

# On Dental Caries and Dental Erosion in Swedish Young Adults

Akademisk avhandling

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av

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Avhandlingen är av sammanläggningstyp och är baserad på följande fyra delarbeten:

- I. Isaksson H, Alm A, Koch G, Birkhed D, Wendt LK. Caries prevalence in Swedish 20-year-olds in relation to their previous caries experience. Caries Res 2013;47:234-42.
- II. Isaksson H, Birkhed D, Wendt LK, Alm A, Nilsson M, Koch G. Prevalence of dental erosion and association with life style factors in Swedish 20-year olds. Accepted for publication in Acta Odontol Scand 2013.
- III. Alm A, Isaksson H, Fåhraeus C, Koch G, Andersson-Gäre B, Nilsson M, Birkhed D, Wendt LK. BMI status in Swedish children and young adults in relation to caries prevalence. Swed Dent J 2011;35:1-8.
- IV. Isaksson H, Alm A, Koch G, Birkhed D, Wendt LK. Caries prevalence at 20 years of age: influence of parental factors during infancy. In Manuscript.



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## Abstract

### On Dental Caries and Dental Erosion in Swedish Young Adults

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**Background:** All children in Sweden are entitled to regular, free dental care up to 20 years of age. While dental caries generally continues to decline, still there is a pronounced skewness in caries prevalence. Furthermore, the reported increase in dental erosion in young adults is cause for concern. **Aim:** The aim was to study the prevalence of dental caries and dental erosion in a cohort of Swedish 20 year-olds, with special reference to the influence of previous caries experience and lifestyle as well as parental, socioeconomic and psychosocial factors. **Material and Methods:** The study was prospective, longitudinal and cross-sectional in design and based on registration of caries lesions, dental erosion, body adiposity status, saliva sampling, interviews, and questionnaires at 20 years of age. Data were available for the same cohort at 1, 3, 6 and 15 years of age. 499 subjects (74 percent of the original cohort) were included. Five individuals were subsequently excluded, leaving a final sample of 494. **Results:** 74 percent of the subjects had initial and/or manifest caries lesions and/or restorations. The mean number of  $D_{im}FS$  was 5.8 and the mean number of  $D_mFS$  on occlusal surfaces of molars was 1.1. There was a strong relationship between caries activity at 3 and 6 years of age and approximal caries prevalence in premolars and molars at 20 years of age. Overweight/obese individuals had significantly higher caries prevalence than normal weight individuals. Parental, socioeconomic and psychosocial factors during infancy were related to approximal caries at age 20. Dental erosion was found in 75 percent of the individuals: 18 percent of these had extensive erosion. There was a significant association between caries and dental erosion. A relationship was found between dental erosion and lifestyle factors and overweight/obesity. **Conclusions:** There is a strong relationship between caries prevalence at age 20 and caries experience in early childhood. Young adults show a high prevalence of dental erosion, but the severity is generally low. Overweight and obese individuals have more caries than normal weight individuals. Parental influence during the formative years has an impact on caries prevalence in young adulthood. In this cohort, dental caries and dental erosion at age 20 are related to overweight/obesity and lifestyle factors.

**Key words:** BMI, caries prevalence, childhood caries, dental erosion, lifestyle, obesity, overweight, parental factors, psychosocial factors, socioeconomic factors, young adults

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