well as an up-regulation of HER3 in the DRG were demonstrated after application of NP onto the dorsal nerve roots.

Conclusion: Our findings suggest that EREG and signaling through its receptors may be involved in pain hypersensitivity and other sensory abnormalities after disc herniation.

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Pain rehabilitation with language interpreter, a multicenter development project

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Aims: To describe patients with persistent pain participating in multimodal rehabilitation with language interpreter (MMRI) with regard to demographic data, pain, anxiety, depression, fear of movement, health related quality of life before and after rehabilitation.

Methods: The university rehabilitation departments in Lund and Stockholm developed multimodal rehabilitation programmes for patients who cannot participate in ordinary programmes due to insufficient knowledge in Swedish. From 2014 to 2015, 50 patients participated in the MMRI. Data was collected at admission and discharge with instruments from the Swedish quality registry for pain rehabilitation. The assessments included health related quality of life (EQ5D), anxiety and depression (HADS), fear of movements (TSK), disability (PDI).

Preliminary results: Fifty patients participated in MMRI. Seventy-eight percent were women, and 88% were born outside Europe. Compared to patients participating in Swedish regular rehabilitation programmes (MMR), the level of education was low, 44% had finished high school (55% in MMR in Sweden) and 8% university (27% in MMR in Sweden). Also the distribution of pain differed; in MMRI 40% reported pain with varying localization compared to 33% in MMR. Both groups were frequent health care seekers, even though MMRI's patients reported a higher frequency of visits than MMR regular patients; 94% of MMRI's patients compared to 70% MMR patients were seeking physicians more than 4 times due to pain during the previous year. Both groups report very low health related quality of life. In the MMRI group, at admission, the EQ5Dindex was 0.088 (md) (MMR 0.157). This can be compared with 0.83, the value for the Swedish norm population.

Conclusions: Patients participating in MMRI, compared to patients participating in MMR, reported poorer health, higher rate of visit to physicians due to pain and less higher education than other, Swedish speaking pain patients attending to the country pain programmes.

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Trait-anxiety and pain intensity predict symptoms related to dysfunctional breathing (DB) in patients with chronic pain

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Aims: The purpose of this cross-sectional study was to investigate the occurrence of symptoms related to dysfunctional breathing (DB) in chronic pain patients and to examine factors associated with these symptoms.

Methods: A questionnaire was sent to 527 adults referred to outpatient pain clinics at Oslo university hospital. The questionnaire provided demographic data, Brief Pain Inventory, Spielberger state-trait anxiety inventory, and Nijmegen questionnaire (NQ). Multiple regression analyses were performed using SPSS.

Results: A total of 108 patients (20%) responded to the questionnaire and was included. Mean age was 49 years and two third of the participants were female. More than four out of ten had a NQ score $\geq$23 (a conservative cutoff value for DB). The median NQ score in the sample was 19. Trait-anxiety (Beta = .412, $p < 0.001$) and maximal pain intensity during the past week (Beta = .264, $p = 0.004$) predicted symptoms related to DB even when controlling for age and gender.

Conclusions: The study shows that a large portion of patients with chronic pain experiences symptoms that have been associated with hyperventilation and DB and at a higher level than previously reported. Although trait-anxiety is a strong predictor for symptoms related to DB, we find it interesting that maximal pain intensity during the last week also was associated with these symptoms. The cross-sectional design, low response rate, and lack of diagnoses limit our ability to draw conclusions about causal relationship and extrapolate to a larger populations of patients with chronic pain.

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Emla®-cream as pain relief during pneumococcal vaccination

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Background: Pneumococcal vaccination for children was introduced in Sweden in 2009. For more than two decades, previous studies have shown that anesthetic cream Emla® has good effect in reducing vaccine-related pain. Even today health care workers claim "children forget quickly, and it (the pain) goes away", this ignorance causes pain in children not treated or treated in one for the child and his guardians satisfactorily way.

Purpose: The purpose of this intervention study was to compare the effect of Emla® cream for pain relief or no pain relief