ORIGINAL RESEARCH PAPER

Volume-7 | Issue-10 | October-2018 | PRINT ISSN No 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

DENTAL ANXIETY LEVELS AMONG CHILDREN AND THEIR PARENTS BEFORE AND AFTER VIDEO MODELLING HEALTH EDUCATION TECHNIQUE

Dental Science

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ABSTRACT

Aim: Aim of this study is to evaluate and compare the anxiety levels of children and their parents at different visits to the Department of Pedodontics

Methodology: Present study was carried out on 30 children aged 6-14 years and their parents who attended the OPD of Dept. of Pedodontics, Anxiety assessment was done using Children's Fear Survey Schedule-Dental Subscale (CFSS-DS) for children & Modified Dental Anxiety Scale (MDAS) for parents.

Results: Anxiety levels of the children was significantly less on the second visit (mean 22.23±5.20)when compared to the first visit(mean 28.13±6.82)(p-value 0.001).There is significant positive correlation between child's age and parent's anxiety(p-value 0.038).There is No-significant correlation between Parent's anxiety and child's anxiety at 1st visit (p-value 0.286).

Conclusion: The study showed that there is gradual decrease in dental anxiety in children in subsequent visits, we found Significant positive correlation between Child's age and parents's anxiety and No-significant correlation between parental and child's anxiety.

KEYWORDS

Dental anxiety,Children,CFSS-DS,MDAS.

INTRODUCTION

Fear of the dentist has been ranked fourth among common fears1. Dental fear in children has been recognized as a public health problem in many countries[2,3].

Dental fear in children has a massive effect on their conduct which includes them to a have preconception that the dental treatment will be of a painful nature. Dental fear hampers their capability to cope with clinical setting of a dental setting, which sequentially leads to failure to seek timely dental treatment. The dental anxiety in adults usually related to their childhood experience.

The etiology of dental fear in children depends on several factors. Dental fear has been related to personality, general fear, parental dental fear, age, gender and previous painful dental experiences[4].

Dental fear has been reported as one of the most important reasons for avoidance and negligence of regular dental care. Neglect of dental care may lead to severity of dental diseases and pain. In this situation further visit to the dentist which in turn enhances the patient's original dental fear and leads to avoidance behavior [5,6].

It is of great importance that the dental health professional is able to identify children who have dental fear and apply appropriate pediatric management techniques at the earliest age possible[7,8].

The dental treatment management techniques and dental preventive measures awareness has to be reached to children and parents through audiovisual modes. There are several modes of audiovisual aids one of them is video modelling, which enhances children and parents awareness to dental treatment and prevention of avoidance behaviour[9].

This leads to success of dental treatment in children as well as adult patients.

Many dentists believe that this technique may be successful and fruitful in the management of anxious pediatric dental patients[10].

Thus a study was planned to assess and compare anxiety levels of children and their parents at different visits to the Dept.of Pedodontics and Preventive Dentistry.

METHODOLOGY:

A total of 30 children aged 6-14 years and their parents who attended the Department of Pedodontics and Preventive Dentistry at the A.M.E'S Dental college and hospital,Raichur are taken as study samples.

Inclusion criteria

- Children should be free of systemic disease.
- Children and their parents willing to participate in the study.
- Children who are first time visitors to the dental clinical settings.
- Children strictly visiting with their parent.

Exclusion criteria

- Children and their parents who does not want to participate in the study.
- Incomplete fulfillment of questionnaires by children or parents.

Assessment of Anxiety status of children and parents

In the current study, we were interested in child anxiety and stress associated with fear of dentists and dental treatment on first visit and childs anxiety status in second visit, and level of dental anxiety as

reported by the parent who accompanied the child to the dental visit.

In order to evaluate each child's self-reported anxiety and stress related to fear of dentists and dental treatment, we employed the Children's Fear Survey Schedule - Dental Subscale (CFSS-DS).

The CFSS-DS is based on an instrument using fifteen Likert items, each scored from 1 to 5. For example, one item states "I am afraid of dentists" while another reads "I am afraid of injections." All responses are scored as follows: "not afraid at all"(1),"afraid a little"(2)"somewhat afraid"(3)"afraid" (4),or "very afraid" (5). The total Likert scale score is obtained by summing the individual item scores and can range from 15 (lowest) to 75 (highest).[11-14]

The Modified Dental Anxiety Scale (MDAS), a modification of the Corah Dental Anxiety Scale (CDAS)[15-18], was used to measure self-reported parental anxiety associated with their own dental visits. The modification to the CDAS was accomplished by adding a fifth item that relates to fear of injection. The MDAS questionnaire is comprised of five Likert items scored 1 to 5, with possible responses ranging from "not anxious"(1),"slightly anxious"(2)"fairly anxious"(3)"very anxious" (4),and "extremely anxious"(5). A total MDAS score can range from 5 to 25. The MDAS has been shown to be highly reliable, valid, more comprehensive than other anxiety questionnaires, and simple to complete[19].

Both the questionnaires were translated to local language by the language experts and validated to use in study. A self-designed video was developed that is edited several times based on the feedback given by the children of the various schools, childs anxiety status was assessed on first visit using CFSS-DS, simultaneously parents anxiety status was assessed using MDAS on first visit itself.

Self designed video was shown to the child after assessment of anxiety status on first visit and anxiety status again assessed in the second visit of the child to the department.

The data collected was entered in to a personal computer. The data was analyzed using SPSS version 21.0. Descriptive and inferential statistics were applied wherever required. The results were expressed in mean and standard deviation. Wilcoxon Signed Rank Test was used to test the difference between means of two groups. Spearman's rank correlation

Co-efficient was used to assess the relationship between the child's anxiety levels to all the other variable parameters.

Ethics committee approval

The study was reviewed and approved by the institutional ethics committee of A.M.E'S Dental College and Hospital, Raichur and written inform consent was taken from child and their parents.

RESULTS

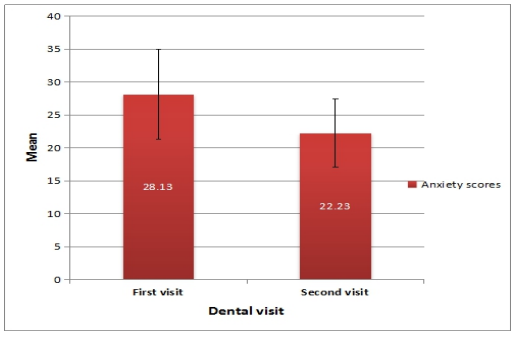
A total of 30 children (18 males and 12 females) and their parents fulfilling the inclusion criteria and not falling into the domain of exclusion criteria were enrolled in the study. Age of children ranged from 6 to 14 years.

The mean anxiety score of children in first visit was 28.13 (6.82) and in second visit has been reduced to 22.23 (5.20) , in our study we have found that this reduction in the mean anxiety scores from first to second visit is statistically significant(p value= 0.001)(Graph 1) (Table1).

Table 1 – Comparison of change in the anxiety scores for the CFSS-DS from first to second visit.

Item	CFSS-DS score at 1st visit Mean (SD)	CFSS-DS score at 2nd visit Mean (SD)	Wilcoxon Signed Rank Test	
			p-value	Significance
1	2.5 (1.14)	1.2 (0.48)	0.001	Significant
2	1.77 (1.01)	1.73 (0.98)	0.317	Non-Significant
3	3.53 (1.11)	3.1 (1.16)	0.002	Significant
4	1.40 (0.56)	1.13 (0.43)	0.005	Significant
5	1.30 (0.65)	1.1 (0.31)	0.014	Significant
6	1.77 (1.14)	1.77 (1.14)	1.000	Non-Significant
7	1.80 (1.03)	1.63 (0.77)	0.096	Non-Significant
8	2.40 (1.00)	1.43 (0.63)	0.001	Significant
9	1.57 (0.77)	1.13 (0.35)	0.002	Significant
10	1.63 (0.81)	1.33 (0.48)	0.021	Significant
11	2.13 (0.9)	1.33 (0.55)	0.001	Significant
12	1.67 (0.96)	1.53 (0.86)	0.102	Non-Significant
13	1.93 (1.08)	1.57 (0.90)	0.005	Significant
14	1.07 (0.25)	1.03 (0.25)	0.317	Non-Significant
15	1.7 (0.75)	1.17 (0.46)	0.001	Significant
Overall	28.13 (6.82)	22.23 (5.20)	0.001	Significant

Graph 1. Comparison of change in the mean anxiety scores (CFSS-DS) from first to second dental visit



We have also found there is significant positive correlation between Child's age and parent's anxiety (p-value 0.38) (Table 2).

Table 2. Correlation between Child's anxiety and other variables.

Correlation between	Correlation coefficient (Spearman's rho)	p-value	Significance
Child's age and Child anxiety at 1st visit	0.07	0.714	No-significant correlation
Parent's age and child's anxiety at first visit	0.14	0.461	No-significant correlation
Child's age and parent's anxiety	0.381	0.038*	Significant positive correlation
Parent's age and parent's anxiety	0.016	0.934	No-significant correlation
Parent's anxiety and child's anxiety at 1st visit	0.201	0.286	No-significant correlation

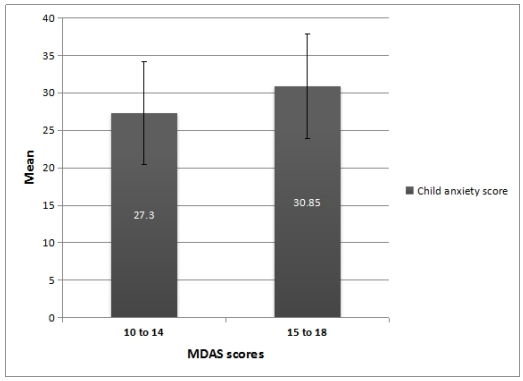
*** statistically significant at p<0.05**

Statistical test used- Spearman's rank correlation

We have found No-significant correlation between Child's age and Child anxiety at 1st visit, Parent's age and child's anxiety at 1st visit, Parent's age and parent's anxiety, Parent's anxiety and child's anxiety at 1st visit.(Table 2).

Anxiety levels of parents is increased with the increased levels anxiety of children, but these differences are statistically non-significant (p-value 0.286).(Graph 2).

Graph 2. Comparison of mean child anxiety scores (CFSS-DS) based on parent's anxiety scores (MDAS).



Our study showed that there is gradual decrease in dental anxiety in children in their subsequent visits.

DISCUSSION

We assessed and compared anxiety levels of children of age group between 6-14 years and their parents at different visits to the Dept.of.Pedodontics and Preventive Dentistry A.M.E'S Dental College and Hospital, Raichur.

When we compared the mean anxiety scores of children in First (mean 28.13 (6.82)) to Second visit (mean(22.23 (5.20)) we found that there is decrease in the mean anxiety scores in the second visit, which is statiscally significant(p-value 0.001).These values are not comparable to the other studies due to lack of literature support.

In our study we found that there is no significant difference in anxiety scores between boys and girls. Some prevalence studies have shown that girls score higher on the CFSS-DS[2,22].

It is also found that dental anxiety decrease with increasing age this result is in accordance with studies done by Raadal M et al20, Majstorovic M et al[21].

Children in the present study were most afraid of "injections," "Dentist drilling" and "Have somebody put instruments in your mouth" which is similar to findings from other studies[2,22,23].

Children follow parental belief and will easily adopt to their negative behavior towards dental treatment.There are chances these negative behaviors may aggravates child's anxiety towards dental treatment or towards dentist. Parental anxiety plays a vital role in establishment of child's dental anxiety[24,25].

In our study we have also found positive correlation between parental and child's anxiety but it is statiscally non significant. If parents anxiety increases their child's anxiety also increases.This result is in accordance with the study done by Majstorovic M et al[21].

We have used a self made video in our study that explains the various dental treatment procedures that was shown to the child in their first dental visit. As we found significant decrease in the mean anxiety scores from first to second dental visit assessed using CFSS-DS, so such techniques can be implemented to lower the levels of anxiety in children towards dental treatment or dental settings.

Our study is a small attempt to explore the correlation between child's and parental anxiety at different visits, and applying possible behavior modification techniques on child to reduce their dental anxiety before proceeding to any dental treatment.

We can look forward to use psychological behavior modification techniques instead of pharmacological behavior modification techniques which are cost effective, non-invasive and safe for the management of anxious children in dental setting that will benefit clinician, children and parents.

CONCLUSION

Based on the results of our study

1. There is gradual decrease in dental anxiety in children in their subsequent visits.
2. Interestingly we found a positive correlation between parental and child's anxiety but further studies are recommended on larger samples.
3. Age of the child has a modest impact on the child's dental anxiety.
4. There is a Significant positive correlation between Child's age and parent's anxiety.

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