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# **PERSPECTIVES ON CONCURRENT JAW AND NECK PAIN**

## **Function, development and perceptions**

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### **Akademisk avhandling**

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Perspectives on concurrent jaw and neck pain: function, development and perceptions

**Abstract**

**Background:** Jaw and neck pain are prevalent and are often concurrent. Despite this, jaw and neck pain are often assessed and managed separately. Jaw pain is mainly treated within dentistry, whereas pain elsewhere in the body is treated within healthcare. Patients with jaw pain have expressed a struggle with finding the right care. Moreover, early identification and treatment are important factors in pain management in terms of the long-term prognosis for the affected individual. This results in suffering over a prolonged time and increased costs for the health care system. The prevalence of jaw pain is twice as high in connection with a whiplash trauma. However, previous studies on the relationship between orofacial pain and whiplash trauma have mainly been cross-sectional. The main purpose of this thesis was to evaluate and explore function, development and perceptions of concurrent jaw and neck pain.

**Methods:** The thesis is based on four studies, all with different study designs. The studies were conducted at the Department of Odontology, Umeå University, Sweden, in collaboration with Umeå University Hospital, Sweden. In Study I, with an experimental design, the effect of resistance load on jaw and head movements were evaluated among 26 pain-free individuals. Studies II and III were based on a cohort consisting of 292 individuals that entailed 176 whiplash cases and 116 controls at baseline. All individuals answered questionnaires, and 200 of the 292 had a clinical examination at baseline (one month after the trauma). After two years, 223 individuals repeated the questionnaires and 120 of 223 individuals had a second clinical examination. In study II, clinical signs were evaluated, whereas in study III, predictive factors for jaw pain after two years were explored. In study IV, patients' perspectives on the development of concurrent jaw and neck pain in relation to navigating the health care system were explored. Sixteen individuals with concurrent jaw and neck were interviewed using individual semi-structured interviews.

**Results:** In the experimental study, the ratio between jaw and head movements was increased when resistance load was applied to the lower jaw, which indicates that the neck involvement increased. In the study regarding clinical signs, cases and women presented more pain on palpation at baseline and at the two-year follow-up. In the explorative study, whiplash trauma did not increase the odds for jaw pain over a two-year period. The development and maintenance of further jaw pain after whiplash trauma was not related to the trauma itself but more associated with non-specific physical symptoms or female gender. In the qualitative study, participants expressed that navigating the health care system was perceived as difficult, and they had a holistic approach regarding their pain and mental status.

**Conclusions:** Within this thesis we have demonstrated that function and pain in the jaw and neck regions are connected. In addition, navigating the health care system was perceived as difficult, and sufferers wanted to receive confirmation from their health care providers. Therefore, dentistry and healthcare should be aware of the connection between jaw and neck pain. Moreover, an increased collaboration is needed between dentistry and healthcare in terms of multidisciplinary management using a biopsychosocial perspective.

**Keywords**

cohort studies, facial pain, longitudinal studies, motor activity, movement, musculoskeletal pain, neck pain, temporomandibular joint disorders, qualitative research, whiplash injuries

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