Research Article

JRAD Journal of Research and Advancement in Dentistry

J Res Adv Dent 2017;6:2:57-60.

Assessment of Maternal Anxiety in Relation to Dental Treatment of Their Children: A Cross Sectional Study

Anandamoy Bagchi[1*] Banibrata Lahiri[2] Sachidananda Prasad Sinha[3] Gunjan Kumar[4]

[1]Professor, Department of Pedodontics & Preventive Dentistry, Kalinga Institute of Dental Sciences, KIIT University, Bhubaneswar, Odisha, India.
[2]Professor, Department of Oral & Maxillofacial Surgery, Kalinga Institute of Dental Sciences, KIIT University, Bhubaneswar, Odisha, India.
[3]Professor and Head, Department of Conservative Dentistry, Kalinga Institute of Dental Sciences, KIIT University, Bhubaneswar, Odisha, India.
[4]Reader, Department of Public Health Dentistry, Kalinga Institute of Dental Sciences, KIIT University, Bhubaneswar, Odisha, India.

ABSTRACT

Background: Anxiety and fear of dental treatment in children have been recognized as sources of serious health problems. The aim of this study was to assess the anxiety level of mothers while their children are undergoing dental treatment.

Materials and Methods: A cross-sectional study was carried out among 325 mothers, selected from dental OPD of R Ahmed dental college and hospital, Kolkata, by administering a structured questionnaire to measure the level of anxiety in mothers of children undergoing dental treatment.

Results: The overall data indicates that the mother's estimation of the child's reaction to the present dental procedure comprises 68.6% for very poor and moderately poor response altogether while moderately good and very good together have 31.4% response. Chi-square test shows significant result ($\chi2=65.16$,d.f=3,$p<0.001$). Mother's own anxiety as rated by her when compared with her rating of child's anxiety shows non-significant results ($\chi2=7.47$,d.f=3,$p>0.05$).

Conclusion: Most of the mothers showed the presence of anxiety, during the dental treatment.

Keywords: Anxiety, mothers, dental treatment.

INTRODUCTION

A sense of fear generally arises from any kind of anticipation of impending danger. This can be categorized as anxiety. In other words, a conditioned stimulus is responsible for development of a conditioned fear. Thus, anxiety arises because of the anticipation of fear and has the adaptive reflex to avoid or prevent the recurrence of any painful stimuli. It is a well-established fact that children who have come for dental treatment suffer from a kind of stress. Many factors may be responsible for this stress. Most important factor is possibly the fear of unknown. Fear is one of the primary emotions, and possibly the most influencing factor in the development of the individual. Fear is nonspecific in the first six months of life. Development of fear response starts with the development of the sense of perceptual differentiation.[1] Previous painful experiences may also be responsible for creating stress in the subsequent visit to the dental office or dental hospital. Stressful condition in the first visit of the children to the dentist is often due to misconceptions they hold in their mind about the dental procedures they are likely to undergo. Mothers are almost always held responsible for these misconceptions. The impact of the maternal anxiety on a child's behavior has been studied and

Received: Feb. 18, 2017: **Accepted:** Mar. 9, 2017
***Correspondence Dr. Anandamoy Bagchi.**
Department of Pedodontics & Preventive dentistry, Kalinga Institute of Dental Sciences, KIIT University, Bhubaneswar, Odisha, India.
Email: Not Disclosed

pISSN 2278-0076
eISSN 2321-9270

Table 1: Comparision of anxiety scores of children and the mothers.

ANXIETY	CHILD	Mother
High	119	107
Mod. High	108	113
Mod. Low	27	47
Low	71	58
TOTAL	325	325

$\chi 2=7.47, d.f=3, p<0.05$, non- significant result.

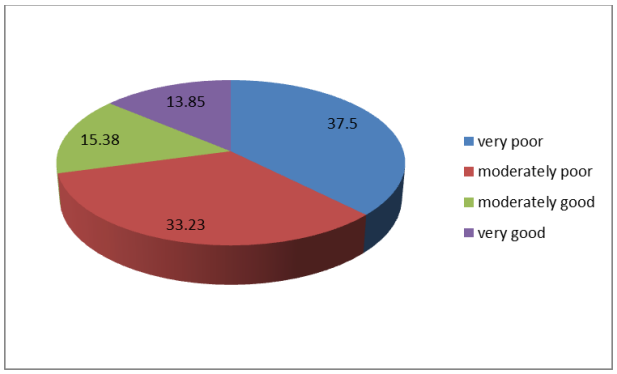

Fig 1: Reaction of the child regarding past dental experiences.

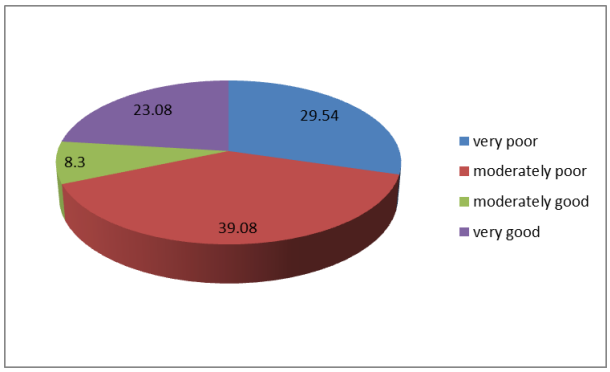

Fig 2: Estimation of child's reaction to the present dental procedure.

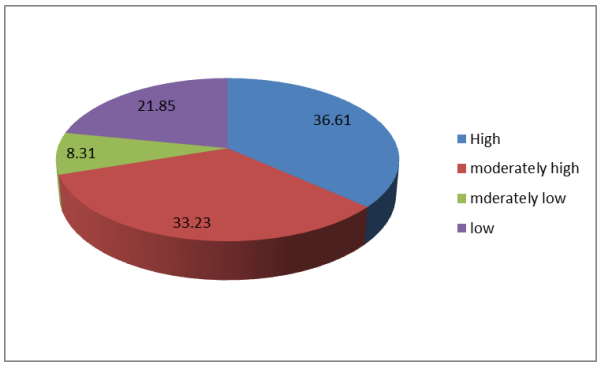

Fig 3: Mother's rating of child's anxiety.

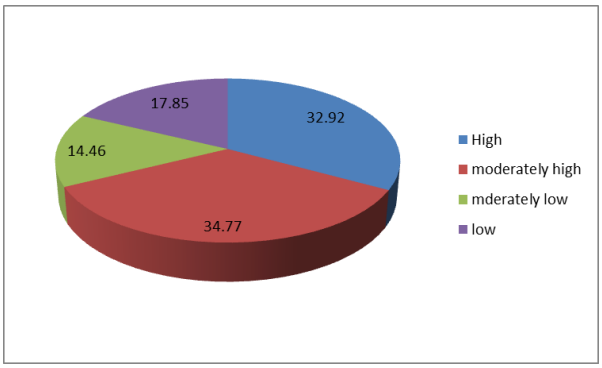

Fig 4: Maternal anxiety as rated by herself.

reviewed extensively[2]. Lack of knowledge in the mothers about dental procedures creates this kind of wrong perceptions in their children. Thus it is very much necessary on part of mothers to ward off their own anxiety and help their children to cope with the situation. This study is an effort to gauge the anxiety level of mother and her child as perceived by herself. The procedure to view the anxiety pattern in this study is through a questionnaire.

AIMS AND OBJECTIVES

The aim of the present study is to find the level of maternal anxiety during dental treatment of their wards. With proper knowledge about the maternal influence on children's behavior, preoperative counseling of mothers becomes easier. They can be motivated to discard their own anxiety and help build a proper behavior modulation regime for their children and this is the objective of this study.

MATERIALS AND METHOD

The present cross-sectional study was conducted using a structured questionnaire which was administered to the mothers .Three hundred and twenty five mothers of children visiting the Department of Pedodontics and Preventive Dentistry of Dr. R. Ahmed Dental College and Hospital for treatment were the subjects for this study.

The sample size was calculated using the formula: $n = Z^2pq/d^2$, where n =sample size, p = prevalence of disease, q = free from disease, d = allowable error, and z = point on the normal

deviation. Upon calculating, "n" was found to be 325.

The ethical clearance was obtained from the Institutional Review Board and informed consent was obtained from the study participants. The study was conducted over a period of 10 months.

STATISTICAL ANALYSIS

The data were tabulated and statistically analyzed using the Statistical Package for Social Sciences, Version 12. The Chi-square test was used for comparing the level of anxiety of the mothers in relation to the dental procedure in their children.

RESULT

In fig 1 the reaction of the child regarding past dental and medical experience, the gradation by very poor, moderately poor, moderately good and very good as have been done by mothers give 37.5% , 33.2%, 15.4% and 13.9% respectively. The difference is statistically significant (SND=8.23, $p<0.001$). Chi square test also yield similar result.

In the estimation of the child's reaction to the present procedure the very poor and moderately poor claim about 68.6% of response altogether while moderately good and very good together have 31.4% response.(fig-2). Chi-square test shows significant result ($\chi2=65.16$, d.f=3, $p<0.001$) indicating that the proportion of the 4 responses are all different. Again combining the two poor and two good responses and comparing them by using the SND test we also get similar result. Poor:96+127=223 ,Good: 27+75=102 and SND: 7.23, $p<0.001$.

Figure-3 shows the rating of child's anxiety. In this case also high and moderately high anxiety rate is much high compared to that of moderately low and low anxiety ($\chi2=63.86$,d.f=3,$p<0.001$).

Figure-4 shows mother's own anxiety. The gradation by very high, moderately high, moderately low and low as have been done by mothers give 32.9% , 34.8% ,14.5% and 17.8% respectively

It is more or less similar as of child's anxiety. The proportions of anxiety rates into the four categories differ significantly ($\chi2=4.66$,d.f=3, $p<0.001$). Again, comparing the anxiety scores of children and the mothers.(Table 1) It indicates that scoring patterns of children & mothers are similar; the differences in proportions being non-significant.

DISCUSSION

The mother is a vital figure and usually considered as the cornerstone of every family. Even though everyone in the family can affect the behavior of a child, the behavior pattern of a child is expected to develop mostly through maternal influence. This is because the mother child relationship is very important in early development and the mother can be a determinant of an anxiety reaction in a child .[3] High levels of maternal dental anxiety influence their children negatively and have been depicted by Lechner[4] and Ripa[5]. Quite a large number of articles are there suggesting the influence of maternal anxiety in child behavior.[4-9]

Mothers' perception of poor dental treatment experiences may be carried forward onto their children. Analysis of mother's fear before child's dental treatment may help the dental surgeon to select the most appropriate behavior management strategy. Whenever maternal anxiety is high, efforts to reduce the level of anxiety may also benefit the child. Providing parents with information about their child's dental treatment has been found to be an effective intervention in reducing the pre-operative anxiety of the parents.[10, 11] Maternal anxiety as perceived by the mothers themselves was measured in four categories, among which most mothers were classified as highly anxious (36.61%) moderately high (33.33%) , moderately low anxious (8.31%) and low (21.85%). These data are corroborated by the results from other studies.[12]

CONCLUSION

From the results following conclusions can be drawn:

1) Maternal anxiety is inevitable before the dental treatment of their wards.
2) Maternal anxiety is definitely a reason for anxious child in the dental setting.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

REFERENCES

1. Shim YS, et al. Dental fear & anxiety and dental pain in children and adolescents; A systemic review. J Dent Anesth Pain Med 2015;15:53-61.

2. Johnson R, Baldwin DC Jr. Relationship of maternal anxiety to the behavior of young children undergoing dental extraction. JDent Res 1968;47:801-5.

3. Muris P, Meesters C, Merckelbach H, Hülsenbeck P. Worry in children is related to perceived parental rearing and attachment. Behavior Research and Therapy. 2000;38:487–497.

4. Lechner V. The influence of the family. In: Wright GZ, ed. Behavior Management in Dentistry for children. Philadelphia, PA: W.B. Saunders Co, 1975:73-87.

5. Ripa LW. Maternal influence on children's behavior in the dental situation. In: Ripa LW, Barenie JT, eds. Management of Dental Behavior in Children. Littleton, MA: PSG Publishing, 1979; 15-76.

6. Kulkarni S, Jain M, Mathur A, Mehta P, Gupta R, Goutham B, Prabu D. A relation between dental anxiety, the parental family and regularity of dental attendance in India. J Oral Health Comm Dent 2009; 3(2):29-33.

7. Benjamin Peretz' & Dan Zadik. Dental anxiety of parents in an Israeli Kibbutz population. Int J Paed Dent 1994;4:87-92.

8. M.O.Folayan, C.A. Adekoya-Sofowora,O.D.Otuyemi1 & D.Ufomata. Parental anxiety as a possible predisposing factor to childdental anxiety in patients seen in a suburban dental hospital in Nigeria. Int J Paed Dent 2002; 12:255–59.

9. Chen-Yi Lee,Yong-Yuan Chang,& Shun-Te Huang. The clinically related predictors of dental fear in Taiwanese children. Int J Paed Dent 2008; 18:415–422.

10. Jenny Porritt, Zoe Marshman & Helen D. Rodd. Understanding children's dental anxiety and psychological approaches to its reduction. Int J Paed Dent 2012; 22:397–405

11. Klingberg G, Berggren U, Carlsson SG, Noren JG.Child dental fear cause-related factors and clinical effects. Eur J Oral Sci 1995;103: 405-412.

12. Carvalho RWF, Cardoso MSO, Falcão PGCB, et al. Ansiedade frente ao tratamento odontológico: prevalência e fatores predictores embrasileiros [Anxiety regarding dental treatment: prevalence and predictors among Brazilians]. Ciên Saúde Coletiva. 2012;17(7):1915-22.