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PHYSICAL HEALTH; ORAL HYGIENE

Spurious associations in oral epidemiological research: the case of dental flossing and obesity

Hujoel PP, Cunha-Cruz J *et al.* *J Clin Periodontol* 2006; **33**: 520-523

An association between flossing behaviour and body mass index (BMI) illustrates that behavioural factors are a major confounder in studies alleging causal relationships between dental disease and systemic diseases.

In some periodicals, people have been advised to floss more so as to lose weight. If single factors are isolated from the complexity of an individual's health-related behaviour, there may be serious misinterpretation of associations. Smoking usually cannot be fully taken into account, and therefore studies are advised in never-smokers. However, there may be other significant confounders. In this study, 1,497 subjects attending a periodontal specialist were asked to complete a questionnaire on flossing and various health parameters.

Respective significant odds ratios for lack of flossing and being overweight (BMI: 25-30), obese (30-40) or morbidly obese (40+), were 1.5, 2.0 and 2.5 when adjusted only for age and gender, similar when also adjusted for diabetes, smoking and periodontal condition, and in never smokers (none morbidly obese) were 2.3 and 2.7. The authors discuss the unlikelihood of a causal relationship, and account for the association in terms of overall health behaviour.

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CARIOLOGY

Risk factors and risk indicators associated with high caries experience in Swedish 19-year-olds

Juliñ A, Agholme MB *et al.* *Acta Odont Scand* 2006; **64**: 267-273

Several well-known risk factors appear to continue their influence on caries in late adolescence.

In recent decades Sweden and other countries have seen a marked reduction in dental caries. However, about 10% of Swedish adolescents have high caries experience. In this study, 696 19-year-olds in Stockholm (557 born in Sweden, 28 elsewhere in Europe, and 111 outside Europe) were examined and completed a questionnaire, with an interpreter if needed.

Multivariate logistic regression analysis identified 4 variables as significantly associated with DMFS ≥ 10 . These were: dental fear (OR= 2.8), gingival bleeding $\geq 15\%$ (2.1), mother born abroad (2.0), and irregular toothbrushing at night (1.9). The authors consider that foreign-born parents, oral hygiene habits and other behavioural factors have a strong impact on caries even in late adolescence.

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FLUORIDATION; DENTAL ENAMEL

Changes in dental fluorosis following the cessation of water fluoridation

Clark DC, Shulman JD *et al.* *Community Dent Oral Epidemiol* 2006; **34**: 197-204

Parental rating of children's aesthetics did not show any difference related to fluoride.

Recent studies have suggested that fluorosis has increased in both fluoridated and non-fluoridated communities, and also that parents are more critical of children's tooth colour than dentists or the children themselves. This study compares results from epidemiological surveys in 1993-4, 1996-7 and 2002-3, of children aged up to 9 yrs who were lifelong residents in 3 Canadian communities which ceased fluoridation in 1992.

Respective zero fluorosis scores for the surveys were 55%, rising to 67% and then 78%. Over the period of the surveys, fluoride supplement use decreased from nearly 50% to almost nothing, and fluoride dentifrice use increased from 92% to 99% in 2-3 year-olds. In the 3 surveys, overall parental assessment of tooth colour in their offspring remained constant with 90-96% expressing no dissatisfaction. The authors consider that fluorosis-related aesthetic problems are rare.

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BEHAVIOURAL SCIENCE

Psychological trauma exposure and trauma symptoms among individuals with high and low levels of dental anxiety

de Jongh A, Fransen J *et al.* *Eur J Oral Sci* 2006; **114**: 286-292

Serious traumatic experience both within and outside dentistry may result in dental phobia.

The origins of both phobias and post-traumatic stress disorder (PTSD) may be found in a wide range of distressing events. In this study, 141 subjects with high levels of dental anxiety (mean score 16.9) attending a clinic in Amsterdam were compared with a reference group of 99 patients (7.9) from ordinary dental practices.

In the high anxiety group, significantly more patients were female and fewer were married or co-habiting, and they were significantly more likely to have experienced any form of trauma, medical or dental trauma, or violent crime. However, perhaps because of small numbers, no difference was found for those who had experienced more specific forms of trauma. Regression analysis identified "horrific dental treatment" and "violent crime" as associated with both PTSD and dental phobia. The authors suggest that patients with trauma-related dental phobia should be referred to mental health specialists for screening and help.

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