpose

Diagnostic/screening: To identify whether pain is likely to be neuropathic in origin in patients with spinal cord injury.

Language

Swedish

Translation process:

Duplicate forward and reverse translation, with consensus discussions after each phase of translation. Forward translation from the original French version of the DN4 was by two native Swedish speaking translators, one of whom was aware of the objective and concept of the tool and the study. Reverse translation was by two native French speaking translators.

TRANSLATION AND VALIDATION: SWEDISH DN4 (SPINAL CORD INJURY)

Changes from original questionnaire:

None

Assessment

SYMPTOMS (INTERVIEW):

Two questions addressing symptoms:

- Pain quality (presence of three symptoms assessed: burning, painful cold, electric shocks)
- Non-painful symptoms (presence of four symptoms assessed: numbness, tingling, itching, pins-and-needles)

SIGNS (CLINICAL EXAMINATION):

Two questions addressing sensory signs (requires a suitably trained person to administer the instrument):

- Assessments for mechanical hypoaesthesia (two modalities assessed: touch and pin-prick sensations)
- Assessment for mechanical dynamic allodynia (one modality assessed: brushing)

Scoring system

All items are answered in the affirmative ('yes') or negative ('No'). All 'yes' responses are scored as 1, and 'no' responses are scored as 0. The individual item scores are summed and a total score calculated. A score of 4 or greater indicates that the pain is likely to be of neuropathic origin (**this threshold was confirmed during the validation of the translated questionnaire**).

Scoring direction

Score ≥ 4 indicate that the pain is likely to be neuropathic in origin

Validation population

Forty (40) Swedish-speaking spinal cord injury patients (of at least one year), who had pain for at least six months, and the pain was at least 3 on a 0-10 numerical pain rating scale were recruited to the study. Pain was clinically diagnosed as being neuropathic in 28 patients and non-neuropathic in 12 patients. Participants were assessed twice using the tool, by independent assessors.

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Psychometric properties

Diagnostic validity (using a threshold score ≥ 4)

Sensitivity: 92.9%

Specificity: 75.0%

Agreement with clinical diagnosis: 87.5%

Receiver-operating characteristic (ROC): Area under the curve (AUC) = 0.81

Exploratory analysis confirmed that the threshold score of ≥ 4 was the optimal score for the Swedish translation.

Construct validity

Hypoaesthesia to touch was associated was associated with a clinical diagnosis of neuropathic pain

Convergent/criterion validity

Not assessed

Reliability

Test-retest reliability: Good (Cohen's kappa coefficient = 0.75)

Validation studies of translated questionnaire for specific pain conditions

n/a

Additional information

n/a