

Behavioral Intervention for Improved Oral Hygiene in Adolescents

A Person-Centered and Theory-Based Approach

Akademisk avhandling

som för avläggande av odontologie doktorsexamen vid Sahlgrenska akademien, Göteborgs universitet kommer att offentligen försvaras i hörsal Arvid Carlsson, Academicum, Medicinaregatan 3, Göteborg, den 17 maj 2024, klockan 9:00

av

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Avhandlingen baseras på följande delarbeten

- I. Dimenäs SL, Jönsson B, Andersson JS, Lundgren J, Petzold M, Abrahamsson I & Abrahamsson KH. (2022). A person-centred, theory-based, behavioural intervention programme for improved oral hygiene in adolescents: A randomized clinical field study. *Journal of Clinical Periodontology*, 49, 378-387.
- II. Dimenäs SL, Andersson JS, Jönsson B, Lundgren J, Petzold M, Östberg A-L & Abrahamsson KH. (2024). Adolescents' self-reported experiences following a person-centred, theory-based educational intervention versus conventional education for improved oral hygiene: Analysis of secondary outcomes of a randomized field study. *Journal of Clinical Periodontology*, 51, 63-73.
- III. Dimenäs SL, Östberg A-L, Lundin M, Lundgren J & Abrahamsson KH. (2022). Adolescents' experiences of a theory-based behavioural intervention for improved oral hygiene: A qualitative interview study. *International Journal of Dental Hygiene*, 20, 609-619.
- IV. Dimenäs SL, Jönsson B, Lundin M, Lundgren J & Abrahamsson KH. Changing from disease-centered to person-centered - Swedish dental hygienists' views on a theory-based behavioral intervention for improved oral hygiene among adolescents. *Submitted for publication*.

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Abstract

To educate and enhance patients' motivation for adequate oral hygiene, that is self-performed periodontal infection control, is essential in the prevention of periodontal disease. Surveys have shown poor oral hygiene conditions among Swedish adolescents, indicating a need for more effective educational/behavioral interventions. The overall aim was to contribute to the development of efficient educational interventions, directed at adolescents, to improve oral hygiene behavior and promote periodontal health.

Studies I & II were based on a randomized field study on the effectiveness of a person-centered, theory-based, behavioral intervention (test) for improved oral hygiene, compared with conventional information/instruction (control). The field study involved 312 adolescents and 30 dental hygienists (DHs). **Study I** included 274 adolescents treated per protocol and with clinical data from baseline and 6 months. Bleeding and plaque scores improved in both groups, with greater improvements in the test group. At 6 months, adolescents in the test group used oral hygiene aids more frequently compared with the control group. **Study II** included 276 adolescents treated per protocol and with questionnaire data from baseline and 6 months. The test group was more satisfied with the education provided and the communication with the DH during therapy, compared with the control group. In addition, the test group reported to a larger extent that they were much more careful regarding their oral hygiene habits after treatment and had higher confidence about keeping up healthy gingival conditions.

Studies III & IV were qualitative interview studies. **Study III** included 19 adolescents treated in accordance with the test intervention. They experienced the intervention towards improved oral hygiene behavior as a challenging journey and highlighted the importance of a person-centered approach in treatment. Personal insight about the importance of improved oral hygiene was fundamental for behavioral change. Planning and monitoring of behavior, with guidance and support, facilitated behavioral change and encouraged continued efforts. Still, they expressed a need of reminders and support to keep up oral hygiene routines over time. **Study IV** included 13 DHs who had worked in accordance with the test intervention. They experienced a changed professional approach, going from experts to encouraging partnership, which was considered challenging but more enjoyable. Prerequisites for implementing such an intervention in daily practice were adequate knowledge and skills, own interest and willingness for a change and a supportive work environment. The expenditure of time in relation to economic demands were seen as main barriers.

In conclusion, the findings suggest that a person-centered, theory-based, behavioral intervention is more beneficial for the adolescent patient compared with conventional information/instruction. The findings contribute to further development of such a person-centered, theory-based, approach, and provide an understanding of the prerequisites and barriers on a professional and organizational level to consider for implementation in daily practice.

Keywords: adolescent, behavioral intervention, dental hygienist, gingivitis, health education, oral hygiene, person-centered, prevention, qualitative interview