

Childhood Dental Fear: A Problem to Solve

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Summary

In this thesis, the principal aim was to study the possible aetiological factors of childhood dental fear (psychological aspects, parental dental fear, parental presence or absence during dental treatment). A second aim was to present the normative data on childhood dental fear and caries in a representative sample and to define the Greek dental fear cut-off points in school age children. Another objective was to examine the usefulness of a specific technique (Parental Presence/Absence) in the improvement of the child dental behaviour and to give advises for the clinical child dental situation.

In Chapter 2, two cross-sectional studies aimed to present normative data on dental fear and caries and to establish the dental fear cut-off points of school age children in Thessaloniki, Greece. The first study consisted of 1484 children from 15 primary public schools of Thessaloniki. The second study consisted of 195 randomly selected children (aged 6-12 years old), all patients in the Postgraduate Paediatric Dental Clinic of Aristotle University of Thessaloniki. First study: In order to collect data on caries and dental fear, a dental examination took place in the classroom with disposable mirrors and a penlight. Subsequently, all children completed the Dental Subscale of the Children's Fear Survey Schedule (CFSS-DS). Second study: In order to define the cut-off points of the CFSS-DS children's dental fear was assessed using the CFSS-DS during dental treatment at the University Clinic and their behaviour was observed by one calibrated examiner using the Venham scale.

In the first study, the mean CFSS-DS score was 27.1 ± 10.8 and age was statistically significantly related to dental fear (dental fear decreased as age increased), while differences between boys and girls were not statistically significant. Caries was not related to dental fear. In the second study the comparison between the CFSS-DS scores and the observed dental behaviour revealed the following dental fear cut-off points: CFSS-DS scores < 33 were defined as 'no dental fear', scores 33-37 as 'borderline' and scores > 37 as 'dental fear'. As a result, 84.6% of the children of the first study did not suffer from dental fear (CFSS-DS < 33). These findings are in accordance with a previous Dutch study (ten Berge et al, 2002).

In Chapter 3, the principal objectives were to determine: 1) the relationship between children's psychological functioning, dental fear and cooperative behaviour before and during local anesthesia, 2) the relationship of parental dental fear with these child characteristics. There was a convenient sample of 100 children (4-12 years) selected from the Aristotle University Postgraduate Paediatric Dentistry Clinic. Child dental fear and psychological functioning were measured using the "Children's Fear Survey Schedule" (CFSS-DS) questionnaire and the "Strengths and Difficulties Questionnaire" (SDQ), respectively. Parental dental fear was measured using the "Modified Dental Anxiety Scale" (MDAS) questionnaire. All questionnaires were completed by the parents. Before and during local anesthesia, the child behaviour was scored by one experienced examiner, using the Venham scale.

The mean SDQ score was 10.0 ± 5.6 for boys ($n=60$) and 8.3 ± 4.8 for girls ($n=40$) and there was no correlation with the children's age and gender. The mean CFSS-DS score was 33.1 ± 11.9 and there was no correlation with age or gender. Children with higher levels in the pro-social subscale of the SDQ had significantly less fear and better behaviour before local anesthesia. Higher CFSS-DS scores were significantly associated with uncooperative behaviour during local anesthesia. There was no correlation between parental and child dental fear.

In Chapter 4, a study is presented which aimed to examine the influence of parental presence during dental treatment on the child's behaviour and perception. As a result, 100 patients (mean age 7.0 ± 2.2 years) who visited the Postgraduate Paediatric Dental Clinic were randomly divided in two groups. In the first group, the parent was present in the operatory during one habituation and two treatment sessions, while in the second group the parent was absent and observed the child through a glass window. Both an independent paediatric dentist and the parent rated the child's behaviour using the Venham scale. The child's perception was measured using the Wong-Baker Faces Rating Scale (FPRS) at the end of every session.

According to the paediatric dentist's rating, children's behaviour was worse when the parent was absent, with significant difference only for the 2nd restorative treatment. There was no difference on children's own perception between the two groups, except from the increased discomfort found at the 2nd treatment when the

parent was present. In both groups, the dentist rated lower (better child behaviour), than parents did. Children seemed (through their ratings) to feel worse than both parents and the paediatric dentist rated.

In Chapter 5, the aim of the study was to examine the acceptance of 9 behaviour management techniques by Greek parents and its association with several possible confounding factors. The study sample consisted of 106 parents whose 3 to 12-year-old children were treated in a University postgraduate paediatric dental clinic and 123 parents of children from a private paediatric dental practice. After having seen a video with 9 behaviour management techniques, parents rated the acceptance of each technique on a 0-10 scale. They were then asked to complete a questionnaire about demographics, their previous dental experience and dental anxiety (Modified Corah Dental Anxiety Scale).

The results showed that the best accepted technique was tell-show-do, followed by parental presence/absence technique and nitrous oxide inhalation sedation. The least accepted techniques were passive restraint and general anaesthesia. No correlations were found between acceptance of any management technique and parental age, gender, income, education, dental experience and dental anxiety or the child's age, gender and dental experience.

In Chapter 6, a randomised control study is presented, which aim was to examine the effectiveness of parental presence/absence (PPA) technique in the dental behaviour management of children. The study sample consisted of 61 children (dental patients) with uncooperative behaviour (Frankl 1 or 2). They were all managed with AAPD endorsed non-pharmacological techniques at a post-graduate university clinic. PPA was only used in the test group (31 children). Each treatment started being video-recorded by a mini camera at the onset of any uncooperative behaviour and this was later rated, minute by minute, by a blinded experienced paediatric dentist.

There was no statistically significant difference between the study and control groups in age, gender, mean Frankl score or regarding the time point at which the behaviour management technique was first applied. Behaviour improvement was seen in 17 patients (54.8%) in the PPA group and in 23 patients (76.7%) in the control group. As a result, PPA applied to various dental sessions as a

behaviour management technique showed no difference from other basic, non-pharmacological strategies.

This thesis has added a new tool for paediatric dentists in Greece, since from now on they can use the child dental fear cut-off points of the CFSS-DS, in order to predict a child's behaviour management problems. However, there is a need for a pan-Hellenic study, in order for these cut-off points to be more applicable in specific situations. The results of this thesis added also to our knowledge of the aetiological factors of child dental fear, since it was shown that children's psychological functioning can give information about their dental fear. The role of the parents during dental treatment was shown to be important, moreover since we can "use them as a dental behaviour tool", with the PPA technique. This technique is equally effective compared to other behavior management techniques and is also very accepted by parents, so it's an advisable strategy. However, when exploring PPA technique's use, more clinical trials are needed in order to study the role of the parents.