

Knowledge on tooth avulsion in a population of students enrolled in health science programs in Brazil

Conhecimento sobre avulsão dentária de uma população de estudantes de cursos de saúde do Brasil

Diego Moura Soares¹, Pettely Thaise de Souza Santos Palmeira¹, Caio Márcio de Almeida Souza¹, Wamberto Vieira Maciel², Marconi Eduardo Sousa Maciel Santos²

ABSTRACT

Aim: To evaluate the level of knowledge on tooth avulsion among undergraduate students enrolled in Nursing, Physical Education, and Dentistry programs at the Caruaru Association of Higher Education (ASCES), as well as to analyze these results according to the variables of age, gender, prior information, and prior experience at the time when the questionnaire was applied. **Materials and Methods:** A multiple-choice, structured questionnaire was administered to students at three different time moments: at the beginning of the study, immediately after a lecture on tooth avulsion, and 3 months later in Caruaru, PE, Brazil. The significance level was set at 5%. **Results:** Results showed that the knowledge of students at the beginning of the study was low. However, the mean number of correct answers increased significantly for all three groups of students immediately after the lecture; 3 months later, almost all classes still showed significantly higher mean results when compared to findings from the beginning of the study. Students with prior experience, or who had received information previously, attained a significantly higher average of correct answers. **Conclusion:** The level of knowledge on tooth avulsion at the beginning of the study was low for the students of Physical Education and Nursing as compared to dental students. An increased amount of time devoted to theoretical and practical teaching activities on tooth avulsion during college and after graduation would be extremely important to consolidate such knowledge.

Uniterms: Tooth avulsion. Tooth injuries. Students. Health education.

INTRODUCTION

Tooth avulsion is a complex injury, as it affects the pulp, the periodontal ligament, the alveolar bone and the gingiva¹. Traumatic dental injuries are common among children and adolescents²⁻⁵, particularly at school age, and cause major functional, esthetic, and psychological damage to these patients¹.

Prognosis after tooth avulsion is directly associated with factors such as extra alveolar time, adequate transportation and storage of affected teeth (in appropriate medium), as well as the degree of damage to the periodontal ligament^{6,7}. If handled and treated quickly and efficiently, avulsed teeth can attain an excellent prognosis, maintaining esthetics and function and minimizing the psychological trauma caused to the child⁶.

Despite the importance of reaching a clear prognosis concerning the aforementioned elements, in general, these cannot be controlled by the specialized professionals who are regularly called upon to treat

avulsed teeth. Rather, such prognostic factors are more commonly related to the basic emergency management of traumas. Therefore, it is of utmost importance that both dental professionals and the lay public - including parents or guardians, primary school teachers, sports coaches, nurses, and other health professionals, who as a rule will be present when and where a trauma occurs or at primary care centers - possess the necessary knowledge and be aware of how to provide first aid to trauma victims. This is especially important for healthcare professionals from the areas of Dentistry, Physical Education, and Nursing, the fields that most commonly have direct or indirect contact with this type of trauma.

The present study aimed to evaluate the level of knowledge on tooth avulsion among undergraduate students enrolled in Nursing, Physical Education, and Dentistry programs at the Caruaru Association of Higher Education (ASCES), as well as analyze these results according to the variables of age, gender, prior

¹Dentist

²Department of Dentistry, Associação Caruaruense de Ensino Superior (ACES), Caruaru, PE, Brazil

Contact: diegomsoares@hotmail.com, pettely@hotmail.com, caiosouza20@hotmail.com, wambertomaciel@gmail.com

information, and prior experience at the time when the questionnaire was applied.

MATERIALS AND METHODS

This cohort study assessed a nonprobability sample consisting of 181 undergraduate students from two classes of three health science programs, namely Dentistry (D8s and D10s), Physical Education (PE7s and PE8s), and Nursing (N5s and N6s) at the Caruaru Association of Higher Education (ASCES) in Caruaru, PE, Brazil. These classes were selected to take part in the research, as they were the most advanced classes of each program in this institution. The first assessment of the study was conducted in August 2010. The study protocol was approved by the Human Research Ethics Committee from ASCES (CEP/ASCES 256/09). Students were included in the sample only after having been informed of the research objectives and having signed a free and informed consent form.

This study used a multiple-choice, structured questionnaire, similar to other instruments used in previous studies^{8,9}, containing two sessions: Session 1 - identification and data of preliminary information and experience with dental trauma; Session 2 - questions regarding the students' general knowledge on avulsions, administered at three different moments. Data related to preliminary information and experience in dental trauma were only considered in the first evaluation, which was intended to measure the students' knowledge of tooth avulsion at the beginning of the study.

The second assessment was carried out immediately after a lecture on the topic, and was designed to evaluate the level of knowledge assimilated from the lecture. The explanatory lecture was given by one of the investigators (D.M.S.), who had been previously calibrated and who presented audiovisual resources to cover topics of interest directly related to the subject. This presentation lasted approximately 10 minutes. Three months later, the same questionnaire

was administered once again, with the objective of evaluating the level of knowledge that the students retained over the long term.

All three assessments were conducted in the teaching rooms regularly used by each class and program. Students were given no prior notice of any of the questionnaire applications to avoid interference in the results. Each assessment took an average of 30 minutes for each class.

Data were analyzed using the Statistical Package for Social Sciences (SPSS for Windows, version 15.0, SPSS Inc. Chicago, IL, USA). Descriptive statistics was used to analyze the obtained results. Both parametric (paired and unpaired Student's t) and nonparametric (Mann-Whitney) tests were used to compare the assessments carried out at different points in time, by gender and by class. Significance was set at 5%.

RESULTS

Sample characteristics are listed in Table 1. From the total of 254 students enrolled in the selected classes, a sample of 181 was recruited, resulting in a participation of 69.1%; classes PE7s, D10s, and N6s provided the largest numbers of participants in each program. There were a higher number of females in all classes, accounting for 64.8% of the sample. Five students did not inform sex between the first and second assessments, and 42 between the second and third assessments, and were therefore treated as losses. Most participants were in the 20 to 30-year age group (mean age: 24.8±5.1). With the exception of dental students, the majority of the sample indicated that they had not received any prior information on the topic (51.1%), and only 43.2% reported having had prior experience with dental trauma during internships, peer tutoring, or any other situation.

The students with prior experience or prior information on the topic achieved significantly higher mean results (Table 2).

Table 1 - Sample characteristics: absolute numbers and percentage distributions according to gender, age, and prior information and experience

Program Class	Students n (%)	Gender		Age mean ± SD	Prior information		Prior experience	
		F (%)	M (%)		Yes (%)	No (%)	Yes (%)	No (%)
D8s	37 (20.4)	21 (56.7)	16 (43.3)	22.4 ± 2.5	37 (100)	0(0)	19 (51)	18 (49)
D10s	40 (22)	23 (57.5)	17 (44)	25.2 ± 5.0	40 (100)	0(0)	21 (52.5)	19 (47.5)
PE7s	32 (17.6)	13 (40)	19 (18)	25.2 ± 5.4	2 (6)	30 (94)	10 (31)	22 (69)
PE8s	7 (3.8)	5 (71.4)	2 (28.6)	23.1 ± 2.9	0 (0)	7 (100)	1 (14)	6 (86)
N5s	29 (16)	24 (82)	5 (18)	27.4 ± 6.9	5 (17)	24 (83)	12 (41.5)	17 (58.5)
N6s	36 (19.8)	30 (83)	6 (17)	24.4 ± 4.9	6 (17)	30 (83)	14 (39)	22 (61)
Total	181 (100.0)	116 (64)	65 (36)	24.8 ± 5.1	90 (49.8)	91 (50.2)	77 (42.6)	104 (57.4)

Table 2 - Mean number of correct answers in assessment 1 according to prior information or prior experience

Prior information	Assessment 1				Prior experience	Assessment 1			
	n	%	Mean	P		n	%	Mean	P
Yes	88	48.6	8.0	p < 0.001	Yes	76	42.0	6.9	p < 0.001
No	93	51.4	4.6		No	105	58.0	5.8	
Total	181	100	6.3		Total	181	100	6.3	

*Significant differences for both variables: Mann-Whitney test.

Dental students achieved the highest mean number of correct answers in the first assessment (D8s 8.3±1.4; D10s 8.2±0.9), whereas Physical Education students presented the lowest mean results (PE8s 4±1.7; PE7s 4.0±2.0). Only dental students had an adequate knowledge of tooth avulsion at the beginning of the study; however, all classes from all assessed programs improved their mean number of

correct answers significantly in the second assessment. There was a discrete reduction in the mean number of correct answers provided by students from all programs in the third vs. the second assessment, although the results obtained in the third assessment were still significantly better than those collected at the beginning of the study (Table 3).

Table 3 - Means and standard deviation for the number of correct answers in the three assessments

Program/ Class	Assessment 1	Assessment 2	Assessment 3	p		
	Mean ± SD	Mean ± SD	Mean ± SD	1 vs. 2	2 vs. 3	1 vs. 3
D8s	8.3 ± 1.4	9.8 ± 0.3	9.3 ± 0.73	p < 0.001	p > 0.05	p < 0.05
D10s	8.2 ± 0.9	9.3 ± 0.7	8.7 ± 1.1	p < 0.001	p < 0.05	p > 0.05
PE7s	4.0 ± 2.0	8.2 ± 1	8.0 ± 1.1	p < 0.001	p < 0.05	p < 0.05
PE8s	4 ± 1.7	9.1 ± 0.7	7.3 ± 0.8	p < 0.001	p < 0.05	p < 0.05
N5s	5.2 ± 1.8	8.9 ± 1.1	7.8 ± 1.7	p < 0.001	p < 0.05	p < 0.05
N6s	5.2 ± 1.5	9.7 ± 0.4	8.8 ± 1.1	p < 0.001	p > 0.05	p < 0.05

Paired t test.

The mean number of correct answers obtained by the two classes of each program was also compared, which revealed an absence of significant differences in the first assessment. However, in the second and third assessments, there was always one class with a

significantly higher mean number of correct answers (Table 4). Female students achieved significantly higher mean results when compared to male students, but only in the second assessment (Table 5).

Table 4 - Means and standard deviation for the number of correct answers obtained by different classes from the same program

Program/ Class	Assessment 1		Assessment 2		Assessment 3	
	Mean ± SD	p	Mean ± SD	p	Mean ± SD	p
D8s	8.3 ± 1.4	p > 0.05	9.8 ± 0.3	p < 0.001	9.3 ± 0.7	p < 0.05
D10s	8.2 ± 0.9		9.3 ± 0.7	p < 0.001	8.7 ± 1.1	p < 0.05
PE7s	4.0 ± 2.0	p > 0.05	8.2 ± 1.0	p < 0.05	8.0 ± 1.1	p < 0.05
PE8s	4 ± 1.79		9.1 ± 0.7		7.3 ± 0.8	
N5s	5.2 ± 1.8	p > 0.05	8.9 ± 1.1	p < 0.01	7.8 ± 1.7	p < 0.05
N6s	5.2 ± 1.5		9.7 ± 0.4		8.8 ± 1.1	

Unpaired t test.

Table 5 - Mean number of correct answers according to gender.

Gender	Assessment 1				Assessment 2				Assessment 3			
	n	%	Mean	P	n	%	Mean	P	n	%	Mean	P
Female	118	65.6	6.2	p> 0.05	114	64.8	9.3	p< 0.05	90	67.2	8.05	p>0.05
Male	63	34.4	6.2		62	35.2	9.1		44	32.8	8.44	
Total	181	100	6.29		176	100	9.25		134	100	8.53	

Mann-Whitney test.

Five students did not inform gender between the first and second assessments, and 42 between the second and third assessments, and were therefore treated as losses.

DISCUSSION

Dental trauma is a serious oral health problem¹⁰. Their high incidence rate, together with the lack of technical/professional preparation, the low educational level of the lay population, and the reduced access to the three levels of healthcare theoretically provided by the Brazilian public health service, all contribute to consolidating this type of injury as a public health problem. Moreover, of all types of dental traumas, avulsion is characterized as one of the most complex conditions and has been the subject of a great deal of discussion regarding treatment and prognosis².

The main etiological factors associated with tooth avulsion are falls, sport activities, traffic accidents and physical aggression. Younger patients are most commonly affected, especially between the first and second decades of life, when lifestyles tend to be more active and prone to such injuries^{2,3}. The diagnosis and treatment of patients in this age group is a major challenge for health professionals and the entire treatment team.

Studies have shown that both professionals and lay people have a low level of knowledge of dental traumas involving avulsion⁸⁻¹³. The basic principles that underlie treatment and prognosis are ignored by many sectors of society and in many parts of the world^{13,14}. Other studies have shown flaws even in the professional training provided within the academic environment, to the extent that undergraduate students enrolled in health science programs are not adequately trained and/or do not have the practical experience necessary to deal with a real emergency situation¹⁴⁻¹⁶. Nevertheless, students from programs such as Medicine, Nursing, Physical Education, and especially Dentistry, because of their future role as health professionals, can often be required to intervene in this type of event or to provide guidance to lay people.

The lack of knowledge on tooth avulsion among health professionals and lay people was the main motivation for the present study, which decided to evaluate the level of knowledge of avulsion among students attending Nursing, Physical Education, and Dentistry programs so as to describe a profile

of these future health professionals concerning the basic emergency management of dental traumas. This study's baseline analysis showed that the majority of students (especially those enrolled in Nursing and Physical Education programs) did not have the necessary knowledge and/or had had no prior experience (internship, peer tutoring, fieldwork, research, personal experience, etc.) with traumas involving avulsion. These data raise concern regarding the perpetuation of the problem, given that these students, on the eve of concluding their formation, still lack both knowledge and experience on tooth avulsion - a factor that may determine future treatment success or failure.

The data collected with the questionnaire revealed that students' knowledge at the beginning of the study, represented by the mean number of correct answers provided in the first assessment, was satisfactory only for dental students, whereas Nursing and Physical Education students showed results below the minimum necessary. On the other hand, the significant increase in results observed after the explanatory lecture (second assessment) suggests that at least some information had been assimilated at that point, supporting the findings of Al-Asfour et al.¹². This was further confirmed in the third assessment (3 months later), when all classes, with the exception of D10s, achieved significantly higher mean results when compared with data acquired at the beginning of the study, demonstrating that at least some information had been retained. These data corroborate the argument that information and professional formation should follow the principle of continued education, allowing students to come into contact with real situations and problems, thus improving their knowledge^{9,13}.

Although it is impossible to generalize the results of this study, as it is a non-probability sample, it can be inferred that, for the study group, a significant increase in knowledge on the theme could be observed throughout the research. Moreover, based on this study's design methodology (cohort), one can prove that the lecture contributed significantly with knowledge on tooth avulsion for students in the two assessments (2 and 3) after the lecture.

It was also interesting to note that, when comparing the mean results obtained by the two classes within each program, no significant differences could be observed at the beginning of the study, indicating that the students were at the same (low) level of knowledge. In the second and third assessments, however, significant differences could be observed among classes in all programs. Since the classes from more advanced courses in Dentistry and Physical Education had worse outcomes when compared to less advanced classes, what must be contemplated are the individual characteristics of each class, since the curriculum guidelines are the same for the different classes within the same program.

This lack of students' knowledge on tooth avulsion at the beginning of the study is not exclusive of our sample. Panzarini et al.¹⁷ also used a questionnaire to investigate the level of knowledge of emergency management of avulsed teeth in a group of Physical Education students. The authors assessed aspects such as time elapsed between trauma and treatment, storage media, and other important measures to be taken while dealing with such injuries. Their results showed that Physical Education students had a low level of knowledge on tooth avulsion and replantation¹⁷. On the other hand, a similar study undertaken in New Zealand¹⁸ investigated the level of knowledge of the lay population and of professionals using 12 questions about the management of avulsed teeth. A total of 118 lay people and 66 professionals were investigated, divided into the following groups: a) parents and guardians, b) university sports coaches, c) nurses, d) dental surgeons, and e) assistants and receptionists. Group "b" had the best results, whereas groups "c" and "e" showed the poorest results.

With relation to gender, in the first assessment, no significant differences could be observed. In the second assessment, however, female students obtained a significantly higher number of correct answers. This significant difference for females in the second assessment may well be influenced by the predominance of this gender in the study, corresponding to 64.8% in the second assessment. In the third assessment, the difference between females and males did not reach statistical significance. However, it is important to emphasize that in the three assessments some students did not participate and/or did not inform necessary data, e.g. gender, and were therefore considered as losses. These losses amounted to approximately 29.0% of the total sample, which may well have impacted the obtained results.

Persic et al.¹⁹ found that age, taken as synonymous with experience, had a significant influence on the level of knowledge of athletes as regards avulsed teeth. The authors concluded that adults are more well-informed than younger people

with regard to tooth replantation ($p=0.004$) and avulsed tooth storage media ($p=0.001$). In the present study, age was not statistically associated with knowledge, but an inverse tendency was observed in relation to the results described by Persic et al.¹⁹, i.e., the mean results obtained by younger students were higher than those attained by older students. One relevant fact to consider is that, as this sample consists of undergraduate students, younger students may have received information about trauma recently, thus recalling the theme with ease. Furthermore, in the present study, the second assessment was performed after a lecture on the topic, and the third evaluation three months after the lecture, as compared to findings from Persic et al.¹⁹, who evaluated only immediate knowledge.

The variables of prior experience and prior information showed a statistically significant positive influence on the mean number of correct answers. This even further reinforces the belief that tooth avulsion is not receiving due attention in the curricula of the programs investigated by his study, particularly in the Physical Education and Nursing programs. Furthermore, the experience commonly acquired in internships, which is extremely important for future professional practice, may also be lacking. Internships are the opportunity that these students have to come into contact with events that will later become routine in their professional lives.

Some strategies could be easily adopted to improve the background knowledge of professionals in the assessed areas, namely training and lifelong, continued learning, by means of seminars, lectures, community experience, internships, peer tutoring, fieldwork, and other methods¹². Discussions on the topic may help to improve knowledge and attitudes and can be considered one of the simplest and most effective methods for professional improvement.

CONCLUSION

Overall, the level of knowledge about tooth avulsion was lower for the students of Physical Education and Nursing when compared to Dental students. Young age, female gender, and having prior information or experience concerning tooth avulsion all had significant positive influences on the level of knowledge within the studied sample.

RESUMO

Objetivo: avaliar o nível de conhecimento sobre avulsão entre estudantes do curso de Enfermagem, Educação Física e Odontologia da Associação Caruaruense de Ensino Superior (ASCES) e analisar a associação com idade, gênero, informações e experiências prévias, no momento de aplicação do questionário. **Materiais e Métodos:**

um questionário de múltipla escolha estruturado foi aplicado aos estudantes em três momentos diferentes: no início, logo após uma palestra sobre avulsão e 3 meses depois, em Caruaru-PE, Brasil. Os dados foram analisados considerando-se um nível de significância de 5%. **Resultados:** Os resultados mostraram que o conhecimento dos alunos no início do estudo foi baixo. No entanto, o número médio de respostas corretas aumentou significativamente para todos os três cursos imediatamente após a intervenção; 3 meses mais tarde, quase todas as classes ainda mostraram resultados significativamente mais elevados quando comparados com os achados iniciais. Os alunos com experiência prévia ou que tinha recebido informações prévias sobre o tema atingiram média de respostas corretas significativamente maior. **Conclusão:** Em geral, o nível de conhecimento inicial sobre avulsão dentária foi baixo para os estudantes de Educação Física e Enfermagem quando comparado aos estudantes de Odontologia. Um aumento da quantidade de tempo dedicado a atividades de ensino teórico e prático sobre avulsão dentária durante a faculdade, seria extremamente importante para consolidar esse conhecimento.

Descritores: Avulsão dentária. Traumatismos dentários. Estudantes. Educação em saúde.

REFERENCES

1. Santos ME, Habecost AP, Gomes FV, Weber JB, de Oliveira MG. Parent and caretaker knowledge about avulsion of permanent teeth. *Dent Traumatol.* 2009; 25:203-8.
2. Hashim R. Investigation of mothers' knowledge of dental trauma management in United Arab Emirates. *Eur Arch Paediatr Dent.* 2012; 13:83-6.
3. Goettens ML, Azevedo MS, Correa MB, Costa CT, Wendt FP, Schuch HS, et al. Dental trauma occurrence and occlusal characteristics in brazilian preschool children. *Pediatr Dent.* 2012; 34:104-7.
4. Veire A, Nichols W, Urquiola R, Oueis H. Dental trauma: review of common dental injuries and their management in primary and permanent dentitions. *J Mich Dent Assoc.* 2012; 94:41-5.
5. Askarian M, Malekmakan L, Memish ZA, Assadian O. Prevalence of needle stick injuries among dental, nursing and midwifery students in Shiraz, Iran. *GMS Krankenhhyg Interdiszip.* 2012; 7:01-5.
6. Koca H, Topaloglu-Ak A, Sutekin E, Koca O, Acar S. Delayed replantation of an avulsed tooth after 5 hours of storage in saliva: a case report. *Dent Traumatol.* 2010; 26:370-3.
7. Goldbeck AP, Haney KL. Replantation of an avulsed permanent maxillary incisor with an immature apex: report of a case. *Dent Traumatol.* 2008; 24:120-3.
8. Maciel Santos MES, Palmeira PTSS, Soares DM, Souza CMA, Maciel WV. Nível de conhecimento dos estudantes de Enfermagem, Educação Física e Odontologia sobre traumatismo dentoalveolar do tipo avulsão: estudo preliminar. *Rev Cir Traumatol Buco-Maxilo Fac.* 2009; 9:105-12.
9. Maciel Santos MES, Guerra Neto MG, Souza CMA, Soares DM, Palmeira PTSS. Nível de conhecimento dos profissionais de Enfermagem, Educação Física e Odontologia sobre traumatismo dentoalveolar do tipo avulsão. *Rev Cir Traumatol Buco-Maxilo Fac.* 2010; 10:95-102.
10. Baginska J, Wilczynska-Borawska M. Knowledge of nurses working at schools in Bialystok, Poland, of tooth avulsion and its management. *Dent Traumatol.* 2012; 28:314-9.
11. Shashikiran ND, Reddy VV, Nagaveni NB. Knowledge and attitude of 2,000 parents (urban and rural - 1,000 each) with regard to avulsed permanent incisors and their emergency management, in and around Davangere. *J Indian Soc Pedod Prev Dent.* 2006; 24:116-21.
12. Al-Asfour A, Andersson L, Al-Jame Q. School teacher's knowledge of tooth avulsion and dental first aid before and after receiving information about avulsed teeth and replantation. *Dent Traumatol.* 2008; 24:43-9.
13. França RI, Traebert J, Lacerda JT. Brazilian dentists' knowledge regarding immediate treatment of traumatic dental injuries. *Dent Traumatol.* 2007; 23:287-90.
14. Hu LW, Prisco CRD, Bombana AC. Knowledge of Brazilian general dentists and endodontists about the emergency management of dentoalveolar trauma. *Dent Traumatol.* 2006; 22:113-7.
15. Raphael SL, Gregory PJ. Parental awareness of the emergency management of avulsed teeth in children. *Aust Dent J.* 1990; 35:130-3.
16. Kostopoulou MN, Duggal MS. A study into dentists' knowledge of the treatment of traumatic injuries to young permanent incisors. *Int J Paediatr Dent.* 2005; 15:10-9.
17. Panzarini SR, Pedrini D, Brandini DA, Poi WR, Santos MF, Correa JPT, et al. Physical education undergraduates and dental trauma knowledge. *Dent Traumatol.* 2005; 21:324-8.
18. Stokes AN, Anderson HK, Cowan TM. Lay and professional knowledge of methods for emergency management of avulsed teeth. *Endod Dent Traumatol.* 1992; 8:160-2.
19. Persic R, Pohl Y, Filippi A. Dental squash injuries: a survey among players and coaches in Switzerland, Germany and France. *Dent Traumatol.* 2006; 22:231-6.

QUESTIONNAIRE

Section 1 - Identification

Name:
 Address:
 Age: Gender: M () F ()
 Program: Semester:

Have you ever received any type of information about traumatic dental injuries before? Yes () No ()

If yes, where/from whom

- at home within the family
- in university classes
- during a training course
- in a book or periodical
- from my dentist or other professional
- in a radio and/or TV advertisement
- other

Have you ever had any experience with traumatic dental injuries? Yes () No ()

If yes, where:

- within the family
- internship and/or work
- during sport and/or recreation
- other

Section 2 - General knowledge

You are at work. When you least expect it, a child who had been at home, at school or playing sports, falls and hits their mouth against the ground. As a result of the trauma, the child gets very upset because of the pain and bleeding and has lost a permanent upper incisor (at the front of the maxilla). You are the first person on the scene and the best trained (because you are a health professional), to provide the child with the necessary care. On the basis of this, please answer the following questions:

1. What is tooth avulsion?

- A. complete displacement of the tooth.
- B. displacement of the tooth inwards.
- C. partial displacement of the tooth.
- D. Don't know/no reply.

2. In your opinion, which of the following procedures is most important for the successful treatment of a case of avulsion?

- A. Calm the child down.
- B. Stop the bleeding caused by trauma.
- C. Find the avulsed tooth.
- D. Don't know/no reply.

3. Which professional would you choose to treat a case of avulsion?

- A. Physician.
- B. Dental surgeon.
- C. Nurse.
- D. Don't know/would not do anything/no reply.

4. How would you wash the tooth?

- A. Using gentle jets of water or saline.
- B. With a sponge and soap.
- C. Running water from the tap.
- D. Don't know/would not do anything/no reply.

5. To store the tooth you would use:

- A. A container filled with water.
- B. A container filled with milk.
- C. An empty container or rolled up in tissue paper.
- D. Don't know/would not do anything/no reply.

6. By which part of the avulsed tooth should it be handled?

- A. Root (the part of the tooth that is set in the bone).
- B. Crown (the part of the tooth that is exposed in the mouth).
- C. There is no best part of the tooth for handling.
- D. Don't know/would not do anything/no reply.

7. How long do you think the tooth can spend out of its socket without suffering damage?

- A. As short a time as possible.
- B. Up to 1 hour.
- C. Up to 2 hours.
- D. Don't know/would not do anything/no reply.

8. If you were to replant the tooth you would:

- A. Replace it in whatever direction.
- B. Replace it in whatever manner, holding it by the root.
- C. Replace it aligned with neighboring teeth.
- D. Don't know/would not do anything/no reply.

9. After replantation, is antibiotic therapy and anti-tetanus prophylaxis needed?

- A. Only antibiotics are needed.
- B. Neither are necessary.
- C. Both are necessary.
- D. Don't know/would not do anything/no reply.

10. Do you think follow-up is needed after replantation?

- A. Yes.
- B. Maybe, depending on the intensity of the trauma.
- C. No.
- D. Don't know/would not do anything/no reply.

Recebido em 29/05/2012 - Aceito em 20/08/2012

Author for correspondence:

Marconi Eduardo Sousa Maciel Santos
Departamento de Odontologia, Faculdade de Odontologia
Associação Caruaruense de Ensino Superior
Av. Portugal, 584 - Bairro Universitário
Caruaru - PE - Brasil
CEP: 550160-090
E-mail: marconimaciel@gmail.com