Original Article

Knowledge of General Dental Practitioners and Specialists in Emergency Management of Traumatic Dental Injuries

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ABSTRACT

OBJECTIVE: To assess the knowledge level of general dental practitioners and specialists regarding the emergency management of traumatic dental injuries.

METHODOLOGY: A cross-sectional study was conducted in Erbil City between May 2024 and August 2024, utilizing convenience sampling to collect data from dentists, including general practitioners and specialists, in various settings such as specialized dental centres, clinics, and dental schools. Data collection involved distributing 180 self-administered questionnaires to the participants. The questionnaire consisted of two sections: the first covered demographic details, including age, gender, type of practice (general dental practitioner or specialist), specific dental specialty (if applicable), practice sector, and experience. The second part included 12 questions to assess proficiency in managing dental emergencies involving luxation injuries (intrusion and extrusion), complicated crown fractures, and avulsion injuries.

RESULTS: Specialists demonstrated greater proficiency in managing luxation injuries than general dental practitioners (GDPs), with a significant difference in managing avulsion injuries. Specialty was the only factor significantly affecting mean knowledge scores (P < 0.001). Male gender, experience (<5 years and 5-10 years), and public sector employment had negative but not statistically significant effects on high knowledge (P-values: 0.636, 0.289, 0.526, 0.579), respectively.

CONCLUSION: The study suggests that many general dental practitioners require additional experience treating avulsed teeth. Implementing continuous education programs to ensure dentists can effectively manage avulsion injuries is highly recommended. These programs are designed to enhance practitioners' skills and knowledge in dental trauma management, ultimately leading to improved patient care and outcomes in this critical area of dentistry.

KEYWORDS: Traumatic dental injuries, dentists, knowledge, dental treatment emergencies, tooth injuries

INTRODUCTION

Traumatic dental injuries (TDIs) are caused by physical impacts that affect the teeth and the surrounding hard and soft tissues within the oral cavity[1]. These incidents are common during childhood and adolescence and are often linked to age-specific games and sports activities. In adults, significant contributors include sports activities, road accidents, and aggressive encounters [2,3]. TDIs are an important public health concern and are estimated to rank fifth among global dental issues, with a prevalence of 15.2 -16% in permanent dentition[4,5]. The global prevalence of oral trauma varies significantly, ranging from 6% to 59%, as documented in Lam's 2016 review [1.] Epidemiological data emphasizes a high incidence of traumatic dental injuries affecting both primary and permanent teeth. Around one-third of preschool children experience trauma to their primary teeth. In contrast, approximately a quarter of schoolchildren and nearly one-third of all adults have experienced trauma to their permanent teeth [6,7.]

Dental trauma encompasses a range of injuries to the teeth and surrounding tissues, varying from mild concussions to more severe conditions such as alveolar fractures, enamel and dentin fractures, and tooth discoloration. Immediate medical attention is crucial in preventing long-term complications. The maxillary central incisor is often affected, with crown fracture being the most common injury in permanent dentition, while luxation is more frequently observed in primary dentition [8,9]. Primary and permanent teeth injuries can lead to several complications, including tooth discoloration, mobility issues, malocclusions, root and bone resorption, pulp necrosis with infection, and tooth loss. These complications can have a profound impact on individuals, affecting them physically, emotionally, economically, and socially. The International Association of Dental Traumatology (IADT) has developed a comprehensive guide with detailed recommendations for managing traumatic dental injuries in children and adults, serving as a valuable resource for emergency treatment [10-11]. Adhering to these guidelines is essential for oral healthcare professionals to provide optimal care and engage in community education, expecting

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practitioners to be well-versed in these recommendations. Familiarity with and adherence to these guidelines can significantly improve patient outcomes and reduce stress and anxiety for both patients and dental teams[11].

Dentists play a crucial role in managing traumatic dental injuries in children. Nevertheless, multiple international surveys have highlighted the need for dentists to have more knowledge regarding the emergency management of these injuries [12-16].

Published studies on traumatic dental injuries (TDIs) and the knowledge of general dental practitioners (GDPs) and specialized dentists regarding their management are lacking in Erbil City. Therefore, this study aims to assess the understanding of GDPs and specialized dentists concerning their roles in treating TDIs.

METHODOLOGY

The cross-sectional study employed convenience sampling to collect data from dentists, including general practitioners (GPs) and specialists, practicing in various healthcare settings across Erbil City, such as hospitals, clinics, and dental schools. The study was conducted between May 2024 and August 2024.

The research protocol was approved by the Ethical and Scientific Committee of the Kurdistan Board of Medical Specialties and subsequently reviewed and authorized by the Council of Dental Specialties, with approval granted under number 1362. Before inclusion in the study, each participant provided informed, written consent, as outlined in the World Medical Association's Declaration of Helsinki. The total sample size of 180 participants was determined using the World Health Organization's formula, with a 95% confidence interval and a 5% margin of error[17].

Inclusion Criteria:

1. Dentists practicing in Erbil City, including general dental practitioners (GDPs) and specialists (e.g., endodontists, periodontists, orthodontists, pediatric dentists).
2. Dentists actively practiced in healthcare settings such as hospitals, clinics, and dental schools during the study period (May 2024 to August 2024).
3. Dentists who have provided informed, written consent to participate in the study and adhere to ethical guidelines.
4. Dentists with a minimum of one year of professional experience are expected to have basic clinical exposure and knowledge related to traumatic dental injuries (TDIs).

Exclusion Criteria:

1. Dentists not currently practicing or working in Erbil City during the study period.
2. Dentists who do not provide informed consent or choose not to participate in the study.
3. Dentists who decline to complete the questionnaire or return incomplete questionnaires.

Data collection

Data was collected through the distribution of a self-administered questionnaire. The questionnaire, modified from previous studies, was deemed valid and utilized in research by Al-Haj Ali SN 2020 [18]. Additionally, it was reviewed by specialists in endodontics, periodontics, orthodontics, and pediatric dentistry and further tested by general dentists to ensure the clarity of wording and validity of the items. The questionnaire omitted identifying details such as names or numbers to ensure confidentiality. It addressed a broad range of topics related to knowledge about traumatic dental injuries (TDIs) affecting both primary and permanent teeth.

Before distributing the questionnaire, a pilot study was conducted with a random sample of 20 dentists. The feedback from this pilot study was used to refine the questionnaire, ensuring its relevance and accuracy. Participants received the questionnaire, accompanied by an explanation outlining the importance of their involvement and the study's objectives. Eligible participants provided their consent, while those who declined participation were excluded from the study.

A total of 180 questionnaires were administered, each consisting of two segments. The initial segment encompassed demographic queries, including age, gender, type of practice (general dental practitioner or specialist), specific dental specialty, practice sector, and professional experience. The following section consisted of 12 questions to assess understanding of emergency management for luxation injuries (intrusion and extrusion), complicated crown fractures, and avulsion injuries. Volunteers who participated in the study received the questionnaire, completed it, and returned it promptly.

Statistical analyses

The data were analyzed using SPSS software (version 26, IBM Corp). Descriptive statistics were applied to summarize the demographic characteristics and responses of the participants. Simple frequency distributions were generated for the dentists' responses to the questionnaire. Binary logistic regression was used to analyze knowledge scores, with a score of <6 indicating low knowledge (coded as 0) and a score of≥6 indicating high knowledge (coded as 1). The analysis aimed to determine the association between dentists' demographic data and their mean knowledge scores, with statistical significance set at a p-value of 0.05.

RESULTS

A total of 180 questionnaires were distributed initially. After excluding 28 questionnaires due to incomplete or deficient data, 152 questionnaires remained for final analysis, resulting in a response rate of 84.4%. The respondents comprised 52% males (n = 79) and 48% females (n = 73). The majority of participants held a bachelor's degree, representing 69.7% (n = 106), followed by 19% (n = 29) with Master's degrees, and 11.1% (n = 17) held PhDs. In terms of the

duration of their dental practice, 54 (35.5%) respondents had less than 5 years of experience, 61 (40.1%) had between 5 to 10 years of experience, and 37 (24.3%) had more than 10 years of experience. Slightly over half of the respondents (n = 88; 57.9%) worked in government dental clinics, while 42.1% (n = 64) were private practitioners. (**Table I**)

Table II presents the frequency distribution (%) of dentists' responses regarding the emergency management of luxated teeth. Specialists and general dental practitioners (GDPs) showed varying levels of knowledge and understanding in their responses. Approximately 60.9% of specialists and 50% of GDPs correctly selected the appropriate action for an intruded primary tooth. Meanwhile, about 47.8% of specialists and 39.6% of GDPs recognized the spontaneous repositioning of an intruded immature permanent tooth. Specialists demonstrated a higher understanding of the correct splinting technique for a mature extruded tooth than general dental practitioners (52.1% vs. 44.3%). Similarly, a greater percentage of specialists were knowledgeable about the appropriate type of splint to use in such cases compared to general dental practitioners (GDPs) (58.6% vs. 49.1%).

In complicated crown fractures, 73.9% of specialists and 57.5% of general dental practitioners (GDPs) correctly recommend pulp capping as the suitable treatment for an immature permanent tooth with pinpoint exposure within 24 hours of the trauma. When the exposure is more significant, and the trauma occurred more than 24 hours ago, 30.4% of specialists and 28.3% of GDPs opt for partial pulpotomy. For mature teeth with extensive exposure occurring more than 24 hours after trauma, only 39.1% of specialists and 37.7% of general dental practitioners (GDPs) correctly identify pulpectomy as the appropriate treatment option (**Table III**).

Table IV presents the findings on dentists' responses to managing tooth avulsion in emergencies. The study found that specialists and general dental practitioners (GDPs) had similar knowledge about the correct storage medium, with 65.2% of specialists and 56.6% of GDPs identifying milk as the appropriate medium for storing an avulsed tooth. However, there were differences in the approach to treating immature avulsed teeth within 60 minutes of trauma with a doxycycline soak before replantation: 41.3% of specialists chose this treatment, compared to 23.6% of general dental practitioners (GDPs). When considering the duration of splint use for a mature avulsed tooth in patients who arrive more than 60 minutes after trauma, 58.7% of specialists recommended four weeks. In contrast, 34.9% of general dental practitioners (GDPs) suggested the same duration. Regarding the necessity of antibiotics following replantation, 76.1% of specialists provided the correct response, whereas only 56.6% of GDPs did so. Additionally, more specialists (84.7%) recognized that avulsed primary teeth should not be replanted compared to general dental practitioners (GDPs) (78.3%).

In Table V, demographic variables for participants are presented alongside their knowledge scores and the results of the logistic regression analysis. The analysis indicates that specialty was the only variable with a statistically significant effect on the mean knowledge score ($P < 0.001$). Additionally, being male slightly decreases the odds of having high knowledge (P-value: 0.636, OR: 0.833), as does having less than five years of experience (P-value: 0.289, OR: 0.578) or 5-10 years of experience (P-value: 0.526, OR: 0.708), and working in the public sector (P-value: 0.579, OR: 0.787). However, none of these effects were statistically significant.

Table I: Demographic characteristics of respondents (*n* = 152)

Demographic data	N	(%)
Gender		
Male	79	52
Female	73	48
Educational Qualifications		
a. Bachelor's Degree	106	69.7
b. Master's Degree	29	19
c. Doctorate	17	11.1
Professional experience		
<5 years	54	35.5
5-10 years	61	40.1
>10 years	37	24.3
Working Place		
Private	64	42.1
Governmental	88	57.9

DISCUSSION

Accurate diagnosis and timely treatment are crucial for effectively managing traumatic dental injuries (TDIs). Patients often present with delayed complications following trauma, requiring urgent decision-making by dentists, which significantly impacts injury prognosis[19-21]. This study aimed to assess the knowledge of General Dental Practitioners (GDPs) and Specialists in managing traumatic dental injuries (TDIs) in emergencies, providing insights into demographic profiles, practice settings, and knowledge levels.

Specialists demonstrated higher knowledge scores in managing dental injuries during emergencies than general dental practitioners (GDPs), aligning with prior research[22-25]. They showed greater proficiency in handling various aspects of emergency care for luxation injuries, correctly identifying the appropriate method for managing intruded primary teeth in 60.9% of cases, compared to 50% of GDPs. Similarly, 47.8% of specialists effectively managed intruded immature

Table II: Frequency distribution (%) of dentists' responses about emergency management of luxated teeth

Q	Situation	Answer options	General Practitioner N (%)	Specialists N (%)
1	If a primary maxillary anterior tooth is intruded and displaced towards the labial bone plate...	(a) The tooth is left to reposition itself spontaneously*	53 (50)	28 (60.9)
		(b) The tooth is immediately extracted	45 (42.5)	16 (34.8)
		(c) Do not know	8 (7.5)	2 (4.3)
2	If an immature permanent maxillary tooth is intruded, it should be...	(a) Spontaneous repositioning*	42 (39.6)	22 (47.8)
		(b) Repositioned orthodontically	33 (31.1)	15 (32.6)
		(c) Repositioned surgically	17 (16)	7 (15.2)
		(d) Extracted immediately	10 (9.4)	1 (2.2)
		(e) Do not know	4 (3.8)	1 (2.2)
3	If a mature permanent maxillary tooth has been extruded, prompt repositioning and stabilisation are recommended using a...	(a) Rigid splint for four weeks	10 (9.4)	4 (8.7)
		(b) Rigid splint for two weeks	15 (14.2)	3 (6.6)
		(c) Semirigid splint for two weeks in conjunction with RCT	34 (32.1)	15 (32.6)
		(d) Semirigid splint for two weeks in conjunction with RCT if pulp necrosis has occurred*	47 (44.3)	24 (52.1)
4	Which kind of splint is recommended for extruded permanent incisors?	(a) Semirigid with a nylon wire*	52 (49.1)	27(58.6)
		(b) Stainless steel wire	24 (22.6)	10 (21.7)
		(c) Composite resin	21 (19.8)	6 (13)
		(d) Other	9 (8.5)	3 (6.6)

Table III: Frequency distribution (%) of dentists' answers about emergency management of crown fracture

	Questions	Answer options	General Practitioner N (%)	Specialists N (%)
5	For a traumatic injury to an immature permanent maxillary tooth with pinpoint pulp exposure within 3 hours, the treatment involves...	(a) Follow-up without immediate treatment	5 (4.7)	1 (2.2)
		(b) Pulp capping*	61 (57.5)	34 (73.9)
		(c) Partial pulpotomy	21 (19.8)	9 (19.5)
		(d) Cervical pulpotomy	7 (6.6)	0 (0)
		(e) Pulpectomy	8 (7.5)	2 (4.3)
		(f) Do not know	4 (3.7)	1 (2.2)
6	For a patient with an immature permanent maxillary tooth injury and significant pulp exposure present at the clinic more than 24 hours after the trauma, the treatment procedure would involve...	(a) Do not treat but follow up	2 (1.9)	1 (2.2)
		(b) Pulp capping	5 (4.7)	2 (4.3)
		(c) Partial pulpotomy*	30 (28.3)	14 (30.4)
		(d) Cervical pulpotomy	21 (19.8)	8 (17.4)
		(e) Pulpectomy	44 (41.5)	20 (43.5)
		(f) Do not know	4 (3.8)	1 (2.2)
7	For a patient with a mature permanent maxillary tooth injury and extensive pulp exposure arriving more than 24 hours after the trauma, the treatment would typically involve...	(a) Do not treat but follow up	7 (6.6)	4 (8.6)
		(b) Pulp capping	14 (13.2)	6 (13)
		(c) Partial pulpotomy	18 (16.9)	10 (21.7)
		(d) Cervical pulpotomy	21 (19.8)	5 (10.8)
		(e) Pulpectomy*	40 (37.7)	18 (39.1)
		(f) Do not know	6(5.6)	3(6.5)

Table IV: Frequency distribution (%) of dentists' responses regarding the emergency management of tooth avulsion

	Questions	Answer options	General Practitioner N (%)	Specialists N (%)
8	Which of the following storage mediums are appropriate for preserving an avulsed tooth?	(a) Ice	1 (0.9)	2 (4.3)
		(b) Tap water	5 (4.7)	1 (2.2)
		(c) Paper tissue	4 (3.8)	0(0)
		(d) Fresh milk*	60 (56.6)	30 (65.2)
		(e) Patient's mouth	36 (33.9)	13 (28.3)
9	If the patient arrives at the clinic within 60 minutes of the trauma, before replantation, the immature avulsed tooth should be...	(a) Rinsed with tap water	18 (17)	11 (23.9)
		(b) Cleaned with any solution	13 (12.3)	7 (15.2)
		(c) Left unwashed	10 (9.4)	2 (4.3)
		(d) Kept in doxycycline for 5 min*	25 (23.6)	19(41.3)
		(e) Scrubbed gently	16 (15.1)	5 (10.9)
		(f) Kept in fluoride solution for 20 min	11 (10.4)	2 (4.3)
		(g) Do not know	13 (12.3)	0(0)
10	For a patient arriving more than 60 minutes after trauma, how long should a splint be used for a mature avulsed tooth?	(a) No splint	4 (3.8)	2 (4.3)
		(b) Two weeks	45 (42.5)	16 (34.8)
		(c) Four weeks*	37 (34.9)	27 (58.7)
		(d) Two months	10 (9.4)	0 (0)
		(e) 24 hours	4 (3.8)	0 (0)
		(f) Do not know	6 (5.7)	1 (2.2)
11	Do you recommend antibiotic therapy after replantation?	(a) Yes, tetracycline (>12 years old)	16 (15.1)	5 (10.9)
		(b) Yes, penicillin*	60 (56.6)	35 (76.1)
		(c) No	30 (28.3)	6 (13)
12	Is it advisable to replant avulsed primary teeth?	(a) Yes	23 (21.6)	7 (15.2)
		(b) No*	83 (78.3)	39 (84.7)

RCT: root canal treatment

Table V: Binary logistic regression for knowledge score (using a score of < 6 for low knowledge coded as zero, and ≥ 6 for high knowledge coded as 1) on demographic variables

	B	Significance (*p*-value)	OR	95% C.I. for OR	
				Lower	Upper
Gender (male)	-0.185	0.632	0.831	0.391	1.768
Practice (general practitioner)	-3.290	< 0.001	0.037	0.008	0.175
Years of professional experience		0.569			
Experience (<5 years)	-0.547	0.289	0.579	0.211	1.592
Experience (>5 years)	-0.337	0.535	0.714	0.246	2.070
Practice sector (public)	-0.251	0.557	0.778	0.336	1.799

**Significant (p-value < 0.05)*

permanent teeth, while only 39.6% of GDPs did the same.

Nonetheless, many professionals and general dentists lacked sufficient knowledge of how to treat immature permanent teeth, with less than 50% in each category providing the correct response. This result is consistent with the findings of earlier research conducted by Hartmann RC et al.[8], Cınar C 2013[12], and Al-Haj Ali SN 2020[18].

According to the guidelines of the International Association of Dental Traumatology (IADT), it is recommended to use a flexible splint for two weeks after replantation of an avulsed permanent tooth to minimize the risk of ankylosis. Furthermore,

endodontic treatment is typically performed between 7 and 10 days after the tooth has been replanted[21,26]. The analysis reveals that specialists have a better understanding compared to general dental practitioners (GDPs) regarding the splinting technique and duration for mature permanent teeth that require more than two weeks of treatment. Specifically, 52.1% of specialists and 44.3% of GDPs correctly identified the recommended splinting duration, while 58.6% of specialists and 49.1% of GDPs accurately selected the appropriate type of splint. AlJazairy YH et al.[27] reported that 51.6% of respondents preferred flexible splints over rigid ones (46.6%), although this preference was not statistically significant. However, a significantly higher proportion of respondents (83.5%) indicated that the recommended splinting duration should be 7 to 14 days.

In this investigation, specialized dentists and general practitioners demonstrated proficiency in promptly addressing complex crown fractures in young permanent teeth with pinpoint exposure within 24 hours of the injury. However, if treatment was delayed, their knowledge needed improvement when dealing with an immature permanent tooth with significant exposure. Only 30.4% of specialists and 28.3% of GDPs selected the correct answer in this scenario, consistent with findings from Buldur B 2018[25], where only 30.9% of participants provided correct responses. The results suggest that dentists may have less confidence when handling complicated cases involving immature teeth than they do with other dental emergencies. This observation is consistent with previous research[8,9,18,22], which indicates the difficulties and shortcomings in dentists' confidence and knowledge regarding specific dental emergencies. The IADT guidelines recommend partial pulpotomy for cases with significant exposure in immature or mature permanent teeth, which can lead to bacterial contamination or delayed treatment. In contrast, pulpectomy is recommended for pulp necrosis resulting from complicated crown fractures in immature teeth[21,26].

Survey results revealed that 65.2% of specialists and 56.6% of GDPs correctly identified milk as the preferred storage medium for replanted teeth. There is significant variation in the percentage of correct answers regarding the storage medium in the specialized literature. In the United Arab Emirates, 100% of surveyed dentists correctly identified milk as the preferred storage medium [13]. In Iasi, Romania, 75.9–80% of the investigated residents recognized the correct storage medium [10]. Among Italian dentists, the proper medium was identified by 74.7% [19]. In Turkey, milk was identified by 63% of dentists [12].

In this study, 41.3% of the specialists correctly identified soaking the immature avulsed permanent tooth in doxycycline for 5 minutes before replantation as the appropriate management. This percentage is higher than the 34.4% reported by Al-Haj Ali SN 2020[18] and 39.6% reported by Cınar C 2013[12]. These findings indicate that the importance of doxycycline in improving the prognosis and enhancing revascularization of avulsed immature teeth, as reported by Trope[28], needs further reinforcement among dental professionals.

When questioned about the duration for splinting a mature avulsed tooth, 58.7% of specialists provided the correct answer, compared to 34.9% of general dental practitioners (GDPs). This percentage exceeds the 49% reported by Alyasi M 2018[13] among 145 participants. Although the effectiveness of systemic antibiotics is still debatable, the periodontal ligament of an avulsed tooth often becomes contaminated with bacteria from the oral cavity, the storage medium, or the environment in which the avulsion occurred. Therefore, administering systemic antibiotics after avulsion and replantation is recommended to prevent infection-related complications and decrease the likelihood of inflammatory root resorption[5]. Regarding antibiotic therapy after replantation, specialists were more likely to recommend penicillin (76.1%) than general dental practitioners (GDPs) (56.6%).

The responses to question Q12: Is it advisable to replant avulsed primary teeth? The current study revealed that the surveyed dentists possessed a high level of knowledge regarding the replantation of primary teeth, with 84.7% of specialists and 78.3% of general dental practitioners (GDPs) indicating that they would not replant an avulsed deciduous tooth. This finding is consistent with previous research. Where 85.1% of specialists and 77.9% of GDPs had the same understanding[18], consistent with IADT guidelines[29].

The findings suggest that specialization has a significant influence on average knowledge scores ($P < 0.001$), consistent with previous research [29-32]. Additionally, female dentists and those with more than five years of experience in private practice generally exhibited slightly higher knowledge levels. However, this difference was not statistically significant. However, Mazur M et al.[19] found that professionals with a degree in dentistry outperformed those with a medical degree. Additionally, female dentists and those with academic affiliations demonstrated slightly superior overall knowledge.

A key finding of this study is that general dental practitioners (GDPs) demonstrate less knowledge in managing traumatic dental injuries (TDIs) compared to specialists, highlighting a significant knowledge gap that stems from differences in training and clinical exposure. Specialists, such as pediatric dentists and endodontists, receive targeted education and extensive clinical experience in trauma management, equipping them with the specialized skills needed to handle dental emergencies effectively. In contrast, GDPs typically undergo a broader dental education, which, while comprehensive, does not offer the depth necessary for managing complex trauma cases.

Several studies support the relationship between specialization and enhanced knowledge. Kostopoulou

MN 2005[31] found that additional training and specialization are key to improving dentists' competence in emergency care. Similarly, Hartmann et al.[8] demonstrated that dentists with advanced academic qualifications, such as Master's degrees or PhDs, consistently outperform their peers in trauma-related knowledge assessments. This suggests advanced qualifications contribute to a deeper clinical understanding, particularly in specialized fields. Cınar C 2013[13] and Hu LW 2006[32] further substantiate these findings, reporting differences in trauma-related knowledge between specialists and general dental practitioners (GDPs). However, their studies focused on pediatric dentistry and endodontics, underscoring the importance of specialized training in enhancing clinical expertise.

These findings underscore the importance of incorporating trauma-specific education into dental curricula to better equip general dental practitioners (GDPs) for effectively managing emergencies. Moreover, continuous professional development programs emphasizing dental trauma management, interdisciplinary collaboration, and adherence to evidence-based guidelines are vital for addressing knowledge gaps. By addressing these educational shortcomings, the competence and preparedness of GDPs to manage traumatic dental injuries (TDIs) can be significantly enhanced, leading to improved patient outcomes and higher-quality care.

Study Limitations:

A significant drawback of this study concerns the sampling method employed. Convenience sampling was chosen due to its convenience in terms of accessibility and time limitations. However, this approach may only accurately depict a portion of the dental population working in Erbil. Moreover, comparing results with other studies is challenging due to differences in survey questions and response options.

Strength of the Study:

The primary strength of the research lies in its pioneering examination of dentists' comprehension of managing traumatic dental injuries (TDIs) in Erbil City, notwithstanding some shortcomings.

CONCLUSION

The results indicate that specialists are more adept at handling luxation injuries than general dental practitioners (GDPs), highlighting the necessity for GDPs to acquire more proficiency in treating avulsed teeth. The study suggests implementing regular continuing education programs focused explicitly on dental trauma and its management to enhance the knowledge and skills of dental professionals in addressing avulsion injuries. Subsequent research could involve general dental practitioners, physicians, and nurses as control groups to gain a comprehensive understanding of knowledge levels across various healthcare disciplines regarding TDIs.

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AUTHOR CONTRIBUTION

Hamonari NH: Designed and conducted the study, performed the secondary analysis, drafted as well as revised the manuscript and finalized approval of the version to be published.

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