PainData: A clinical pain registry in Denmark

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Aims: Chronic pain is a significant clinical problem with few effective therapies. Objectives of this clinical registry are (1) to assist clinical decision-making, and (2) facilitate quality assurance and research projects to improve understanding and optimize treatment of patients with chronic pain.

Methods: PainData is an electronic software system developed for online data capture and clinical reporting, currently implemented in public pain clinics in Odense, Silkeborg, Aalborg, Næstved, Køge and Holbæk. The system captures patient-specific information across several bio-psychosocial domains of pain before the first consultation at the pain clinic as well as immediately after treatment, and 12 months after treatment. The registry also includes information from clinicians (e.g. pain diagnosis, and standardized pain sensitivity testing). PainData is registered as a clinical and research database with the Danish Data Protection Agency (16/39398, 14/44319).

Results: Since February 1st 2015 more than 3000 patients have completed questionnaires in PainData. The current completion rate at baseline is >80% and at follow-up is close to 50%. Pain-related data (e.g. pain-distribution, psychological distress and use of analgesics) from the registry will be presented on the poster.

Conclusions: The clinical pain registry contains data from a large cohort of consecutively referred chronic pain patients attending public pain clinics for multidisciplinary assessment and treatment. It contains detailed baseline and outcome data on a broad range of bio-psychosocial factors. The database has significant clinical relevance as it will contribute to an increased understanding of chronic pain conditions as well as contribute to substantial knowledge on how various psychological factors influence the experience of pain and disability in patients with chronic pain. In addition, early prediction of treatment efficacy and future stratification of patients with chronic pain has the potential to optimize treatment outcome. This will be of great interest to both the individual patient and to society.

http://dx.doi.org/10.1016/j.sjpain.2017.04.058

A novel method for investigating the importance of visual feedback on somatosensation and bodily-self perception

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Aims: Visual feedback is hypothesized to play an important role in the phantom limb condition. In this study we attempt to create an illusory experimental model of phantom limb wherein this condition is simulated by removing the visual input from the upper limb in a group of intact participants. The aim of the study is to investigate the role of visual feedback on somatosensation, nociception and bodily-self perception.

Methods: Using a novel mixed reality (MR) system, the visual feedback of the left hand is removed in order to visually simulate a left hand amputation on 30 healthy participants (15 females). Using a within-subject design, three conditions are created: visual amputation condition (MR with no visual input); visual condition (MR with normal vision); and a baseline condition (no MR). Thermal detection and nociceptive thresholds using method of limits are measured. Proprioception of the visually amputated hand is investigated by probing the felt hand position on a proximal-distal axis from the body. Using a questionnaire the effects of the missing visual feedback on bodily self is assessed.

Results: There was a clear drift in proprioception of the left hand in the proximal direction between the control and visual amputation condition ($p < 0.001$). A decrease in cold detection was also significant between the control and visual amputation condition ($p < 0.001$). Finally, questions on perceptual experiences indicated that the observed proprioceptive retraction of the visually amputated hand was also *felt* by the participants.

Conclusions: Missing visual feedback greatly influences the perception of the visually amputated arm underlining the importance of visual feedback. The observed proprioceptive retraction of the hand resembles the telescoping perceptions often reported by phantom limb patients. The novel method developed for this study, is a new tool to investigate the influence of visual feedback on the relationship of bodily-self and chronic pain.

http://dx.doi.org/10.1016/j.sjpain.2017.04.059