



Dental Anxiety and Behaviour Management Problems: The Role of Parents

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The aim of the research presented in this thesis was to study child dental anxiety and behaviour management problems during dental treatment with special focus on parents and their parenting style. The studies described in this thesis were divided into three topics; background studies, parental rearing style and clinical studies. In this chapter, the most relevant outcomes are summarized.

Background studies

In studies about child dental anxiety, the perception of parents about their child's dental anxiety is often used. Therefore, the study presented in *Chapter 1* aimed to examine whether parents are accurate reporters of their child's dental anxiety. The Dental Subscale of the Child Fear Survey Schedule (CFSS-DS) was filled out by 326 children in a classroom setting and by approximately 50% of their mothers at home. Intraclass correlation coefficients were used as a measure of agreement between both CFSS-DS versions. We found that almost 75% of the mothers were accurate reporters of their child's dental anxiety. In general, parents estimated the dental anxiety of their child higher than their children did. However, parents of highly anxious children tended to underestimate their child's dental anxiety and parents of lowly anxious children tended to overestimate this anxiety. Anxious parents estimated the dental anxiety of their children significantly higher than non-anxious parents did, while their children did not differ in their anxiety report.

In *Chapter 2*, a study was described which aimed to assess the psychometric properties of the ISS and to test its predictive value for assessing dental anxiety. Parents of 344 children filled out the ISS and 343 parents filled out the CFSS-DS on behalf of their child. Responses were factor analyzed and psychometric properties were assessed. Multiple stepwise regression analysis was performed to assess predictive validity for the CFSS-DS. A three-factor structure was found, with a total explained variance of 53.8% of the ISS. The factors could be labeled as "daily nurturance", "invasive experiences" and "new things". Regression analysis showed that approximately 30% of the variance in CFSS-DS score can be explained by the factors "new things" and "invasive experiences". It was concluded that the ISS might be a valuable instrument in the assessment of dental anxiety in young children without dental experience.

In *Chapter 3* a questionnaire frequently used in the assessment of parental rearing style, the Child Rearing Practices Report (CRPR), was used in a clinical child dental population to assess its factor structure and psychometric properties as a basis for future research. The CRPR was filled out by 307 parents of referred children. Responses were factor analyzed and psychometric properties were assessed. Although the expected two-factor structure (Nurturance and Restrictiveness) found in earlier studies was confirmed, the level of explained variance was insufficient. The majority of items did not load on the intended factor and item-intercorrelations were not in an acceptable range. The scales were therefore refined. Factor analysis on selected items resulted in a clear two-factor structure, with all items loading on the intended factor and a better explained variance. The selected items constituted a psychometrically sound instrument. More research needs to be done to assess whether this new, shorter questionnaire is consistent among different samples and therefore is more applicable than the original 40-item questionnaire.

Parental rearing style

To examine the relationship between self-reported parenting style, parent's assessment of their child's dental anxiety, and dentists' assessment of the child's behaviour during dental treatment, the study described in *Chapter 4* was performed. Parents of 75 children, referred for dental treatment, filled out the CRPR, the CFSS-DS and an additional questionnaire with questions about how they prepared their children before dental appointments. Four parenting styles were constructed from the Nurturance factor and Restrictiveness factor of the CRPR. Dentists were asked to assess the behaviour of the child during dental treatment. HAC showed more disruptive behaviour than LAC. Parental rearing style was not related to dental anxiety or to DBMPs. Parents who used a permissive rearing style were less likely to tell their children that the dentist would not hurt them compared to authoritarian parents. Parents with an authoritative rearing style were more convinced that the behaviour of their child could be managed by the dentist than parents with a permissive and neglectful rearing style. After their children's dental rehabilitation, parents were less inclined willing to accompany their child during treatment. In conclusion, dental anxiety correlated positively with the behaviour displayed during treatment. No relation was found between parenting style and dental anxiety and behaviour during treatment. Parents showed more confidence in the child-dentist dyad after the rehabilitation of their child's teeth.

The study described in *Chapter 5* aimed to assess the possible associations between dental anxiety, parental rearing style and the referral status of children. Parents of 120 non-referred and 331 referred children filled out the CRPR and the CFSS-DS on behalf of their child. The referred children were younger and more

anxious than the non-referred children. No differences were found on parental rearing style between referred and non-referred children and between highly anxious children and lowly anxious children. Also, no correlation was found between parental rearing style and child dental anxiety, but non-referred children whose parents used an authoritarian parenting style were more anxious than the other non-referred children. It was concluded that in this study, referral status and dental anxiety of children was not associated with parental rearing style.

In *Chapter 6*, several different questionnaires were used to examine the relationship between self-reported rearing style and the parent's assessment of their child's dental anxiety. The child's dental history was used as a dependent variable. Parents of 454 primary school children were asked to fill out questionnaires regarding their parenting style, the CFSS-DS and a questionnaire about the dental history of their oldest child. Minor associations were found between dental anxiety and parenting style. Dentally anxious parents were more permissive and less restrictive and parents of children who did not visit their dentist regularly reported more laxness and less restrictiveness. Children who had a history of toothache, who had a dental cavity at the moment of investigation or who did not have a nice and friendly dentist according to their parents reported more dental anxiety. From this study it was concluded that no clear associations between parenting style and dental anxiety were found.

Clinical studies

The study described in *Chapter 7a* aimed to assess the influence of the presence of parents in the dental surgery on their child's behaviour during treatment. Ninety children were randomly assigned to a parent-present and a parent-absent-group. Based on the intake session, dentists were asked if they preferred the parent to accompany their child or not. Children, parents and dentist were asked to report on their perception about the treatment after a habituation session and after the first two treatment sessions. During the habituation session, the behaviour of the child was better, according to the dentist, when the parents were not present in the surgery during treatment. There were no significant differences in children's perception of the treatment in relation to parents being present or absent. Highly anxious children behaved better according to the parent and the dentist when the parent was not present in the operatory. *Chapter 7b* aimed to assess the opinion of children, parents and dentists about child behaviour when parents were absent or present in the surgery. The study population consisted of the same ninety children. The children of parents who were preferred by the dentist to stay in the waiting room were more anxious than the children of parents who were preferred by the dentist to accompany their child in the surgery. The latter parents also had more confidence in the upcoming treatment of their child. Different from the initial habituation session, no differences in behaviour were found between the parent-present and parent-absent-group. Behaviour of children was not less or more disruptive with parents being absent or present during the dental treatment. Although dentists expected difficulties in the treatment of some children, these were not encountered.

In *Chapter 8* the relationships between emotional and behaviour problems, dental anxiety and DBMPs were investigated. Parents of 39 highly anxious children filled out the CFSS-DS and the CBCL on behalf of their child. The behaviour of the children during dental treatment was assessed by the dentist. Children with sleeping problems, attention problems and aggressive behaviour displayed more disruptive behaviour during dental treatment and children with emotionally reactive and attention problems were more anxious. From this study it was concluded that a relation exists between general emotional and DBMP and dental anxiety.

The study described in *Chapter 9* tested the hypothesis that continuous exposure to neutral dental treatments, such as regular dental check-ups leads to a reduction of dental anxiety of children with cleft lip palate (CL/P). Also the role of coping strategies in the persistence or reduction of dental anxiety was assessed. Dental anxiety and coping strategies of CL/P children were investigated using the CFSS-DS and the DCQ. On baseline, the dental anxiety of the CL/P children was higher than normative data. In a three year study period, dental anxiety reduced significantly to a level equal to a normative Dutch group. After this time children used significantly less coping strategies. Highly anxious children used more destructive and external coping strategies than lowly anxious children. Children who became more anxious during the three year period were the children who used more destructive coping strategies. Findings support the hypothesis that continuous exposure to dental treatment on average results in a reduction in dental anxiety. The use of coping strategies might play an important role in the decrease or increase in dental anxiety.