

**DOES IMPROVEMENT OF KNOWLEDGE ABOUT NEUROPHYSIOLOGY OF PAIN OCCUR AND PERSIST IN PATIENTS WITH CHRONIC LOW BACK PAIN AFTER A SINGLE GROUP SESSION OF PAIN PHYSIOLOGY EDUCATION ?**

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**Background:** Pain neurophysiology education is now being considered as a key component in the management of patients with chronic pain. Several studies have reported its effectiveness to reduce pain and disability but studies evaluating the effect on the patients' knowledge are lacking. Yet, the Neurophysiology of Pain Questionnaire (NPQ) has been developed by Moseley to assess knowledge about pain neurophysiology and has been translated and validated in several languages (Dutch and French).

**Purpose:** The aims of the present study were the followings: 1) to investigate if a two-hour pain education group session is effective to improve the knowledge about neurophysiology of pain in patients with chronic low back pain (CLBP); 2) to study whether these changes persist at a one-week follow-up.

**Methods:** 52 patients with non-specific CLBP attended a two-hour pain education session in groups of 4-6 patients. Prior to the session (pre-test), participants filled in the French versions of the NPQ, which consists of 19 (True/False/I do not know) questions with good psychometric properties (valid, reliable, SEM one-week: 1.5), the Roland-Morris Disability Questionnaire (RMDQ) and a 0-10 pain visual analogue scale (VAS). The NPQ was also filled in immediately after the session (post-test) as well as one week later (follow-up). An ANOVA with post-hoc analysis were used to compare the changes in NPQ total scores (/19 and expressed in %) at the pre-test, post-test and follow-up. The level of significance was set at 0.05.

**Results:** All patients filled in the questionnaires at the pre- and post-tests and all attended the follow-up session. Their mean  $\pm$  standard deviation (SD) of baseline pain intensity (VAS) and disability (RMDQ) scores were  $4.3 \pm 2.5$  and  $9 \pm 5.1$ , respectively. The statistical analyses revealed a highly significant and clinically meaningful improvement of the NPQ total score following the pain education (from  $6.9 \pm 2.9$  [min: 2, max: 14] at the pre-test to  $14 \pm 2.6$  [min: 7, max: 18] at the post-test,  $p < 0.001$ ). Interestingly, the NPQ score at the follow-up ( $12.9 \pm 2.7$  [min: 7, max: 18]) remained significantly higher than at baseline ( $p < 0.001$ ) and was not different compared to the post-test ( $p = 0.20$ ).

**Conclusion:** Although the present study needs to be confirmed by a randomized controlled trial with a longer follow-up, it suggests that a single two-hour group session on pain education is able to improve patients' knowledge about neurophysiology of pain and that the improvements could last for one week after the education session.

**Implications:** Despite the improvements in pain neurophysiology knowledge, the final NPQ scores suggest that several misunderstandings remain in some patients and that an additional session might be necessary. Further studies comparing the effectiveness of this group session to an individual session, investigating the relevance of an additional session and above all examining the relationships between the knowledge improvements and the improvements of patients' health status are necessary.

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**Ethics Approval:** Our study was accepted by the Ethical committee of the University of Liege, Belgium.

**Disclosure of Interest:** None Declared

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