

Assessment of Level of Knowledge about the Treatment Plans for Periodontal Ligament Injuries Post Dentoalveolar Trauma among Dental Private Practitioners in Bangalore City

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ABSTRACT

Introduction- The current cross sectional study was undertaken to assess the level of knowledge about the treatment plans for periodontal ligament injuries post Dentoalveolar Trauma among Dental Private Practitioners of Bangalore city. **Methodology-** The 7-items pilot tested knowledge questionnaire designed for the study included professional details of the subjects along with questions pertaining to the treatment plan for the various types of periodontal ligament injuries post dentoalveolar trauma. The questionnaires were filled out by 290 dentists selected through Simple Random Sampling working in private dental clinics in Bangalore city and the data obtained were subjected to descriptive and inferential statistics. **Results-** The results revealed that dentists experienced difficulty in establishing a treatment plan for subluxation, and for extrusive, lateral and intrusive luxation. Overall knowledge of the Dental Practitioner was low and among the dental practitioners participating in the study, Specialists had better knowledge than Nonspecialists. **Conclusion-** It was concluded that the participating dental professionals, whether specialists or not, did not have the satisfactory knowledge to treat most of the periodontal ligament injuries resulting from dentoalveolar trauma adequately. The exact protocol suggested for treating Dental trauma cases in the literature are followed by dentist graduated within the recent past which is overshadowed by years of practice, as in clinics the treatment modalities depend more upon clinician's personal expertise. Continuing Dental Education including Hands-on courses and workshops may be proposed as one of the means to enhance the current knowledge towards traumatic injuries treatment in order to ensure provision of an appropriately planned treatment protocol by the dental practitioners.

KEYWORDS: Tooth Injuries, Patient Care Planning, Periodontal Ligament, Trauma, Dentistry

INTRODUCTION

Dental caries in the current scenario has been frequently used as a synonymous entity when dental diseases in children are concerned, and most of the studies in the recent past have aimed to prevent and treat the same.¹ Dental trauma in spite of being a continuing dental public health problem has largely been neglected by the clinicians as well as the policy makers.²

Facial trauma leading to fractured, displaced, or lost teeth can have significant negative functional, aesthetic, and psychological effects on children.³ Immediate and proper treatment can reduce the emotional distress experienced by patients and also can improve the case prognosis.⁴

Thus it is essential to follow a systematic approach for correct diagnosis and an efficiently designed treatment plan for the injuries to the Teeth, Periodontium, and associated structures.⁴ The classification devised by Andersen (1981)⁵ based on the classification proposed by the World Health Organization (1969) includes teeth,

supporting tissues, gingiva and oral mucosa and can be applied to both primary and permanent dentitions. The supporting tissue trauma includes

- A) **Concussion:** Injury with marked reaction to percussion but without any sign of clinical loosening or displacement of the tooth.
- B) **Subluxation:** Injury with abnormal loosening but without displacement of the tooth.
- C) **Lateral Luxation:** Non axial displacement of the tooth. The periodontal ligament is torn, and contusion or fracture of the supporting alveolar bone occurs.
- D) **Extrusion:** Partial axial displacement of the tooth from the socket; partial avulsion. The periodontal ligament usually is torn.
- E) **Intrusion:** Apically displaced tooth into the alveolar bone post trauma.
- F) **Avulsion:** Complete displacement of tooth out of the socket. The periodontal ligament is severed, and fracture of the alveolus may occur.

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Since the hypothesis was made by Andreasen⁶ in the early 90s that dental trauma in the foreseeable future will

probably exceed dental caries and periodontal diseases, studies conducted in different populations report 7–50% children sustain an oro-dental injury by the age of 15 years hence supporting the concept of widespread distribution of traumatic dental injuries.⁷

WHO mentions oro-dental trauma as a serious public health problem. Latin American nations have reported dental trauma ranging from 12.2% to as high as 72% in permanent as well as primary teeth whereas prevalence rates of 5–12% were found in children aged 6–12 years in the Middle East. Studies from industrialized countries revealed that the prevalence of dental traumatic injuries is on the increase, ranging from 16% to 40% and 4% to 33% among 6-year-old and 12–14-year-old children, respectively.⁷

In developing countries like India where dental caries which is already a public health challenge, widespread prevalence of dental trauma can add to the threats of the burden of oral health diseases among children and teenagers.⁸ Studies conducted in India suggests a prevalence of traumatic dental injuries ranging from 4.15%⁹ to 76.13%.¹⁰ The data can act as the baseline input for the evaluation of the concepts of effective treatment, prevention, and planning for dental trauma patients.⁷

The data suggests widespread and increased prevalence of Dental traumatic injuries so the Dental professionals should be well acquainted with the types of injuries involving teeth and supporting tissues, and must know how to handle them from their emergency management to the most appropriate clinical protocol for each type of injury. An inappropriate initial treatment can lead to aesthetic and functional implications that can further worsen the discomfort and can lead to greater inconvenience to the patient. The chances of complications that can arise post dental trauma, such as pulp necrosis, external root resorption, ankyloses and even tooth loss, may increase significantly if adequate treatment and apt follow-ups are not provided.⁴

Dentoalveolar traumas which involve tooth supporting structures often requires an interdisciplinary approach as most of the traumatic cases are associated with pulpal as well as periodontal injuries, which is a characteristic of the training to general dentists.⁴

A study in Britain suggested inadequate dentist's overall knowledge about the emergency treatment of TDI and a proposal of greater emphasis on undergraduate and postgraduate education was indicated. Similarly, a research in Brazil as well reported wide variability in the clinical approaches from that which is recommended in the literature being followed by the dentists for TDI.¹¹

As the frequency of dentoalveolar trauma cases tends to increase owing to an increasing involvement of young patients,⁴ thus posing a public health challenge and Literature searches performed using Scopus, PubMed, Google Scholar and Open Access Journals, provided lack

of evidence about Dentist's level of knowledge towards periodontal ligament injuries after Dentoalveolar Trauma in Bangalore City, hence, this study was undertaken with an aim to assess the level of knowledge about the treatment plans for periodontal ligament injuries post Dentoalveolar Trauma among Dental Private Practitioners of Bangalore city.

The designed objectives to achieve the aim were:

1. To assess the Association between Overall Knowledge with:
 - a) Qualification
 - b) Various Post-Graduation Specialties
 - c) Years since Graduation
 - d) Self-Perceived ability to treat Dental Trauma with the help of Statistical Analysis.

METHODOLOGY

The present cross sectional study was conducted on the private Dental practitioners working in private dental clinics in Bangalore city registered in the Karnataka state dental directory 12th edition.

The ethical approval was obtained from the parent institutional board, and Informed consents were obtained from the study participants.

Pilot study: The questionnaire acquired from internationally published literature⁴ was reviewed for validity, reliability and was pilot tested for determination of Sample Size on 30 Private Dental Practitioners- 11 M.D.S & 19 B.D.S. from 5 multi-specialty clinics, and 3 individual practice clinics. Sample Size was calculated based on the results obtained post statistical analysis of the pilot study, and the Questionnaire was slightly modified for the final survey.

The Face validity of the questionnaire was assessed, and it was observed that 92% of the participants found the questionnaire to be valid. Reliability of the questionnaire was assessed by Cronbach's α 0.74 indicating good internal reliability. Private Dental Practitioners participating in the pilot study were not included in the final sample for the survey.

Sampling Technique: Bangalore is divided into 5 zones according to the Karnataka state dental directory 12th edition – Central, North, South, East and West. Equal numbers of dental private practitioner were selected randomly through Table of Random Numbers (*Stat Trek Random Number Generator*) from each zone till the sample size was achieved using simple random sampling technique.

Sample size calculation: With the help of the adequate knowledge percentage (64.1%) of the treatment plan for concussion obtained through pilot study, final sample size was calculated using software - „Open-epi“ (Version 3.02 Updated 2014/09/01) which at confidence level at 95% (Standard value of 1.96) came out to be 266.

$$\text{Sample size } n = \frac{[DEFF * Np(1-p)]}{[(d2/Z21-a/2*(N-1)+p*(1-p))]}$$

Population size (for finite population N): 1550

Hypothesized % frequency of outcome factor in the population (p): 64.1% +/-5

Confidence limits as % of 100 (absolute +/- %) (d): 5%

Design effect (for cluster surveys- DEFF): 1

Sample Size of 266 was rounded off to 290 after considering 10% non-response rate. A final sample consisting of 290 (exclusive of samples participating in the pilot study) were considered for the survey. Therefore, from the above mentioned five zones 58 samples from each zone were selected randomly using the table of random numbers.

Dentists enrolled as a Private dental Practitioner in Karnataka State Dental Directory 12th Edition and those who had Permanent registration with Karnataka State Dental Council / Indian Dental Association and were working as associates were included for the purpose of the study.

Dental Practitioner, who were not willing to participate, and House Surgeons who were provisionally registered with Karnataka State Dental Council and were working in the clinic were excluded from the study.

Scheduling and Implementation the Study: The study duration was for a period of two months from June 2014 to August 2014. Preferably evening time was chosen to visit the clinics as the chances of availability of the doctors working as teaching staffs in various Dental Colleges would increase. Also, evening time is considered to be the peak working hour for dental clinics which would ensure inclusion of most of the part time/full time practicing doctors. On visiting a clinic, the doctors were explained about the survey, and were requested to fill the questionnaire. Confidentiality was explained and guaranteed to the dentists. Total numbers of clinics visited were 83 from all the 5 zones. For part-time doctors/ consultants, who were not present at the time of the visit, the questionnaire were given to the doctor present and were explained to instruct and get the questionnaire filled by the doctors when they would come to the clinic; these questionnaires were then collected within a couple of days from the respective clinics.

Questionnaire: Dentist's Knowledge regarding treatment plans for periodontal ligament injuries post Dentoalveolar trauma was assessed using a self-administered 7 item three part questionnaire⁴ which included professional details of the subjects along with questions pertaining to the treatment plan for the various types of periodontal ligament injuries post dentoalveolar trauma. (WHO classification), except for avulsion.

Part I of the Questionnaire included Informed consent, Gender, Age, Qualification, Specializations and Years since Graduation.

Part II of the Questionnaire included 5 questions pertaining to 5 types of periodontal ligament injuries i.e. Concussion, Subluxation, Lateral luxation, Extrusive Luxation and Intrusive Luxation. Based on the professional skills of the subjects and the ability to judge, the respondents were asked to design a treatment plans for periodontal ligament injuries in question by selecting answers from a list of 11 multiple-choice items which were classified as adequate or inadequate, based on the research based data published in an international literature.⁴

For each adequate answer, a score of 1 was given therefore the maximum score for all the correct responses were 5. (Range- 0-5)

Part III of the questionnaire included two questions pertaining to Self -Perceived ability to treat dental trauma and Importance of CDE programs to be answered as Yes/No.

Statistical analysis: Data obtained was compiled, arranged systematically and were subjected to statistical analysis by SPSS software version 16.0. The descriptive statistics included frequency distribution of the obtained observation; mean and standard deviation were calculated for each of the categories. Associations among the variables were assessed with the unpaired t test, One Way Analysis of Variance (ANOVA test) followed by a Post Hoc analysis wherever necessary. Significance for statistical tests was determined at 95% confidence interval and the probability value of <0.05.

RESULTS

Out of final sample consisting of 290 respondents, 281 completely filled and returned the questionnaire with a good response rate of 96.9%.

Demographic distribution: Out of the 281 Private Dental Practitioner, 180 were males (64.1%) and 101 were females (35.9%) respondents. The Age Frequency distribution (five groups) table showed a maximum number of private dental practitioners belonged to 41-50 yrs. age group.

The frequency of Dental Practitioners with BDS (Bachelors in Dental Surgery) Degree was 173 (61.6%) whereas MDS (Master in Dental Surgery) Degree holders accounted for 108 (38.4%). Out of the 108 MDS private dental practitioners, 12 (4.3 %), 9 (3.2%), 18 (6.4%), 17 (6.0%), 7 (2.5%), 6 (2.1%), 2 (0.7%), 16 (5.7%), 21 (7.5%) were having specialization in Prosthodontics, Orthodontics, Endodontics, Oral surgery, Oral medicine, Oral pathology, Public health dentistry, Paedodontics and Periodontology respectively. The experience frequency distribution (three groups) table showed a maximum number of dental private practitioners belonged to 0-15 yrs. of experience group (78.6%).

Questionnaire Assessment: Knowledge of the subjects about the treatment plan for '**Concussion**' showed the maximum adequate response of 71.2% while only 3.9%

had adequate knowledge for ‘**Intrusive luxation**’ A statistically significant difference was observed between the subjects with Master’s and only Bachelor’s degree.(Table 1)

Treatment Plan Knowledge Assessment Questions Questionnaire Part I	Qualification	Responses		p-Value
		Adequate N (%)	Inadequate N (%)	
Q.1. Concussion.	BDS	105 (60.7)	68 (39.3)	.002**
	MDS	95 (88.0)	13 (12.0)	
	TOTAL	200 (71.2)	81 (28.8)	
Q.2. Subluxation	BDS	31 (17.9)	142 (82.0)	.00**
	MDS	61 (56.5)	47 (43.5)	
	TOTAL	92 (32.7)	189 (67.3)	
Q.3. Extrusive Luxation	BDS	10 (5.8)	163 (94.2)	.00**
	MDS	44 (40.7)	64 (59.3)	
	TOTAL	54 (19.2)	227 (80.8)	
Q.4. Lateral Luxation	BDS	12 (6.9)	161 (93.1)	.00**
	MDS	50 (46.3)	58 (53.7)	
	TOTAL	62 (22.1)	219 (77.9)	
Q.5. Intrusive Luxation	BDS	2 (1.2)	171(98.8)	.004**
	MDS	9 (8.3)	99 (91.7)	
	TOTAL	11(3.9)	270 (96.1)	

Table 1: Responses to the Treatment Plan related knowledge assessment questions (** denotes high significance p<0.001)

Regarding self- perceived ability to treat dental trauma, 48.8% of the respondents were confident that they can manage all types of dental trauma. The difference in positive and negative responses between MDS and BDS dentists was statistically significant (p-0.004). (Table 2)

Questionnaire part-2	Qualification	Responses		p-Value
		Positive N (%)	Negative N (%)	
Q.6. Self-perceived ability to treat all types of dental trauma	BDS	57 (32.9)	116 (67.1)	.004**
	MDS	80 (74.1)	28 (25.9)	
	TOTAL	137(48.8)	144 (51.2)	
Q.2. willingness towards attending CDE programme for Dento-alveolar Trauma	BDS	122(70.5)	51(29.5)	.01*
	MDS	60(55.6)	48 (44.4)	
	TOTAL	182 (64.8)	99 (35.2)	

Table 2: Responses pertaining to questions regarding self- perceived ability to treat dental trauma and CDE programme.(* denotes statistical significance p<0.05, ** denotes statistical high significance p<0.001)

When the willingness of dentists towards attending continued dental education programs was assessed, overall 64.8% were willing to do so. (Table 2)

Comparison of variables: The overall mean and standard deviation of knowledge score for 281 respondents were 1.47 ± 1.20. The overall mean and standard deviation of knowledge score for BDS were 0.93±0.72, and for MDS respondents were 2.33±1.32 which were statistically significant (p -0.002). (Table 3)

Qualification	N	Total knowledge (mean± SD)	p- value
BDS	173	0.93±0.72	0.002**
MDS	108	2.33±1.32	

Table 3: Association between overall knowledge and qualification. (** denotes statistical high significance p<0.001)

Analysis of data suggested a highly significant difference within the specialties in terms of knowledge. Further upon applying post hoc LSD test statistically significant difference (p<0.001) was observed within the group in terms of knowledge where Endodontists (3.67 ± 0.84), Paedodontists (3.56 ± 1.03) and Oral and Maxillofacial Surgeons (2.88 ± 0.93) had better knowledge than the rest of the six specialties. (Table 4)

Specializations	Frequency (n)	Mean ± S.D.	p value
No specialization	173	0.93 ± 0.72	<0.001**
Prostodontics	12	1.17 ± 0.72	
Orthodontics	9	1.33 ± 0.71	
Endodontics	18	3.67 ± 0.84 ^a	
Oral surgery	17	2.88 ± 0.93 ^a	
Oral medicine	7	1.57 ± 0.79	
Oral pathology	6	1.17 ± 0.98	
Public health dentist	2	2.00 ± 0.00	
Paedodontics	16	3.56 ± 1.03 ^a	
Periodontics	21	1.52 ± 0.81	
Total	281	1.47± 1.20	

Table 4: Association of overall knowledge with various Speciality in Dentistry (** denotes high significance p<0.001, ^a denotes post hoc LSD correction)

Similarly, a p-value of <0.001 suggested a statistically significant association between overall knowledge and mean years of experience (10.87±8.21yrs). (Table 5)

The total knowledge (mean± SD) score for the respondents who gave positive and negative response towards self-perceived ability to treat dental trauma was 2.12 ±1.21 and 0.79 ±0.70 respectively.(p-value - 0.01) (Table 6)

The correlation coefficient using Pearson’s Correlation test showed a positive correlation of 0.2 with a p-value of 0.03 which shows a statistically significant correlation between overall Knowledge and Years of Experience. (Table 7)

Parameters	N	Total knowledge (mean± SD)	p- value
Overall knowledge	281	1.47 ± 1.20	<0.001**
Years since Graduation	281	10.87±8.21	

Table 5: Association of overall knowledge with years since Graduation (Experience) (** denotes statistical high significance $p < 0.001$)

Ability to treat dental trauma	N	Total knowledge (mean± SD)	p- value
Positive	144	2.12 ± 1.21	0.01*
Negative	137	0.79 ± 0.70	

Table 6: Association of overall knowledge with self -perceived ability to treat all types of dental trauma. (* denotes statistical significance $p < 0.05$)

Variables	(mean± SD)	r	p value
Experience	10.86±8.21	0.2	0.03*
Knowledge	1.47±1.20		

Table 7: Correlation between Experience and Knowledge(* denotes statistical significance $p < 0.05$)

DISCUSSION

Traumatic Dental Injuries (TDI) have been well-recognized as one of the dental public health challenges. Statistics from most of the countries shows that one third of all preschool children have suffered a TDI in primary dentition whereas one fourth of all school children and almost one third of adults have suffered a trauma to the permanent dentition.¹² The changing lifestyle and requirements of modern society has been proposed as one of the factors for to an increase in prevalence of dental traumas in the recent past.¹³

Due to the fact that peak of the traumatic injuries in permanent dentition is between 10-12 years of age, consequences of dental traumas may have lifelong impact on person's quality of life. Studies have shown that children with untreated fractured teeth reported 20 times more negative impact on their daily life than children without traumatic dental injuries,¹⁴ Similarly children with dento-facial deviations experienced teasing, embarrassment and lack of social acceptance.¹⁵

To ensure effective and appropriate care, the dentist requires sound knowledge about various types of TDI and also apt treatment protocol recommended for each of type of injuries as many cases of unsuccessful treatment result from negligence on the part of the dentist at the initial consultation, inadequate follow up and even over the period of undergoing treatment phase.^{4,16,17}

Worldwide most of the studies have shown poor knowledge among the dentists about traumatic dental injuries and their management.¹¹ There is a paucity of data regarding the dental professional's knowledge about various dental injuries as far as India is concerned. In light of the context discussed above the present questionnaire survey was conducted.

In cases of concussion, with minimal trauma to tooth as well as the supporting structures, a high frequency of adequate proposal of the treatment plan was planned by the subjects whereas for Intrusive luxation where the tooth is displaced axially into the alveolar bone and requires more expertise to plan the treatment was the periodontal ligament injury that prompted the least number of correct answers confirming the plausible reason mentioned in a study⁴ that it is easier to devise a treatment plan for less complex traumatic injuries with fewer squeal and having a better prognosis.

The Occlusal adjustment which is an important procedure that avoids premature contacts to avoid additional trauma¹⁸ and endodontic treatment was the most frequently found missing components in the devised treatment plan for intrusive luxation by the respondents. The findings accollades with those found in the literature, where low knowledge about intrusive luxation was mainly because the dentists did not include endodontic treatment in their treatment plans.^{4,19,20} Further, probably a low level of knowledge regarding intrusive luxation can also be hypothetically attributed to the fact that for permanent dentition treatment modalities can vary based on the extent of injury where the clinician has to consider various factors such as the type of apex, depth of intrusion, time, the extent of trauma, etc. Since the question regarding intrusive luxation did not have further subdivisions to specify the extent of the injury, it can be assumed that it might have affected in devising the exact protocol for the same.

In terms of overall mean knowledge calculated for 281 respondents was 1.47 ± 1.20 i.e. on an average treatment plan for only 2 periodontal injuries out of 5 were correctly devised by the respondents which are an area for concern since different traumatism produces different effects on teeth and supporting tissues thus each require special care with proper protocol. Thus, the observed percentage of error and overall mean knowledge seems to be exposing a situation where patients are submitted to procedures without proper scientifically analyzed basal support. The overall low level of knowledge of dentists regarding the management of TDI revealed in literature^{4, 19, 20, 21, 22, 23, 24, 25, 26} indicated neglect towards updated approach for planning a treatment for dental traumatic injuries and thus provided an open ended question to be answered with probable reason for such neglect.

Although the overall knowledge was unsatisfactory, the study revealed a better level of knowledge in designing the treatment plan for all the five types of periodontal ligament injuries by the dental practitioners holding MDS degree than those with only the BDS degree and was found to be statistically significant. These data indicate that the specialization is an influencing factor in the knowledge about the emergency management of dento-alveolar injuries which is in line with various literature.^{4, 22, 23, 25, 27} However a study done in Turkey²⁸ presented

the result with no difference in terms of knowledge between general dentists and specialists about Traumatic Dental Injuries and the probable reason quoted was because of low sample size, and the correct answers obtained from specialists were not examined according to the specialists' areas of expertise.

A highly significant difference between MDS and BDS respondents towards self-perceived ability to treat all types of Dental Trauma, where MDS were more confident and scored more positive responses while in terms of overall knowledge as well respondents with positive responses had better overall knowledge than those who scored negative for their self-perceived ability to treat all types of dental trauma. The result suggests that probably the Dental Professionals with sound knowledge were more confident in treating all types of Dental Trauma cases and also strengthening the hypothesis that specialties have its effect on building up the confidence of the professionals. No statistical significance was observed by the author⁴ in a similar study conducted in Brazil. However, one study reported a high self-perceived ability of general dentists to manage simpler forms of dental trauma. Confidence was lower for complex trauma.²⁹ In spite of increasing prevalence of traumatic dental injuries many studies supports that the treatment of tooth injuries are quite a rare event in the dental practice thereby not surprisingly leading to professionals low confidence in managing the different dental trauma cases and further explaining their poor knowledge regarding the same.³⁰ Further research needs to be conducted to find the association between knowledge and self-perceived ability to treat all types of dental trauma.

Willingness towards attending CDE program for Dentoalveolar Trauma among the professionals showed a good number of dental professionals positive response towards the same and added to it more number of BDS professionals had willingness towards gaining the knowledge in the area concerned suggested a healthy and positive attitude.

It was found that within the specialties Endodontists followed by Paedodontists and Oral Surgeons had better knowledge which was in line with the observations from the literature.^{4,22} Probable reason as outlined in the literature⁴ was that the study subjects under the above three mentioned specialties were more likely to attend patients suffering from dentoalveolar trauma and thus having a better knowledge of the same. To add to the reason outlined above, professionals practicing these three specialty courses have modules regarding dentoalveolar trauma management protocol based on ongoing researches in their post-graduate curriculum thus making them sound and confident enough to follow the apt protocol in their clinical approaches.

Professionals with up to 10 years of experience returned a higher proportion of adequate response when compared to those with more than 10 years of experience. The result was in line with similar studies done by authors.^{21,23} The reason that could be hypothesized for the same was that

the recent transformation in knowledge of the dentists towards the treatment of TDI along with syllabus modifications in undergraduate and postgraduate courses may have influenced the treatment planning process.²¹ Probably the exact protocol suggested for Traumatic cases in the literature are overshadowed by the years of practice in clinics, as in clinics the treatment modalities depend more upon clinician's personal expertise.

However, in the present study, a weak correlation was found between years since graduation and overall knowledge suggesting that as the experience increases there is an increase in knowledge gradient. This weak correlation might be because of uneven distribution of the samples as most of the respondents belonged to 0-15 years of experience. An evenly distributed sample based on years since graduation would have strengthened the findings of this study.

The present study was not however without limitations. Besides suffering from social desirability bias i.e. tendency for respondents to choose the option more acceptable socially than what they truly feel, the uneven distribution within the sample groups and a smaller sample size may have been a contributing factor for the reduction in strength of evidence.

The responses of the dentists' showed a wide dredge from the indicated procedures for the treatment plan for periodontal ligament injuries post dentoalveolar trauma and that the great majority of the professionals would not follow the proper approach recommended in the literature. Such results may indicate neglect of treatment for dental trauma. Child cooperation, financial implications, wide variability of the methodology applied to the definition of the types of TDI, the lack of standardization in treatment techniques and standard protocols for the follow up of any future complications have been stated as potential barriers that may be affecting the preparedness of professionals to deal with the problem.^{25,26} There is a need for more such studies to find out the barriers obstructing the path of the dental professionals especially in the Indian scenario.

CONCLUSION

Within the limitations, the current study highlights that only a few dental practitioners would provide the quality of emergency management and treatment necessary to enhance the survival time of traumatized teeth. Hence, there is a need to improve the knowledge about the emergency management of TDIs among practicing dentists. Continuing Dental Education including Hands-on courses and workshops are required to communicate research-based clinical protocols to keep the dental Practitioner updated in order to ensure effective treatment plan for the patients Dentoalveolar Trauma. It is not only the duty of specialists to be well versed in the treatment protocol regarding dentoalveolar trauma rather to justify the responsibility which the field of dentistry demands, all the dental professionals should have inner desire to gain as much knowledge as they can in the area

concerned so as to fulfill the needs of the patients in an emergency situation.

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