KNOWLEDGE AND ATTITUDE OF EGYPTIAN PARENTS’ ABOUT DENTAL INJURIES AND ITS EMERGENCY MANAGEMENT IN THEIR CHILDREN.

A thesis
Submitted in partial fulfillment of the requirement for master degree in pediatric dentistry and dental public health.

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قَالُواْ سُبْحَانَكَ لَا عِلْمٌ لَّنَا إِلَّاً مَا عَلَمْتُنَا إِنَّكَ أَنتَ الْعَلِيمُ الْحَكِيمُ

سورة البقرة
DEDICATION

-TO MY MOTHER WHO SUPPORTS ME IN EVERY STEP IN MY LIFE.

-TO MY FATHER.

-TO MY SISTERS AND MY BROTHER.

-TO MY LOVELY SON....MAHMOUD.

-TO EVERY ONE HELP ME TO BE A BETTER PERSON.
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Introduction
Introduction

Traumatic dental injury (TDI) is a developing and challenging public health problem to oral health professionals, and it has been seriously neglected. (Andersson and Malmgen, 1999 and Maha Abu-Dawoud et al., 2007).

Trauma to the oral region occurs frequently and comprises 5% of all injuries for which people seek treatment (Pacheco et al., 2003 and Andreasen et al., 2007). Maxillary incisors are the teeth most commonly involved in dental trauma because of their exposed position in the dental arch, and in most cases, damage occurs to the crown, (Andresen and Andresen, 1994 and Petersson et al., 1997). Following maxillary incisors, traumatic injuries occur most frequently in the upper and lower lateral incisors and the upper canines; however, the rate of traumatic injury is significantly higher for maxillary incisors than for other teeth (Glendor et al., 1996).

Dental trauma can vary from a minor enamel chip to extensive maxillofacial damage involving the supporting structures and displacement or avulsion of teeth (Andresen and Andresen, 1994). Maxillary central incisors are the
teeth most commonly prone to avulsion (Andresen and Andresen, 1994; Caldas and Burgos, 2001 and Cho and Cheng, 2002). Therefore, functional and aesthetic consequences associated with the loss of an anterior tooth should be considered.

In young children, permanent replacement of lost teeth with implants and bridge therapy is not recommended because of the risk of interfering with the development of the jaw while the children are still growing. For this reason, these children have to wait for their final treatment until growth has been completed resulting in temporary, often removable dentures in a psychologically sensitive period of life (Andersson and Malmgen, 1999). Moreover, losing and replacing a permanent front tooth results in high costs for the family and society.

The prognosis of traumatized teeth especially permanent teeth avulsion depends on prompt and appropriate treatment (Petersson et al., 1997) while the importance of immediate treatment of primary teeth differs from that of permanent.

It is important to keep in mind that there is close relationship between the apex of the root of the injured
primary tooth and the underlying permanent tooth germ (Andreasen et al., 2006). Tooth malformation, impacted teeth and eruption disturbances in the developing permanent dentition are some of the consequences that can occur following severe injuries to primary teeth and/or alveolar bone.

The prognosis of some of the dental injuries depends on correct and prompt emergency management and proper advice which may frequently be the responsibility of lay people available at the accident site. Many avulsed teeth are lost because of lack of knowledge about the proper first aid procedures that need to be provided.

Providing correct information is a way to increase knowledge of dental first aid. Parents can play an important role in improving the prognosis of traumatized teeth of children if they are informed about the first-aid steps to be taken at the time of an accident. Before planning information campaigns, it is important to assess the knowledge level of parents.
Review of Literature
**Review of literature**

Traumatic dental injury is a neglected oral condition, despite its relatively high prevalence and significant impact on individuals and society *(Glendor et al., 2007).*

Predisposing factors to traumatic injuries:

1-**Handicapped children:** a high proportion of mentally handicapped children sustain dental injuries. Some of These children are elliptic and suffer from repeated seizures, some of which are violent in nature. *(Maddi et al., 2001).*

2-**Increase over jet and inadequate lip coverage** is also known as predisposing factors of dental trauma.

*Jarvinen (1979)* found injury rates of 14.2% among children with normal over jet (0–3 mm), 28.4% among children with increased over jet (3–6 mm) and 38.6% among children with extreme over jet (>6 mm).

*Forsberg and Tedestam, (1993)* found the mean over jet of mild injuries was 4.3 mm while that of children expressing sever fracture was 5mm. An over jet exceeding 4 mm, short upper lip, incompetent lips, and mouth breathing were all factors which significantly increase the susceptibility to traumatic dental injuries. Dental injuries sustained during participation of sports are twice common in boys (18.2%) as in girls (8.2%).
Otuyemi, (1994), found that a significant difference in 111 children with traumatic dental injuries, 71 (64.0%) had increased incisor overjet (> 3) compared to 257 out of the 905 children (28.4%) in the non-trauma group. Similarly, 72 (64.9%) of the trauma group had inadequate lip coverage compared to 224 (24.8%) in the non-trauma group.

(Al-Majed et al., 2001) demonstrated that there was no relationship between the degree of overjet and occurrence of dental trauma in the primary dentition. A significant relationship between increased overjet (> or=6 mm) and the occurrence of dental trauma in permanent dentition was reported.

(Petti and Tarsitani, 1996) reported that injuries were related to individual predisposing factors (overjet larger than 3mm, short upper lip and upper medial incisor protrusion), but not to children trauma’s predisposing behavior.

(Kania et al., 1996) found that risk for incisors injury was greater for children who have prognostic maxilla or history of previous trauma.

(Phu-my Nguyen et al., 2004) concluded that children with overjet size greater than 3 mm are approximately
twice as much at risk of injury to anterior teeth than those with an over jet less than 3 mm.

**Bauss, (2004)** found that, compared to patients with normal over jet and adequate lip coverage, the frequency of dental trauma was significantly higher in patients with increase over jet and adequate lip coverage or increase over jet and inadequate lip coverage.

**Artun et al., (2005)** suggest that maxillary incisor trauma before adolescence is 3.7 time higher in patient with over jet larger than 9.5 mm, and 2.8 time higher in patient with over jet 6.5 to 9 mm, compared to patient with normal over jet. Most of affected patients had only one injured tooth and most of the traumatized teeth were maxillary incisors.

The only article that failed to show a correlation between dental trauma and malocclusion was **Stokes et al. (1995).**

3-**Obesity: (Petti and Tarsitani, 1996)** show that Obesity significant increase the risk of traumatic injury. The injury prevalence of obese and non-obese children was 31.8% and 20.0% respectively and it was high significant difference. **Soriano et al, (2004)** as well, found correlation between traumatic dental injuries and Obesity.

4-There have been few studies that address the relationship between traumatic dental injuries and **socio-economic**
conditions. Marcenes et al., (2001) in United Kingdom, show that prevalence of dental trauma was high (23.7%) in the poorest socio-economic area of London than in other area in The United Kingdom.

Alonge et al., (1992) showed that the prevalence of incisal fracture in a sample of students was 2.4% with no significant gender difference. The male to female prevalence ratio was 1.45 to 1.0. The maxillary incisors accounted for 96% of fractured teeth. Among children with traumatized incisors, 86% had one tooth affected, while 14% had two traumatized teeth. The prevalence of incisors trauma was significantly higher among children with low socio-economic status.

A cross sectional study was carried out on 3702 boy and girl aged 9-14 years, attending public and private primary schools in Belo Horizont, Brazil. The prevalence of the dental injuries increased from 8% at the age of 9 years to 13.6% at 12 years and 16.1% at 14 years. The results showed that children from high socio economic back ground were 1.4 times more likely to present with dental injury than children with low socio economic status. Boys were 1.7 time more likely to had dental injuries than girls. (Cortes et al., 2001)

5- Behavior as a factor in dental injuries: Odoi, 2002 in London, England Concluded that behavior problem may
play an important role in occurrence of traumatic dental injuries.

**Etiology:**

Traumatic tooth injuries in children are most frequently the result of an accidental fall, although they may also occur as a result of a traffic accident, impact sports or play (Andreasen et al., 1989).

**Sae-lim and Yuen (1997)** stated that the main cause of dental trauma for the patients receiving emergency treatment after office hours at the accident and emergency department of Singapore General Hospital was falls (56%), and the main type of injury was periodontal tissue injury with or without concomitant injury to the hard dental tissue, including root fracture (73%).

**Ruth Holt, et al., (2000)** showed that trauma is common in sports, road accident, violence and epilepsy. It occurs mainly in males and usually affects maxillary incisors.

**Nicolau et al., (2001)** reported that the main cause of dental trauma for the permanent incisors was falls (24.1%) followed by collision with people or inanimate objects (15%), traffic accidents (10.5%), misuse of teeth (6%), sports (2.3%) and violence (1.5%). Unknown causes account for (40.6%).