



# ASSOCIATION OF TYPES OF DENTAL TRAUMA WITH GENDER

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## ABSTRACT

To establish prospective treatment modalities and public awareness of potential causes and consequences of dentoalveolar trauma, it is very important to establish provincial, national and international prevalence of dental trauma and its causes. The aim of the study is to associate the types of dental traumatic injury with gender. A retrospective study was conducted in dental college among the dental patients visiting the clinic in the age group (11-18yrs), Chennai, Tamil Nadu. Data of the patient collected from the DIAS (Dental Information Archiving System) of the private dental college. The criteria are based on the dental trauma associated along with the age and gender of the patient. Data was collected and then analyzed accordingly with the SPSS.

The study was collected among the patients of a private dental college. Total of 49 samples were taken on the criteria of age and gender. Data was analyzed with SPSS and analyzed accordingly.

49 patients data were collected, The result varies among the gender as well as by age. Male (69.39%) who faced traumatic injuries as female only (30.61%). Thus it can be concluded that male faced more dental traumatic injuries especially Ellis class 2 in anterior teeth.

**Keyword :Children;Dental trauma;injuries;Management;Surgery**

## INTRODUCTION

Traumatic dental injuries (TDIs) occur frequently in children and young adults, comprising 5% of all injuries. Twenty-five percent of all school children experience dental trauma and 33% of adults have experienced trauma to permanent dentition, with the majority of the injuries occurring before age 19.(1)Dental trauma among children and adolescents is a serious public health problem(2) A number of different factors are associated with its etiology, the most important of which are collisions, falls, sports activities, car accidents, and bicycle accidents. Predisposing anatomic factors also favor the occurrence of dental trauma, such as accentuated overjet and inadequate lip seal(3)(4).One important category is dental trauma (5)accounting for a major part of health problems in children and adolescents (6) (7)Studies conducted in different countries report various prevalence rates for traumatic dental injuries among children and adolescents (8)(9)

In Brazil, the reported prevalence of trauma to the primary teeth ranges from 9.4 to 35.5%. This variation may be because of differences in data collection, sample selection or locations in which the studies were conducted(10) .A few reports on dental injuries have included socio economic indicators, but the results have been inconsistent and conflicting (11) Therefore, such associations require clarification(12)(13)(14).In some studies, many values be underestimated because many children with mild dental injuries do not seek care or do not receive an accurate diagnosis.(15). Studies have associated a high prevalence(16,17) of TDI with pronounced overjet, anterior open bite, inadequate lip coverage behavioral disorders (stress and panic), systemic problems (obesity and epilepsy), socioeconomic factors , attention deficit, hyperactivity disorder(18)(19)(20)

The prevalence of TDI in primary dentition should be defined to support preventive and therapeutic planning.Hospitals treat injuries of a wide spectrum, Soft tissue injuries rather than other types of injuries,.Most accidents comprise single tooth injuries although there are also reports of two or more teeth having been injured (21)Because the management of injuries to the primary and permanent dentition differs significantly, separate guidelines were developed for children with primary dentition and cases where permanent teeth are involved. In addition, these guidelines do not address issues relating to the diagnosis and treatment of major facial trauma of the bone and soft tissue, which is a critical first step in the overall management of trauma patients. The evaluation and treatment of maxillofacial trauma which may coexist with dental trauma, goes beyond the scope of these recommendations.(22)(23)

According to the heterogeneity among the individual study results and the importance of preventing dental trauma, it is of importance to accurately determine the prevalence of dental trauma using appropriate research methodology. Also identifying the influencing factors is essential for better planning, decision-making and intervention.Therefore, the present study aimed to conduct a systematic review and meta-analysis on the association of types of dental trauma with gender.

## MATERIAL AND METHOD

A retrospective study was conducted in dental college among the dental patients visiting the clinic in the age group (11-18yrs), Chennai, Tamil Nadu.

### Study design

The study was designed to include all the children aged between 10-18 yrs

### Sampling

In the present study,the sampling is done in a random sampling method.To minimize the sampling bias,all the cases were priorly and include

### Data collection and tabulation

Data of the patient collected from the DIAS (Dental Information Archiving System) of the private dental college. and then put into the excel sheet and then tabulation of the data finally and the comparison is done .The representation of the data is through the bar graph

Patient demographic data

Tooth number -dental trauma injury

### Statistical Analysis

The statistical software used IBM SPSS V22.The statistical test used was chi square test.Type of analysis used were descriptive analysis and chi square analysis

**Inclusion criteria**

Only patients in our dental college were participated in our study from the age group of 10-18 yrs

**Exclusion criteria**

Patients below 10 yrs or above 19 yrs were excluded

**RESULT AND DISCUSSION**

Dental trauma is a major health problem in many societies , with higher prevalence rates among children and adolescent

Figure 1 represents gender male (69.39%) who faced traumatic injuries as female only (30.61%). Early reports on the prevalence of dental trauma in 519 children between ages of 6 to -11 years old in Italy was 21% with male/female ratio of 1.69 (24).The prevalence of dental trauma was higher in boys compared to girls ( $10.2 \pm 4.7$  vs.  $6.5 \pm 3.4$ ). Previous studies also agree on the higher prevalence of dental trauma in boys than girls which might be due to boys performing more activities like sports, bicycle riding, fighting, working, etc. compared to girls

(25,26)

Figure 2 represents Age group of 18(22.45%) has faced more traumatic injury .The Previous study revealed the prevalence of dental trauma in children and adolescents (under 18 years of age) to be 17.5%, but with variances among different geographic regions.(27)

Figure 3 represents dental trauma in teeth 11.In teeth 11,Ellis class 2 is the major trauma faced by all the childrens.Figure 4 represents the there is insignificant difference between the teeth 11 and the gender.The highest incidence of anterior dental trauma occurs between seven and twelve years of age The leading cause is the increase in sporting activities and in confrontations with others of the same age.(28) (29)In the previous study, the most important cause for dental trauma was falling, which is in agreement with previous literature (30) (31) (32).This can be explained by the imbalance of the newly walking children leading to falling accidents. Thus, children should be cared for more prudently, reinforced by measures to eliminate the risk of falling. The other important cause of dental trauma in this study was sports, which is in line with previous research Ensuring the existence of sound safety measures in sports venues accompanied by the use of protective athletic appliances such as mouth guards, and educating children and adolescents who engage in sports activities are among suggestions that can be effective in reducing the incidence of dental trauma in this age range

Figure 5 represents dental trauma in teeth 21.In teeth 21,Ellis 2 and class 1 caries dental trauma faced by the children.Figure 6 represents there is significant no differences between the teeth 21 and the gender.In our survey, most of the trauma cases involved only one tooth, and the tooth most affected was the maxillary central incisor (85.87%). This compares well with the corresponding data of Mestrinho et al. (33)(88%), Lombardi et al. (87%)(34)

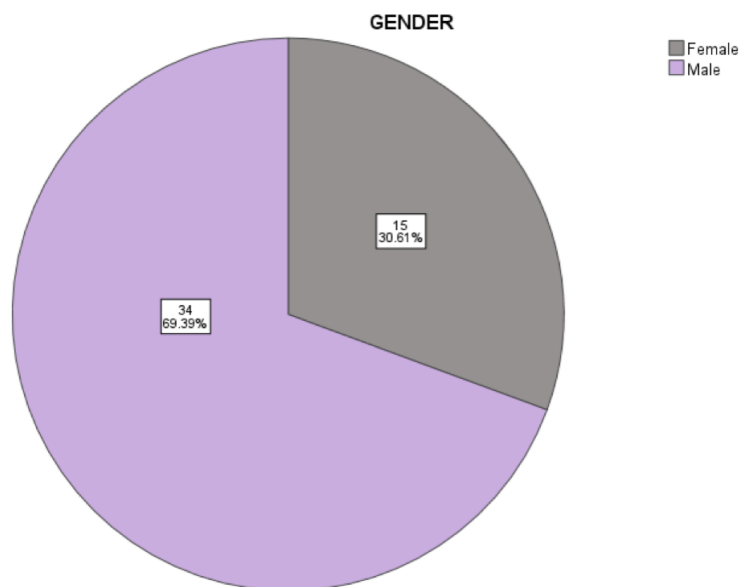


Figure 1-represents gender male (69.39%)denoted in green color who faced high traumatic injuries than female only (30.61%) denoted in blue color

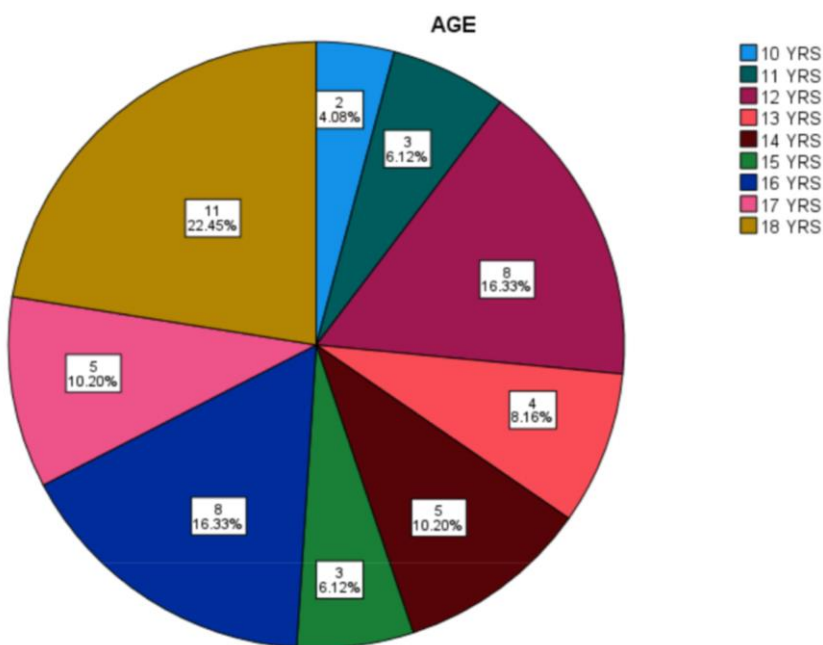


Figure 2 represents Age group of 18(22.45%)denoted in yellow colour has faced more traumatic injury ,Age group of 18(22.45%) has faced more traumatic injury and the lowest is age group of 10 years .17 yrs (10.20%)denoted in pink colour and,16yrs(16.33%)denoted in blue colour,15 yrs(6.12%)denoted in green colour,14yrs(10.20%)in perch colour,13 yrs(8.16%)denoted red colour,12 yrs(16.32%)denoted in dark green colour,11 yrs(6.12%),10 yrs(4.08%)denoted in light blue colour

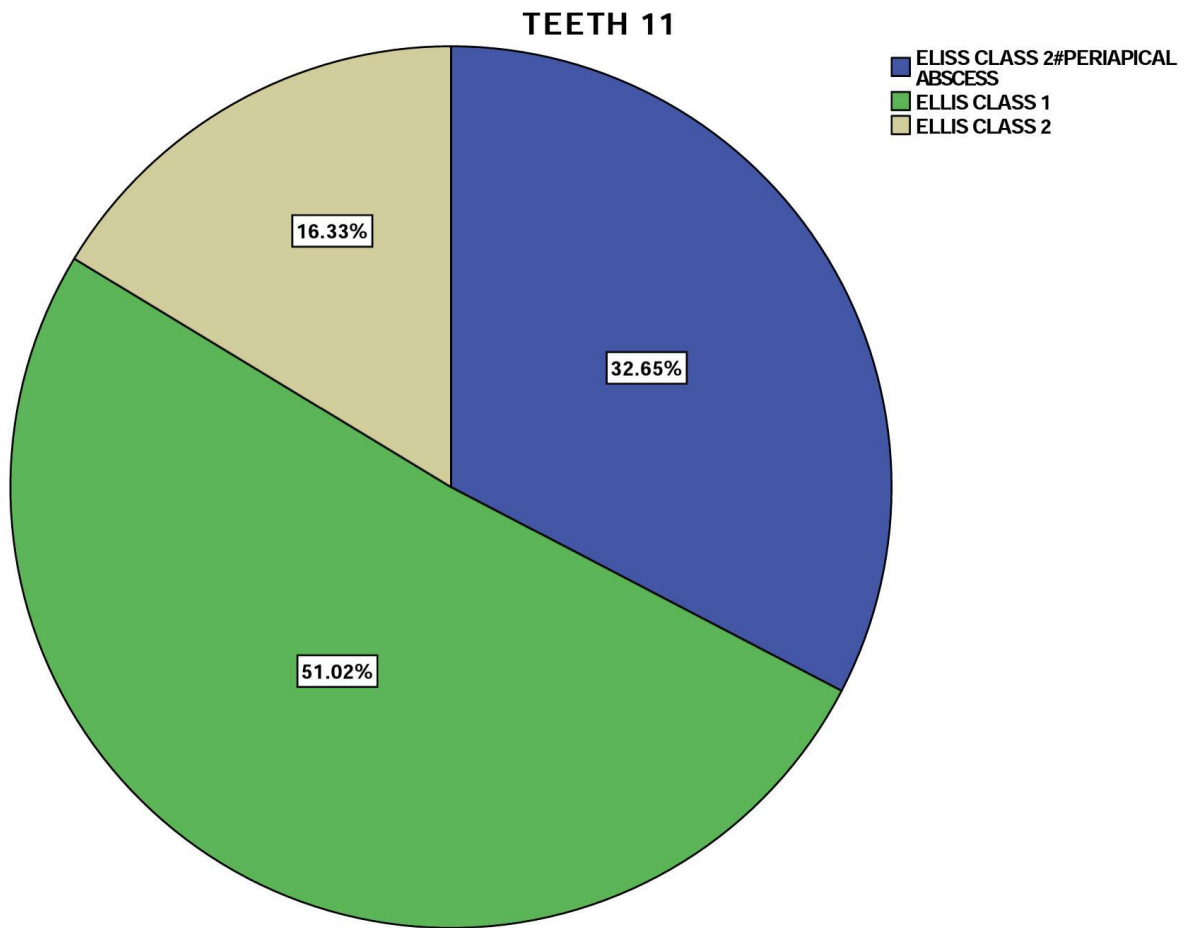


Figure 3 represents dental trauma in teeth 11. 51.02% Ellis class 1 denoted in green ,16.02 %Ellis class 2 denoted gray color and 32.65 % ellis class 2 periapical abscess denoted in blue color

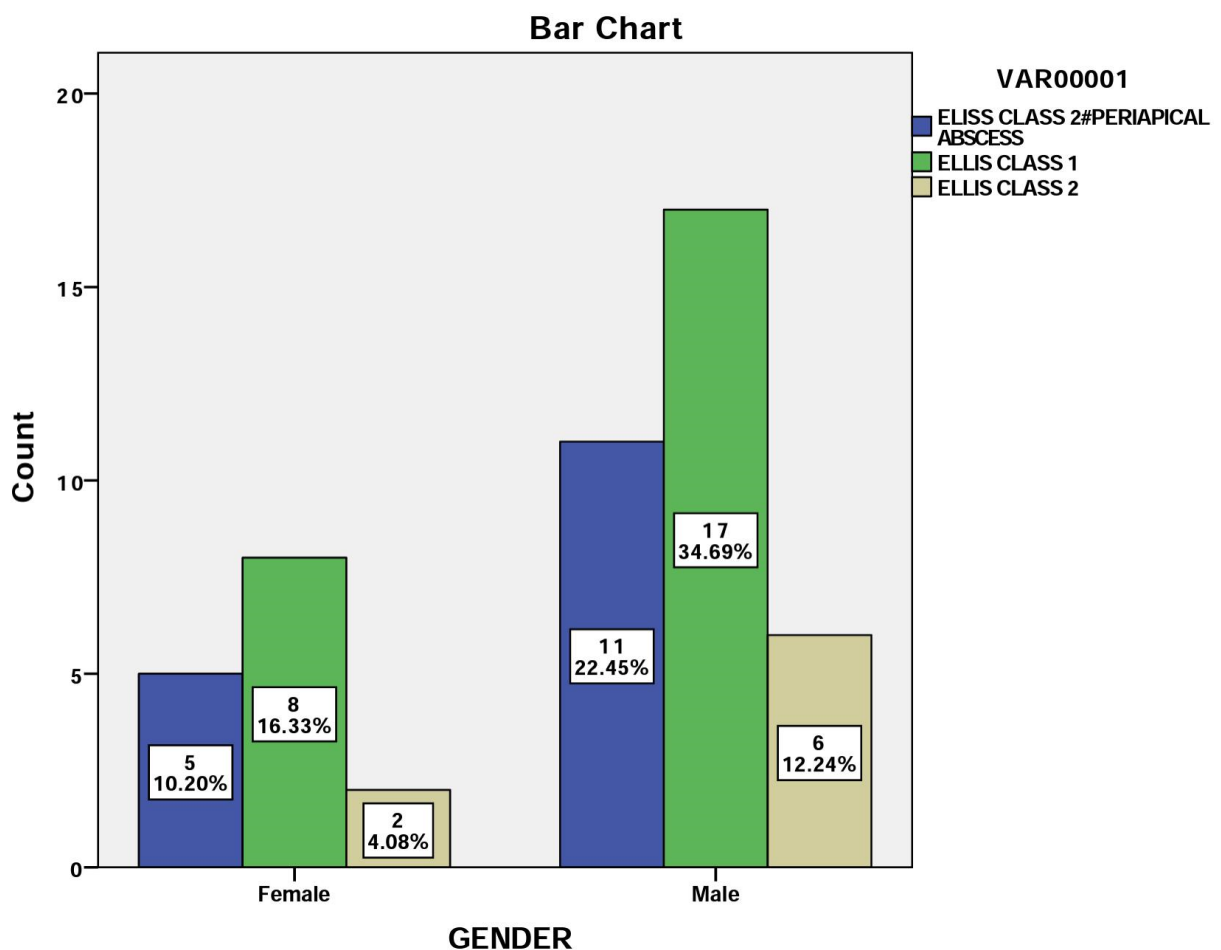


Figure 4 Bar graphs represent the association between gender and teeth 11. X axis represents Gender and Y axis represents the number of responses. The participants green colour-ellis class 1, grey colour -ellis class 2, blue colour ellis class 2 with periapical abscess . Chi square test was used , found to be statistically insignificant and pearson chi square value is 0.406 ,p value=0.816. It was noticed that majority of the males has faced more dental trauma than female, however there was significant difference in opinion among patient based on trauma in teeth 11.

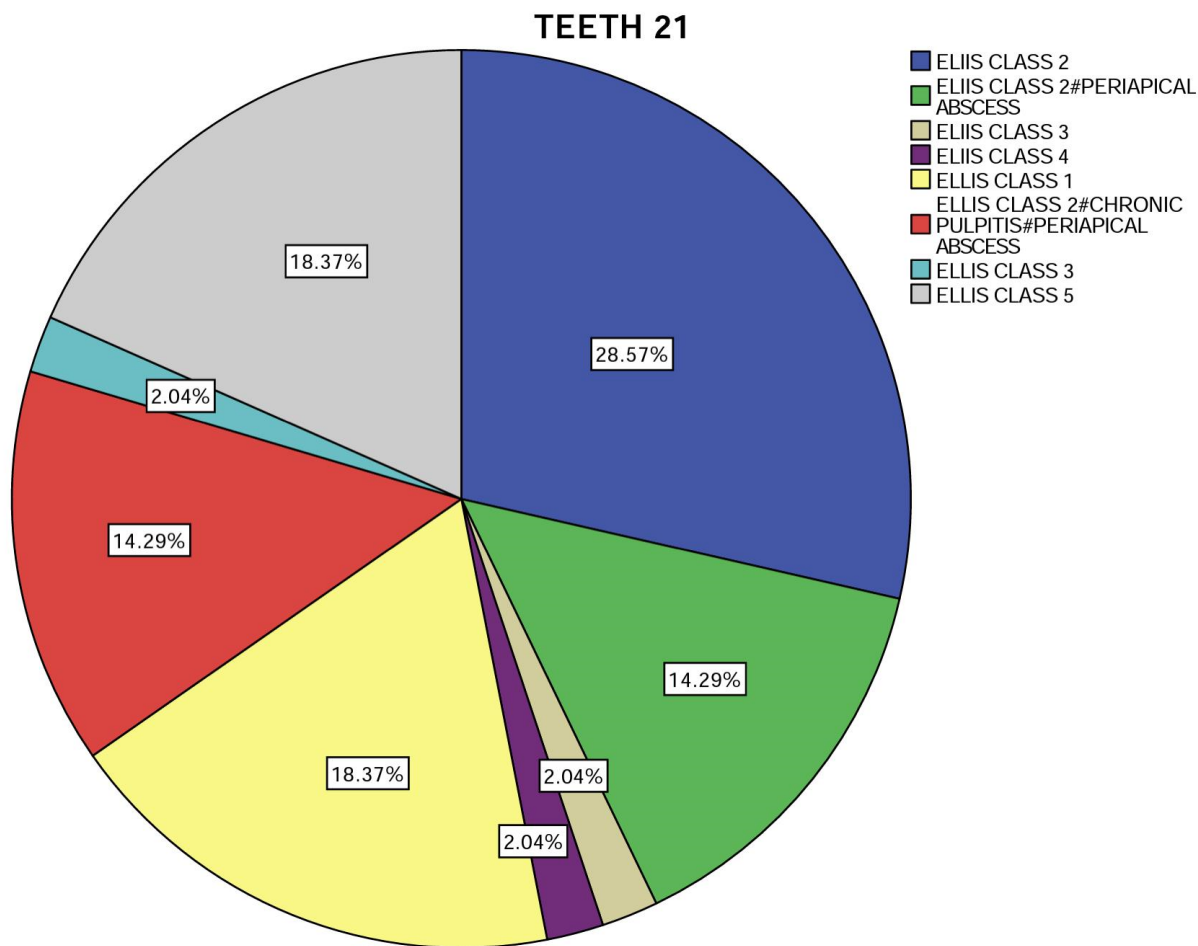


Figure 5 represents dental trauma in teeth 12 .31.88% ellis class 1 denoted yellow color,49.28% ellis class 2denoted in blue colour,14.29% Ellis class 2 with periapical abscess denoted in green color,2.04% Ellis class 3 denoted in grey color,2.04% Ellis class 4 denoted in purple color ,14.29% Ellis class 2 with chronic pulpitis with periapical abscess denoted in red color ,2.04%Ellis class 3 denoted in blue color

,18.37%ellis,class 5 denoted in grey colour .

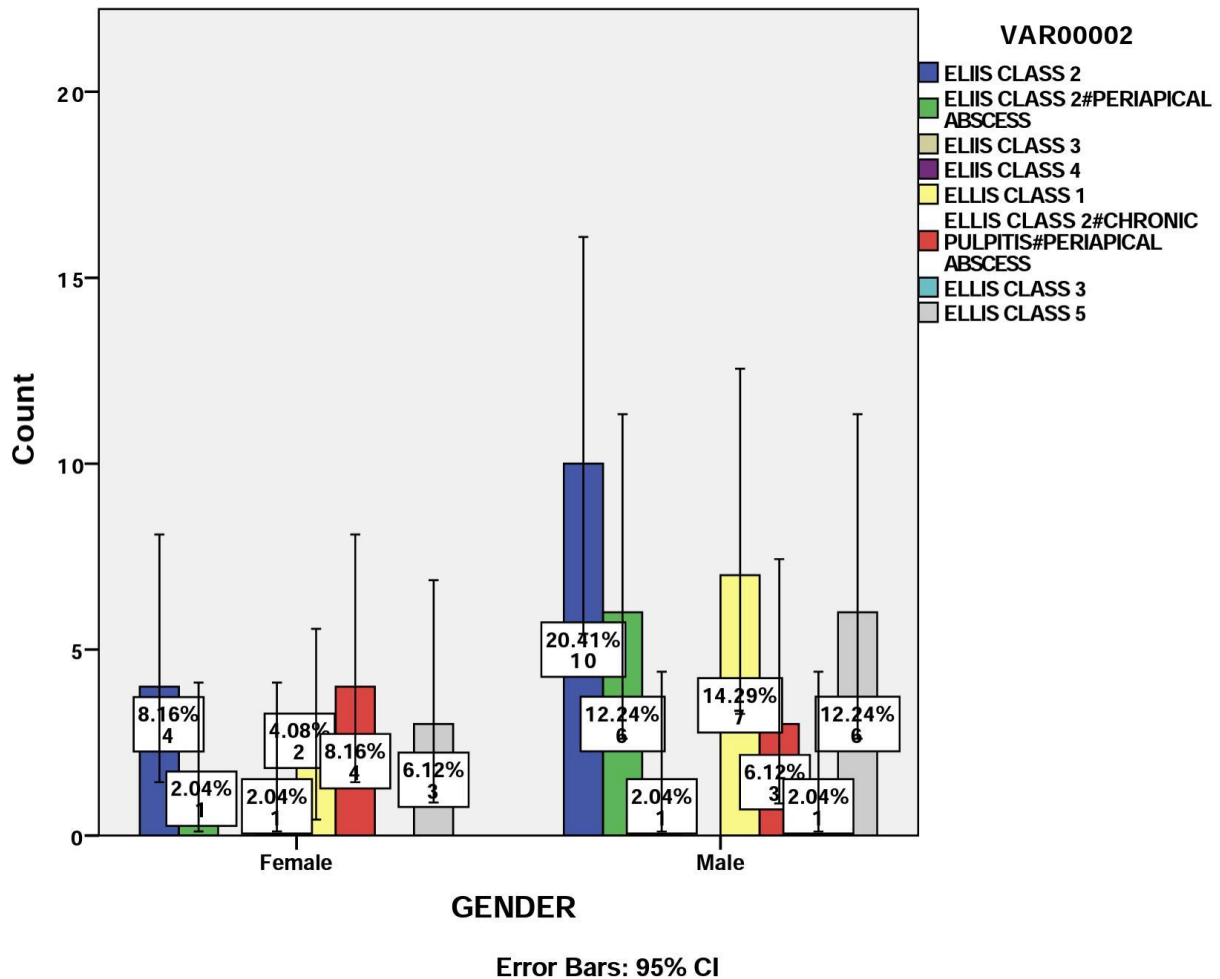


Figure 6 Bar graphs represent the association between gender and teeth 12. X axis represents Gender and Y axis represents the number of responses. The participants, who said that ellis class 1 denoted yellow colour, ellis class 2 denoted in blue colour, Ellis class 2 with periapical abscess denoted in green colour, Ellis class 3 denoted in grey colour, Ellis class 4 denoted in purple colour, Ellis class 2 with chronic pulpitis with periapical abscess denoted in red colour, Ellis class 3 denoted in blue colour, ellis class 5 denoted in grey colour. Out of 49 respondents, among males has faced more dental trauma than female, Chi square test was used, found to be statistically not significant and Pearson chi square value is 8.566p value=0.478. It was noticed that the majority of the males have faced more dental trauma than female, however there was no significant difference in opinion among patients based on trauma in teeth 12.

**LIMITATION**

The analyses performed in the present study were limited by age under 18 years. Thus, it is suggested to include adults in future studies. Based on the analysis of the study data, enamel fracture was the most frequent type of dental traumatic accidents, confirming the findings of other studies. Therefore, dentists and other health-care professionals as well as lay people should have adequate knowledge regarding the management of dental traumatic events.

**CONCLUSION**

Among gender males have faced more dental traumatic injuries, Males and children aged 10-18 yrs suffer the most TDI. The most common cause is fall from your own height; the most common place is in the home, and the support tissue is the most affected. Males were significantly high prone suffering dental traumatic injury than female as per data. Therefore, the study has been concluded that males face more dental traumatic injury, especially Ellis class 2 in anterior teeth. Although a higher prevalence along with more severe traumatic injuries to anterior teeth were found in the present study group as compared to similar subjects from the general population. The maxillary central incisors were the most commonly injured teeth in both the primary and permanent dentitions. Uncomplicated crown fractures were the most common injury followed by luxations.



and subluxations. Trauma happens mostly in anterior teeth due to falls and playing while home was the most common place of trauma occurrence.

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