



A RETROSPECTIVE STUDY TO EVALUATE THE IMPACT OF TRAUMATIC DENTAL INJURY ON QUALITY OF LIFE OF CHILDREN AND THEIR PARENTS

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ABSTRACT An injury to the anterior teeth can affect a perfect smile and thus have an adverse effect on the psychology of the individual. Traumatic injuries to the anterior teeth among the young children are tragic but often an ignored problem. The aim of the study is to determine the impact of traumatic dental injuries to permanent anterior teeth on the quality of life of children of 7-14 years of age and their parents. A cross sectional survey was conducted in 25 schools in and around Mangalore South. The study participants included parents of children with age group of 7-14 years. Participants will be informed about the purpose of the study and a questionnaire will be distributed to the children who have undergone traumatic dental injury. The results of this study showed that 94.6% children did not miss school due to traumatic injury but 5.4% children missed the school. Similarly, on evaluating the impact on the parents, 99.1% parents did not leave from work for this same reason. This study shows that there is no impact on the quality of life of the children and their parents. The parents and children should be given awareness on the importance of trauma to the teeth and its management.

KEYWORDS : Dental trauma, anterior teeth fracture, impact of traumatic injury

INTRODUCTION

Face is an index of the mind and smile is a saving grace on the face. A brilliant charming smile boosts self confidence and add spark to ones personality. An injury to the anterior teeth can affect a perfect smile and thus have an adverse effect on the psychology of the individual. Traumatic injuries to the anterior teeth among the young children are tragic but often an ignored problem. There is perhaps no single dental disturbance that has a greater psychological impact on both the parents and the child than the fracture or loss of a child's anterior tooth, especially if the injury involves an extensive loss of the tooth structure.

Traumatic dental injuries occur with great frequency in preschool, school-age children, and in young adults¹. Accidents during playing, falls, violence, striking against objects, bicycle accidents and many other factors contribute to the cause of injury. Traumatic dental injury can have physical, psychological and social impacts on quality of life². Many of these injuries result in varying degrees of disability, and, depending on the cause, severity and circumstances may result in serious physical, psychological, educational, social and economic consequences for the affected individuals and their families³. The majority of dental injuries involve the anterior teeth which may lead to restriction in biting, trouble sleeping, avoidance of smiling, difficulty in pronouncing some words, diminished school performance, irritation, and low self-esteem as well as problems with socialization and nutrition⁴. The presence of a broken tooth makes the child more apprehensive about his appearance in public and the way he will be looked upon by the rest.

Oral health-related quality of life (OHRQoL) have been employed in oral health surveys as a tool to gain a better understanding of the impact of oral health problems on the individual's daily functioning, well-being or overall quality of life⁵. The aim of the study is to determine the impact of traumatic dental injuries to permanent anterior teeth on the quality of life of children of 7-14 years of age and their parents.

METHODS

A cross sectional survey will be conducted in various schools in and around Mangalore South. The study participants will include parents of whose children are in an age group of 7-14 years. Participants will be informed about the purpose of the study and a questionnaire will be distributed to the participants.

All children who have undergone traumatic dental injury regardless of

the tooth is treated or not treated enamel fracture, enamel-luxation fracture, tooth discoloration, displacement due to trauma, dentin, avulsion, treated/restored traumatic dental injuries were screened.

Statistical analysis: Descriptive Statistical analysis was done.

SOCIODEMOGRAPHIC QUESTIONNAIRE (PART-I)

- Gender : Male/ Female
- Age
- Type of school : Private/ Public
- Number of residents in household
- House hold income per month : >25,000
25,000 to 35,000
35,000 to 45,000
<50,000
- Family provider: Both parent
Father alone
Mother alone
- Grand parent or uncle/aunt
- Parent's or care giver's schooling:
Below graduate
Above graduate
- Parent's or care giver's assessment of child's general health: Good / Poor
- Parent's or care giver's assessment of child's oral health : Good/Poor
- Parent's or care giver's oral health : Good/ Poor
- History of dental visit : Yes/ No

QUESTIONNAIRE PART-II

CHILD IMPACT

- Related pain : Yes/ No
- Had difficulty in drinking hot or cold beverages: Yes/ No
- Had difficulty in eating food: Yes/ No
- Had difficulty in pronouncing words: Yes/ No
- Missed school: Yes/ No
- Had trouble sleeping: Yes/ No
- Avoided smiling or laughing: Yes/ No
- Avoided talking: Yes/ No

FAMILY IMPACT

- Been upset: Yes/ No
- Felt guilty: Yes/ No
- Taken off from work: Yes/ No

• Financial impact: Yes/No

RESULTS
SOCIODEMOGRAPHIC RESULTS

		Frequency (N)	Percentage (%)
GENDER	Male	71	63.4
	Female	41	36.6
TYPE OF SCHOOL	Private	17	15.2
	Public	95	84.8
PARENT'S/CAREGIVER'S SCHOOLING	Above graduate	27	24.1
	Below graduate	85	75.9
HISTORY OF DENTAL VISIT	Yes	35	31.3
	No	74	66.1
	Not responded	3	2.7
TIME TRAUMA OCCURRED	3- 6 months	4	3.6
	< 6 months	102	91.1
	Not responded	6	5.4
CAUSE OF TRAUMA	Collision with object	13	11.6
	Fall	93	83.0
	Violence	3	2.7
	Not responded	3	2.7
TRAUMATIZED TOOTH/TEETH IS TREATED/UNTREATED	Treated	3	2.7
	Untreated	108	96.4
	Not responded	1	0.9

Table 1 shows the sociodemographic details of the participants selected for the study. There were 36.6% females and 63.4% males among the children with 84.8% attending the public school and 15.2% attending the private school. 75.9% of the parents/caregiver's were below graduates and 24.1% were above graduates. Among the participants 66.1% had no history of dental visit whereas 31.3% had history of dental visit; 91.1% had dental trauma in <6months whereas 3.6% had dental trauma in 3-6months. Regarding the cause of trauma, 11.6% reported collision with object, 83.0% reported fall and 2.7% reported violence. 96.4% of the traumatized teeth were untreated whereas 2.7% were only treated.

CHILD IMPACT

		Frequency (N)	Percentage (%)
CHILD HAD RELATED PAIN	Yes	8	7.1
	No	104	92.9
CHILD HAD DIFFICULTY IN DRINKING HOT/COLD BEVERAGES	Yes	6	5.4
	No	106	94.6
CHILD HAD DIFFICULTY IN EATING FOOD	Yes	2	1.8
	No	110	98.2
CHILD HAD DIFFICULTY IN PRONOUNCING WORDS	Yes	0	0
	No	112	100.0
MISSED SCHOOL DUE TO INJURY	Yes	6	5.4
	No	106	94.6
CHILD HAD TROUBLE SLEEPING	Yes	0	0
	No	112	100.0
CHILD AVOIDED SMILING/LAUGHING	Yes	6	5.4
	No	106	94.6
CHILD AVOIDED TALKING	Yes	2	1.8
	No	110	98.2

Table 2 shows the impact of dental trauma on children. 92.9% children did not have any trauma related pain whereas 7.1% had pain. 94.6%, 98.2% and 100% children did not report any difficulty in drinking hot/cold beverages, difficulty in eating and difficulty in pronouncing words respectively whereas 5.4% and 1.8% children reported difficulty in drinking hot/cold beverages and difficulty in eating respectively. 94.6% children did not miss the school due to traumatic injury but 5.4% missed the school. 100% of the children had no trouble in sleeping. 5.4% children among the participants avoided smiling/laughing and 1.8% avoided talking due to trauma.

PARENT IMPACT

		Frequency (N)	Percentage (%)
BEEN UPSET	Yes	3	2.7
	No	109	97.3

FELT GUILTY	Yes	1	0.9
	No	111	99.1
TAKEN OFF FROM WORK	Yes	1	0.9
	No	111	99.1
FINANCIAL IMPACT	Yes	0	0
	No	112	100.0

Table 3 shows the impact of dental trauma among children on parents. 97.3% among the parents reported that they were not upset regarding the trauma and 99.1% of them reported that they did not feel guilty whereas 2.7% reported that they were upset regarding the trauma and 0.9% of them reported that they feel guilty. 99.1% parents were not taken from work for this reason and 100% of them did not report any financial impact

DISCUSSION

Physical activity is a basic need for the growth of a child. During these physical activities, injuries to the face are one of the risks associated with it. Trauma to both primary and permanent dentition continues as a frequent dental problem. Trauma to the child dentition is an important issue, since fracture of one or more teeth, especially the anterior, may result in pain, loss of function, poor esthetics and psychological trauma. Traumatic dental injuries constitute a true dental emergency and require immediate assessment and management.¹ Dental disease and treatment experience can negatively affect the OHRQL of preschool children and their parents/caregivers. The prevalence of negative impact on quality of life of the child was 31.1% which is lower than the figure reported in previous Brazilian studies (49% to 69.3%).⁷

In this study, out of 112 children who have been screened with fractured anterior teeth, 71 were boys and 31 were girls. In 102 children, trauma had occurred more than 6 months back and which is untreated. 93 of children fractured their anterior tooth/teeth due to fall while the others were due to collision with an object or violence. Only 3 children underwent the treatment for trauma to teeth.

Among the participants 66.1% had no history of dental visit whereas 31.3% had history of dental visit; 91.1% had dental trauma in <6 months whereas 3.6% had dental trauma in 3-6 months. This study suggests that there is no impact of traumatic dental injury on the quality of life of the children and their parents. This can be due to lack of awareness of the parents about the importance of trauma to the teeth. However, in rare cases of tooth avulsion or tooth discoloration and where there is pulpal involvement, there is a negative impact on the quality of life of the child as well as the parents. This study also showed that there is no influence of socioeconomic status on the management of dental trauma.

Traumatic dental injury is a cumulative condition and it is possible that the adaptation of children to this condition leads to the attenuation of the impact of traumatic dental injury on OHRQoL over time, thereby diminishing or even impeding the possibility of tooth injuries being detected by parents/caregivers.⁸

The limitation of the study is its retrospective nature and the study was conducted only in 112 children. Further studies on large scale need to be conducted.

CONCLUSION

This study shows that there is no impact on the quality of life of the children and their parents. The parents and children should be given awareness on the importance of trauma to the teeth and its management.

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