AFRICAN JOURNAL OF MEDICINE and medical sciences

VOLUME 31, NO. 4 DECEMBER, 2002

ISSN 1116—4077

Afr. J. Med. med. Sci. (2002) 31, 349-352

Maternal and child's anxiety - effect on child's behaviour at dental appointments and treatments

OO Bankole, GA Aderinokun, OO Denloye and SO Jeboda*

Department of Preventive Dentistry, College of Medicine, University College Hospital, Ibadan and
**Department of Preventive Dentistry, College of Medicine Lagos University Teaching Hospital, Lagos, Nigeria*

Summary

The objective of this study was to assess the influence of pre-existing dental anxiety and maternal anxiety on the behaviour of some Nigerian children during dental appointments. Two hundred and sixty children aged 2 –15 years participated in this study. They were treated at the three government dental establishments in Ibadan, a city in South Western Nigeria, over a six-month period. The children's behaviour during different stages of treatment was determined by the Frankl's Behaviour Rating Scale. The outcome of the study revealed a high association between the level of pre – existing dental anxiety in the children and their behaviour during various phases of treatment ($P<0.05$). During initial stages of treatment, prophylaxis, administration of local anaesthesia and tooth extraction, children with high level of anxiety were less cooperative. In addition, a general tendency towards cooperative behaviour was observed among patients whose mothers had low anxiety levels. This study shows the importance of correct assessment of the pre-operative dental anxiety status in children as well as the level of anxiety in their mothers. The level of dental anxiety in children and their mothers appears to be predictive of their behaviour in the oral care setting. In circumstances where the level of pre-operative and maternal anxiety are high, efforts should first be geared toward instituting appropriate behaviour management skills like behaviour shapping and modelling to bring about a higher level of cooperation before embarking on treatment. By paying special attention to these children, it is possible that the dentist would succeed in improving acceptance of treatment in them thereby increasing cooperation at subsequent dental visits.

Keywords: *Dental anxiety, fear, dental treatment, children*

Résumé

L objectif de cette étude etait d' évaluer l influence l anxieté dentaire et maternelle sur le comportement de certains enfants Nigerian pendant leur rendez-vous medicaux durant 6 mois. Deux cent soixante enfants agé de 2-15 ans ont participé a cette étude . Ils ont été traités dans 3 centres dentaires publique a Ibadan u Sud ouest , du Nigeria.Les comportements des enfants Durant differents etapes de traitement etait determine utilisant l echelle de omportement de Frank.Les resultants de cette etude montraient un haut degre d association durant differents visites de traitement (P,0.05) entre l anxiete pré-dentatale et de comportement.Pendant les visites initiales de traitement ,prophylaxie d' anesthesie locale et l' extraction de la dent, les enfants avec un degree elevé d' anxieté cooperaient difficilement. La tendence génerale de cooperer etait observé chez les méres moins anxieuse.Cette étude montre l'importance de l 'évaluation correcte du statut anxieux avant l' extraction dentaire chez les enfants ausi bien que leurs méres apparait indicative de leur comportement aux soins dentaires. Les efforts doivent être dirigés pour manager le comportement des patients anxieux et d apporter un niveau elevé de cooperation avant le traitement.En prenant une attention particuliere aux enfants , l;e dentiste pouurait ameliorer le traitement en augmentant la cooperation aux rendez-vous.

Introduction

The subject of anxiety as related to dental treatment has been of interest for several years. It has been noted that dental treatment could result in a stressful situation for the patients with a variety of unpleasant stimuli and that the pain from an aching tooth as well as the anticipated pain during dental procedures are factors, which usually create fear in some patients [1,2,3]. As a result of fear, many patients at times defer needed dental treatment until they can no longer bear the pain. For this same reason, many avoid treatment completely [4,5]

The mother's rating of the level of her child's anxiety prior to prophylaxis and dental extraction were found to be significantly related to the child's behaviour during dental treatment [6,7]. However, some authors found that children's anxiety directly influenced their behaviour only at the initial stages of the dental visit which consisted of examination and radiographs [8,9].

The child's family has been found to be one of the factors in his environment which may affect his pattern of behaviour. Emotional attitudes of family members especially the mother can sometimes be communicated to the child [10].

Johnson and Baldwin [6,7] observed a relationship between maternal anxiety and the child's behaviour. However, there was no association when mother's self rating was utilized. In another study of the behaviour of children from low socio-economic families in the dental clinic, maternal anxiety was found to be related to the child's behaviour only at the stage of introduction into the dental clinic [11]. Others concluded that a child's level of anxiety was directly related to the level of anxiety in the mother [12].

In Nigeria, research in this very important aspect of dental care is relatively new and the data limited. It is important to identify the variables which influence their behaviour during dental appointments. It is hoped that this study will give an insight into the extent to which preoperative anxiety and maternal anxiety will influence the behaviour of children during dental appointments. By instituting appropriate behaviour management skills and counselling it is expected that this will improve the acceptance of dental care services in Nigerian children.

Materials and methods

This study was carried out in Ibadan, a town that is located in the southwestern part of Nigeria. The subjects consisted of 260 children below the age of 16 years attending the three government dental clinics in the city. All the children seen and treated over a six-month period were included in the study. A team of dental surgeons and therapists who had earlier been informed according to a standard format carried out examination and treatment of the subjects.

Correspondence: Dr. O.O. Bankole, Department of Preventive Dentistry, University College Hospital, Ibadan, Nigeria.

The mother's assessments of the degree of anxiety in her child as well as her own self-rated anxiety was noted pre-operatively. Self-rated maternal anxiety was classified as high or low depending on the anxiety state of the mother. An assessment of behaviour of each child during treatment was made by the operators using the Frankl's Behaviour Rating Scale [13]. The four point scale of Frankl which has been a prototype for many studies has been found reliable.

The criteria for scoring were as follows.

Rating 1 - Definitely Negative - Refusal of treatment, crying forcefully, fearful or any evidence of extreme negativism.

Rating 2 - Negative - Reluctance to accept treatment. Some evidence of negative attitude but not pronounced.

Rating 3 - Positive - Acceptance of treatment at times cautious, willingness to comply with the dentist, at times with reservation, but patiently follows cooperatively.

Rating 4 - Definitely positive. Good rapport with the dentist. Interested in the dental procedure, laughing and enjoying the situation.

The Tell, Show, Do method [14] was employed in communicating with the children in vocabulary suited to their ages. Demonstration of the exact procedure to be carried out was conducted .After ensuring proper completion of all forms, Frankl's rating1 and 2 were categorized as negative and rating 3 and 4 as positive. The data were entered into an IBM compatible PC using software EPINFO for statistical analysis. Chi-square test was employed to determine level of statistical significance.

Results

A total of 260 children aged 2- 15 years, drawn from three study centres, participated in the study.

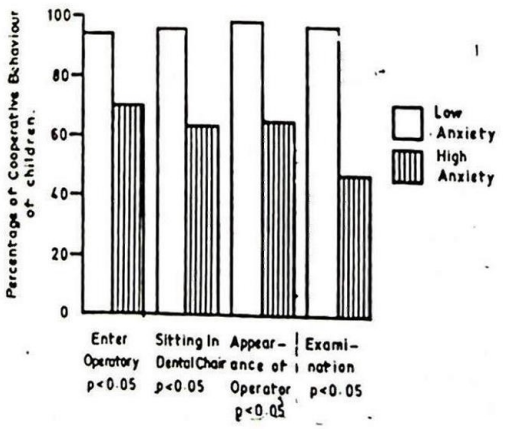

Fig. 1: Behaviour of children in relation to their pre-operative anxiety at the initial stages of treatment

A consistent pattern of compliance based on the pre-existing anxiety state was seen at the initial stages of treatment as children with low anxiety tended to behave more positively (Fig. 1). During the treatment stages response of the children to prophylaxis, administration of local anaesthesia and tooth extraction were significantly related to their mothers rating of their anxiety. While receiving prophylaxis 96.2 % of the children with low pre-operative anxiety complied while only 52.2 % of those rated as highly anxious cooperated (Fig. 2). Fig.3 illustrates the influence of maternal anxiety on behaviour of children during the initial stages of treatment. During examination 60.5% of children with highly anxious mothers and 83.9% of children whose mothers were relaxed exhibited cooperative behaviour. Maternal anxiety thus appeared to influence the behaviour of children at the early stages of treatment even though at some stages no statistical difference was found.

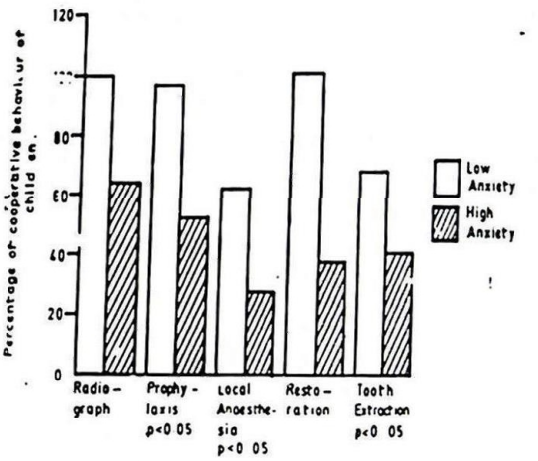

Fig. 2: Behaviour of the children during treatment in relation to level of pre-operative anxiety

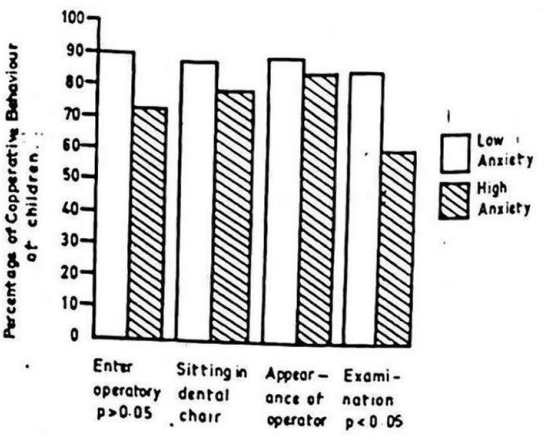

Fig. 3: The effect of maternal anxiety on the behaviour of children during the initial stages of treatment.

Figure 4 demonstrates effect of maternal anxiety on the children during the treatment phase. A tendency to improved behaviour was seen in children whose mothers had low anxiety states. This effect however was significant only at the administration of local anaesthesia stage when 54.7% of the children whose mothers had low anxiety cooperated as compared to 30% of the children whose mothers were highly anxious ($P < 0.05$).

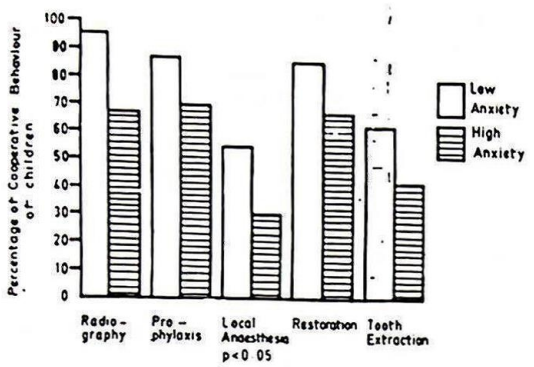

Fig. 4: The Effect of maternal anxiety on the behaviour of children during treatment

Discussion

It has been suggested that highly anxious patients exhibit negative attitudes towards dental treatment and as such tend to be difficult patients [15]. Consequently they are prone to accidents if they are forced to accept treatments without controlling their anxiety state. The results of this study have established a relationship between the level of pre-operative anxiety in children and their behaviour during dental treatment. Children who were rated as highly anxious by their mothers demonstrated less cooperation than those with low anxiety states. These reports are in congruence with those of Koenigsberg and Johnson [8], even though it is at variance with those of others [11,12,16]. On entering the operatory, 70.4% of the highly anxious children were cooperative while 94.2% who were more relaxed complied ($P < 0.05$). Likewise, only 28.6% of the children with a high degree of anxiety showed a positive attitude during adminstration of local anaesthesia in comparison to 61.7% who were not anxious ($P < 0.05$).

Misbehaviour in the dental setting may stem from the family unit [17]. Although anyone in the family may affect the behaviour of the child patients, the mother is frequently the most influential.

A definite association was similarly established between maternal anxiety and behaviour of children on entering the operatory, during examination and while administering local anaesthesia. The more anxious the mother was, the less cooperative was the observed behaviour of the child. During examination, 60.5% of the children whose mothers were highly anxious complied while 83.9% of the children whose mothers did not have much anxiety exhibited cooperative behaviour ($P < 0.05$). On administration of local anaesthesia, 30% and 54.7% of children with mothers who exhibited high and low anxiety respectively were found to comply ($P < 0.05$).

These findings agree with those of earlier researchers [11,16,18], who found maternal anxiety to be related to the child's behaviour in the dental clinic. However Hawley *et al* [11], established this association only at the initial stages of treatment. Since maternal anxiety has been found to have some influence on the behaviour of the children, it therefore becomes necessary for the dentist to establish good rapport with the parents. This should instill some confidence in them and alleviate their fears as children of anxious mothers have been found to exhibit less cooperative behaviours. It is also important that parental counseling as to the importance and type of treatment for children be done regularly especially where maternal anxiety is high. This is because the mother's cooperation will be needed in order to provide the children with the best dental care.

In conclusion, the presence of dental anxiety and maternal anxiety have been found to have some influence on the behaviour of children in south western Nigeria during dental appointments. For this reason it is recommended that the dentist and his staff, should do all in their capacity to reduce the anxiety of their child patients to the barest minimum. The dentist and supporting personnel should be warm and friendly and enlighten the child as to the expectation of his appointment. It is also desirable that the dental setting reflects some warmth. In this regard, toys, books and imposing posters placed in the waiting room could go a long way in producing a more relaxed atmosphere. Waiting periods should also be as short as possible.

Since dental anxiety can both be a situational anxiety and classical conditioning it is also important to identify those patients with special needs with regard to their dental anxiety status. These ones should be given special attention with appropriate behaviour management skills instituted in order that each child should come out with a positive impression at every attendance.

Appropriate non pharmacological behaviour management skills like the Tell Show Do, technique, behaviour shapping, modelling and reinforcement can be practiced. When these fail then the pharmacological approach can be used involving sedation of which conscious sedation is the most widely acceptable. Unfortunately there have been problems associated with these pharmacological techniques atimes resulting in severe morbidity or even mortality [19,20]. For this reason in the Poswillo report the use of general anaesthesia in dentistry has been discouraged [21]. It is therefore important to encourage the child into accepting the non-pharmacological techniques.

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