

Psychosocial determinants of oral health behaviour in adolescents

Abstracted from

Scheerman JF, van Loveren C, van Meijel B, Dusseldorp E, Wartewig E, Verrips GH, Ket JC, van Empelen P.

Psychosocial correlates of oral hygiene behaviour in people aged 9 to 19 – a systematic review with meta-analysis. *Community Dent Oral Epidemiol* 2016; **44**: 331-341.

Address for correspondence: Scheerman JF, Academic Centre of Dentistry Amsterdam, Department of Preventive Dentistry, ACTA University, Gustav Mahlerlaan 3004, 1081 LA, Amsterdam, The Netherlands. E-mail: j.f.m.scheerman@acta.nl

Question: What are the associations between psychosocial factors and oral hygiene behaviour among people aged 9 to 19?

Data sources PubMed, Embase, Ebsco/PsycInfo, Ebsco/CINAHL and ISI/Web of Science databases.

Study selection Studies that evaluated the association between the psychosocial correlates and oral hygiene behaviour varying from self-reports to clinical measurements, including plaque and bleeding scores were considered.

Data extraction and synthesis Two reviewers independently selected studies, abstracted data and assessed study quality using a modified version of the Newcastle-Ottawa Scale.

Results Twenty-four studies were included providing 31 datasets. Three studies were prospective, the remainder being cross-sectional. 39% of the studies based their research on a behavioural theory, 61% of the studies did not refer to a specific theoretical framework. The theory of planned behaviour was the most commonly used. Meta-analysis of 27 data sets; for both tooth brushing and oral hygiene behaviour, random effect models revealed significant weighted average correlation (r_w) for the psychosocial factors: 'intention', 'self-efficacy', 'attitude' (not significant for tooth brushing), 'social influence', 'coping planning' and 'action planning' (r_w ranging from 0.18 to 0.57). Little or no associations were found for 'locus of control', 'self-esteem' and 'sense of coherence' (r_w ranges from 0.01 to 0.08).

Conclusions The data at present indicate that 'self-efficacy', 'intention', 'social influences', 'coping planning' and 'action planning' are potential psychosocial determinants of oral health behaviour. Future studies should consider a range of psychological factors that have not been studied, but have shown to be important psychosocial determinants of health behaviours, such as 'self-determination', 'anticipated regret', 'action control' and 'self-identity'. Effectiveness of addressing these potential determinants to induce behaviour change should be further examined by intervention trials.

Commentary

Adolescence is a transition between childhood and adulthood. The World Health Organization defines it as the period between 10 and 19 years of age.¹ However, adolescence is a complex term with no

single agreed definition. In 2009, globally there were 1.2 billion individuals aged 10-19 years, forming 18 per cent of the total world population – this proportion has doubled since 1950 (UNICEF).² Adolescents are at potentially increased risk of oral diseases and it is important that good oral health behaviours are established during this stage. Health policies and programmes should be tailored for this period.

This systematic review with meta-analysis reports the associations between psychosocial factors and oral hygiene behaviours amongst children and adolescents. It summarises the existing evidence demonstrating the role of the determinants of oral hygiene behaviours, specifically psychosocial factors.

A thorough search of several databases was conducted, but only those written in specific languages were included. The age of nine years was chosen as the lower age limit for the review as this was stated to be when independent tooth brushing occurs. However, one must consider that the determinants of oral hygiene behaviours, including psychosocial factors, will vary hugely over this wide age range up to 19 years old.

Lack of accuracy of self-reported oral hygiene behaviours should also be considered a potential limitation - objective measures may be more appropriate, for example use of 'connected' electric toothbrushes which monitor brushing activity. Yet these objective measures tend to bring their own challenges in terms of cost, feasibility and acceptability. The studies included in the review were based on cross-sectional designs and so only associations, rather than causal relationships, can be identified.

Existing chairside and community oral health promotion interventions for adolescents rarely target the psychosocial factors discussed in this study, such as 'intention', 'social influences' and 'self-efficacy'. The review highlights the current paucities in the literature and the need for further research to develop and evaluate new interventions to improve oral health based on behavior change theory.

Mona Agel

Derbyshire Community Health Services NHS Foundation Trust, UK

1. World Health Organisation. Maternal, newborn, child and adolescent health http://www.who.int/maternal_child_adolescent/topics/adolescence/dev/en/ [Accessed 26 August 2016]
2. UNICEF. Demographic trends for adolescents <http://www.unicef.org/sowc2011/pdfs/Demographic-Trends.pdf> [Accessed 26 August 2016]

Evidence-Based Dentistry (2016) **17**, 72. doi:10.1038/sj.ebd.6401181