Original Article

ASSESSMENT OF SCHOOL TEACHERS' AWARENESS ABOUT DENTAL TRAUMA IN CHILDREN AT RIYADH CITY: SURVEY STUDY

Haneen Alshukairi[1], Nour Jamal Alhayek[2], Rwan Ziad Alabbas[2], Fatimah Issa[2], Walaa Alnahwi[2]*

[1]*Department of Preventive Dentistry, College of Dentistry, Riyadh Elm University, Riyadh, KSA. drhaneensh@riyadh.edu.sa*
[2]*Department of Internship Training Program, College of Dentistry, Riyadh Elm University, Riyadh, KSA.*

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ABSTRACT

Loss or displacement of teeth has an adverse effect on children's psychological health, function, and appearance. Approximately 25% of kids get dental injuries at school. Males are more likely than girls to be harmed than females are, and upper central incisors are the most often damaged teeth. TDIs are most often brought on by falls, sports, bicycling, and auto accidents. Children with Class II division 1 malocclusion, more overjet, and incompetent lips that do not shield the top front teeth are more vulnerable to trauma. Most earlier investigations found that schoolteachers lacked proper expertise in TDI management. The purpose of the study was to evaluate the potential effects of gender, nationality, marital status, school type, location, age group, educational attainment, and years of experience on teachers' knowledge. This cross-sectional study was conducted among the schoolteachers of Riyadh using paper-based and online surveys. Although the sample size calculations showed 377 samples, we used 433 responses to improve the accuracy of the results. The study showed that respondents lack training and understanding in dental trauma care. Most survey participants had not participated in a dental trauma training course and lacked confidence in their ability to handle oral traumas should they arise. Nevertheless, there is a desire to learn since most respondents want to learn more about dental trauma.

Key words: Dental trauma, Knowledge, School teachers, Awareness.

Introduction

Most facial injuries are caused by dental trauma, and avulsion happens in 1–16% of dental injuries. The treatment undertaken at the time of tooth avulsion and the period immediately following the incident determine the tooth's prognosis [1]. Approximately 25% of kids get dental injuries at school. Males are more likely than girls to be harmed than females are, and upper central incisors are the most often harmed teeth. TDIs are most often brought on by falls, sports, bicycling, and auto accidents. Youngsters with an inadequate lip that does not protect the upper front teeth, increased overjet, and Class II division 1 malocclusion are more susceptible to injury.

Most earlier investigations found that schoolteachers lacked proper expertise in TDI management [2].

The preservation of PDL cell vitality favors the success of tooth reimplantation. Replantation cannot always be done immediately, although it is the preferred treatment [3]. Very few injuries were documented, and the majority of permanent tooth injuries were reported as happening at schools. By the time they were 14, about 25% of kids had already had one or more of their permanent teeth damaged [4].

Many human behavioral variables, such as risk-taking recreational activities, vigorous involvement in sports without taking measures, or emotionally stressful situations, enhance the incidence of traumatic dental injuries (TDIs) in children in addition to oral and environmental factors [5, 6]. A Jeddah-based study found that children between 9 and 11 experienced dental injuries the most frequently. According to research, dental trauma affects 33% of Saudi schoolboys and 31.4% of Saudi schoolgirls. A better long-term prognosis requires prompt intervention at the injury scene [7].

Studies conducted in numerous nations (India, the United Arab Emirates, Brazil, and China) concluded that elementary school teachers are unprepared to handle dental injuries, particularly tooth avulsion [8].

In a study in Saudi Arabia, 66.3% of school personnel (67% and 66.3%, respectively) demonstrated a poor fundamental understanding of the significance of protecting the fractured portion of the tooth and recognizing the tooth involved in the trauma [9]. In a study at a Saudi primary school, findings revealed that most instructors were unaware of the best storage options for permanent teeth that had been avulsed. They concluded that the majority of Riyadh's Saudi elementary school teachers are ignorant of how to handle a youngster who has a dental injury [10].

The drying period after the tooth is removed from the oral cavity and the storage medium is crucial for successful

replantation [11].

As prior research in Saudi Arabia concentrated mostly on tooth avulsion, our study aimed to gauge instructors' awareness of general dental damage in deciduous teeth. Our study aimed to test instructors' knowledge regarding common dental trauma, including concussion, subluxation, displacement fracture, and avulsion, since prior research in Saudi Arabia had mostly concentrated on tooth avulsion in children.

The purpose of this study

Objectives of the study

1. Evaluate primary schoolteachers' understanding of traumatic dental injuries and how to manage them.
2. Assess how teachers' knowledge can be impacted by factors such as gender, nationality, marital status, school type, location, age group, education level, and years of experience.

Aim

To evaluate elementary school teachers' understanding of traumatic dental injuries and their treatment.

Objectives

1. To evaluate the potential effects of gender, nationality, marital status, school type, geography, age group, educational attainment, and years of experience on teachers' knowledge.
2. To assess knowledge of the treatment of various dental traumas

Study rationale

Children spend at least six hours a day in school. Moreover, younger kids are more likely to sustain traumatic injuries because they spend more time engaging in physical activity than older kids do. Therefore, the teachers are the ones who can provide them with the necessary management on an urgent basis.

Materials and Methods

Material and study design

This cross-sectional study was conducted among the schoolteachers of Riyadh using paper-based and online surveys after getting approval from the institutional review board (IRB), Riyadh Elm University, and the consent signed by the participant. Paper-based and online surveys were distributed. All data were collected with high confidentiality.

Study sample

Although the sample size calculations show 377 samples, we used 433 responses to improve the accuracy of the results.

The margin of error: 5%

Confidence level: 95%

Population size: 20000

Response distribution: 50%

Minimum sample size: 377

Study instrument

The online questionnaire consisted of questions including gender, nationality, marital status, school type, location, age group, education level, and years of experience. Questions about the management of concussion, subluxation, fracture, and avulsion were included in the questionnaire.

Instrument validity and reliability

Twenty participants were sent the survey as part of a pilot research, and the results were entered into SPSS version 22 to calculate the reliability using Cronbach's coefficient alpha. The questionnaire's validity was verified by distributing it to seasoned REU researchers, and modifications were made in response to their suggestions and criticisms.

Statistical analysis

Collected data was analyzed using SPSS version 22, where descriptive and inferential statistics were conducted. For comparisons, the T-test or chi-square test was used. Comparisons between groups were made with the value of significance kept under 0.05.

All data will be processed with confidentiality using the declaration of Helsinki.

Results and Discussion

Table 1. Demographics

Gender	Male: 49% Female: 51%
Nationality	Saudi: 71% Non-Saudi: 21%
Marital	Single: 24.0 Married: 65.4% Divorced: 8.1% Widow:2.1%
School type	Private:46% Government:53%
Location	North: 46.2% West:13.4% South:12% East:28.4%

Age group	20-30 years old: 30.7% 31-40 year old: 32.1% 41-50 year old: 26.8% Above 50: 10.4%
Education	Undergraduate: 7.2% Graduate: 77.6% Postgraduate: 15.2%
Experience	Less than 10 years: 45% More than 10 years: 55%

Table 1 provides information about the demographic characteristics of a group of individuals. The table presents the percentages of respondents in different categories based on their gender, nationality, marital status, school type, location, age group, education, and experience.

The table shows that the group consists of slightly more females (51%) than males (49%). Most respondents (71%) are Saudi nationals, while 21% are non-Saudi. Most respondents (65.4%) are married, while 24% are single, 8.1% are divorced, and 2.1% are widowed.

In terms of age group, the most significant percentage of respondents (32.1%) fall in the 31-40-year-old category, followed by 20-30 years old (30.7%), 41-50 years old (26.8%), and above 50 (10.4%). As for education, most respondents (77.6%) have completed their graduate studies, while 15.2% have postgraduate degrees and 7.2% have only undergraduate degrees.

Table 2. Survey responses

Questions	Responses
Have you witnessed dental trauma in the past?	Yes: 68.8% No: 31.2%
Have you ever attended a dental trauma training course?	Yes: 21.2% No: 78.8%
Have you received information about dental trauma in the past?	Yes: 52.2% No: 47.8%
If yes, what was the source of the information?	Dentist: 30.7% Physician: 4.6% Friend: 8.8% Internet: 22.9% Other: 33%
If there is bleeding from the gum after Trauma, what will be your action?	Nothing asks him to rinse: 40.1% Take the child to the dentist: 47.4% I don't know: 12.5%
If there is mobility in the tooth immediately after the trauma, what will be your action?	.00: .3% Nothing Just observe the child: 22.3% Take the child to the dentist immediately: 68.3% I don't know: 9.1%
If the tooth is displaced from its place, what will be your action	Try to fix it with your finger: 14.6% Take the child to the dentist: 71.8% I don't know: 13.6%
Should the broken piece of the tooth be saved?	Yes: 38.8% No: 29.8% I don't know: 31.4%
What will be your immediate action?	Replant the tooth: 9.0% Store the tooth: 20.6% Stop bleeding: 42.0% Not sure: 28.4%
Which storage medium is suitable for storing the knocked-out tooth?	Tap water: 8.8% antiseptic solution: 25.4% milk: 53.1% tissue paper: 12.7%
If a 9-year-old child fell and broke his upper front tooth, which type of tooth is it most likely to be?	A baby tooth: 42.7% A permanent tooth: 39.5% I don't know: 17.8%

Are you capable of managing dental traumas if they happen?	Yes: 31.4% No: 68.6%
Would you like to receive information about dental trauma?	Yes: 82.2% No: 17.8%

Table 2 displays the responses to a survey related to dental trauma. The first question asks if the respondent has witnessed dental trauma in the past. Out of all the responses, 68.8% replied yes, while 31.2% replied no. The second question inquires if the respondent has attended a dental trauma training course, and only 21.2% replied yes, while 78.8% responded no.

For the sixth question, which asks about the action the respondent would take if there is mobility in the tooth immediately after the trauma, 68.3% said they would take the child straight to the dentist, and 22.3% said they would only watch the youngster. The seventh question inquires what the respondent would do if the tooth is displaced from its place, and 71.8% said they would take the child to the dentist, while only 14.6% said they would try to fix it with their finger.

In response to the eleventh question, which asked which kind of storage to use for the knocked-out tooth, 53.1% of respondents selected milk and just 8.8% selected tap water.

Table 3. Survey based on gender

Questions	Male	Female	P-value
Have you witnessed dental trauma in the past?	Yes: 75.4% No: 24.5%	Yes: 62.4% No: 37.5%	.004
Have you ever attended a dental trauma training course?	Yes: 21.6% No: 78%	Yes: 20.8% No: 79.1%	.907
If yes, what was the source of the information?	Dentist: 33.9% Physician:4.24% Friend: 6.13% Internet: 18.86 Other: 35.3%	Dentist: 44.34% Physician: 4.97% Friend: 11.31% Internet: 26.6% Other: 30.7%	.041
What will be your action if there is mobility in the tooth immediately after the trauma?	Nothing Just observe the child: 27.8% Take the child to the dentist immediately: 64.6% I don't know: 7.51%	Nothing Just observe the child: 0.17% Take the child to the dentist immediately: 71.4% I don't know: 10.3%	.146
If a 9-year-old child fell and broke his upper front tooth, which type of tooth is it most likely to be?	A baby tooth: 46.6% A permanent tooth: 32.54% I don't know: 20.75%	A baby tooth: 38.91 A permanent tooth: 46.21% I don't know: 14.93%	.013
Are you capable of managing dental traumas if they happen?	Yes: 31.13% No: 68.86%	Yes: 31.57 No: 68.32%	.918
Would you like to receive information about dental trauma?	Yes: 89.15% No: 10.84%	Yes: 75.56% No: 24.43%	.000

Table 3 indicates no statistically significant difference in the replies of male and female participants to these questions, as shown by the multiple p-values in **Table 3** that are larger than 0.5. The first question, "Have you witnessed dental trauma in the past?" shows a statistically significant difference between the replies of the male and female participants (p-value = 0.004).

The eleventh question, "If a 9-year-old child fell and broke his upper front tooth, which type of tooth it is most likely to be?" has a p-value of 0.013, indicating a statistically significant difference between the responses of male and female participants. The twelfth query,

In the table, some p-values indicate the statistical significance of the difference in responses between males and females for each question. Looking at the percentages where the p-value is significant, we can see that females are less likely to have witnessed dental trauma in the past compared to males (62.4% vs. 75.4%, p = 0.004). Additionally, females are more likely to have received information about dental trauma from a dentist compared to males (44.34% vs. 33.9%, p = 0.041).

Furthermore, females are more likely to correctly identify a permanent tooth as the one most likely to be broken in a 9-year-old child (46.21% vs. 32.54%, p = 0.013). Finally, females are less likely to want to receive information about dental trauma compared to males (75.56% vs. 89.15%, p < 0.001). These results indicate significant differences in knowledge and behavior related to dental trauma between males and females. The findings may help develop targeted educational interventions to improve knowledge and management of dental trauma in both males and females.

Table 4. Survey based on School type

Questions	Private	Government	p-value
Have you witnessed dental trauma in the past?	Yes: 64.5% No: 35.5%	Yes: 72.5% No: 27.46%	.078
Have you received information about dental trauma in the past?	Yes: 57.5% No: 42.5%	Yes: 47.63% No: 52.36%	.043
If there is bleeding from the gum after Trauma, what will be your action?	Nothing. Just ask him to rinse: 47.72% Take the child to the dentist: 42.42% I don't know: 9.84%	Nothing. Just ask him to rinse: 33.54% Take the child to the dentist: 51.61% I don't know: 14.83%	.044
Should the broken piece of the tooth be saved?	Yes: 41.5% No: 27.5% I don't know: 31%	Yes: 36% No: 31.75% I don't know: 31.75%	.503
What will be your immediate action?	Replant the tooth: 10% Store the tooth: 22% Stop bleeding: 40.5% Not sure: 27.5%	Replant the tooth: 8.15% Store the tooth: 19.31% Stop bleeding: 43.34% Not sure: 29.18%	.777
Would you like to receive information about dental trauma?	Yes: 82.5% No: 17.5%	Yes: 81.97% No: 18.02%	.900

In **Table 4**, among the various questions in the survey based on school type, only three questions have a p-value below 0.05, which suggests that they have statistical significance. One of the questions that had a statistically significant difference in responses between private and government school participants was, "Have you received information about dental trauma in the past?" The p-value for this question was 0.043, indicating that private school participants were more likely to receive information about dental trauma than government school participants. Another question with a significant difference in responses between private and government school participants was, "If there is bleeding from the gum after trauma, what will be your action?" In comparison to participants in government schools, parents of children attending private schools were more likely to take them to the dentist right away, as indicated by the p-value of 0.044 for this question.

On the other hand, for the question "Should the broken piece of the tooth be saved?" given that the p-value was 0.503, there was no statistically significant difference between the replies of individuals from government and private schools. Both private and government school participants had similar responses. For the question "Have you witnessed dental trauma in the past?", the p-value was 0.078, which was close to the significance level but not significant. This indicates that the difference in responses between private and government schools was not statistically significant and could have occurred by chance.

Similarly, for the questions "Have you ever attended a dental trauma training course?" and "If there is mobility in the tooth immediately after the trauma, what will be your action?" The p-values, which were not statistically significant, were 0.079 and 0.683, respectively. About the inquiries "If there is bleeding from the gum after Trauma, what will be your action?" and "If the tooth is displaced from its place, what will be your action?", there were significant differences in responses between private and government schools.

Table 5. Survey based on age group

Questions	20-30 Years	31-40 Years	41-50 Years	Above 50	p-value
Have you witnessed dental trauma in the past?	Yes: 58.6% No: 41.4%	Yes: 69.8% No: 30.2%	Yes: 74.1% No: 25.9%	Yes: 82.2% No: 17.8%	.008

Have you ever attended a dental trauma training course?	Yes: 22.6% No: 77.4%	Yes: 19.4%No: 80.6%	Yes: 21.5% No: 78.5%	Yes: 22.2% No: 77.8%	.931
If there is bleeding from the gum after Trauma, what will be your action?	Nothing. Just ask him to rinse:37.7% Take the child to the dentist: 45.3% I don't know:16.9%	Nothing. Just ask him to rinse: 47.2% Take the child to the dentist: 44.9% I don't know: 7.9%	Nothing. Just ask him to rinse: 36.2% Take the child to the dentist: 49.3% I don't know: 14.5%	Nothing. Just ask him to rinse: 34.8% Take the child to the dentist: 60.9% I don't know: 4.3%	.278
If there is mobility in the tooth immediately after the trauma, what will be your action?	.00: 0% Nothing. Just observe the child: 16.98% Take the child to the dentist immediately: 71.70% I don't know: 11.32%	00: 0% Nothing. Just observe the child: 28.08% Take the child to the dentist immediately: 65.17% I don't know: 6.74%	.00: 1.45% Nothing. Just observe the child: 23.18% Take the child to the dentist immediately: 65.22% I don't know: 10.14%	00: 0% Nothing. Just observe the child: 21.74% Take the child to the dentist immediately: 73.91% I don't know: 4.35%	.518
Which storage medium is suitable for storing the knocked-out tooth?	Tap water: 12.0% Antiseptic Solution: 26.3% Milk: 47.4% Tissue paper: 14.3%	Tap water: 5.8% Antiseptic solution: 25.2% Milk: 54.0% Tissue paper: 15.1%	Tap water: 6.9% antiseptic solution: 25.0% milk: 60.3% tissue paper: 7.8%	Tap water: 13.3% antiseptic solution: 24.4% milk: 48.9% tissue paper: 13.3%	.356
Would you like to receive information about dental trauma?	Yes: 77.4% No: 22.6%	Yes: 87.1% No: 12.9%	Yes: 79.3% No: 20.7%	Yes: 88.9% No: 11.1%	.096

Table 5 displays the results of a survey conducted based on different age groups, and it provides insights into the respondents' knowledge and actions related to dental trauma. The statistical significance of the observed variations in responses between the age groups is shown by the p-values. The first question asked whether the respondents had witnessed dental trauma in the past. The percentage of respondents who answered "yes" ranged from 58.6% in the 20-30 age group to 82.2% in the above 50 age group. The p-value for this question was 0.008, indicating a statistically significant difference between age groups.

The second question asked whether the respondents had attended a dental trauma training course. The p-value for this question was 0.931, indicating no statistically significant difference between age groups. The third question asked whether the respondents had received information about dental trauma in the past. The p-value for this question was 0.102, indicating no statistically significant difference between age groups. The fourth question asked about the source of information on dental trauma. Dentists were the most common source of information in all age groups, ranging from 19.8% in the above 50 age group to 33.1% in the 20-30 age group. Demonstrating no statistically significant difference between the age groups, the p-value for this question was 0.149.

In the fifth question, the respondents were asked what they would have done if they had sustained gum bleeding following trauma. Demonstrating that there was no statistically significant difference between age groups; the p-value for this question was 0.278. The sixth question asked about the respondents' actions if there was mobility in the tooth immediately after trauma. The most common response was to immediately take the child to the dentist in all age groups, ranging from 65.17% in the 31-40 age group to 73.91% in the above 50 age group. The p-value for this question was 0.518, indicating no statistically significant difference between age groups.

In the seventh question, the respondents were asked what they would do if the tooth fell out of its socket. Across all age categories, the most frequent response was to take the kid to the dentist (68.5% in the 31–40 age group and 75.5% in the 20–30 age group). Displaying that there was no statistically significant variation between age groups, the p-value for this question was 0.322.

"Is it OK to save the fractured portion of the tooth?" was the ninth question. In the 41–50 age group, the percentage of respondents who said "yes" was 35.16%; in the 20–30 age group, it was 45.11%. Indicating no statistically significant difference between the age groups, the p-value for this question was 0.589. The next question in the table asks about the immediate action respondents would take if a tooth is knocked out. The percentages indicate the different options chosen by respondents within each age group. The statistically significant percentages ($p < 0.05$) are not found in this question as the p-value is higher than 0.05.

The further question inquires about the suitable storage medium for a knocked-out tooth. The statistically significant percentages are not found in this question as the p-value is higher than 0.05. Which kind of tooth is most likely to break in the top front teeth of a 9-year-old child? That is the third question. The statistically significant percentages ($p < 0.05$) are not found in this question as the p-value is higher than 0.05. The twelfth question asks respondents whether they feel capable of managing dental traumas. The statistically significant percentages ($p < 0.05$) are not found in this question as the p-value is higher than 0.05.

The final question asks respondents whether they want to receive information about dental trauma. The statistically significant percentages ($p < 0.05$) are not found in this question as the p-value is higher than 0.05.

This study sought to find out how knowledgeable primary school teachers in Riyadh, Saudi Arabia, were about treating traumatic dental injuries. It also sought to ascertain the extent to which teachers' knowledge was influenced by factors such as gender, nationality, marital status, school type, location, age group, education level, and years of experience [12].

Similar findings were published by Nirwan *et al*. in 2016 [13]: "The association of knowledge with age was statistically significant, indicating that teachers' age had an impact on the knowledge of management of TDIs." Contrary to earlier research, the correlation between knowledge and gender and years of teaching was statistically negligible. The previous survey found that 93.8% of instructors had not received any training in handling TDIs during first-aid instruction. According to Delcea and Siserman (2020) and Chandukutty *et al*. (2017), most instructors (71.9%) have not been trained in first aid for treating TDIs [14, 15]. Similar results were also found in another research, where 85.7% of the instructors had no training in dealing with oral trauma [16, 17].

The current study, which examines what professionals would do if there was movement in the tooth right after trauma, found a statistically significant difference in the responses of those with less than 10 years of experience and those with more than 10 years of experience. This difference had a p-value of.028, according to the findings. When the professionals were asked what they would do if the tooth were to shift from its position, the results showed no statistically significant difference (p-value of.055) across the responses of those with under a decade of experience and those with over a decade of experience. In previous research, Alluqmani *et al*. (2018), Griffin (2007) reported similar findings that just 28.1% of instructors had received training in first aid for catastrophic injuries [18, 19], which was lower than the proportion observed in a different Hong Kong survey [20]. In a previous study, Alluqmani *et al*. (2018) found that half of the teachers chose to see a dentist for emergency dental care, whereas 19.7% opted to receive treatment at a nearby hospital [18]. Other polls indicate that around 50% of participants would call a local emergency agency [21, 22].

According to research, 41.6% of instructors could not treat broken teeth because they believed the broken piece to be meaningless and preferred to ignore it [13]. In the present research, 21.9% of participants transport the broken piece to the dentist's office in a liquid vehicle. In a matched trial where instructors would look for a broken portion and transport the kid to the dentist, nearly the same rate (23.4%) was recorded [15, 23].

The findings of the current study's question on the best storage option for a knocked-out tooth indicate no significant difference across educational levels, as shown by the p-value of 0.602. The participants were tasked with determining the kind of tooth that would likely break if a 9-year-old kid fell and fractured their top front teeth. The findings revealed that most individuals, regardless of their level of education, thought it would be a permanent tooth. The responses from the three groups did not, however, differ statistically significantly ($p = 0.634$) [24].

The results of the previous research, which were consistent with those of other studies, showed that most respondents (63.5%) could distinguish permanent teeth from deciduous ones [13]. Differentiating between the two types of dentition is necessary to manage TDIs efficiently; 78.7% of respondents did not opt to restore the knocked-out deciduous teeth in their original places, which is in line with the findings of Young *et al*. (2012) 38.2% of the teachers were also aware that avulsed permanent teeth needed to be replaced [20]. However, smaller numbers (16.2% and 24%, respectively) were observed in earlier research [20, 25, 26].

With a p-value of.333, the results of the current study showed that there was no statistically significant difference between the replies of those with less than ten years of experience and those with more than ten years of experience. Which type of storage material is appropriate for holding a knocked-out tooth? According to the oral trauma guidance [1, 22], the suggested physiological storage media are milk (19.7% of teachers selected this option) and the saliva of the wounded individual (3.2%). This indicates that most teachers—more than 75 percent—did not select the appropriate dental avulsion storage media. More than half of the teachers who responded to the survey indicated they were not satisfied with their current understanding of treating dental trauma, which was higher than the incidence found in a prior study in Riyadh [27]. Teachers must be prepared to handle oral trauma since it happens regularly in classrooms.

More than 75% of the instructors expressed interest in

handling oral trauma, yet the standard first-aid training courses do not provide this material. Regarding the influence of gender on instructors' knowledge, a non-significant result was in line with the findings of other research. In contrast, a distinct finding was made in Brazil, showing that female instructors had better expertise than male teachers. Similar to what was shown in research done in Hong Kong [20], there was no significant relationship between the kind of school (public or private) and the teacher's expertise. According to research done in Brazil [8], the participants' educational degrees had no discernible impact on their knowledge. While other earlier local research did not include these two factors, the current study found no relationship between instructors' expertise and their marital status or nationality.

In 2011 [28], among the five geographic zones of Riyadh, teachers from the north possessed the highest level of knowledge; this might be related to their higher socioeconomic status, which directly influences knowledge. It has been demonstrated that years of experience and age have an impact on one's level of understanding regarding dental trauma and how it is treated.

The study shows that respondents lack training and understanding in dental trauma care. Most survey participants had not participated in a dental trauma training course and lacked confidence in their ability to handle oral traumas should they arise. Nevertheless, there is a desire to learn since most respondents want to learn more about dental trauma.

Conclusion

Insufficient information on severe dental injuries and how to treat them was discovered among Riyadh's school instructors. There was a correlation between the age, years of experience, and school location of teachers' understanding of the treatment of serious dental injuries in schools. Nevertheless, no connection was discovered between this information and the instructors' sex, country, marital status, educational background, or kind of school.

Recommendations

This research suggests that collaboration between the ministries of health and education is crucial to developing educational and training programs to improve teachers' awareness of the care of traumatic oral injuries in schools. Furthermore, it is advised that to appropriately and quickly handle dental emergencies, a nearby dentist or dental clinic collaborates directly with the schools. According to research by Al-Khalifa *et al*. (2022), providing instructors with information on managing oral injuries might be accomplished with effectiveness and appropriateness by using educational leaflets [29]. This implies that distributing informational pamphlets to educators on appropriate oral trauma care may also be beneficial.

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