



## IMPACT OF MATERNAL AND CHILD DENTAL ANXIETY ON DEVELOPMENT OF EARLY CHILDHOOD CARIES IN 3-6 YEARS CHILDREN

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### INTRODUCTION

According to definition of anxiety, it is a state of unease accompanied by a fear of internal or learnt environmental dangers.<sup>1</sup> Dental Anxiety is the expectation of danger or threat brought on by a known source like dental instruments, injection etc.<sup>2</sup> Dental anxiety is a widespread issue and ranks fourth among everyday phobias.<sup>3</sup> Around 15% of people worldwide avoid dental care to some degree because of fear. Dental anxiety, which affects between 10 - 43 % of children, is a significant concern in paediatric dentistry.<sup>3</sup>

There is evidence that children's oral health-related quality of life and dental anxiety are significantly and negatively correlated.<sup>3</sup> Dental anxiety in parents was proven to affect children's dental anxiety.<sup>3</sup> Additionally, studies have investigated relationship between maternal dental anxiety and dental caries in children in different parts of the world.<sup>3</sup>

Anxious fearful parent is the source of the child's negative behaviour towards the dental treatment as children imbibe anxiety when growing among anxious people around.<sup>1</sup> Maternal factors associated with the risk of caries in children include maternal education, which can determine mother's knowledge and attitude to oral health including access of children to dental care and other oral health practices.<sup>4</sup>

Dental caries is a common oral disease among children. Numerous studies have demonstrated a favourable association between early childhood caries experience in children and caries in the permanent teeth.<sup>5</sup> It was reported that parents with lower dental anxiety had children without fillings in primary teeth than the parents of children who had fillings.<sup>3</sup>

Literature also indicates that maternal dental anxiety and caries experience in children significantly affect child's oral health related quality of life.<sup>3</sup> Few studies are available in literature on maternal dental anxiety and its impact on development of early childhood caries.<sup>5</sup> However, there is paucity of literature regarding this topic.<sup>5</sup> According to this study, the maternal dental anxiety has high impact on development of early childhood caries among their children.<sup>5</sup> The key to effective and efficient dental treatment in pediatric patient is the ability

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## **MATERIALS AND METHODS**

The consent was obtained from the mothers visiting the Department of Pediatric and Preventive Dentistry for their voluntary participation in the study. They were informed about the objectives, procedure, and benefits of the study. Mothers were guaranteed that refusal to participate in the study will not hamper their children's ongoing or future treatment and they were ensured about the confidentiality of the information provided for the study as well.

### **Study design and Participants**

A study was conducted on mother child pairs visiting the Department of Pediatric and Preventive Dentistry. In order to determine the sample size needed for the study, Cochran formula for sample size estimation was used. This suggested a sample size of 100 mother child pairs. Children and their mothers willing to participate were included in the study. Normally healthy 3-6 years old Children having early childhood caries were included in the study. Children having systemic illness, children of age <3 years >6 years, uncooperative children were excluded from the study.

### **Clinical examination and Measuring**

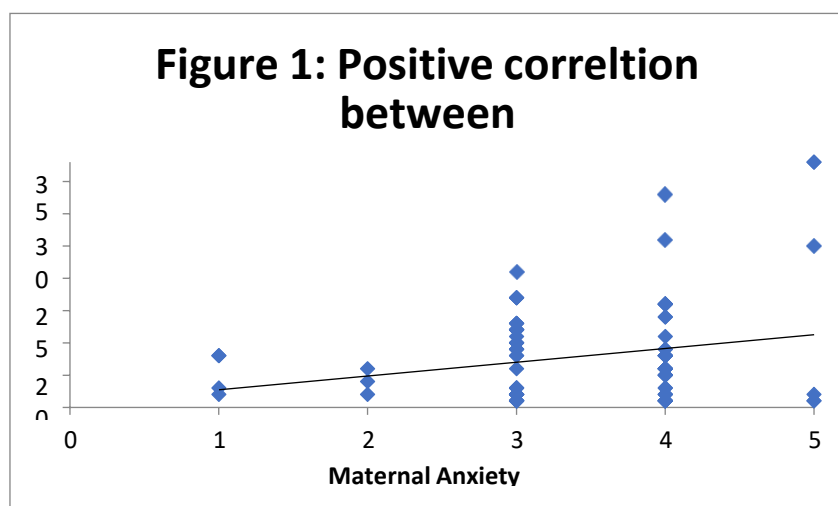
Clinical examination of the children was carried out in the department of Paediatric and preventive dentistry. The early childhood caries experience in the children was noted using World Health organization criteria that is decayed, missing, and filled (dmft /DMFT) index. Children dental anxiety was assessed with the help of facial emoji scale and facial anxiety scale.

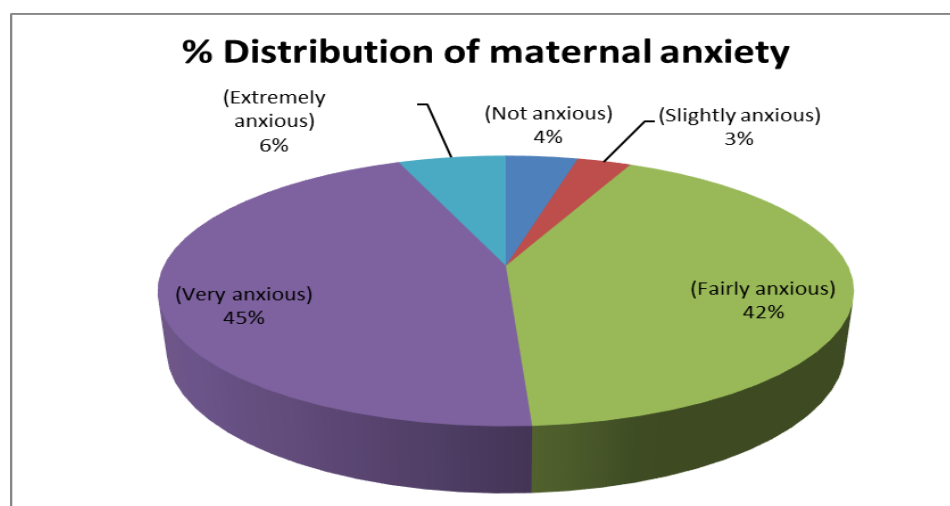
Mothers were provided with a questionnaire related to demographic information, dental visit, socioeconomic status, and education. To assess the level of maternal dental anxiety modified dental anxiety scale was used which was modified from corah's dental anxiety scale. This scale was modified into local language (marathi) for better feasibility to the mothers. MDAS consisted of a set of five questions regarding how they feel about various dental treatment like planning to visit the dentist, waiting for treatment, being drilled, scaled, and having a local anaesthetic injection. A five-point Likert scale is used for response to each question of modified dental anxiety scale that ranges from 1 to 5 each as following, not anxious (1), slightly anxious (2), fairly anxious (3), very anxious (4) and extremely anxious (5) respectively.

## RESULTS

The study included data of 100 children and their mothers visiting the Department of Pediatric and preventive dentistry. 49% of the mother had high school education and 35% were graduated or had postgraduate education. Only 16% had primary or no education. A significant 42% and 45% of mothers were fairly anxious and very anxious respectively.

The early childhood caries experience of highly anxious mothers was higher than those of non-anxious mothers. There was significant correlation between Maternal dental anxiety and dmft score. The score was found to be statistically significant ( $p < 0.05$ ).





## DISCUSSION

Traditional definitions of dental treatment phobia include an unreasonable and excessive fear of dentists and dental operations.<sup>1</sup> Despite modern dentistry's technological advancements, dental treatment anxiety is still a common problem.<sup>6</sup> According to a review, Dental anxiety results in irregular dental visits, delayed and cancelled appointments, and low patient satisfaction with dental treatment.<sup>3</sup> There are currently no known causes of dental anxiety. However, three main factors have been proposed: (1) direct conditioning, which develops from early, unfavourable experiences in the dental office; (2) vicarious learning, which takes place through role models such as family, peers, and society; and (3) psychodynamic and personality factors, which are characteristics that, when present, increase the patient's propensity for anxiety in the dental setting.<sup>1</sup>

The dental anxiety has a wide ranging and dynamic impact on people's oral health practice. Parental dental phobia and their children's behaviour is closely related. Numerous studies have demonstrated how parental concern affects the anxiety of the child. Other researches have demonstrated a correlation between maternal health related characteristics and health outcomes, particularly early childhood caries experience in their children. Poor dental and periodontal condition has been linked significantly to dental anxiety.<sup>5</sup>

In the present study, modified dental anxiety scale was used to measure the dental anxiety of mothers that was modified into local language marathi in order to make it reliable for local population. In present study it was found that only 3% of the mothers were non-anxious, rest had some level of dental anxiety ranging from slightly anxious to extremely anxious. Our study noted a statistically significant relationship between maternal dental anxiety score and higher early childhood caries experience in children. A Mother who bears anxiety as a result of her own previous experience will transmit to her offspring

which will produce a dental phobia towards dental treatment with child having his/her own preconceived misconceptions.<sup>1</sup>

Considering the findings of this study, it is important to emphasize better oral health education of parents to encourage dental attendance of their children for positive oral health outcomes. Dental home should be started early in life and dentally anxious mothers should be involved in implementing prevention strategies to have dental visits more appealing to children. Dental care providers should utilize appropriate strategies to reduce dental anxiety among female patients which has a significant influence on oral health of their children.<sup>3</sup>

## **CONCLUSION**

According to this study, it was concluded that there is a positive correlation between maternal dental anxiety and development of early childhood caries in 3-6 years old children. The children of highly anxious mothers had higher early childhood caries experience than the children of non-anxious mothers. Dental professionals should recognise mothers with high dental anxiety, offer them high-quality care that will guarantee them satisfaction, and spread awareness about routine dental care so that their children have the best possible oral health.

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