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# Predicting chronicity in acute back pain: Validation of a French translation of the Örebro Musculoskeletal Pain Screening Questionnaire

*Prédire la chronicité dans la rachialgie aiguë : validation de la traduction française du questionnaire Örebro Musculoskeletal Pain Screening Questionnaire*

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## Abstract

**Objective.** – To establish the predictive validity of a French translation of the Örebro Musculoskeletal Pain Screening Questionnaire (OMPSQ), a screening tool assessing the risk of chronicity in patients with back pain.

**Methods.** – Prospective follow-up study. Assessment was performed at inclusion and 6 months later with the OMPSQ and the Oswestry Disability Index (ODI). Four outcome variables (pain index, two functional variables and work absence) were defined.

**Results.** – Ninety-one patients were included, of whom 80% completed the study. Depending on the outcome variable considered, 42 to 82% of the patients recovered within 6 months. ROC AUC, a global measure of the performance of the questionnaire integrating sensitivity and specificity data, ranged from 0.73 to 0.83. When considering the functional outcome variable derived from the ODI, a low cut-off score of 71 (corresponding to 80% sensitivity) and a high cut-off score of 106 (corresponding to 80% specificity) can be used to distinguish three groups of patients: low, intermediate and high risk of chronicity.

**Conclusion.** – The predictive value of the French version of the OMPSQ is reasonably good, in line with the studies in other languages. This questionnaire may be particularly valuable in secondary care settings.

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**Keywords:** Back pain; Secondary prevention; Predictive value of tests

## Résumé

**Objectifs.** – Évaluer la valeur prédictive d'une traduction française du questionnaire Örebro Musculoskeletal Pain Screening Questionnaire (OMPSQ), un outil de dépistage du risque de chronicité chez des patients souffrant de rachialgie aiguë.

**Méthodes.** – Étude prospective. Les patients ont été évalués à l'inclusion et six mois plus tard, au moyen des questionnaires OMPSQ et Oswestry Disability Index (ODI). Quatre variables de suivi ont été définies (index de douleur, deux variables fonctionnelles et absence au travail).

**Résultats.** – Quatre-vingt-onze patients ont été inclus, 80 % ont complété l'étude. Selon la variable de suivi considérée, 42 à 82 % des patients peuvent être considérés guéris à six mois. L'aire sous la courbe ROC, une mesure globale de la performance du questionnaire intégrant sensibilité et spécificité, se situe entre 0,73 et 0,83. Considérant l'évolution fonctionnelle calculée selon le questionnaire ODI, des scores seuils de 71 (correspondant à une sensibilité de 80 %) et 106 (correspondant à une spécificité de 80 %) peuvent être utilisés pour délimiter trois groupes de patients : risque de chronicité bas, intermédiaire et élevé.

**Conclusion.** – La valeur prédictive de la version française du questionnaire OMPSQ est raisonnablement bonne, en accord avec les études réalisées dans les autres langues. Ce questionnaire est particulièrement utile dans les structures de soins de santé de seconde ligne.

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**Mots clés :** Lombalgie ; Prévention secondaire ; Valeur prédictive de tests

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## 1. English version

### 1.1. Introduction

Back pain is the most prevalent musculoskeletal condition [34]. Its human and economic burden is high and the small subpopulation of chronic low back pain patients accounts for most of the expenses in this field [23]. As a consequence, identifying and treating acute back pain patients that are at risk of developing chronic problems could be very valuable.

Numerous psychosocial variables are involved in the transition from acute to chronic back pain and evidence-based guidelines stress the importance of assessing psychosocial factors [7,30]. These “yellow flags” include psychological distress, illness beliefs and coping, occupational, social and treatment provider factors [1]. Taken in isolation, their prognostic value is low, emphasising the need for a multi-dimensional assessment [6].

Several screening tools exist [8,14,19,25], among which the Örebro Musculoskeletal Pain Screening Questionnaire (OMPSQ) [22]. This questionnaire has the advantage of covering most of the identified psychosocial risk factors (pain, psychological distress, coping, beliefs, work perception, work absence, functional limitations) while being relatively short. It has been validated in a number of different clinical settings and in several countries in Northern Europe [13,15,17,18,20–22,33]. The New Zealand guidelines for acute low back pain [1] recommend the use of the OMPSQ. A recent systematic review [16] confirmed a moderate predictive ability and recommended its use, but suggested to continue validation efforts in different clinical and cultural settings.

The aim of this study was to assess the predictive validity of a French translation of the OMPSQ. The protocol closely followed that of the initial studies [20–22], in order to facilitate comparison. To provide an external measure of the functional capacities, we added the Oswestry Disability Index (ODI) [10].

### 1.2. Patients and methods

#### 1.2.1. Questionnaire translation

As recommended [2], an initial English-to-French translation was performed by three independent individuals (two medical doctors specialised in Physical Medicine and Rehabilitation and one psychologist with expertise in cognitive-behavioural treatment of chronic pain) who are native French speakers but speak English fluently. Collation of the three versions was carried out to compose a single text. Some minor issues were solved via e-mail correspondence with Dr Linton and Dr Boersma. A native English speaker then back-translated the final text from French to English. No significant difference in meaning was observed when comparing the result with the original questionnaire. The resulting French questionnaire and response categories are presented in the first three columns of Appendix 1. To facilitate comparison, this table has the same format as in Linton and Boersma [20], but questions 3 and 4 are inverted (because they are not always presented in the same order in the original papers).

#### 1.2.2. Inclusion and exclusion criteria

Patients presenting during office hours at the emergency facility or at the outpatient clinic of the Department of Physical Medicine and Rehabilitation at the Cliniques universitaires Saint-Luc (Brussels, Belgium), with nonspecific acute or subacute low back or neck pain, were considered for inclusion. Doctors from the emergency facility did not always inform our team of the presence of eligible patients, therefore, our sample is not composed of strictly consecutive patients. Inclusion criteria were the presence of pain lasting for less than three months and a cumulated sick leave because of the pain of less than 6 months in the past year. Exclusion criteria were the inability to read and understand French and the presence of “red flags”, i.e. symptoms and signs suggestive of a potentially serious cause for the pain [1].

#### 1.2.3. Procedure

During their first consultation ( $t_0$ ), patients were informed about the study and asked to sign an informed consent. To avoid bias, the objectives of the study were described only very broadly (“we want to better understand back pain”), with no reference to evolution, chronicity or risk factors.

Patients agreeing to participate were then handed the questionnaires, which they usually filled out in the waiting room. In some instances (e.g., when the patient did not have enough time), the questionnaires and a prepaid envelope were given to the patient for return within the next few days. Health caregivers following the patients did not have access to the results of the questionnaires. Patients were treated as usual. No attempt was made to record the treatments provided to the patients.

A second evaluation was performed 6 months later ( $t_6$ ). After a telephone reminder, questionnaires were sent by post with a prepaid return envelope, two weeks before the assessment time. If no answer was received within 2 weeks, a reminder was sent by post; if no answer was received within another 2 weeks, the patient was again contacted by phone by the first author.

The study was approved by the local Ethics Committee.

#### 1.2.4. Questionnaires

A first sheet contained questions about the native language of the subject, his or her professional status (paid job as blue collar, white collar or self-employed worker), the existence of a work-related injury, the number of years of education after the age of six, and pain localisation (back only, back and leg above the knee or back and leg below the knee).

Two questionnaires were used, both at the first contact ( $t_0$ ) and 6 months later ( $t_6$ ): the French translation of the OMPSQ and a French version of the Oswestry Disability Questionnaire (ODI) [10]. In the OMPSQ sent to the patients at 6 months, item #6 (cumulated sick leave) was adapted to cover the period of interest, i.e. “during the past 6 months” (instead of “during the past 12 months”). At the time this study began, no validated French translation of the ODI was available; we therefore used a non-validated French translation available in our department.

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