

80%. Sleeping disorders and tiredness were considered as the two most problematic symptom to deal with. We found no correlation between the degree of pain and presence and severity of symptoms reported. Number of symptoms reported diminished when the dose of opioids increased.

Conclusions: The pain patient considered too complex for regular pain-management programs are characterized by reporting many symptoms other than pain. High pain intensity or high opioid-dose does not correlate to presence or severity of other symptoms, and high dose of opioids does not have a connection to low pain intensity. Many of the symptoms commonly reported – lethargy, tiredness, concentration difficulties and headache are real obstacles for successful rehabilitation, and have to be dealt with to achieve successful results.

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Increased C-fiber response induced by experimental disc herniation is associated with upregulation of fractalkine and its receptor in nucleus pulposus and dorsal root ganglion

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Aims: Lumbar radicular pain following intervertebral disc herniation may be caused by a local inflammatory response induced by nucleus pulposus (NP) cells. Here in an animal model mimicking the clinical situation following disc herniation we investigated the effect of NP on the spinal nociceptive signaling and local gene expression.

Methods: In anaesthetized Lewis rats, extracellular single unit recordings of spinal nociceptive activity and qPCR were used to explore the effect of NP application onto the dorsal nerve roots (L3–L5). All animal experiments were approved by the Norwegian Animal Research Authority and were performed in conformity with the laws and regulations controlling experiments and procedures on live animals in Norway.

Results: A clear increase in C-fiber response was observed following NP conditioning. In the NP tissue, the gene expression of interleukin-1 β (IL-1 β), colony stimulating factor 1 (Csf1), fractalkine (CX3CL1) and the fractalkine receptor CX3CR1 was increased. Minocycline, an inhibitor of microglial activation, inhibited the increase in neuronal activity, and attenuated the increase in gene expression in NP tissue. Interestingly, gene expression analysis demonstrated an increase in the expression of TNF, CX3CL1 and CX3CR1 in the dorsal roots ganglion (DRG). An increase in the expression of IL-1 β and TNF in cultured DRG cells was also induced in vitro.

Conclusions: The present study suggests that hyperexcitability in the pain pathways after disc herniation may involve upregulation of CX3CL1 signaling in NP – but also in the DRG.

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Chronic pain-related patient-provider communication: The significance of health related quality of life and satisfaction

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Aims: To investigate patients' perception of chronic pain related patient-provider communication in relation to socio-demographic and pain-related variables.

Methods: A postal questionnaire measuring socio-demographic variables, pain characteristics, health-related quality of life (HRQoL), pain-related health care utilization and perceived patient-provider communication, was sent to a sample of 4500 individuals randomly drawn from the national population of Iceland. Relationships between patient perceived patient-provider communication and perceived outcome, satisfaction with care as well as socio-demographic and pain-related variables were tested by using bivariate and multivariate statistical analysis.

Results: The prevalence of chronic pain (≥ 3 months) among respondents was 47.5%. Among participants reporting chronic pain, 53.2% had consulted a health care provider for pain during the previous six months. Patients' perception of providers' behaviour and control in the communication was mostly related to pain impact on daily life and physical components of HRQoL as well as to patients' satisfaction with health care providers. The more pain interfered with daily life and impaired patients' physical health, the more they felt that the provider did not spend time to listen to their concerns and discuss symptoms and treatment options. Patients' perception of own activity and control in the patient-provider communication and participation in care was related to socio-demographic variables but not with pain related variables.

Conclusions: To be understood as an individual and having their concerns legitimized by the health care provider is crucial for patients when consulting health care for chronic pain. The more pain interferes with daily life and impairs HRQoL, the more important this is. Patients' perception of own control in patient-provider communication and participation in care is more related to socio-demographics than pain related variables.

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Gender differences in chronic pain related health care utilization

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Aims: To investigate predictors for health-care utilization for chronic pain and whether there are gender differences in variables predicting chronic pain-related health care utilization.

Methods: A postal questionnaire measuring socio-demographic variables, pain characteristics, health related quality of life (HRQoL) and pain related health care utilization, was sent to a sample of 4500 individuals randomly drawn from the national population of Iceland. The relationships between socio-demographic and pain related variables and pain related health care utilization among