

Pain in pediatric dentistry - Experiences, attitudes and knowledge from the perspective of the child, the adolescent and the dentist

Akademisk avhandling

Som för avläggande av odontologie doktorsexamen vid Sahlgrenska akademien, Göteborgs universitet kommer att offentligens försvaras i sal F3, Medicinaregatan 12E, Göteborg den 20:e januari 2017, klockan 9.00.

av Larisa Krekmanova, leg.tandläkare

Fakultetsopponent:

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Avhandlingen baseras på följande delarbeten

- I. Krekmanova L, Bergius M, Robertson A, Sabel N, Hafström C, Klingberg G, Berggren U. Everyday- and dental pain experiences in healthy Swedish 8-19 year olds: an epidemiological study. *Int J Paediatr Dent* 2009;19:438-447.
- II. Krekmanova L, Hakeberg M, Robertson A, Klingberg G. Common experiences of pain in children and adolescents--an Exploratory Factor Analysis of a questionnaire. *Swed Dent J* 2013;37:31-38.
- III. Krekmanova L, Hakeberg M, Robertson A, Braathen G, Klingberg G. Perceived oral discomfort and pain in children and adolescents with intellectual or physical disabilities as reported by their legal guardians. *Eur Arch Paediatr Dent* 2016;17:223-230.
- IV. Krekmanova L, Hakeberg M, Robertson A, Klingberg G. Dentists' Knowledge and Attitudes toward Child Pain Perception (DKA-CPP) – A novel measurement to understand pain management in dental care for children and adolescents. In manuscript.

**SAHLGRENKA AKADEMIN
INSTITUTIONEN FÖR ODONTOLOGI**



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Abstract

Aim. The overall aim of this thesis was to study the frequency and intensity of general and oral pain, and oral discomfort in Swedish children and adolescents (with or without a disability). A further objective was to analyse dentists' knowledge about and attitudes to pain and pain management in the young patient.

The specific aims were:

To study the frequency and intensity of pain in children and adolescents' (without a disability) caused by dental treatment and everyday pain events; to analyse their pain experiences, using the Children's Pain Inventory (CPI), in relation to their gender, age, and dental anxiety.

To reduce the number of questions in the extended CPI and propose a short-version of the CPI that also includes dental treatment questions for use in clinical pain-scanning studies.

To study the prevalence of oral pain and discomfort in children and adolescents with an intellectual or physical disability, using the Dental Discomfort Questionnaire (DDQ) (and compare the DDQ with dental health, and oral hygiene as well as dietary habits), in relation to matched controls.

To study the knowledge about and attitudes to pain and pain management in children among Swedish general dentists by adapting an existing instrument for use among medical professionals to dentists: Dentists' Knowledge and Attitudes on Children's Pain perception (DKA-CPP).

Material and methods. The reports of 368 children and adolescents (8-19 year olds) on the 38 items CPI were analysed. Dental anxiety was evaluated by the Dental Anxiety Scale (DAS). The most frequently experienced CPI pain events were processed by Exploratory Factor Analysis in order to reduce the length of the questionnaire. A total of 188 (12-18-year-olds) with a disability (and their matched controls) were studied regarding DDQ. Dental records were analysed. Three hundred and eighty-seven general dentists were evaluated regarding their knowledge about and attitudes to pain and pain management.

Results. Half of the children and adolescents undergoing invasive dental procedures, 'Dental injection', 'Tooth drilling' or 'Tooth extraction', had experienced them as painful. The pain intensity experience was enhanced by higher dental anxiety, having a disability, being younger than 14 years old, or being female. The children and adolescents with a disability had statistically significantly higher DDQ scores compared with controls (despite similar dental health in both groups). The reduced CPI resulted in four factors (twelve items, of which one factor included 'Dental injection' and 'Dental X-ray'), explaining 79 % of the variance among the items. Dentists with more professional experience and/or female dentists applied more pain management strategies.

Conclusion. Young children, children with a disability and those with higher dental anxiety should be recognised as more susceptible to pain and should be offered additional care and pain relief during invasive dental treatments. The short CPI is proposed to be applied in clinical studies. Dentists should ensure all children customised and pain-free dental treatments.

Keywords child, adolescent, disability, oral, dental, discomfort, pain, invasive procedure, everyday, dentist, knowledge, attitude, questionnaire

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