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Investigation

Correspondence between dentist and child ratings of dental anxiety in Portugal: A preliminary study

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A B S T R A C T

The majority of dentists rely on their own judgment and experience to assess dental anxiety in children. It is important, therefore, to investigate the extent to which clinical observations relate to self-reported anxiety levels of children in the dental clinic. The present study included a wide age range of children attending two dental clinics in Portugal and specifically aimed to explore: [1] the extent to which children's self-report and dentist's ratings of the child's anxiety correspond when using the same state dental anxiety picture scale. [2] How far the dentist's ratings of the child's behaviour correspond to their ratings of the child's anxiety on the picture scale. Findings demonstrated that children's self-report anxiety is not associated to either the dentist's rating of them on the same scale, or the dentist's rating of their behaviour. Although preliminary, these results may indicate the need for the dentists to employ formal self-report assessment measures in order to inform them of the child's anxiety status. Future work should further investigate how dentists make an assessment of child anxiety and should employ a sample that includes children referred specifically for anxiety.

Correspondência entre médico dentista e níveis de ansiedade de crianças em consultas dentárias em Portugal: Um estudo preliminar

Palavras-chave:
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R E S U M O

A maioria dos dentistas confia no próprio juízo e experiência para avaliar a ansiedade das crianças ao tratamento dentário. Assim, parece ser importante investigar até que ponto as observações clínicas estão relacionadas com os níveis de ansiedade relatados pelas crianças em consultas dentárias. Este estudo inclui um grupo de crianças com idades diversas, que frequentavam duas clínicas dentárias em Portugal, e tem como objectivos específicos determinar: [1] em que medida as autoavaliações das crianças e as avaliações dos dentistas coincidem, quando ambos os grupos usam a mesma escala pictórica para

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avaliação da ansiedade-estado. [2] em que medida a avaliação do comportamento da criança pelos dentistas corresponde à avaliação que estes fazem da ansiedade da criança na escala pictórica. Os resultados demonstraram que a ansiedade auto-avaliada pelas crianças não está associada nem com a avaliação realizada pelos dentistas na mesma escala, nem com a avaliação do comportamento da criança determinado pelos dentistas. Embora preliminares, estes resultados podem indicar a necessidade dos especialistas utilizarem avaliações formais com recurso a métodos de auto-relato, para obterem informação sobre a ansiedade das crianças. Trabalhos futuros necessitam pesquisar como os dentistas avaliam a ansiedade das crianças, e devem utilizar uma amostra que inclua crianças referidas especificamente por motivos de ansiedade.

Introduction

Child dental anxiety still poses a significant problem for the practice of dentistry. It is necessary, therefore, to identify and quantify this anxiety, in order to implement and monitor the effect of treatment interventions. There are a number of valid and reliable self-report inventories available for this purpose, though it has been shown that the majority of dentists do not employ them in practice; rather, clinicians rely on their own judgment and experience.[1] This approach mostly relies on observations of the child's behaviour, or level of cooperativeness, within the dental clinic. However, Peretz & Gluck[2] argue that there may be other causes for this uncooperative behaviour, including the temperament of the child. Indeed, in a recent review paper[3] the authors maintain that the distinction between dental anxiety and dental behaviour management problems is important. They contend that dentists are likely to identify the latter more easily and refer to studies which show these concepts overlap only partially.[4]

It is important, therefore, to investigate the extent to which clinical observations relate to self-reported anxiety levels of children in the dental clinic. The current paper explores this association and adds to the literature in three key ways: A) There is a paucity of research which employs the same measure to assess children's state anxiety across both child and dentist raters. It is important to use the same measure so a direct correspondence of agreement can be made, and also because a measure that can be used for both parties should direct raters towards reflecting how the child feels rather than how s/he behaves. These ratings can then be compared to dentists' judgments on behaviour rating scales. B) Most research in this area does not include ratings from very young children, although recent findings indicate that children as young as 3 years old can use picture scales to reflect their anxiety.[5,6] C) There is a dearth of research on assessment of children's dental anxiety in Portugal. The present study, therefore, includes a wide age range of children attending two dental clinics in Portugal and we specifically aimed to explore two issues. First, the extent to which children's self-report and dentist's ratings of the child's anxiety correspond when using the same state dental anxiety picture scale. That is, can the dentist accurately judge a child's self-reported anxiety? Secondly, we wanted to assess how far the dentist's ratings of the child's behaviour correspond to their ratings of the child's anxiety on the picture scale. In other words, to what extent do dentists consider state anxiety and behaviour to be related concepts?

Materials and Methods

One hundred children, aged from 3 to 13 years (mean age = 7.4, SD = 2.2 years) took part in the study; there were 54 females. Thirty-nine of the children were seen in a private dental clinic, and the rest were seen at a University clinic in Lisbon, Portugal. Consent was sought from the children and their accompanying parent in the waiting room of the clinic. After consent was granted, the Facial Image Scale (FIS)[5,6] was administered. The FIS is a state measure of children's dental anxiety and comprises a row of five faces ranging from very happy to very unhappy (scores ranging from 1- 5; 5 indicating the highest anxiety). Validation studies have shown that it is a suitable measure for assessing state child dental anxiety in even very young children. The children were asked 'how do you feel right now?' and were invited to indicate their response on the row of faces. After the child entered the room, but before beginning treatment, the dentist rated the child's anxiety using the FIS blind to the child's own self-report FIS score. At the end of the treatment session, the dentist was asked to rate the child's behaviour on Frankl's Behaviour Rating Scale (FBRS).[7] The FBRS categorises the child's behaviour in different situations as either: definitely positive (4), positive (3), negative (2) or definitely negative (1).

Results

Findings showed that overall the children had low self-reported anxiety as indicated on the FIS and there was no significant difference in anxiety across clinic type ($t = 2.26$, $df = 98$, $p > 0.05$). Descriptive statistics and correspondence between scores on the FIS and FBRS are presented in table 1. The Table shows

Table 1 - Mean (M) and standard deviation (SD) for scores on the Facial Image Scale (FIS) and Frankl's Behavioural Rating Scale (FBRS) and correspondence of scores for dentists and children

	Child FIS	Dentist FIS
Child FIS M = 1.6; SD = 0.7	–	
Dentist FIS M = 1.8; SD = 0.7	K = 0.15	–
Dentist FBRS M = 1.4; SD = 0.6	*r* = 0.1	*r* = 0.4*

Note. *p < .001; K = Kappa; *r* = correlation coefficient

that the mean dentist's FIS score was slighter higher than the children's. A Kappa score was calculated to investigate the agreement between the child's ratings of their anxiety and the dentist's on the FIS; there was a poor level of agreement between the two scores. There was a weak but significant correlation between the dentist's ratings of the child's anxiety on the FIS and their ratings on the FBRS and no association between the dentist's ratings on the FBRS and the child's FIS scores (table 1).

Discussion

These results are preliminary but do provide an interesting initial picture in terms of anxiety assessment. First, the results appear either to indicate that the child's self-reported anxiety rating is not associated to the dentist's rating of them on the same scale, or the dentist's rating of their behaviour. There are several observations that can be made from this. It could be considered an issue of some concern, as dentists clearly need to be able to identify children with anxiety. This may indicate the need for the dentists to employ formal self-report assessment measures in order to help inform them of the child's anxiety status. However, we should also take into account the low levels of anxiety reported by the children; future researchers may consider recruiting samples more likely to be anxious in order to investigate whether the dentists can detect this. Second, the dentists' ratings of the child's anxiety on a picture scale and their behavioural observations do have some correspondence, though this is not strong. This might suggest that observation of co-operation within the dental clinic has some association with their assessment of the child's anxiety, but does not fully explain it. That is, the dentists do not appear to be treating dental anxiety and cooperativeness as synonymous constructs but it does appear to play a part in their judgment.

Conclusion

The willingness and competence of dentists to recognize and assess children's anxiety, and use adequate behavioural management techniques, may have long-term effects on children's behaviour in future treatments.[8] Future work should further investigate how dentists assess child anxiety and should employ a sample that includes children referred specifically for anxiety.

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