

Opinions of general and specialist dentists about the status of medical services provided to patients with dental-alveolar trauma in Kerman province: A qualitative study

Marziye Pahlavan Sharif¹, Arash Shahravan^{1*}, Fatameh Malek Ghasemi¹, Fatameh Sadeghi¹, Amir H. Nekouei²

¹Endodontology Research Center, Kerman University of Medical Sciences, Kerman, Iran

²School of Public Health, Kerman University of Medical Sciences, Kerman, Iran

Abstract

Background: Considering the high rate of dentoalveolar trauma, especially in the anterior teeth, the lack of a specialty center with trained personnel and adequate information on trauma in the large and populous city of Kerman is an important concern. The aim of this study was to evaluate the opinions of general dentists and specialists who provide treatment for dentoalveolar trauma patients on the status of the associated medical services in Kerman province.

Methods: The present qualitative study analyzed the current data on dental trauma to interpret the published data on the subject. This study was conducted using face-to-face interviews with general practitioners and specialists who had done dental work in Kerman province for at least one year. Participants were selected purposefully and with maximum diversity. Interviews continued until data saturation was achieved. To extract the data, the interviews were transcribed, and the extracted data were coded and classified.

Results: Most of the dentists believed that the treatment quality for trauma patients depended on where and which dentist (a specialist or a general dental practitioner) rendered the treatment. Moreover, the patient's knowledge, awareness, and culture are important factors. Concerning suitable treatment centers for trauma patients, all the dentists believed that there are no suitable round-the-clock treatment centers in Kerman province and the existing centers do not treat minor traumas adequately.

Conclusion: Due to lack of adequate knowledge among dentists, parents, and teachers of the associated guidelines, it is recommended that meetings be held to inform dentists of these guidelines. Posters of these guidelines can also be put up in dental schools and treatment centers. It is also highly recommended that a round-the-clock treatment center be established for dentoalveolar injuries.

Keywords: Awareness, Knowledge, Alveolar trauma

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Introduction

Traumatic injuries to teeth and their supporting bones are defined by the World Health Organization (WHO) as injuries resulting from trauma to teeth, tooth-supporting tissues, gingivae, and the oral mucosa. These traumas are quite diverse, and depending on the severity of the trauma, they require diverse treatment modalities.¹

According to Andreasen, dental trauma is a real dental emergency and requires immediate treatment to relieve the patient's pain and difficulty and also improve the treatment prognosis.¹ Therefore, every dentist needs to be prepared to face and treat such injuries skillfully and with confidence by making the right decisions.¹

These injuries mainly happen to children. A recent meta-analysis showed that approximately one billion individuals worldwide have been affected by traumatic

injuries. The high prevalence of oral and dental injuries has significantly affected patients' quality of life and will possibly lead to high costs in the long term². In addition, another study showed that these injuries decrease children and adolescents' self-confidence, especially when suitable treatment is not provided, and this problem is on the rise with the increased use of social networks.³

The prevalence of traumatic dental injuries (TDIs) has been reported at approximately 18%, and most cases are reported in America and Southeast Asia.⁴ Very few studies have been conducted on the prevalence of dental trauma in Iran and in Kerman. However, the very high number of accidents in Iran is an important cause of dentoalveolar injury.^{5,6}

Razeghi et al evaluated the awareness and performance of dentists, parents, and teachers of dental trauma in three



separate studies. The first study was carried out on dentists participating in the 57th Congress of the Iranian General Dental Practitioners in 2017 using a questionnaire. The second study was conducted on second-grade elementary schoolchildren in 2017 using a descriptive/cross-sectional questionnaire, and the third study was carried out on the mothers of second-grade elementary schoolchildren using a questionnaire. These three studies showed that the performance and knowledge of these three groups of participants were inadequate.⁷⁻⁹

Azami et al conducted a meta-analysis and systematic review on 3197 studies, reporting that the prevalence of dental trauma was generally 17.5%, with boys showing a higher rate than girls. In addition, the chief etiologic factor for dental trauma was falls, and the most frequent location was home.¹⁰

A specialty center with trained personnel and adequate treatment equipment is necessary for prompt therapeutic interventions in these patients, considering the lack of adequate data on dentists dealing with dental trauma, parents, and teachers, and the high rate of dental trauma and its emotional effects and high costs of treatment, which might persist for many years.

Methods

The present qualitative study aimed to analyze the current data on dental trauma to interpret the published data on the subject.

The subjects in the present study were selected purposefully with maximum diversity in terms of age, specialty, and the location of the activity, and the sample selection process continued until sufficient data were collected. The samples consisted of general dental practitioners and specialists with at least one year of experience in dentistry in Kerman province. The subjects participated in the study voluntarily.

The subjects participated in a semi-structured face-to-face interview for data collection. The interview began with the question, "How do you rate the quality of treatments for patients with dentoalveolar trauma in Kerman province?" The interview was expanded with questions like "Please explain this further" and "Did I understand you correctly?"

The mean duration of each interview was 30 minutes, depending on the interviewed person's interest and patience.

The data were first recorded digitally and then recorded word-by-word. Next, the data of each interview were evaluated several times for an in-depth understanding of the data. Then the words, sentences and paragraphs from the interviews that had important points were considered as semantic units and were coded. Then similar codes were combined and classified, and the overall theme of the study was extracted based on these classifications.

Finally, the principal codes were checked by the

participants to ensure the acceptability of the data. The chief researcher had had prolonged engagement with trauma patients and had adequate experience and knowledge in this field.

Results

In the present study, in-depth face-to-face interviews were conducted with 20 general dental practitioners and specialists, consisting of 5 endodontists, 6 pediatric dentists, 3 oral and maxillofacial surgeons, and 6 general dental practitioners.

During the interviews, questions were asked about the quality of therapeutic services provided for patients with dentoalveolar trauma in Kerman province. After coding important sentences in the interviews, 26 important opinions were classified in 7 main fields: (1) treatment quality, (2) treatment cost, (3) a suitable treatment center, (4) people's awareness about dental trauma, (5) specialists and general dental practitioner's awareness about dental trauma, (6) the facilities available in the existing treatment centers (Bahonar Trauma Clinic and the Faculty of Dentistry), and (7) performance based on clinical guidelines.

1. In the main field of treatment quality, the following codes were reported: Eight dentists believed that the treatment quality for trauma patients depended on where and which dentist (a specialist or a general dental practitioner) rendered the treatment. In addition, it depended on the people's awareness and knowledge and the patient's cultural level.
2. Concerning treatment costs, three dentists believed that the fees charged by the dentists for trauma cases are not adequate considering the time dedicated to the treatment. In addition, one dentist believed that the high costs of dental treatments were a factor for delayed referrals of patients to treatment centers.
3. In the field related to suitable treatment centers for trauma patients, all the dentists believed that there are no suitable round-the-clock treatment centers in Kerman province to provide emergency care for patients with dentoalveolar trauma. Bahonar hospital provides services for extensive traumas that result in jaw fractures, and the Faculty of Dentistry provides these services during regular working hours. Two dentists mentioned the unavailability of round-the-clock emergency centers, and 14 believed that trauma patients do not refer to treatment centers on time.
4. In the field of people's awareness and knowledge, 16 dentists believed that people have poor awareness about dentoalveolar trauma, and 9 believed people have moderate knowledge of how to deal with such traumas.
5. In the field of dental personnel's knowledge (specialists and general dental practitioners), 11 participants believed that dental specialists have good

knowledge about dental trauma, but general dental practitioners have poor knowledge. Five participants believed that dental specialists have poor knowledge, and general dental practitioners have adequate theoretical knowledge but poor performance. In addition, one participant believed that specialists and general dental practitioners have poor knowledge about these traumas. Three participants believed that specialists have good knowledge but had no opinion about general dental practitioners. Furthermore, three participants believed that a maxillofacial surgeon's priorities and attitudes are very different from those of an endodontist or a pediatric dentist. Three participants believed that specific retraining courses on trauma were necessary.

6. In the field of treatment facilities in the existing centers for trauma patients, such as Bahonar Hospital and Kerman Faculty of Dentistry, 6 participants believed that the Department of Surgery does not have sufficient facilities to treat trauma patients, and 8 participants believed that the Department of Surgery in Bahonar hospital is a center for patients who have more severe trauma in other organs in addition to maxillofacial trauma. Therefore, the priority is to treat more severe traumas, and the patients are referred elsewhere for root canal treatment. In addition, 7 participants believed that dental offices and the Kerman Faculty of Dentistry have limitations in their working hours.
7. Concerning the dental personnel's performance based on clinical guidelines, 12 participants reported that the treatments they provided were based on experience, and they did not follow the guidelines. Five participants believed that they rendered treatment according to the guidelines, and four believed that none of the treatments provided in Kerman province followed the guidelines. In addition, 6 participants believed that specialists follow the guidelines, but the general dental practitioners do not.

Discussion

Dental trauma due to dental caries is the most important reason for pulp and periradicular diseases, with severe medical, esthetic, and psychological consequences for children and parents. Studies have shown that almost 30% of children <7 years old have experienced trauma to one of their incisor teeth. Dental traumatic injuries are considered emergency cases and should be treated as quickly as possible to alleviate pain and restore the patient's function and appearance. As the prognosis of some traumatic injuries depends on the trauma severity and proper and prompt treatment, the treatment plan should be determined at the time of trauma. In addition, these lesions should be followed up for a long time because they are associated with many complications.

The results of the present study cannot be compared with other studies and centers because despite numerous qualitative studies in other countries, no qualitative studies have been carried out in dental schools in Iran in recent decades on the status of services provided for patients with dentoalveolar trauma.

According to the present study, more than half of the dentists believed people have very poor knowledge of managing and following up dentoalveolar trauma. Raouf et al reported that people have poor knowledge about dental trauma¹¹. In addition, Mesgarzadeh et al reported that elementary school teachers had poor knowledge about proper techniques, and <20% of these teachers were aware of the need for emergency treatment. Therefore, it is necessary to put up posters all over the city and schools to increase the knowledge of the community members in this respect so that teachers and schoolchildren will be in continuous contact with such information. In addition, it is necessary to arrange lectures on television and provide information through public media such as newspapers and magazines to promote people's knowledge. Furthermore, more training should be provided for those with a high possibility of dealing with such traumas, such as school healthcare trainers, sports club trainers, and the mothers of elementary school children.¹²

Concerning the treatment personnel's awareness, the dominant opinion was that specialists have a thorough knowledge and general dental practitioners have poor knowledge, necessitating retaining courses for the latter. Abbasi et al reported that the general dental practitioners' knowledge about avulsion was extremely inadequate.¹³ Contrary to the present study findings, Raouf et al reported that a high percentage of dentists had adequate knowledge about treating trauma patients; in addition, more than half of the dentists and almost all the physicians were dissatisfied with their knowledge in this respect and requested retraining courses. Therefore, retraining courses and periodic seminars and workshops will be useful to improve their knowledge.¹⁴

Concerning dental students' knowledge, Mohebbi et al evaluated dental students in Tehran regarding their management of dental trauma and found their knowledge inadequate.¹⁵ Dental students are trained theoretically concerning dental trauma in their university courses. However, they do not provide practical services for such patients at the university. After graduation, they are expected to treat patients with trauma. Therefore, the incorporation of treating trauma cases into their educational curriculum will be useful. In addition, an independent educational group on dental trauma will be useful for providing better education in this area.

Considering that most of the interviewed general dentists did not treat trauma patients based on the guidelines, it is recommended that meetings be held to present the guidelines to the dentists and posters

be prepared from these guidelines and installed in educational and treatment centers.

In the present study, most dentists believed that prompt treatment was delayed because patients defer their referral to treatment centers because they do not know that they should immediately refer to a dentist in cases of dental trauma. In addition, they believed no suitable specialty trauma centers are available. Nilchian et al reported that almost 22% of patients visited a dentist one week after the trauma was inflicted and only a small percentage of patients returned for follow-up visits.¹⁶ However, it is possible to provide information for the general population as mentioned above. Concerning specialty trauma centers with educational and treatment responsibilities, such a center can be established to make experienced and skilled dentists available round-the-clock for patient referrals in the event of trauma. Specialty trauma equipment should be provided in such centers so that the dentist can provide the best treatment modality for trauma patients. In addition, a proper documentation system should be established in such a center for the follow-up of patients.

According to the opinions, treatment costs for dental traumas were unfavorable for both patients and dentists. The dentists complained about the low fees, and the patients deferred their referral to treatment centers due to high costs. In a study on the inequality of access to oral and dental treatments, Northridge et al concluded that low-income individuals and those without insurance coverage had low hygiene levels. Therefore, the provision of insurance policies and reimbursement for some treatment costs of dentoalveolar trauma by the Health Ministry can be effective for treating such cases.¹⁷

Conclusion

Concerning guidelines, as most general dental practitioners do not follow the guidelines, it is recommended that meetings be held to provide these guidelines for dentists. Posters of these guidelines can also be put up in dental schools and treatment centers.

Authors' Contribution

Conceptualization: Marziye Pahlavan Sharif, Arash Shahravan, Fatameh Malek Ghasemi, Fatameh Sadeghi, Amir H. Nekouei.

Data curation: Marziye Pahlavan Sharif, Arash Shahravan, Fatameh Malek Ghasemi, Fatameh Sadeghi, Amir H. Nekouei.

Investigation: Marziye Pahlavan Sharif, Arash Shahravan, Fatameh Malek Ghasemi, Fatameh Sadeghi, Amir H. Nekouei.

Formal analysis: Marziye Pahlavan Sharif, Arash Shahravan, Fatameh Malek Ghasemi, Fatameh Sadeghi, Amir H. Nekouei.

Methodology: Marziye Pahlavan Sharif, Arash Shahravan, Fatameh Malek Ghasemi, Fatameh Sadeghi, Amir H. Nekouei.

Writing—original draft: Marziye Pahlavan Sharif, Arash Shahravan, Fatameh Malek Ghasemi, Fatameh Sadeghi, Amir H. Nekouei.

Writing—review & editing: Marziye Pahlavan Sharif, Arash Shahravan, Fatameh Malek Ghasemi, Fatameh Sadeghi, Amir H. Nekouei.

Competing Interests

None.

Data Availability Statement

Data will be available by request to the corresponding author.

Ethical Approval

This study was approved by the Ethics Committee at Kerman University of Medical Sciences (Ethical code: IR.KMU.REC.1397.085).

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