EGYPTIAN DENTAL JOURNAL
www.eda-egypt.org
VOL. 71, 65:74, JANUARY, 2025
PRINT ISSN 0070-9484 • ONLINE ISSN 2090-2360
ORTHODONTICS, PEDIATRIC AND PREVENTIVE DENTISTRY
Submit Date : 20-10-2024 • Accept Date : 25-12-2024 • Available online: 1-1-2025 • DOI : 10.21608/edj.2024.328244.3237

ASSESSMENT OF KNOWLEDGE AND SELF-REPORTED PRACTICE OF A GROUP OF EGYPTIAN PRIMARY SCHOOL TEACHERS ON TRAUMATIC DENTAL INJURIES MANAGEMENT: BEFORE AND AFTER STUDY

Somaia Ahmed Mostafa *, Ola Moustafa Omar** *and* Mariam Mohsen Aly***

ABSTRACT

Purpose: The current study aimed to evaluate the knowledge and self-reported practice of primary school teachers in managing traumatic dental injuries (TDIs) before and after the educational program.

Methods: Two hundred and fifty-four primary school teachers from both public and private schools were randomly selected to participate in the study. Data was gathered regarding knowledge and self-reported practice in managing TDIs by a previously validated self-administered questionnaire before and on the third month following an oral health educational program including a 30-minute PowerPoint presentation, pamphlets, and posters.

Results: Baseline data were as follows 29.9% have good knowledge, 34.3% have moderate knowledge, and 35.8% have poor knowledge. Regarding self-reported practice, baseline data were as follows 55.1% have good practice, 33.1% have moderate practice, and 11.8% have poor practice. After the oral health educational program, there was a significant enhancement in both the knowledge and the self-reported practice of teachers with a p-value<0.001.

Conclusions: The knowledge and self-reported practice of the emergency management of TDIs were considered poor among the study participants. The oral health educational program was successful in improving both the teacher's knowledge and self-reported practice.

Trial registration: The current study was registered on clinicaltrials.gov with the identifier NCT04462744 on 02/07/2020.

KEYWORDS: Knowledge and Practice, Primary School Teachers, Traumatic Dental Injuries.

* Master student of Pediatric Dentistry and Dental public health, Faculty of Dentistry, Cairo University, Egypt.
** Professor of Pediatric Dentistry and Dental Public Health, Faculty of Dentistry, Cairo University, Egypt.
*** Associate Professor of Pediatric Dentistry and Dental Public Health, Faculty of Dentistry, Cairo University, Egypt

INTRODUCTION

Traumatic dental injuries (TDIs) account for 5% of all injuries and rank sixth in frequency, making them serious public health concerns. Globally, between 16 and 40 percent of children are exposed to TDIs, especially those between the ages of 6 and 12, being at higher risk [1-3].

The treatment success for traumatized teeth and long-term prognosis basically depends on the initial first aid response given at the scene of the injury and the amount of time that has passed since the TDIs. These elements are crucial for minimizing or even completely eliminating some negative functional, esthetic, psychological, and financial consequences for the patient [4,5].

Due to the fact that injuries tend to occur most frequently in schools, teachers are frequently among the first responders on the scene and must be familiar with emergency protocols for TDIs in order to appropriately deal with injured children and enhance treatment prognosis [1,6-7].

Numerous studies have assessed the knowledge as well as self-reported practice of the first-aid management of TDIs among different demographic groups including school teachers and have been demonstrated to be inadequate [8-14].

Educational initiatives in schools that address gaps in teachers' knowledge and practices, were proven to reinforce the use of updated protocols for TDI emergency management and improve first-aid practices. Therefore, enables teachers to deliver optimal care, enhancing treatment outcomes and the prognosis for traumatized teeth [15-24].

To the best of our knowledge, no studies have conducted an educational program for teachers in primary schools regarding both knowledge and self-reported practices of TDIs management in Egypt. So, the current study aims to evaluate the knowledge and self-reported practice of primary school teachers in managing TDIs before and after the educational program.

SUBJECTS AND METHODS

Study design and subjects:

The present study was a before and after study. The inclusion criteria were teachers of both genders at different ages, from both private and public schools. The only criterion used for exclusion was unwillingness to take part in the study. Teachers were allocated through the school principals of 11 different schools in Beni Suef by the Director of the Primary Education Department at the Directorate of Education.

Ethics approval and informed consent:

On 27\08\2020, the protocol was authorized by the Research Ethics Committee, Faculty of Dentistry, Cairo University. The purpose of the study, detailed description of the questionnaire, their benefits, and the voluntary and confidential nature of their participation were explained to the participants in a simple standardized way, and every participant provided signed informed consent.

Sample size calculation:

G*Power version 3.1.9.71 was utilized to calculate the sample size in light of the findings of Razeghi et al.[12], where the self-reported practice was (3.26±2.12). The estimated sample size (n) was a total of 254 cases by using an alpha level of 0.05 (5%), a beta level of 0.2 (20%), power=80%, and an effect size of (dz= 0.177).

Baseline data collection

The study was conducted in both public and private schools in the Beni-Seuf district of Beni-Suef governorate. Eleven schools were randomly selected, where teachers received the before questionnaire and then attended the oral health educational program at their schools. In phase one, all the allocated participants listened to a brief explanation concerning the purposes of the study and its benefits for both children and the community, then they were asked to complete a previously validated

self-administered questionnaire developed based on previous studies by Alluqmani and Omar[9], and Razeghi et al [16].

The questionnaire consists of 3 sections, shown as a supplementary file (1):

The first section included demographic data (age, gender, phone number, and years of teaching), if they received previous first-aid training, or any training concerning first-aid management of TDIs, and if they were confident in recognizing permanent and primary teeth. The second section was composed of five questions to evaluate the teacher's knowledge of TDIs management through a previously validated self-administered questionnaire developed by Alluqmani and Omar[9]. The third part was made up of four questions to evaluate the self-reported practice among primary school teachers through a previously validated self-administered questionnaire developed by Razeghi et al [16].

In the second phase, the principal investigator presented an educational program including a PowerPoint presentation on how to differentiate between primary and permanent teeth, illustrating the importance of determining serious head and neck injuries, the management of soft tissue injuries, fractured and displaced teeth, and avulsed deciduous and permanent teeth with the ideal transporting medium followed by a discussion on TDIs emergency management based on the best available evidence in the International Association of Dental Traumatology guidelines [25-26].

Each participant received a pamphlet, while a "Save Your Tooth" poster by the International Association of Dental Traumatology was hung at each school as a future reference in case of any TDIs. All the educational materials, including the PowerPoint presentation, poster, and pamphlet were prepared in Arabic language to facilitate the understanding of all teachers involved. In the third phase, the follow-up questionnaire was scheduled on the third month following the educational program. Due to the Corona Virus Disease of 2019 (COVID-19) lockdown, schools were closed. So, teachers were contacted through a phone call answering the same questionnaire by the principal investigator.

Data Management

A score of one was given for each correct response; while a score of zero was given for each incorrect response then an overall score was calculated for each participant. The total score was calculated out of five for the questions assessing knowledge of TDIs management. Scores below 50% were considered poor knowledge; scores ranging from 50% to 69% were regarded as moderate knowledge, while scores higher than 70% were regarded as good knowledge. Regarding the self-reported practice of TDIs management, the total score was calculated out of four. Scores below 50% were regarded as poor practice; scores between 50% and 69% were regarded as moderate practice, and scores higher than 70% were regarded as good practice [9].

Statistical analysis

The Statistical Package for Social Sciences (SPSS) software package 2 version 26 for Microsoft Windows was used to conduct the statistical analysis. Values for the mean and standard deviation (SD) were used to present numerical data. The categorical data, which were shown as frequencies and percentages, in addition to correlations were evaluated using the Chi-square test. For all tests, the significance level was set at $p \leq 0.05$.

RESULTS

All of the participants (254) answered the before and after questionnaire providing a response rate of 100%. Regarding the age distribution among the study sample, 31.5% were in the age range of 21-30 years; 30.7% were in the age range of 31-40 years; 26.8% were in the age range of 41-50 years; and 11.0% were in the age range of 51-60 years. Female

teachers constituted 79.1% of the total sample, while male teachers constituted 20.9%.

Nearly 34.6% of the participants were from public schools, while the remaining 65.4% were from private schools. Concerning years of experience, 49.6% had 1-10 years of experience, 21.3% had 11-20 years of experience, 22.8% had 21-30 years of experience, and 6.3% had 31 or more. About 52.8% of participants didn't receive previous first-aid training, while 47.2% received previous first-aid training. The majority of the participants (94.5%) did not have any training regarding managing TDIs, while only 5.5% of participants had previous training. About 59.4% of the participants felt confident in distinguishing between primary and permanent teeth, while 40.6% didn't feel confident.

Five questions were designed to evaluate teachers' knowledge of TDIs management before and after the educational program. The first two questions evaluated the management of fractured and displaced teeth, as shown in Fig. 1. The remaining three questions evaluated the management of avulsed primary and permanent teeth with suitable transporting media, as shown in Fig. 2.

Four questions were designed to evaluate teachers' self-reported practice before and after the educational program. The first and second questions assessed the self-reported practice for the management of fractured and avulsed teeth, as shown in Fig. 3. The third and fourth questions assessed the self-reported practice in the case of consciousness loss and displaced teeth, as shown in Fig. 4.

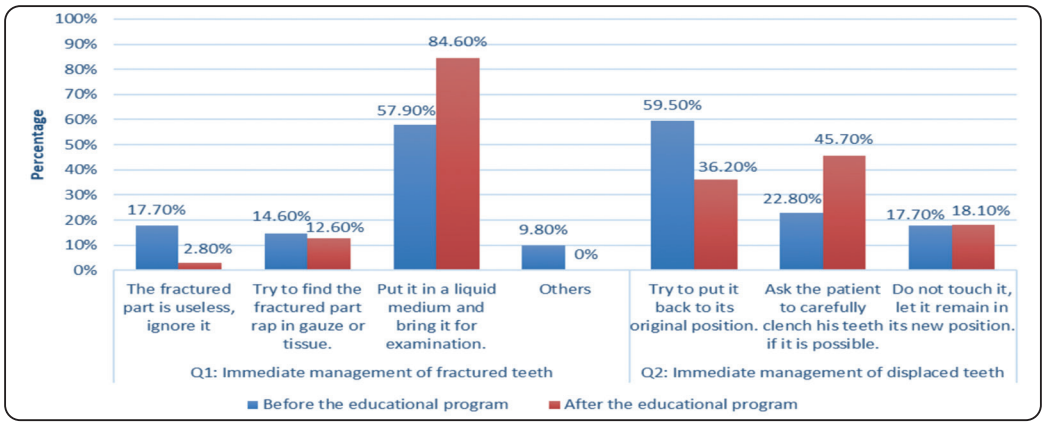

Fig. (1) Knowledge questions for managing fractured and displaced teeth before and after the educational program.

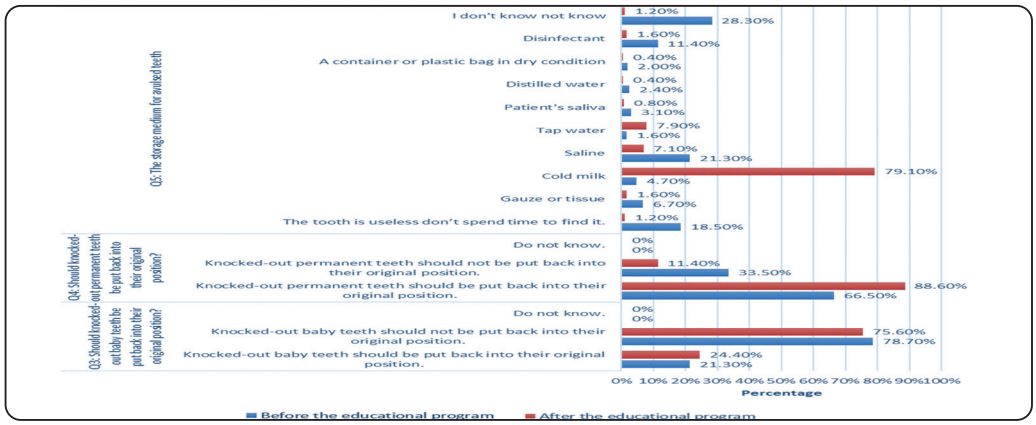

Fig. (2) Knowledge questions for managing avulsed teeth before and after the educational program.

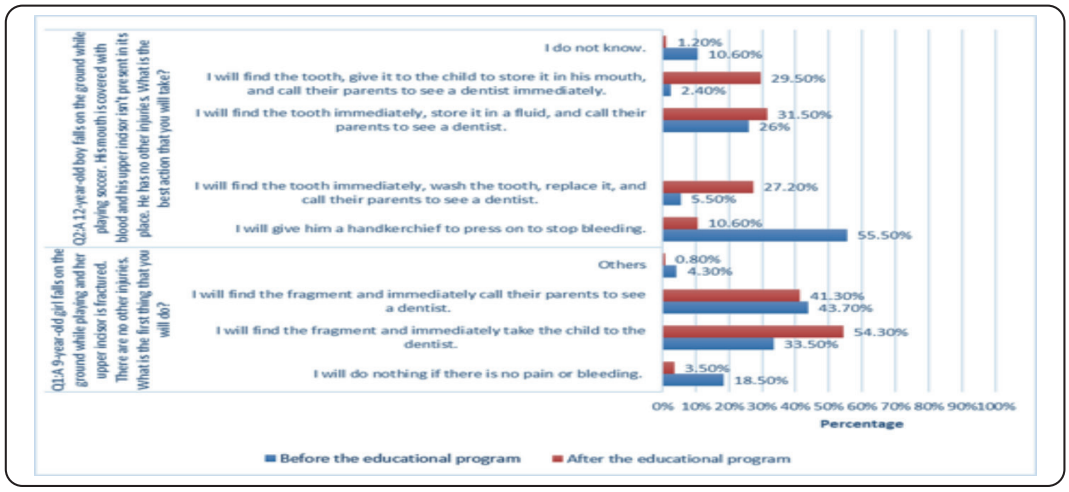

Fig. (3) Self-reported practice questions for managing fractured and avulsed teeth before and after the educational program.

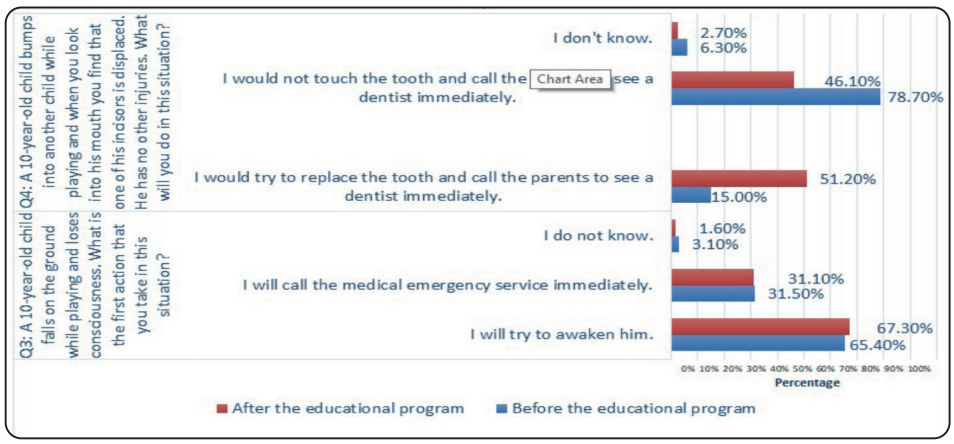

Fig. (4) Self-reported practice questions about loss of consciousness and displaced teeth before and after the educational program

Concerning the effect of the educational program on the teacher's knowledge of first-aid management of TDIs, baseline data were distributed as 76 (29.9%) have good knowledge, 87 (34.3%) have moderate knowledge, and 91 (35.8%) have poor. After the oral health educational program, there was a significant enhancement in the teacher's knowledge with a p-value<0.001 where 175 (68.9%) have good knowledge, 52 (20.5%) have moderate knowledge, and 27 (10.6%) have poor knowledge, as shown in Fig. 5.

Concerning the effect of the educational program on the teacher's self-reported practice of first-aid management of TDIs, baseline data were distributed as 140 (55.1%) have good practice, 84 (33.1%) have moderate practice, and 30 (11.8%) have poor practice. After the oral health educational program, there was a significant enhancement in the teacher's self-reported practice with a p-value<0.001 where 186 (73.2%) have good practice, 65 (25.6%) have moderate practice and 3 (1.2%) have poor practice, as shown in Fig. 5.

Knowledge of the participating teachers regarding the emergency management of TDIs had no significant association with age, years of experience, school type, receiving previous first aid training, and receiving previous training concerning dental trauma emergency management before and after the educational program (**P-value >0.05**). However regarding the association between knowledge and gender, there was a statistically significant association before the oral health educational program with a ***P*-value<0.05** while after the program, no statistically significant association was detected with a ***P*-value>0.05**, as shown in table (1).

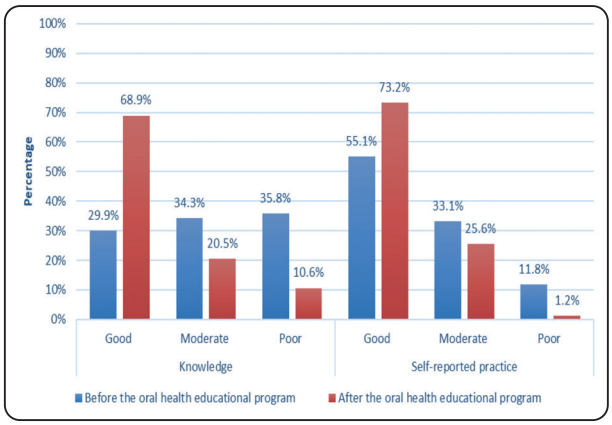

Fig. (5) The overall knowledge and self-reported practice before and after the oral health educational program.

Self-reported practice of the participating teachers regarding the emergency management of TDIs had no significant association with age, gender, years of experience, school type, and receiving previous first aid training before and after the educational program (**P-value > 0.05**). However, there was a statistically significant association between the self-reported practice and receiving previous training concerning dental trauma emergency management only before the oral health educational program with a ***P*-value<0.05**, while after the program, no statistically significant association was detected with a ***P*-value>0.05** as shown in table (2).

TABLE (1) Association between Knowledge of emergency management of TDIs and gender among the study sample

Time	Knowledge of emergency management of TDIs		Gender		*P*-value
			Male	Female	
Before the educational program	Good Knowledge	Number	8[A]	68[B]	0.024*
		Percentage	15.4%	33.7%	
	Moderate Knowledge	Number	19	68	
		Percentage	36.5%	33.7%	
	Poor Knowledge	Number	25[A]	66[B]	
		Percentage	48.1%	32.7%	
After the educational program	Good Knowledge	Number	33	143	0.459ns
		Percentage	62.3%	71.1%	
	Moderate Knowledge	Number	13	38	
		Percentage	24.5%	18.9%	
	Poor Knowledge	Number	7	20	
		Percentage	13.2%	10.0%	

; significant (P-value ≤ 0.05) ns; non-significant (P-value>0.05), values with different superscript letters within the same horizontal row are significantly different.

TABLE (2) Association self-reported practice and receiving previous training concerning dental trauma emergency management among the study sample

Time	Self-reported practice regarding the emergency management of TDIs		Previous training concerning dental trauma emergency management		*P*-value
			Received previous training	Didn't receive previous training	
Before the educational program	Good Self-reported practice	Number	7	133	0.012*
		Percentage	50.0%	55.4%	
	Moderate Self-reported practice	Number	2	82	
		Percentage	14.3%	34.2%	
	Poor Self-reported practice	Number	5^{A}	25^{B}	
		Percentage	35.7%	10.4%	
After the educational program	Good Self-reported practice	Number	9	177	0.628ns
		Percentage	64.3%	73.8%	
	Moderate Self-reported practice	Number	5	60	
		Percentage	35.7%	25.0%	
	Poor Self-reported practice	Number	0	3	
		Percentage	0.0%	1.2%	

; significant (P-value ≤ 0.05) ns; non-significant (P-value>0.05), values with different superscript letters within the same horizontal row are significantly different.

DISCUSSION

Since schools and playgrounds are the most common sites for TDIs and teachers are the first responders, therefore; improving school teachers' knowledge and self-reported practice concerning first-aid management is crucial to delivering high-quality and efficient emergency management and reducing short- and long-term negative consequences [1,6,16].

Numerous studies assessed teachers' level of knowledge and self-reported practice with respect to TDIs emergency management and reported that teachers possessed insufficient knowledge regarding emergency management [7-13]. Therefore, it was suggested to develop oral health education initiatives to increase teachers' knowledge about TDIs and improve their attitudes toward them [10-13].

There was an improvement in the teachers' overall knowledge of first-aid management of TDIs, as the proportion of teachers with good knowledge rose from 29.9% to 68.9%. Besides, the number of teachers with poor knowledge reduced from 35.8% to 10.6%. This was in agreement with Al-Asfour et al [18], Nashine et al [19] and Taranath et al [20], and This could be clarified by the comprehensive strategy of the educational program that includes PowerPoint presentations, pamphlets, and posters, all of which significantly enhance comprehension of the participants and result in improvements that last over time [21].

Besides, an improvement in the teachers' overall self-reported practice of first-aid management of TDIs after the oral health educational program, as the proportion of teachers with good self-reported practice rose from 55.1% to 73.2%. Furthermore, the proportion of teachers with poor self-reported practice reduced from 11.8% to 1.2%. This finding was in accordance with Taranath et al [20]. This finding might be explained by repetition and availability of the educational material which can be achieved through utilizing numerous educational methods, such as pamphlets and posters distribution following the oral presentation [22].

The oral health educational program enhanced the knowledge of managing fractured teeth where 84.6% chose to put the fractured fragment in a liquid medium and bring it for the examination which was in line with Razeghi et al [17] and could be explained by the teachers' recognition of the optimum esthetic effect of reattaching the fractured part of the crown[22].

About 75.6% of teachers chose not to replant the avulsed primary teeth and 88.6% chose to replant the avulsed permanent teeth after the program which was in line with Razeghi et al [17], and Al Zaher et al[23]. This might be justified by the lack of emphasis on the distinctions between primary and permanent teeth and the reasons why only permanent teeth should be replanted [18].

Furthermore, 79.1% of the participants recognized milk as a suitable storage medium for avulsed teeth which was in accordance with Razeghi et al [17], and could be related to the awareness of teachers of the significance of preserving periodontal cell viability by cold milk composition and osmolality, in addition to the ease of access [22].

Concerning teachers' self-reported practice for the management of fractured teeth after the oral health educational program, 54.3% chose to find the fragment and immediately take the child to a dentist, 41.3% chose to find the fragment and immediately call the parents to see a dentist, while only 3.5% of the participants preferred to do nothing if there was no pain or bleeding which was in agreement with Razeghi et al [17], and could be explained by the emphasis of the educational program on the proper management of TDIs improves the prognosis and eliminate possible drawbacks [24].

While teachers self-reported practice for the management of avulsed teeth, only 10.6% of participants chose to give the child a handkerchief to press on to stop bleeding but only 27.2% chose to find the tooth and wash it and then immediately replant it. These findings were in line with Razeghi et al [17] and could be explained by teachers feeling more anxious about treating the children in addition to the shortage of training programs to improve participants' technical abilities in this area [17].

For displaced teeth, 51.2% of the participants preferred to reposition the displaced tooth after the oral health educational program which was consistent with Razeghi et al [10]. This finding could be attributed to the teachers' recognition of the pain, discomfort, and obstruction of mastication caused by the displaced tooth and their feeling obligated to take action as they are responsible for the student's well-being as caretakers [13,22].

Regarding the associations between knowledge and gender, there was a statistically significant association before the oral health educational program where female teachers had greater knowledge regarding TDIs first-aid protocols when compared to male teachers. This could be attributed that children have more contact with women in external environments, besides the fact that the majority of the participants were mothers [14].

Concerning the correlation between self-reported practices with previous training on TDIs management, a statistically significant association before the oral health educational program was detected which was in agreement with Kateg et al [27]. This finding could be explained by regular training sessions on TDIs for teachers may give them more insight into how to handle TDIs as effectively as possible [28].

Among the limitations of the current study, the printed questionnaire couldn't be distributed to the participants after the educational program and instead, the answers were collected via telephone calls because of the COVID-19 lockdown during the follow-up phase. Also, the questionnaire was conducted on the third month following the oral health educational program so the program's long-term effects were not assessed.

CONCLUSIONS

Most primary school teachers in the present study lack adequate knowledge of the first-aid management of TDIs as well as the self-reported practice was inadequate. The oral health educational program proved effective in improving the knowledge and self-reported practice of the participating primary school teachers concerning the emergency management of TDIs.

REFERENCES

1. Daupare, S. and Narbutaite, J.: Primary school teachers' knowledge and attitude regarding traumatic dental injuries. J. Indian Soc. Pedod. Prev. Dent., 38(3): 216-221, 2020.
2. Lembacher, S. and Schneider, S. and Lettner, S. and Bekes, K.: Prevalence and patterns of traumatic dental injuries in primary teeth: a 3-year retrospective overview study in Vienna. Clin. Oral Investig., 26(2): 2085-2093, 2022.
3. Majewski, M. and Kostrzewska, P. and Ziółkowska, S. and Kijek, N. and Malinowski, K.: Traumatic dental injuries - practical management guide. Polski Merkuriusz Lekarski: Organ Polskiego Towarzystwa Lekarskiego, 50(297): 216-218, 2022.
4. Cully, M. and Cully, J. and Nietert, P.J. and Titus, M.O.: Physician confidence in dental trauma treatment and the introduction of a dental trauma decision-making pathway for the pediatric emergency department. Pediatr. Emerg. Care, 35(11): 745-748, 2019.
5. Alhaddad, B., Rózsa, N. K., & Tarján, I. (2019). Dental trauma in children in Budapest. A retrospective study. European journal of paediatric dentistry, 20(2), 111–115. https://doi.org/10.23804/ejpd.2019.20.02.05
6. Tewari N, Mathur VP, Siddiqui I, Morankar R, Verma AR, Pandey RM. Prevalence of traumatic dental injuries in India: A systematic review and meta-analysis. Indian J Dent Res. 2020;31(4):601-614. https://doi.org/10.4103/ijdr.IJDR_953_19
7. Gümüş, H., Öztürk, G., & Kürem, B. (2021). Profiles of traumatic dental injuries among children aged 0-15 years in Cappadocia, Turkey: A retrospective cohort study. Dental traumatology : official publication of International Association for Dental Traumatology, 37(3), 419–429. Available at: https://doi.org/10.1111/edt.12648
8. Tewari, N. and Goel, S. and Rahul, M. and Mathur, V.P. and Ritwik, P. and Haldar, P. and Priya, H. and Pandey, R.M.: Global status of knowledge for prevention and emergency management of traumatic dental injuries among school teachers: A systematic review and meta-analysis. Dent. Traumatol., 36(6): 568-583, 2020.
9. Alluqmani, F.A. and Omar, O.M.: Assessment of schoolteachers' knowledge about management of traumatic dental injuries in Al-Madinah city, Saudi Arabia. Eur. J. Dent., 12(2): 171-175, 2018.
10. Alharbi, Z.F. and Habibullah, M.A.: Knowledge, Attitudes, and Practices of School Teachers Regarding Dental Trauma and its Emergency Management in Madinah, Saudi Arabia: A Questionnaire-Based Online Cross-Sectional Survey. J. Pharm. Bioallied Sci., 15(Suppl 1): S775–S782, 2023.
11. Mohandas, U. and Chandan, G.D.: Knowledge, attitude, and practice in emergency management of dental injury among physical education teachers: a survey in Bangalore urban schools. J. Indian Soc. Pedod. Prev. Dent., 27(4): 242-248, 2009.
12. Alsadhan, S.A. and Alsayari, N.F. and Abuabat, M.F.: Teachers' knowledge concerning dental trauma and its management in primary schools in Riyadh, Saudi Arabia. Int. Dent. J., 68(5): 306-313, 2018.
13. Al-Khalifa, K.S. and AlYousef, Y.: Awareness of dental trauma management among school teachers in Dammam, Saudi Arabia. Saudi J. Med. Med. Sci., 10(1): 49-55, 2022.
14. Pithon, M.M. and Lacerda dos Santos, R. and Magalhães, P.H. and Coqueiro, R.d.S.: Brazilian primary school teachers' knowledge about immediate management of dental trauma. Dent. Press J. Orthod., 19(5): 110-115, 2014.
15. Aminu, K. and Kanmodi, K.K. and Amzat, J. and Salami, A.A. and Uwambaye, P.: School-Based Interventions on

Dental Trauma: A Scoping Review of Empirical Evidence. Children (Basel, Switzerland), 10(5): 797, 2023.

16. Razeghi, S. and Mohebbi, S.Z. and Gholami, M. and Mashayekhi, M. and Maraghehpour, B. and Rahnama, E.: Effect of two educational interventions on primary school teachers' knowledge and self-reported practice regarding emergency management of traumatic dental injuries. BMC Oral Health, 19(1): 130, 2019.
17. Razeghi, S. and Mohebbi, S.Z. and Mahmoudi, M. and Ahmadian, M. and Kharazifard, M.J.: Effect of two educational interventions regarding the management of traumatic dental injuries on mothers of 8-year-old children. Front Dent., 17: 33, 2020.
18. Al-Asfour, A. and Andersson, L. and Al-Jame, Q.: School teachers' knowledge of tooth avulsion and dental first aid before and after receiving information about avulsed teeth and replantation. Dent Traumatol, 24(1): 43-49, 2008.
19. Nashine, N. and Bansal, A. and Tyagi, P. and Jain, M. and Jain, A. and Tiwari, U.: Comparison and evaluation of attitude and knowledge towards the management of dental injury in school teachers before and after oral health education. Int. J. Clin. Pediatr. Dent., 11(5): 425-429, 2018.
20. Taranath, M. and Senaikarasi, R.M. and Manchanda, K.: Assessment of knowledge and attitude before and after a health education program in East Madurai primary school teachers with regard to emergency management of avulsed teeth. J. Indian Soc. Pedod. Prev. Dent., 35(1): 63-67, 2017.
21. Yordi, C. and Badr, S. and Shokry, M.: Effectiveness of dental traumatic injuries' educational message in school teachers in Beirut - cluster randomized field trial. Egypt Dent. J., 63(2): 269-285, 2017.
22. Pujita, C. and Nuvvula, S. and Shilpa, G. and Nirmala, S. and Yamini, V.: Informative promotional outcome on school teachers' knowledge about emergency management of dental trauma. J. Conserv. Dent., 16(1): 21-27, 2013.
23. Al Zaher, N. and Dashash, M.: An educational intervention for improving knowledge of Syrian school children about avulsion using the "save your tooth" poster. BMC Oral Health, 21(1): 24, 2021.
24. Salem, N. and Fawzy, M. and Mostafa, M.: Educational dental program and its impact on emergency management of traumatic dental injuries in children. Al-Azhar Dent. J., 9(1): 167-178, 2022.
25. Bourguignon, C. and Cohenca, N. and Lauridsen, E. et al.: International Association of Dental Traumatology guidelines for the management of traumatic dental injuries: 1. Fractures and luxations. Dent Traumatol, 36(4): 314-330, 2020.
26. Fouad, A.F. and Abbott, P.V. and Tsilingaridis, G. et al.: International Association of Dental Traumatology guidelines for the management of traumatic dental injuries: 2. Avulsion of permanent teeth. Dent Traumatol, 36(4): 331-342, 2020.
27. Katge, F.A. and Patil, D.P. and Khakhar, P.J. and Poojari, M.S. and Koticha, P.B.: Knowledge and awareness of school teachers regarding emergency management of dental trauma in school children of Navi Mumbai. Indian J. Dent. Res., 32(1): 51-55, 2021.
28. Kneitz, F.B. and Scalioni, F.A.R. and Tavares, L.C.D. and Campos, M.J.D.S. and Carrada, C.F. and Machado, F.C.: Elementary school teachers' knowledge and attitudes toward emergency management of traumatic dental injuries. Braz. Oral Res., 37, 2023.