Dental fear in children: prevalence, etiology and risk factors

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CHAPTER 5

PARENTAL BELIEFS

ON THE ORIGINS OF CHILD DENTAL FEAR

IN THE NETHERLANDS

Abstract

The study was aimed to assess parental beliefs on the causes and prevention of child dental fear in the Netherlands. The parents of 123 children (67 high fearful and 56 low fearful children) were interviewed about the causes of their child’s dental fear, and about factors contributing to the prevention of this fear. Parents attributed their child’s dental fear to the following factors: invasive dental experiences (37 percent), medical problems (19 percent), child’s temperament (16 percent), negative dentist behavior (13 percent) and social influences (5 percent). In the prevention of child dental fear, an empathic dentist (34 percent) and parental guidance (30 percent) were mentioned most frequently. In conclusion, conditioning factors were reported to be highly important in the development of child dental fear. Some of the parents, however, indicated temperamental factors to have played a role, suggesting that subgroups of dentally fearful children exist. These temperamental or psychological factors seem to also contribute substantially to the development of dental fear. Possible differences in parental attributional style are discussed.

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Introduction

Previous research has indicated that within the dentally fearfu1 population, smaller subgroups of patients may exist possibly influencing the success of dental treatment of these patients (Klingberg & Broberg, 1998; Locker, Liddell & Shapiro, 1999b; Ten Berge, Veerkamp, Hoogstraten & Prins, 1999; Weiner & Sheehan, 1990). For some patients with high dental fear, direct conditioning through negative dental experiences may have been the cause of their dental fear, while for others social factors such as parental fears or family attitudes, or the interaction between these factors, may have played a role (Bedi, Sutcliffe, Donnan & McConnachie, 1992; Davey, 1989; Klingberg, Berggren & Norén, 1994; Liddell, 1990; Milgrom, Mancl, King & Weinstein, 1995; Veerkamp, Gruythuysen, Van Amerongen & Hoogstraten, 1992). Also, personality factors such as general fearfulness or psychiatric problems are found to be related to dental fear (Aartman, De Jongh & Van Der Meulen, 1997; Klingberg & Broberg, 1998; Roy-Byrne, Milgrom, Tay, Weinstein & Katon, 1994; Ten Berge et al., 1999). This high dental fear or even dental phobia is often assumed to develop in early childhood. Research among child populations indeed has indicated that a substantial proportion of children is dentally fearful; prevalence estimates vary from 3 up to 43 percent depending on methods and populations surveyed (Klingberg et al., 1994). In a recent retrospective study a relation between the age of onset and the origins of dental anxiety was found. Child-onset subjects were more likely to report having acquired their fear by direct conditioning or vicarious learning, while adult-onset was more often associated with psychological factors (Locker, Liddell, Dempster & Shapiro, 1999a). Since most of the interview-studies on the origins of dental fear have been carried out retrospectively among adult patients, it seems of interest to examine these causes for children with high dental fear. In this context, the present study was undertaken to examine the origins of high dental fear in Dutch children, as reported by their parents. Also, parental beliefs on factors contributing to the prevention of child dental fear were investigated. In addition, parental beliefs on the child’s general fearfulness and on perceived difficulties with respect to their child’s dental visit were assessed.

Material and methods

Participants

The present study was carried out as part of a larger research project on the role of parents in the development of child dental fear. Structured interviews were held with the parents of two groups of Dutch children: parents of children with high dental fear (n=67) and parents of children with low dental fear (n=56). Two age groups were included in the study: children aged four to five years (thirty-four fearful, twenty-two low fearful); and eight to nine years
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(thirty-three fearful, thirty-four low fearful). All children with high dental fear were referred to the Centre for Special Dental Care in Amsterdam (SBT) because regular treatment by their family-dentist was impossible. The children with low dental fear were all treated by a private pedodontist in Amsterdam. Before selection for the study, the level of fear in these children was screened by use of the Dutch parental version of the Dental Subscale of the Children’s Fear Survey Schedule (CFSS-DS; Cuthbert & Melamed, 1982; Ten Berge, Hoogstraten, Veerkamp & Prins, 1998). The CFSS-DS is a questionnaire developed to assess dental fear in children, consisting of fifteen items related to different aspects of dental treatment. Each item can be answered on a 5-point Likert scale from 1) “not afraid at all” to 5) “very afraid”; total scores thus range from 15 to 75. Children scoring 25 or less were selected in the low fearful group; children scoring 37 or higher in the high fearful group. The mean total CFSS-DS score for the high fearful group was 48.0 (SD 7.7); for the low fearful group this mean score was 19.1 (SD 3.3). In addition, all parents were asked to also rate their own level of dental fear on a 5-point Likert scale from 1) “not afraid at all” to 5) “very afraid”, as well as their child’s present level of dental fear.

Structured interview

The parents of the children with high dental fear were asked about the causes of their child’s dental fear, about their child’s general fearfulness and about experienced difficulties associated with their child’s dental visit. Also, they were asked about their beliefs on measures important in preventing dental fear in general. The parents of the children with low dental fear were asked similar, slightly adjusted questions. Instead of asking this group of parents about the origins of child dental fear, they were only asked about the specific reasons of their child not becoming fearful. The interview consists of open-ended questions and the interviewers (psychology students) were instructed and trained before starting their interviews. The interviews were held at the child’s home, in most cases with the mother (n=115).

Results

Origins of dental fear

Figure 1 shows the causes of the children’s dental fear as reported by their parents, for all highly fearful children as well as for the age groups separately. For the total group, the children’s dental fear was most frequently attributed to painful or invasive dental experiences (37 percent). Also, hospital stays and a history of medical problems (19 percent), the child’s temperament (16 percent) and the dentist’s behavior (13 percent) were thought to be important by the parents. Only a small proportion of the parents (5 percent) reported their
child’s dental fear to be caused by social factors such as parental fear. Finally, 7.5 percent of the parents reported that their child has always been very afraid, and were not able to indicate a direct cause. No great differences in reported origins between the age-groups seem to exist (Figure 1). Also, the parents’ own level of dental fear did not seem to influence their answers.

**Figure 1.** Reported origins of child dental fear (n=67).

**Prevention of dental fear**
The parents of the children with low dental fear were asked about the most important reason for their child not becoming fearful. Figure 2 shows their answers, for all low fearful children as well as for the two age groups separately.

**Figure 2.** Reported factors in prevention of child dental fear (n=56).

The parents reported the following to have been important in this process: an empathic dentist (34 percent), adequate parental guidance (30 percent), no painful experiences (14 percent) and the child’s temperament (14 percent). The category ‘other’ (7 percent) consists of factors reported only once, varying from ‘the very young age at first dental contact’ to ‘don’t know’. Parents of younger children most frequently reported themselves as important, while
parents of older children more frequently reported the dentist’s behavior or attitudes as important. Again, the parents’ own level of dental fear did not seem to influence their answers. Parents of fearful children believed the dentist’s behavior or management approach to be most important (67 percent), followed by parental guidance (19 percent). Also, some of these parents indicated the child’s temperament (3 percent) or no painful experiences (3 percent) to be important, while others indicated to have no idea (6 percent).

**Experienced difficulties associated with the child’s dental visits**

About two thirds (67 percent) of the parents of children with high dental fear reported to have experienced some difficulties associated with their child’s dental visit, versus 38 percent of the parents of the children with low dental fear. These difficulties concern experienced problems during, but also before and after the child’s dental visit. Examples of these perceived difficulties are 'I feel helpless when my child is crying during treatment and I’m not able to comfort him/her' and 'I have problems preparing my child adequately for a dental visit'. Also, some parents indicated feeling insecure about how to treat their child afterwards.

With respect to children’s general fearfulness, in the high fearful group 72 percent of the parents reported their child to also be fearful in other situations, versus 25 percent in the low fearful group.

**Discussion**

The findings of the present study show that, according to the parents in the Netherlands, indeed conditioning factors (invasive dental as well as medical experiences) are highly important in the development of childhood dental fear (Locker et al., 1999a). Temperamental factors have played a role for some of the fearful children. Some of the parents attributed their child’s dental fear to its fearful or shy temperament; they repeatedly indicated their child to always have been fearful, without a specific cause or a preceding, possibly traumatic event. In addition, the parents of these fearful children more often reported their children to be generally fearful than did the parents of low fearful children. These findings indeed suggest the existence of subgroups within the fearful child population (Klingberg & Broberg, 1998; Ten Berge et al., 1999), in addition to the conditioning group also a group of children for which psychological factors are most important. Moreover, these psychological factors seem to also play a role for children in the conditioning group, as indicated by the parental reports on children’s general fearfulness. Between the age groups no differences in origins seem to exist; previous treatment was reported most frequently for both groups, and temperamental factors were reported for the younger as well as the older children. The level
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of dental fear in parents themselves did not seem to influence these reported origins, although it should be noted that study groups were very small.

Interestingly, most parents of the children with high dental fear attributed the child’s dental fear to external factors beyond their own control, while the parents of the children with low dental fear, especially of the younger children, seem to consider themselves as more important in this process. Also, beliefs on general preventive measures seem to indicate a more external attributional style in parents of fearful children. In other words, the parents of low fearful children seem to feel more in control and more able to influence the child’s dental attitudes and level of fear. Logically, this effect could be related to the fact that data are obtained via parental reports and social acceptable answers might be involved. However, this could also be partly related to the experienced difficulties associated with the child’s dental visit and, subsequently, a certain level of insecurity in the parents of fearful children. It may be that parents when feeling unable to influence or to help their child overcome or prevent its dental fear, experience some degree of powerlessness and subsequently attribute this to external factors. This notion is supported by the findings of the structured interviews, indicating parents of fearful children to have experienced more problems around dental visits than parents of low fearful children. Comparison with the results of an earlier interview-study on the main reasons for uncooperative child behavior, reported by parents and dentists, indicated a similar contrast (Mejäre, Ljungkvist & Quensel, 1989). The parents reported previous dental treatment as most important, while dentists most often attributed this behavior to family attitudes and upbringing. This, again, may point at a mainly external attributional style in the parents of fearful children, but also in the dentists unable to treat these children. In this light, it would be interesting to replicate the present study using dentists’ reports or children’s self-reports. Also, comparing the child’s dental history with these parental reports on the origins of child dental fear may provide more insight into the attributional processes in the parents of fearful children. With respect to the reported origins, it should be noted that these factors may be closely related. Painful treatment may be most decisive in combination with (negative) parental or dentist behavior (Bernstein, Kleinknecht & Alexander, 1979; Bush, Melamed, Sheras & Greenbaum, 1986; Melamed, 1993; Milgrom, Vignesh & Weinstein, 1992). Indeed, parents repeatedly mentioned this painful treatment in combination with negative dentist’s behavior, such as extractions without preceding explanation or preparation by the dentist. In light of the present findings on the parental beliefs on the absence of child dental fear, a similar role for parental behavior seems plausible (Blount, Davis, Powers & Roberts, 1991; Bush et al., 1986; Melamed, 1993). More attention should be directed therefore to the behavior and attitudes of parents as well as of dentists in daily practice and in future research. Education and assistance may be needed to
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help parents learn to deal with children’s dental fear and to guide them adequately before, during as well as after the dental visit. Finally, more research is needed on the most effective treatment strategies for subgroups of (fearful) children.
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