

# Temporomandibular disorders in women

## Symptoms and signs in population-based studies

Akademisk avhandling

som för avläggande av odontologie doktorsexamen vid Sahlgrenska akademien, Göteborgs universitet kommer att offentlig försvaras i hörsal Arvid Carlsson, Academicum, Sahlgrenska akademien, Medicinaregatan 3, Göteborg,

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av

**Karin Bäck**  
leg. tandläkare

Fakultetsopponent  
**Professor Ewa Carin Ekberg**  
Odontologiska fakulteten, Malmö universitet

### Avhandlingen baseras på följande delarbeten

- I. Bäck K, Hakeberg M, Wide U, Hange D, Dahlström L. Orofacial pain and its relationship with oral health-related quality of life and psychological distress in middle-aged women. *Acta Odontol Scand.* 2019 Aug doi: 10.1080/00016357.2019.1661512
- II. Bäck K, Hakeberg M, Hange D, Dahlström L. Validity of screening questions for temporomandibular disorders. Findings from the Population Study of Women in Gothenburg. *Submitted.*
- III. Bäck K, Ahlqwist M, Hakeberg M, Dahlström L. Occurrence of signs of osteoarthritis/arthrosis in the temporomandibular joint on panoramic radiographs in Swedish women. *Community Dent Oral Epidemiol.* 2017 Oct;45(5):478-484.
- IV. Bäck K, Ahlqwist M, Hakeberg M, Björkelund C, Dahlström L. Relation between osteoporosis and radiographic and clinical signs of osteoarthritis/arthrosis in the temporomandibular joint: a population-based, cross-sectional study in an older Swedish population. *Gerodontology.* 2017 Jun;34(2):187-194.

**SAHLGRENKA AKADEMIN**  
**INSTITUTIONEN FÖR ODONTOLOGI**



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**Karin Bäck**

Department of Behavioral and Community Dentistry, Institute of odontology, Sahlgrenska Academy at University of Gothenburg, Sweden.

### Abstract

**The overall aim** of this thesis was to investigate symptoms and signs of temporomandibular disorders (TMD) and orofacial pain in the Swedish female population in relation to some other health factors.

The thesis includes four cross-sectional studies. The specific aim of **Study I** was to analyze the relationship between chronic, severe orofacial pain in women aged 38 and 50 years and signs of depression, anxiety, sense of coherence (SOC) and oral health-related quality of life (OHRQoL). The aim of **Study II** was to analyze whether screening questions can be valid in estimating TMD prevalence in epidemiological research. The aim of the longitudinal **Study III** was to analyze the prevalence and incidence of radiographic signs of degenerative joint disorder (DJD) in the temporomandibular joint (TMJ). The aim of **Study IV** was to analyze whether osteoporosis has any relationship with radiographic or clinical signs of TMD in the elderly.

The results showed that 15 % of the women responded positively to questions about TMD-related pain in questionnaires (**II**). The validity of screening questions about TMD pain was considered acceptable (**II**). Of the almost 8 % who reported chronic, severe orofacial pain, it was noted that a larger proportion had signs of depression, anxiety, low SOC and poor OHRQoL. The likelihood of having severe orofacial pain increased if the SOC was low, if there were signs of depression, and if the OHRQoL was affected (**I**). Any clinical diagnosis of TMD was noted in 45 % of the women 38, 50 and 80 years of age, and a pain diagnosis in 21 %. The 80-year-old women rated their pain as less intense. A function diagnosis was found in around 31 % (**II + IV**). DJD in the TMJ, assessed on panoramic radiographs, was noted in 18 % at the age of 38 years, gradually increasing to 38 % at the age of 62 years and stable in older age groups at around 45 %. Usually, only one side was affected. The highest incidence of new DJD was seen between 55 and 65 years of age (**III**). Signs of osteoporosis had no association with DJD or a clinical TMD diagnosis (**IV**).

It can be concluded that screening questions are useful in indicating signs of TMD pain in middle-aged women. Orofacial pain that is frequent and intense has a relationship with psychosocial factors. TMD-related pain was reported by 15-20 % in women aged 38, 50 or 80 years, with the elderly reporting a lower intensity. The prevalence of DJD in the TMJ increases with age and the condition usually occurs around the age of 60. Osteoporosis seems to be unrelated to TMD.

**Keywords:** Degenerative joint disorder, Epidemiology, Oral health-related quality of life, Osteoporosis, Psychological distress, Radiography, Panoramic, Screening, Temporomandibular joint.