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They Treat. But Do They Actually Know? Evaluation of Knowledge Status about Management Guidelines of Avulsed Tooth among General Dental Practitioners of Agra – Mathura Region – A Cross-sectional Survey

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Abstract

Background: Avulsion is the most commonly occurring traumatic dental injury due to increased violence, road traffic accidents and partaking of children in contact sports and disregard to wear injury prevention devices. Replantation is the treatment of choice which is a very technique sensitive procedure and success depends on multiple factors. **Aim:** To evaluate knowledge status about the management guidelines of avulsed tooth among the general dental practitioners of Agra-Mathura region. **Methodology:** A questionnaire based cross-sectional survey was conducted among 184 general dental practitioners of Agra-Mathura region who were divided on the basis of educational qualification and practising experience. Statistical analysis was done. Chi square test was used for inter and intra group comparison. **Results:** There was presence of low knowledge level among the general dental practitioners. Significant difference was seen in the knowledge level among dentists based on educational qualification and practising experience in terms of handling of tooth after avulsion, socket preparation, splinting time period. **Conclusion:** Highly educated and more experience dentists had comparatively better knowledge still they lack information at multiple points. Current study indicates there is need to improve and update knowledge of dental practitioners on the management of avulsed tooth.

Keywords: Avulsion, General Dental Practitioners, Replantation, Storage Media

1. Introduction

Traumatic Dental Injury (TDI) presents sombre public health menace in consequence of the amplified trends of showing strength, use of high speed vehicles leading to road accidents and increased partaking of youngsters in sports and recreational activities allied with active life styles and disregard of wearing injury prevention devices[1,2]. Literature stated occurrence rate of traumatic dental injuries extending between 9.4%-41.6% in primary dentition while in case of permanent dentition it varies between 6.1% to 58.6%. The prodigious disparity in described rates can be accredited to a number of different elements, comprising nature of the study, study design and methodology, type of traumatic injury, area of the study and their customs[3,4]. Avulsion is frequently occurring traumatic dental injury. Frequency of avulsion injuries to permanent teeth ranges from 0.5-3% of all dental injuries. Tooth avulsion (exarticulation, total luxation) implies total displacement of the tooth out of its socket. Most

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often involves the maxillary central incisor. Although avulsion may occur at any age, the most common age for avulsion of permanent dentition is between 8–12 years of age, a time when the loosely structured periodontal ligament surrounding erupting teeth provides only minimal resistance to an extrusive force[5,6].

Andreasen *et al.*, found that in the permanent dentition, peak incidences of avulsion for boys are found to be at 9 to 10 years, when energetic playing and sporting activities become more popular. Traumatic injury to the front tooth causes a greater psychological strain on the child as well as parent and the concern further increases if the tooth is completely out of the socket. Primary and permanent anterior teeth play a significant role in the development of orofacial structures, mastication, speech and most importantly aesthetics providing confidence, social and mental strength[7]. In most situations the treatment of choice is replantation. Tooth replantation is the reinsertion and splinting of a tooth that has been knocked or torn out of its socket which showed good post treatment prognosis with long term survival rate if done under correct guidelines. Tooth replantation is a technique sensitive procedure that is affected by several factors like, extra-oral dry time, storage and transport media for avulsed tooth, handling of the avulsed tooth, preparation of socket, splinting type and time period for stabilization after replantation etc[8–10]. Literature hunt revealed paucity of data evaluating the knowledge status of General Dental Practitioners (GDP) on TDIs leading to avulsion in India. Therefore, this study was piloted to evaluate the knowledge of GDPs in Agra-Mathura region of Uttar Pradesh state about the management guidelines of tooth avulsion in permanent dentition.

2. Material and Methodology

A cross sectional questionnaire based survey was conducted in the Agra-Mathura region of Uttar Pradesh state to evaluate the knowledge status regarding treatment protocols of avulsed permanent tooth among the general dental practitioners. Ethical approval was taken by the ethical committee of K. D. Dental College and Hospital, Mathura (U.P.) prior to the commencement of study. A questionnaire was prepared that contained 14 questions related to the management guidelines of the avulsed tooth. Questionnaire was pre-tested by 12 paediatric dentists for the content soundness. A list of 200 general dentists (both B.D.S & M.D.S qualified) practicing in Agra Mathura region was made by collaborating with Indian dental association branch of Agra and Mathura region along with their email ID, address and phone numbers. M.D.S of Paediatric and preventive dentistry were not included in the list. After taking consent from the dentist through emails, prior appointment was taken to fill out the questionnaire. Out of 200 dentists, 189 dentists were ready to participate in the study then we randomly excluded few dentists and selected 184 dentists to equally divide (Figure 1) them into two groups based on their educational qualification as 92 dentists belong to lower education group i.e. B.D.S. (Bachelor of Dental Surgery) qualified, and rest 92 to higher education group i.e. M.D.S. (Master of Dental Surgery) qualified. They were also classified based on their practicing experience into three groups as the dentists having less than 5 years of experience, 5-10 years and more than 10 years of experience (Figure 2).

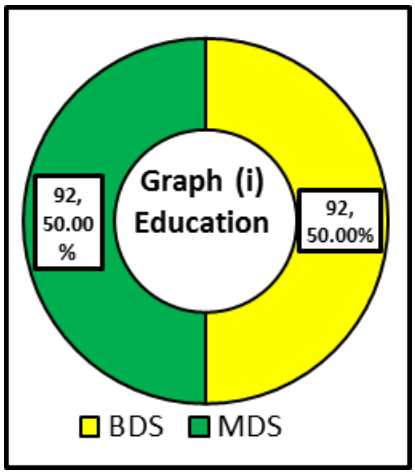


Figure 1. Demographic distribution of participants on the basis of level of education.

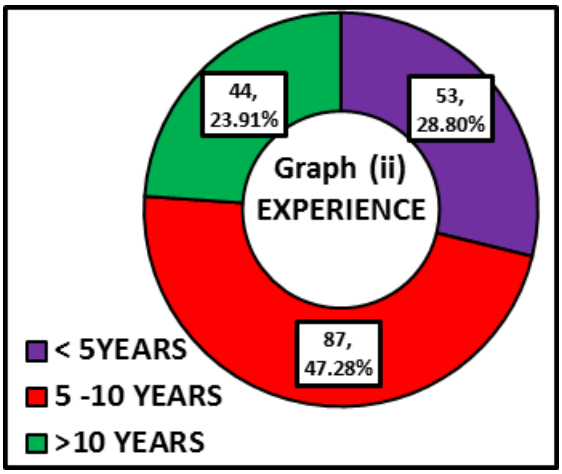


Figure 2. Demographic distribution of participants on the basis of practicing experience.

Data collected from the questionnaires was coded and statistical analysis performed using the software SPSS version 17. Chi square test was used to assess differences in responses for different variables, with the level of significance set at P = 0.05.

3. Results

Total 184 dentists participated in the present study, out of which 50% were B.D.S. and 50% were M.D.S. qualified (Figure 1). Out of 184 selected dentists, 53 dentists had less than 5 years' experience, 87 dentists had 5 to 10 years' experience and rest 44 dentists experience of more than 10 years (Figure 2).

After analysing 184 filled questionnaire we found most of dentist were practicing tooth replantation of permanent teeth but they were lacking correct knowledge about the treatment guidelines. There was significant difference seen in the knowledge level among dentists based on educational qualification in terms of suggestive storage media, handling of tooth after avulsion, socket preparation, splinting time period (Table 1).

There was significant difference observed in the knowledge level on comparing data based on practicing experience in terms of practising replantation, storage time for milk, handling of the avulsed tooth, socket preparation, type and time period of splinting. There was presence of better knowledge status among higher education group and the practitioners with increased practicing experience (Table 1).

4. Discussion

Tooth avulsion is an intricate traumatic injury where whole tooth comes out of its socket which impairs supporting periodontal tissue, vascular and nervous supply that should be dealt as an emergency hence a general dental practitioner should be updated with the correct guidelines for the managing such conditions to avoid any chances of failure[10,11].

Cohenca *et al.* in California, Cinar *et al.* in Turkey, Hatem and Taher *et al.* in Libya and AlJazairy *et al.* in Riyadh, Saudi Arabia conducted different studies on GDPs and reported that there were deficiencies in the knowledge level among GDPs regarding traumatic dental injuries which should be improved to provide quality dental care to the community[12–15]. Similarly, in the present study 88.04% dentists (Table 1) were practising tooth replantation where more experienced dentists were practising this procedure with 100% prevalence but they were lacking correct knowledge regarding treatment guidelines (Figures 3, 4).

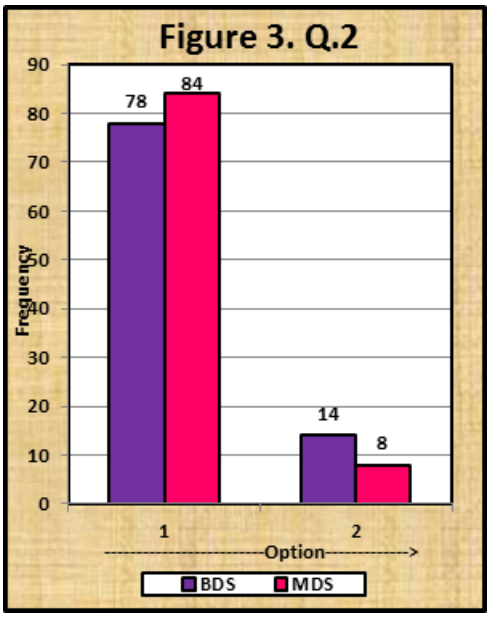


Figure 3. [Education based]

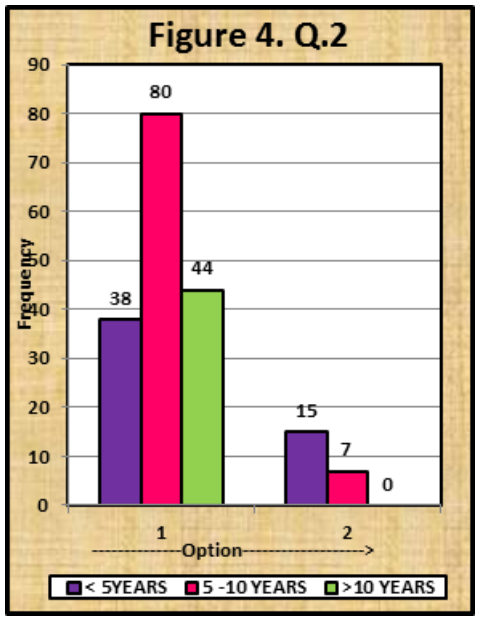


Figure 4. [Experience based]

showing percentage response of question 2 i.e.

Do you practice Replantation of the avulsed tooth in your clinic?

(i) Yes (ii) No

Table 1. Frequency and percentage responses for all the questions and its statistical correlation with the level of education and the practicing experience

S. No.	Question	Frequency	Qualification			Experience			
			BDS	MDS	p–value	<5	5-10	>10	p-value
2.	Practice replantation								
	Yes*	162(88.4%)	78(84.78)	84 (91.30)	0.637	38(71.70)	80(91.95)	44(100)	0.000*
	No	22(11.96%)	14(15.22)	8(8.70)	0.201	15(28.30)	7(8.05)	0	0.000
3.	Suggested transport media								
	HBSS*	11(5.98)	2(2.17)	9(9.78)	0.035*	4(7.55)	4(4.60)	3(6.82)	0.913
	Saline	34(18.48)	22(23.91)	12(13.04)	0.086	11(20.75)	17(19.54)	6(13.64)	0.069
	Milk	76(41.30)	36(39.13)	40(43.48)	0.646	21(39.62)	36(41.38)	19(43.18)	0.033
	Water	9(4.89)	5(5.43)	4(4.35)	0.739	6(11.32)	2(2.30)	1(2.27)	0.097
	Saliva	54(29.35)	27(29.35)	27(29.35)	1.000	11(20.75)	28(32.18)	15(34.09)	0.012
4.	Storage media in your clinic								
	HBSS*	4(2.17)	0	4(4.35)	0.000*	1(1.89)	2(2.30)	1(2.27)	0.779
	Saline	171(92.93)	90(97.83)	81(88.04)	0.491	5 (96.23)	79(90.80)	41(92.18)	0.001
	Milk	9(4.89)	2(2.17)	7(7.61)	0.096*	1(1.89)	6(6.90)	2(4.55)	0.097*
	Other	0	0	0	-	0	0	0	-
5.	How long avulsed tooth can be stored in milk								
	<30 min	18(9.78)	13(14.13)	5(5.43)	0.059	6(11.32)	8(9.20)	4(9.09)	0.513
	1-2 hrs*	72(39.13)	32(34.78)	40(43.48)	0.346	20(37.74)	34(39.08)	18(40.91)	0.042*
	3-6 hrs	59(32.07)	25(27.17)	34(36.46)	0.241	16(30.19)	31(35.63)	12(27.27)	0.006
	12- 24 hrs	35(19.02)	22(23.91)	13(14.13)	0.128	11(20.75)	14(16.09)	10(22.73)	0.690
6.	How to wash a dirt contaminated tooth								
	Tap water	31(16.85)	14(15.22)	17(18.48)	0.590	11(20.75)	12(13.79)	8(18.18)	0.657
	Tooth brush	28(15.22)	21(22.83)	7(7.61)	0.008	15(28.30)	10(11.49)	3(6.82)	0.020
	Saline*	125(67.93)	57(61.96)	68(73.91)	0.325	27(50.94)	65(74.71)	33(75.00)	0.000*
7.	Holding of avulsed tooth								
	Coronal part*	151(82.07)	63(68.48)	88(95.65)	0.042	33(62.26)	79(90.80)	39(88.64)	0.000*
	Root	27(14.67)	23(25.00)	4(4.35)	0.000	16(30.19)	6(6.90)	5(11.36)	0.016
	Anywhere	6(3.26)	6(6.52)	0(0.000)	0.000	4(7.55)	2(2.30)	0(0.000)	0.000
8.	Socket preparation								
	Saline irrigation*	129(0.094)	55(59.78)	74(80.43)	0.094	31(58.49)	62(71.26)	36(81.82)	0.002*
	Curette	35(19.02)	28(30.43)	7(7.61)	0.000	21(39.62)	12(13.79)	2(4.55)	0.000
	Nothing	20(10.87)	9(9.78)	11(11.96)	0.655	1(1.89)	13(14.94)	6(13.64)	0.004
9.	Splinting type								
	Flexible *	43(0.286)	18(19.57)	25(27.17)	0.286	1(1.89)	14(16.09)	28(63.34)	0.000*
	Rigid	141(76.63)	74(80.43)	67(72.83)	0.556	52(98.11)	73(83.91)	16(36.36)	0.000
	Not required	0	0	0	-	0	0	0	-
10.	Duration of splinting								
	1-2 weeks*	38(20.65)	13(14.13)	25(27.17)	0.052*	6(11.32)	19(21.84)	13(29.55)	0.035*
	3-4 weeks	88(47.83)	49(53.26)	39(42.39)	0.286	28(52.83)	38(43.68)	22(50.00)	0.108
	>6weeks	58(31.52)	30(32.61)	28(30.43)	0.793	19(35.85)	30(34.48)	9(20.45)	0.003

Table 1. Continued

S. No.	Question	Frequency	Qualification			Experience			
			BDS	MDS	p–value	<5	5-10	>10	p-value
11.	When to perform root canal therapy								
	Immediately/before	63(34.24)	33(35.87)	30(32.61)	0.705	18(33.96)	40(45.98)	5(11.36)	0.000*
	1-2 weeks later*	48(26.09)	20(21.74)	28(30.43)	0.248	10(18.87)	22(25.29)	16(36.36)	0.105
	1 month later	73(39.67)	39(42.39)	34(36.96)	0.558	25(47.17)	25(28.74)	23(52.27)	0.947
12.	Most influential factor								
	Dry time	47(25.54)	18(19.57)	29(31.52)	0.109	6(11.32)	24(27.59)	17(38.64)	0.005*
	Storage media	66(35.87)	36(39.13)	30(32.61)	0.460	20(37.74)	32(37.74)	14(31.82)	0.022
	PDL viability*	71(38.59)	38(41.30)	33(35.87)	0.553	27(50.94)	31(50.94)	13(29.55)	0.023
13.	Antibiotic therapy								
	Topical	12(5.52)	9(9.78)	3(3.26)	0.083	5(9.43)	4(4.60)	3(6.82)	0.779
	Systemic	120(65.22)	66(71.74)	54(58.70)	0.273	39(73.58)	57(65.52)	24(54.55)	0.001
	Both*	52(28.26)	17(18.48)	35(38.04)	0.013*	9(16.98)	26(29.89)	17(38.64)	0.015*
14.	Post-operative instructions								
	Tetanus vaccine	22(11.96)	4(4.35)	18(19.57)	0.003	6(11.32)	14(16.09)	2(4.55)	0.006
	Soft diet	28(15.22)	21(22.83)	7(7.61)	0.008	9(16.98)	17(19.54)	2(4.55)	0.002
	Mouth washes	16(8.70)	12(13.04)	4(4.35)	0.046	6(11.32)	9(10.34)	1(2.27)	0.047
	All of the above*	118(64.13)	55(59.78)	63(68.48)	0.461	32(60.38)	47(54.02)	39(88.64)	0.239

According International association of Dental Traumatology (IADT), first aid treatment of avulsed tooth include, wash the tooth under running water (maximum 10 sec) and immediate repositioning to its original position followed by biting on hanker chief to hold it in the same position[16]. Due to lack of awareness amongst general population it is not followed, here the need of appropriate storage and transport medium arises, to preserve viability of periodontal ligament cells. Storage can be defined under two categories, as dry and wet. Both categories have different effect on vital pulp tissue and on surrounding periodontal ligament cells of the avulsed tooth. Wet storage presents better prognosis when compared to storage in dry. Wet media is classified as physiologic and un-physiologic media. Un-physiologic media include tap water, chlorhexidine, alcohol or other sterilizing solutions which do not show better healing capacity. Tap water is hypotonic, and results in rapid cell lysis as it contains microorganisms and has incompatible pH and osmolality to the cells. Examples of physiologic media are Hank's Balanced Salt Solution (HBSS), Eagle's Medium (EM), Milk, ViaSpan, Gatorade, Propolis, Tooth rescue box (Dentosafe), Conditioned medium, Contact lens solution, Egg white, normal Saline, ORS, and Coconut water. Saliva is not preferred as storage media because oral cavity is microbial habitat and has un-physiologic osmolality (60-70 mOsm/kg). Saliva storage causes one-third less tissue impairment than dry or tap water storage. When we talk about saline having physiological pH and osmolality, still does not possess necessary ions and cell nutrients for cell survival. Ozan *et al.* concluded in their study tap water, saliva, and saline provide minimal efficacy but they can be better options as interim-storage media in comparison to dry storage to the tooth. A tooth preserving system, called as "SAVE A TOOTH" is commercially available. It contains the Hank's Balanced Salt Solution (HBSS) with a pH of 7.2 and osmolality of 270-290 mOsm/kg. Souza *et al.*, Pillegi *et al.* and Hwang *et al.*, in their respective studies concluded that HBSS is an ideal storage[8–10].

In the present study population of the area of study was unaware about the use of storage medium. Most of the patients brought avulsed tooth in hand, cotton or paper (Figure 5). 41.30% of participated dentists (Table 1) suggested their patients, milk as storage media due to ease of availability, 29.35% suggested saliva (Figures 6, 7).

92.93 of participated dentists (Table 1) had no specific storage media in their clinic and preferred to use saline

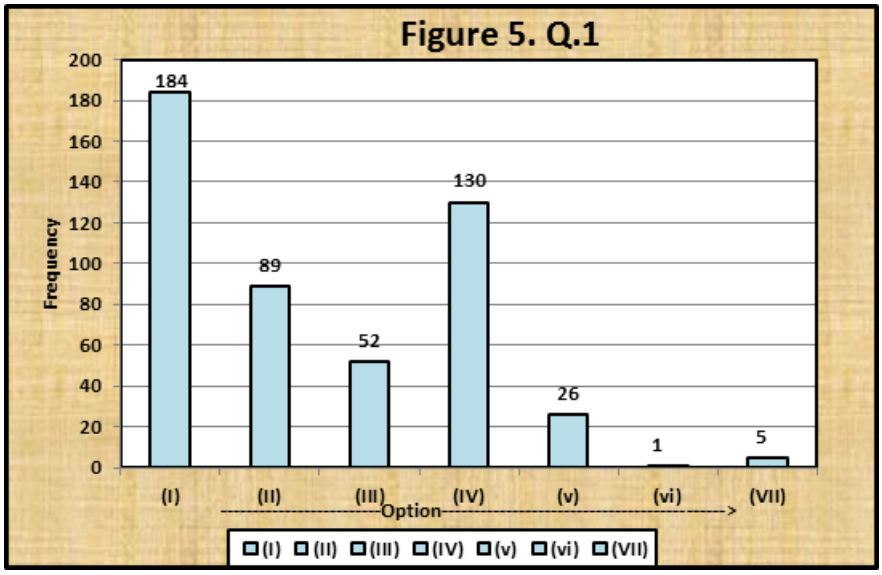


Figure 5. Showing percentage response to question number 1. i.e.

How patient brought avulsed tooth to you? (multiple choices allowed)

(i) in hand (ii) in paper (iii) in polythene (iv) in cotton
(v) in water (vi)in saliva (vii) in milk or other solution

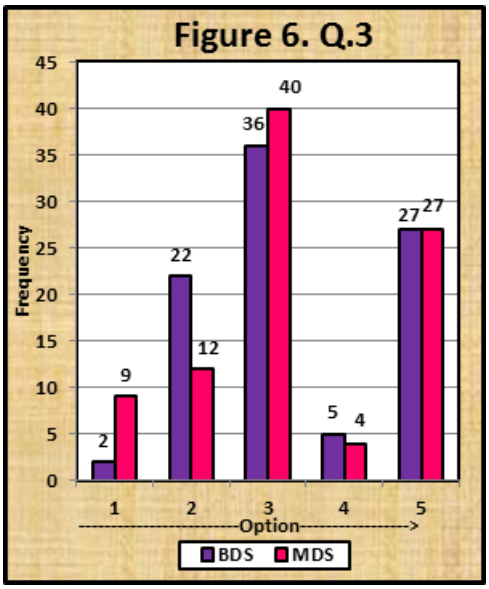


Figure 6. [Education based]

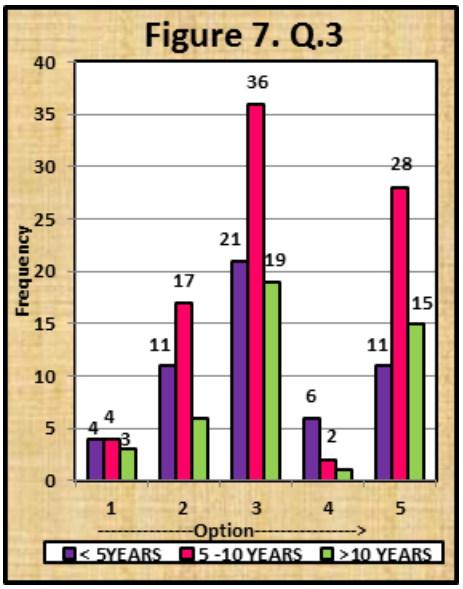


Figure 7. [Experience based]

showing percentage response of question 3 i.e.

What storage media do you suggest to a patient as a transport medium for an avulsed tooth?

(i) HBSS (ii) Saline (iii) Milk (iv) Water (v) Saliva

as it is already available in the clinics. Most of the MDS dentists were aware of HBSS but only 4% of them had it in their clinic while BDS graduates had no idea about HBSS (Figures 8, 9).

Although most of dentists suggested milk as transport media for avulsed tooth but they were not aware that for how long milk can maintain the cell viability. Only 39.13% (Table 1) of dentists considered time limit of 2 hours

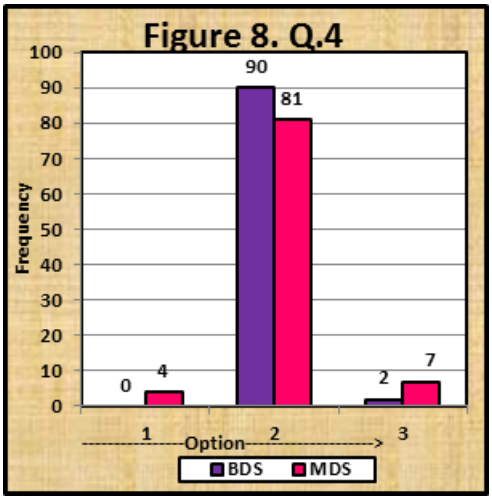


Figure 8. [Education based]

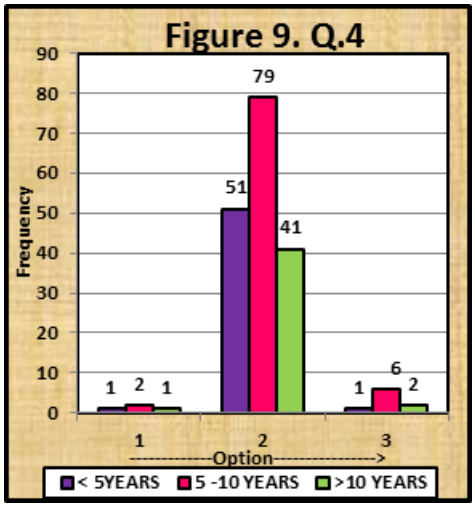


Figure 9. [Experience based]

showing percentage response of question 4 i.e.

Which storage media do you have in your clinic?

(i) HBSS (ii) Saline (iii) Milk (iv) Other (v) No storage media

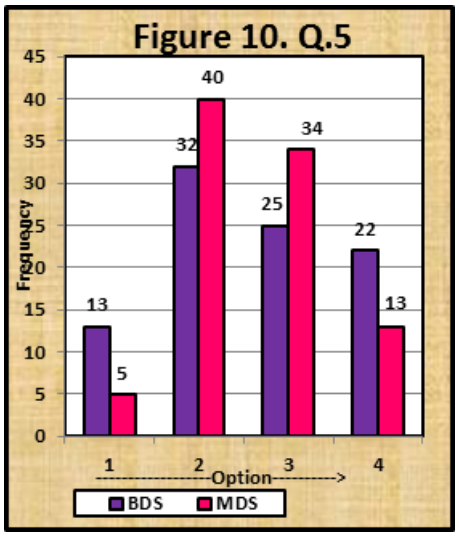


Figure 10. [Education based]

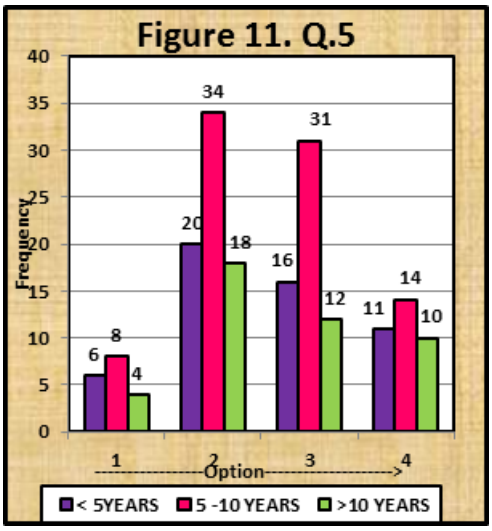


Figure 11. [Experience based]

showing percentage response of question 5 i.e.

For how long an avulsed tooth can be stored in the milk?

(i) <30 min (ii) 1- 2 hrs (iii) 3- 6 hrs (iv)12- 24 hrs

(Figures 10, 11). Blomlof *et al.*, Trope and Friedman mentioned milk as an admirable transport media for 6 hours, though milk cannot revive the degenerated cells. Lekic *et al.* demonstrated that milk was as effective as HBSS for storing avulsed teeth for up to 1 hour and superior to saline, saliva or water. At a cellular level, milk is graded equivalent to HBSS as a transport medium although it loses its effectiveness after 2 hours. The osmolality of milk appears to be the most important factor[10,17–19].

Avulsed tooth should be handled carefully by holding it from coronal portion. Only 82.07% of participated dentists had knowledge about this (Table 1, Figure 12, 13). Firstly, it should be cleaned with stream of saline then root surface treatment should be done with by soaking tooth in

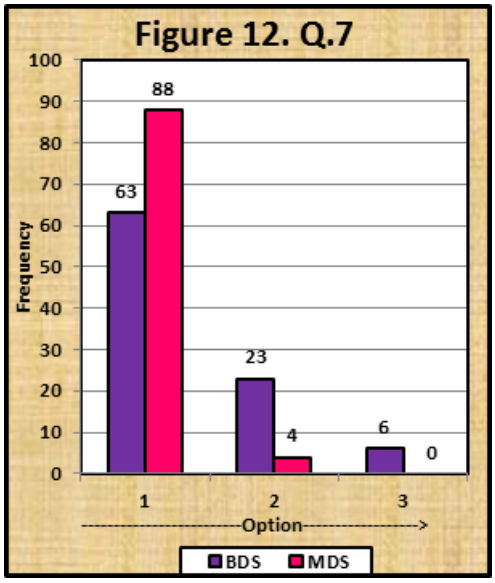


Figure 12. [Education based]

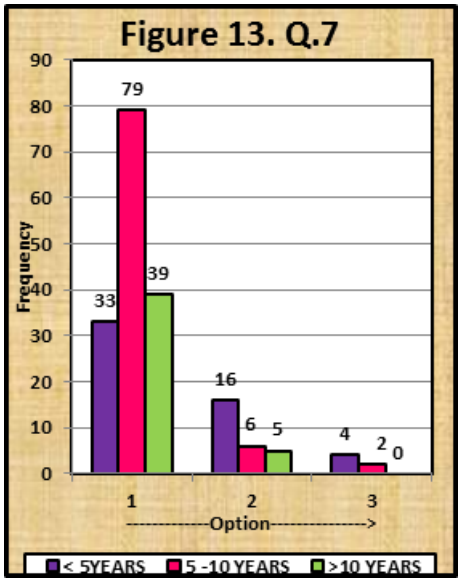


Figure 13. [Experience based]

showing percentage response of question 7 i.e.

How to hold an avulsed tooth during preparation before replantation?

(i) At coronal part (ii) at root part (iii) anywhere

1% doxycycline for 5 min or 50 mg capsule/1000ml saline then place in 20% NaF for 20 min. Gulinelli *et al.*, used 2% acidulated phosphate sodium fluoride and 15% propolis solutions for root surface treatment after 60 minutes of dry storage and found both solution leads to less chances of root resorption[16,20].

Saline is recommended for irrigation and for slight aspiration of clot from the socket. Do not curette the socket[16]. In the present study most of the dentists were aware about the cleaning of contaminated tooth, handling of the avulsed tooth during the treatment, and socket preparation while better knowledge status was found among the post graduates and more experienced practitioners (Figures 14–17).

As per IADT guidelines, flexible (physiologic) splinting should be done to stabilize the avulsed tooth for 2 weeks if extra-oral dry time is less than one hour. This time period should be extended to 4 weeks if extra oral dry time is more[16]. Alvarez and Alvarez suggested splinting of the avulsed tooth for 2 to 3 weeks just after achieving original position, in order to allow healing of periodontal ligament and to prevent any displacement.

Splints are categorised as flexible, semi-rigid and rigid types, depending on the mobility degree. Most authors suggested semi-rigid splint type that is made of composite resin and orthodontic wire or nylon thread. Oliveira *et al.* recommended various forms and materials for splinting, for instance: resin itself or with a flexible arch of nylon or metal wire, orthodontic brackets with malleable arch, and vestibular arches or bars. They reported that flexible and short-term splints allow the physiological mobility of the teeth and favours periodontal healing. Vasconcelos *et al.* said that rigid fixation has higher chances of bone growth over the periodontal space with consequent ankylosis and replacement resorption.

For avulsed teeth, Trope et al. indicated a semi-rigid splint for 7 to 10 days fixed with composite resin and steel wire with a diameter from 0.015 to 0.030. Ruellas *et al.* and Prokopowitsch *et al.*, used a 0.018-inch wire twistflex; McDonald and Avery, Castro *et al.*, Manfrim *et al.* used orthodontic wire with smaller diameter than or equal to 0.5 mm; Prokopowitsch et al. used the 0.20 mm to 0.40 mm in diameter; Andreasen *et al.* the one with 0.3 mm in diameter. In the recent years for tooth avulsion shorter duration of splinting is recommened, when no fracture in the bone plate, few others suggested it for one weeks while others said that 2 weeks are sufficient. McDonald and Avary suggested for 7 to 14 days and Soares and Goldberg, for 7 to 15 days. According to Souza Neto *et al.* and Prokopowitsch *et al.* recommended ideal time period of 10 to 14 days[21].

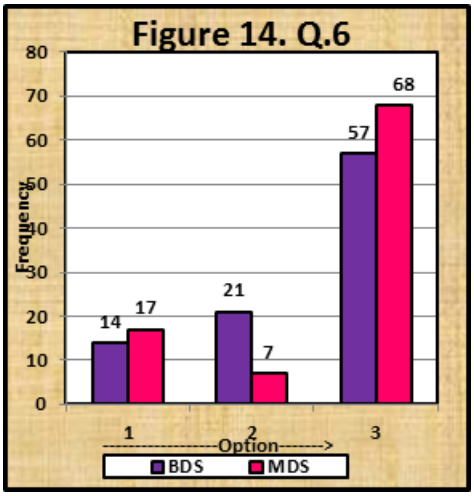


Figure 14. [Education based]

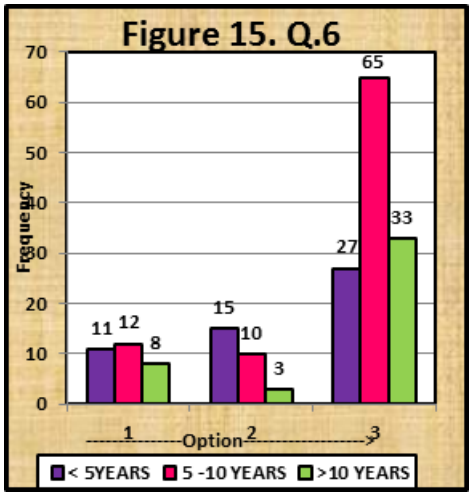


Figure 15. [Experience based]

showing percentage response of question 6 i.e.

How does a dentist should clean a dirt contaminated tooth before replantation?

(i) Wash tooth in tap water
(ii) Scrub tooth gently with a tooth brush
(iii) Wash tooth in stream of saline

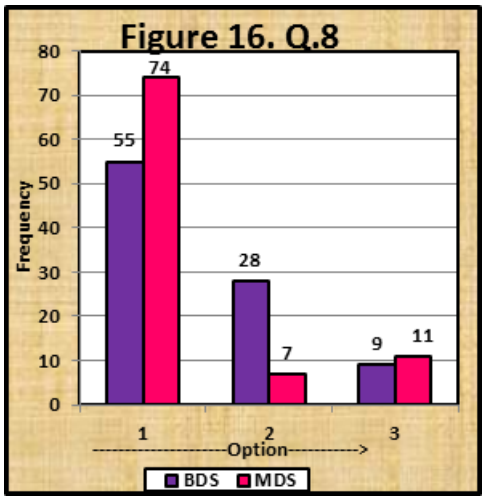


Figure 16. [Education based]

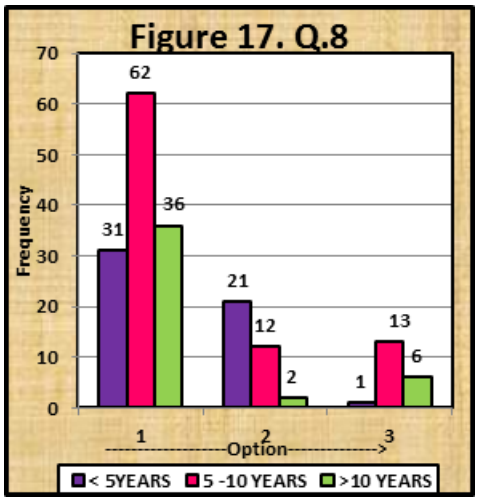


Figure 17. [Experience based]

showing percentage response of question 8 i.e.

How does a socket should be prepared before replantation?

(i) Gentle irrigation & light aspiration of clot using saline
(ii) Removal of coagulum with curette
(iii) No treatment

In the present study 76.63% of participated dentists (Table 1) and preferred rigid splinting (Figures 18, 19) for more 4 weeks or longer period of time (Figures 20, 21). General practitioners were not aware of post-operative complications of long term rigid splinting.

According to IADT, after 7-10 days the tooth should be assessed carefully for apexogenesis, apexification or root canal therapy depending on open or closed apex. In cases of closed apex Root canal therapy should be initiated within 7-10 days after replantation before splint

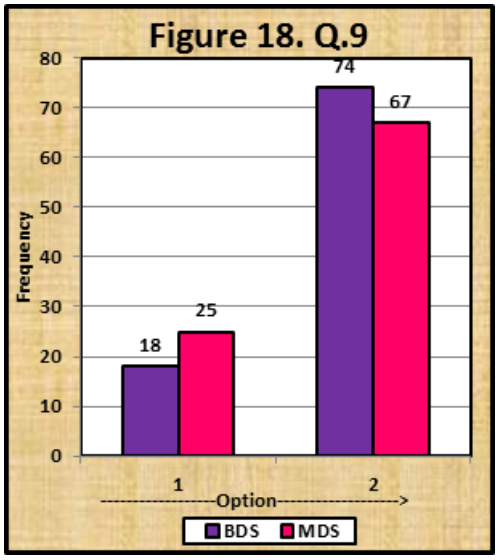


Figure 18. [Education based]

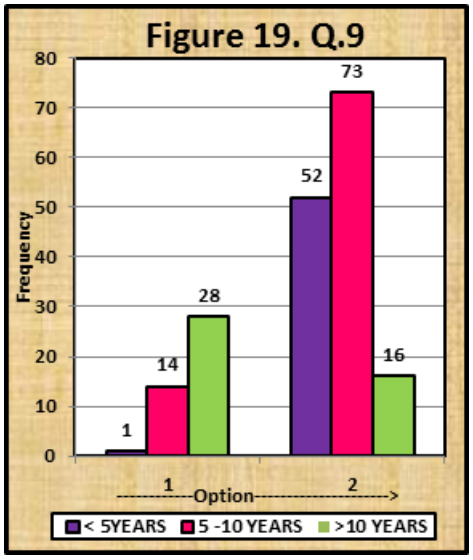


Figure 19. [Experience based]

showing percentage response of question 9 i.e.

What type of splinting you suggest during replantation?

(i) Flexible (ii) Rigid (iii) Not required

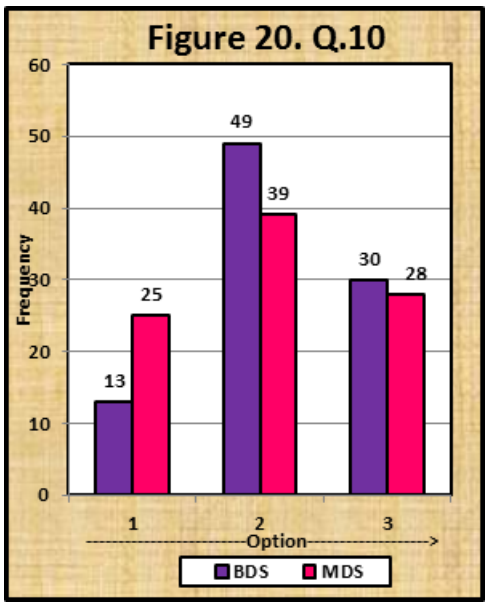


Figure 20. [Education based]

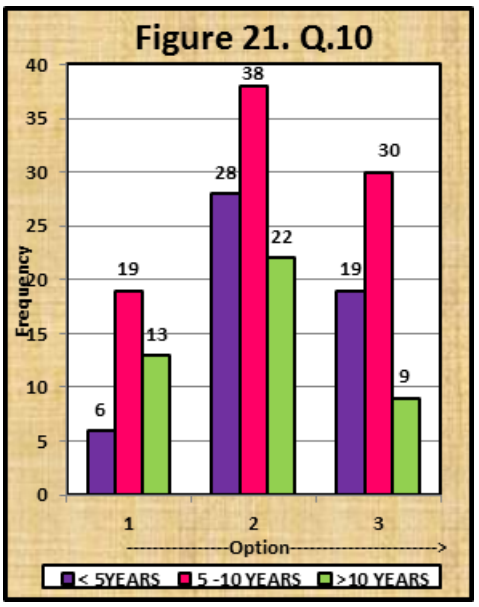


Figure 21. [Experience based]

showing percentage response of question 10 i.e.

Duration of splinting you suggest after splinting?

(i) 1-2weeks (ii) 3-4 weeks (iii) more than 6 weeks

removal if extra oral dry time is less than 60 min.[16] In cases of delayed replantation, it can be carried out prior to replantation. In present study 39.67% of the participated dentists (Table 1, Figures 22, 23) preferred to not proceed with the root canal therapy at least for one month.

Most important factor in determining the final prognosis of an avulsed tooth is the presence of viable periodontal ligament cells on the root surface[11]. In the present study practitioners were aware of factors affecting prognosis of replantation (Table 1, Figures 24, 25).

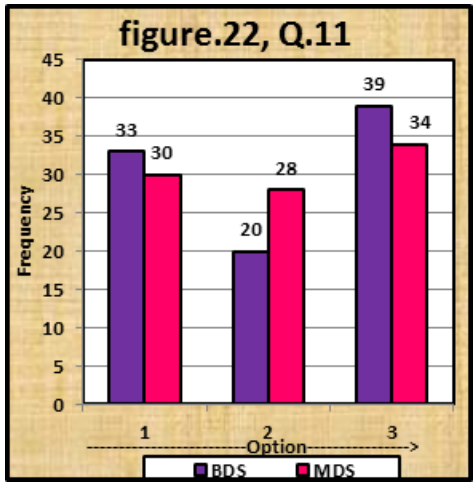


Figure 22. [Education based]

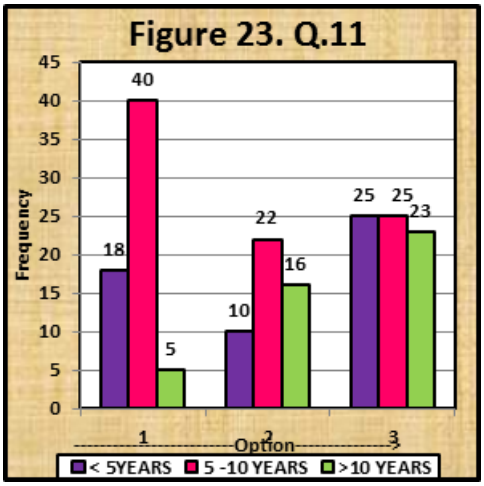


Figure 23. [Experience based]

showing percentage response of question 11 i.e.

When did the root canal therapy should be performed for a replanted tooth?

(i) Immediately/before (ii) after 1-2 week (iii) after 1 month

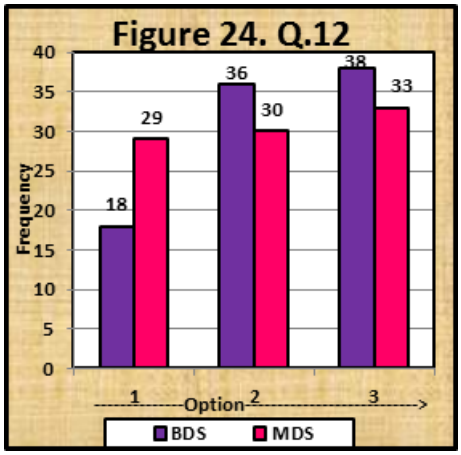


Figure 24. [Education based]

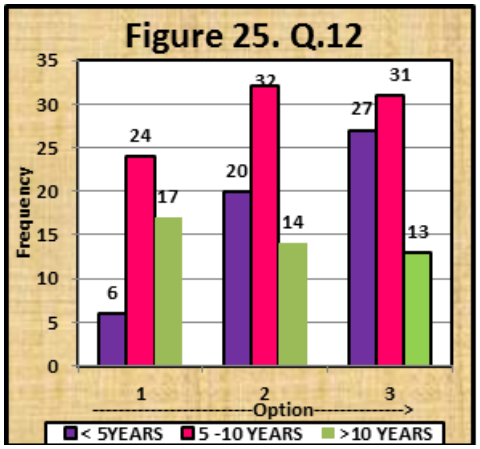


Figure 25. [Experience based]

showing percentage response of question 12 i.e.

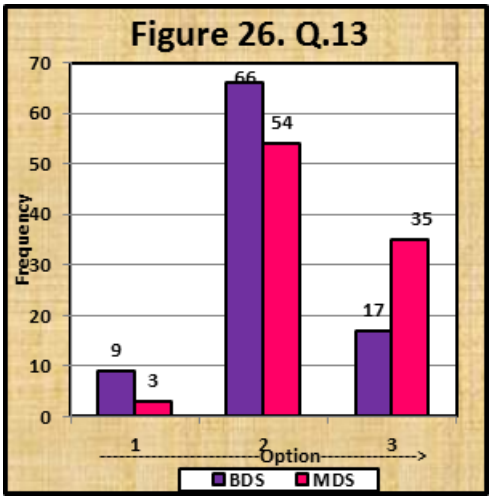
Most influential factor while deciding prognosis of replantation of tooth?

(i) Extra oral dry time (ii) Storage media (iii)Amount of loss of periodontal ligament

Systemic antibiotics should be prescribed while managing avulsed tooth, in order to limit microbial proliferation to decrease the chances of occurrence of root resorption. As per IADT guidelines tetracycline or amoxicillin for 7 days are the most preferred drugs. Most of the dentists were aware of systemic antibiotics coverage for the patient undergoing replantation (Figures 26, 27) but most of them had no idea about the root surface treatment with topical antibiotics (minocycline or doxycycline, 1mg per 20 ml of saline for 5 min soak) to decreases the chances of post-operative complications[22].

Post-operative instructions to the patients- Check for tetanus protection (refer to the physician within 48 hrs), Soft diet up to 2 weeks, do not chew on splinted teeth, brushing with soft tooth brush after each meal and Use of chlorhexidine (0.1%) mouth rinse twice a day for 1week[11,16]. In the present study most of the participated dentists were aware about the post-operative care (Figures 28, 29).

Commonly reported post-operative complications of replantation of the avulsed tooth are pulp necrosis and root resorption. In exarticulation as tooth is



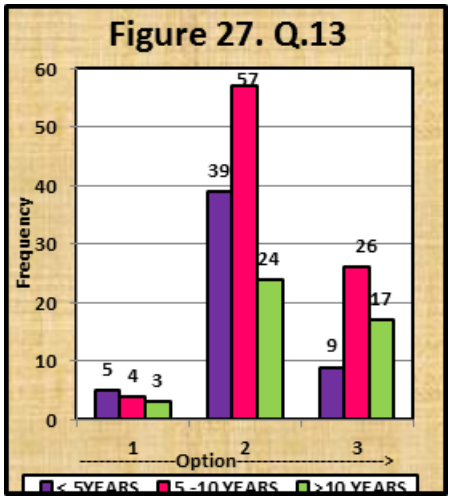


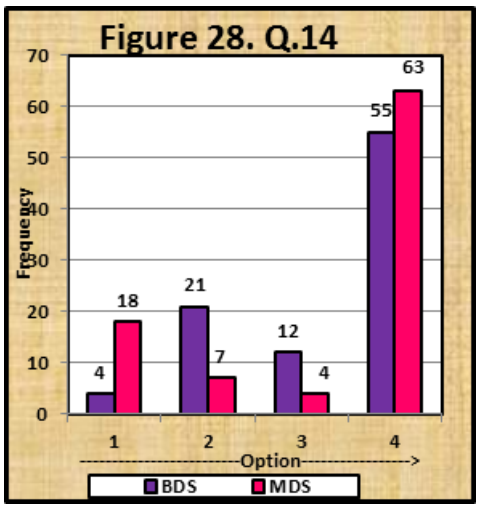
Figure 26. [Education based]

Figure 27. [Experience based]

showing percentage response of question 13 i.e.

Suggestive antibiotic coverage for a patient undergoing replantation?

(i) topical (ii) systemic (iii) both



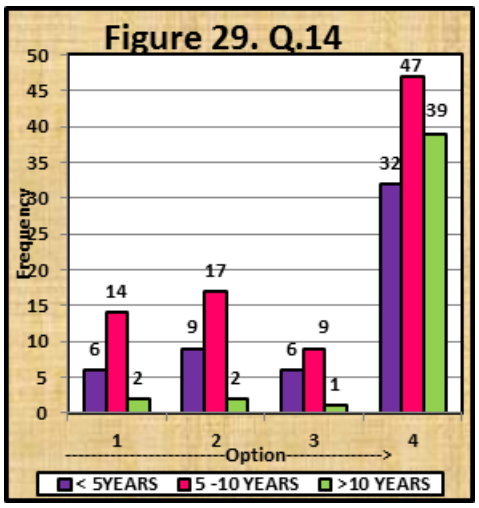


Figure 28. [Education based]

Figure 29. [Experience based]

showing percentage response of question 14 i.e.

What instructions a dentist should give after replantation?

(i) Consult to a physician for tetanus prophylaxis
(ii) Soft diet up to 2weeks
(iii) Chlorhexidine mouth rinse twice a day for 1week
(iv) all of the above

completely out of the socket so its neurovascular supply is grievously impaired which can lead to pulp necrosis.

In the case where impairment occurs in the periodontium inflammation results in chemotaxis invitation to clastic cells at the injury site leads to initiation of resorption process. On clinical examination tooth may be tender on percussion, discoloration can be evident along with negative response to pulp vitality tests. On radiographic examination periapical radiolucency can be appreciated.

In the case of delayed replantation where periodontal ligament viability is lost or as a consequence of long term splinting or rigid splinting, replacement resorption (ankyloses) can be seen. Here in osteoblastic cells start secreting bone matrix. On Clinical examination tooth is

immobile with metallic sound to or Infra-occluded tooth can be seen[11].

Follow up of replanted tooth should be done clinically and radiographically after 4weeks, 3months, 6 moths, 1 year and after that yearly[16].

5. Conclusion

Based on the data of current study, although better knowledge status was seen in the dental practitioners with higher education and experience, still general dental practitioners lack in knowledge about the management guidelines for avulsed tooth. In order to provide quality dental care to the population first we need to improve and update the knowledge status of general dental practitioners through continuing dental programs, interactive talk session, seminars about basic routine dental procedures as well as recent advancements emerging in the field of dentistry.

6. Conflict of Interest: No

7. Acknowledgement

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