



ISSN NO. 2320-5407

Journal Homepage: -[www.journalijar.com](http://www.journalijar.com)

## INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/1931  
DOI URL: <http://dx.doi.org/10.21474/IJAR01/1931>



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Journal homepage: <http://www.journalijar.com>  
Journal DOI:10.21474/IJAR01

### RESEARCH ARTICLE

#### AWARENESS AND ATTITUDE TOWARD PULP THERAPY OF THE PRIMARY TEETH AMONG PARENTS IN QASSIM PROVINCE, KINGDOM OF SAUDI ARABIA.

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#### Manuscript Info

##### Manuscript History

Received: 12 August 2016

Final Accepted: 13 September 2016

Published: October 2016

##### Key words:-

Awareness, attitude, primary teeth, pulp treatment, Qassim province.

#### Abstract

**Background:-** Early loss of primary teeth can cause number of problems, such as - ectopic eruption, drifting of erupted teeth, space loss for the successor teeth, development of aberrant habits such as tongue thrusting, alterations in speech, and impairment of function. Thus it is important that primary teeth should be maintained in the dental arch, provided that it can be restored to function and remain free from disease. This could be achieved mainly by restoration and pulp treatment.

**Aim:-** To determine the level of awareness and attitude of parentstoward pulp treatment of the primary teeth in Qassim Area and compare it according to gender and level of education.

**Materials and Methods:-** A descriptive cross-sectional survey was conducted in Qassim province among 505 sample of parents who have 12 years old children or younger. Data collection started on December 2015 using self-administered questionnaire.

**Results:-** Out of the 505 of study sample, (47.7%) 241 were aware about the pulp treatment of primary teeth, the highest percentage were female (30.5 %) 154. Seventy seven of the study samples disagree to do pulp treatment for a badly carious primary tooth. Looking for the reason, [primary teeth don't need pulp treatment], (71.4%) was the highest one, statistically significant difference was reported.

**Conclusion:-** The majority of parents showed that the pain is the reason for visiting a dentist; they didn't go regularly for chick-up. Furthermore, the parents who didn't accept pulp treatment to a badly carious tooth believed that primary teeth don't need pulp treatment.

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#### Introduction:-

Primary and permanent teeth are equally important. Once the primary teeth start to erupt, dental plaque, the major cause of dental caries begins to adhere to the teeth and regular dental care for the child becomes essential.<sup>[1]</sup> Parents are responsible for the oral care of children. Many of them feel or believe that since primary teeth will any way shed, it is not worth to spend time and money on providing a high oral health care to children.<sup>[2]</sup> It is the parents' responsibility to take care of their children's teeth according to the dentist's advice. This is because the child at that age lacks the awareness of the importance of the teeth, the knowledge in dental health care, and the ability to maintain the required oral health.<sup>[1]</sup>

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Early loss of primary teeth can cause number of problems, such as - ectopic eruption, disturbance of eruption sequence, drifting of erupted teeth, space loss for the successor permanent teeth, development of aberrant habits such as tongue thrusting, alterations in speech, and impairment of function.<sup>[3]</sup> Thus it is important that primary teeth should be maintained in the dental arch, provided it can be restored to function and remain free from the disease. An intact tooth successfully disinfected and restored clinically is a superior space maintainer than an appliance.<sup>[4]</sup> The teeth with infected root canals, particularly those in which infection has reached the periradicular tissues constitute a common problem in primary dentition.<sup>[4]</sup> Pulp therapy plays an important role in removing bacteria, their by-products and substrates, by disrupting and destroying the microbial ecosystem through chemical and mechanical methods.<sup>[5]</sup> To accomplish this, many treatment procedures have been proposed such as indirect pulp capping, partial pulpotomy, pulpotomy, and pulpectomy.<sup>[6]</sup> Endodontic treatment may be indicated far earlier in the primary than in permanent teeth. Obviously, treatment is indicated when a patient presents with a pulpal necrosis, or symptoms of pulpitis. However, the distinction of reversible or irreversible pulpitis applied to the permanent teeth is not so relevant in the primary teeth; any sign or symptom of pulpitis indicates the need for pulp therapy in primary teeth.<sup>[3]</sup> Thus, the current study aimed to determine the level of awareness and attitude of parentstoward pulp treatment of the primary teeth in Qassim Area and compare it according to gender and level of education.

### Materials and methods:-

A descriptive cross-sectional survey was conducted in Qassim province among parents who have 12 years old children or younger. Data collection started on December 2015. A sample size of (n=505) was obtained from respondents after distribution of questionnaires among the targeted parents in the Qassim university dental clinics and through the social media. The purpose of the study was explained, its voluntary nature was emphasized and confidentiality was assured. Both Saudi and non-Saudi parents living in Qassim were included and those who have 12 years old children or above were excluded. The questionnaire composed of 17 closed-ended questions assessing the knowledge about pulp therapy in primary teeth, its importance and the rationale for its importance. Questions also assessed the attitude regarding dental visits, restoration and pulp treatment of primary teeth.

The data obtained was cleaned, entered and analyzed using Excel software and the SPSS programs (SPSS 15.0 for windows). Descriptive statistical analysis was carried out and results on categorical measurements were presented in frequencies and percentages (%). Chi-square statistical test was used to find out any significant differences between the variables and p value  $\leq 0.05$  was considered as significant.

### Results:-

The results in this study showed that the total number of males is 170(33.7%) and females are 335(66.3%). Distribution of the study group showed that 6 (1.2%) were 20 years or younger, 352(69.7%) were 21 to 40 years, 144(28.5%) were 41 to 60 years, 3(0.6%) were 61 years and older. Regarding the level of education it was found that 87(17.2%) were pre-university and 418(82.8%) were university and post-graduate.

**Table 1:-**Assessment of Knowledge According to Gender.

Variables	Do you know what pulp treatment of a tooth is?				
	Stat	Female	Male	Total	$\chi^2$ (P)
Yes	Count	154	87	241	1.23* 0.268
	% within gender	30.5	17.2	47.7	
No	Count	181	83	264	
	% within gender	35.8	16.4	52.3	
Is the pulp treatment of primary teeth important?					
Yes	Count	260	118	378	4.02* 0.045
	% within gender	51.5	23.4	74.9	
No	Count	75	52	127	
	% within gender	14.9	10.3	25.1	
If yes, why pulp treatment for primary teeth is important?					
Relieve the pain	Count	105	50	155	3.07* 0.380
	% within gender	27.8	13.2	41.0	
Preserve space for	Count	94	33	127	

the permanent tooth	% within gender	24.9	8.7	33.6	
Preserve esthetic	Count	25	13	38	
	% within gender	6.6	3.4	10.1	
I Don't know	Count	36	22	58	
	% within gender	9.5	5.8	15.3	

**Table 1** showed that out of the 505 of study sample, (47.7%) 241 were aware about the pulp treatment of primary teeth, the highest percentage were female (30.5 %) 154. A statistically significant difference was reported among males and females concerning the importance of pulp treatment ( $p=0.045$ ). A (33.6 %) of the participants knew that the importance of the pulp therapy for primary teeth is it preserve space for the permanent tooth.

**Table 2:-**Assessment of Attitude Regarding Dental Visit According to Gender.

Do you used to visit a dental clinic?					
Variables	Stat	Female	Male	Total	$\chi^2$ (P)
Yes always.	Count	20	11	31	0.33* 0.954
	% within gender	4.0	2.2	6.1	
Many times	Count	44	25	69	
	% within gender	8.7	5.0	13.7	
Sometimes	Count	174	87	261	
	% within gender	34.5	17.2	51.7	
Never	Count	97	47	144	
	% within gender	19.2	9.3	28.5	
Reason for visiting dental clinic:					
Pain	Count	227	128	355	20.67* 0.001
	% within gender	45.0	25.3	70.3	
Trauma	Count	66	16	82	
	% within gender	13.1	3.2	16.2	
Check-up	Count	40	17	57	
	% within gender	7.9	3.4	11.3	
Caries	Count	2	6	8	
	% within gender	.4	1.2	1.6	
Delayed fall of primary teeth	Count	0	2	2	
	% within gender	0	.4	.4	
all of above	Count	0	1	1	
	% within gender	0	.2	.2	
Do you think that children's teeth should be checked regularly by a dentist?					
Yes	Count	299	127	426	18.09* 0.000
	% within gender	59.2	25.1	84.4	
No	Count	36	43	79	
	% within gender	7.1	8.5	15.6	

**Table (2)** shows the attitude regarding dental visit according to gender. Asking about visiting dental clinic, (51.7%) used to visit a dental clinic sometimes, (34.5 %) of them was from female group. A statistically significant difference was observed between males and females, the majority of female (45%) reported that the pain is the reason for visiting dental clinic, at the same time (59.2%) of female think that children's teeth should be checked regularly by a dentist.

**Table 3:-**Assessment of attitude regarding primary teeth treatment according to gender.

Do you think that primary teeth need dental treatment?					
Variables	Stat	Female	Male	Total	$\chi^2$ (P)
Yes	Count	309	142	451	8.96* 0.003
	% within gender	61.2	28.1	89.3	
No	Count	26	28	54	
	% within gender	5.1	5.5	10.7	
If a carious tooth of your child needs filling, do you agree for the treatment?					
Yes	Count	326	155	481	9.38* 0.002
	% within gender	64.6	30.7	95.2	
No	Count	9	15	24	
	% within gender	1.8	3.0	4.8	
If a badly carious tooth of your child needs to be restored with pulp treatment do you agree for the treatment?					
Yes	Count	288	140	428	1.14* 0.285
	% within gender	57.0	27.7	84.8	
No	Count	47	30	77	
	% within gender	9.3	5.9	15.2	
If No, what is the reason?					
No time for visits	Count	1	1	2	10.93* 0.027
	% within gender	1.3	1.3	2.6	
Primary teeth don't need pulp treatment	Count	38	17	55	
	% within gender	49.4	22.1	71.4	
expensive	Count	4	8	12	
	% within gender	5.2	10.4	15.6	
Small child's age	Count	1	4	5	
	% within gender	1.3	5.2	6.5	
No qualified dentists	Count	3	0	3	
	% within gender	3.9	0	3.9	
If the options for treatment of the carious tooth of your child is either pulp treatment or extraction, what option do you chose?					
Pulp treatment	Count	236	117	353	.141* 0.707
	% within gender	46.7	23.2	69.9	
Extraction	Count	99	53	152	
	% within gender	19.6	10.5	30.1	
Have any of your children had pulp treatment of their primary teeth?					
Yes	Count	86	44	130	0.003* 0.959
	% within gender	17.0	8.7	25.7	
No	Count	249	126	375	
	% within gender	49.3	25.0	74.3	

**Table (3)** A statistically significant difference was reported between study groups, (89.3%) of them believe that primary teeth need dental treatment, the highest percentage was from female (61.2%), similarly (64.6%) of female agreed for the treatment If a carious tooth of their child needs filling. Seventy seven of the study sample disagree to do pulp treatment for a badly carious primary tooth. Looking for the reason, [primary teeth don't need pulp treatment], (71.4%) was the highest one, statistically significant difference was reported (P=0.027).

**Table 4:-**Assessment of Knowledge according to level of education.

Do you know what pulp treatment of a tooth is?					
Variables	Stat	Pre-University	University & Post - Graduate	Total	$\chi^2$ (P)
Yes	Count	32	209	241	5.04* 0.025
	% within education level	6.3	41.4	47.7	
No	Count	55	209	264	
	% within education level	10.9	41.4	52.3	
Is the pulp treatment of primary teeth important?					
Yes	Count	72	306	378	3.50* 0.062
	% within education level	14.3	60.6	74.9	
No	Count	15	112	127	
	% within education level	3.0	22.2	25.1	
If yes, why pulp treatment for primary teeth is important?					
Relieve the pain	Count	36	119	155	3.04* 0.386
	% within education level	9.5	31.5	41.0	
Preserve space for the permanent tooth	Count	20	107	127	
	% within education level	5.3	28.3	33.6	
Preserve esthetic	Count	6	32	38	
	% within education level	1.6	8.5	10.1	
I Don't know	Count	10	48	58	
	% within education level	2.6	12.7	15.3	

**Table (4)** shows a statistically significant difference reported among pre-university and university & post – graduate ( $P=0.025$ ). Out of 505 of the study sample 264(52.3%) have no idea what pulp treatment of a tooth is.

**Table 5:-** Assessment of attitude regarding dental visit according to level of education.

Do you used to visit a dental clinic?					
Variables	Stat	Pre-University	University & Post - Graduate	Total	$\chi^2$ (P)
Yes always.	Count	5	26	31	0.537* 0.911
	%within education level	1.0	5.1	6.1	
Many times	Count	14	55	69	
	%within education level	2.8	10.9	13.7	
Sometimes	Count	44	217	261	
	%within education level	8.7	30.0	51.7	
Never	Count	24	120	144	
	%within education level	4.8	23.8	28.5	
Reason for visiting dental clinic:					
Pain	Count	52	303	355	8.97* 0.110
	%within education level	10.3	60.0	70.3	
Trauma	Count	22	60	82	
	%within education level	4.4	11.9	16.2	
Check-up	Count	11	46	57	
	%within education level	2.2	9.1	11.3	
Caries	Count	1	7	8	

	<b>%within education level</b>	<b>.2</b>	<b>1.4</b>	<b>1.6</b>	
<b>Delayed fall of primary teeth</b>	<b>Count</b>	<b>1</b>	<b>1</b>	<b>2</b>	
	% within education level	.2	.2	.4	
<b>all of above</b>	<b>Count</b>	<b>0</b>	<b>1</b>	<b>1</b>	
	% within education level	0	.2	.2	
<b>Do you think that children's teeth should be checked regularly by a dentist?</b>					
<b>Yes</b>	<b>Count</b>	<b>75</b>	<b>351</b>	<b>426</b>	<b>0.27*</b> <b>0.602</b>
	% within education level	14.9	69.5	84.4	
<b>No</b>	<b>Count</b>	<b>12</b>	<b>67</b>	<b>79</b>	
	% within education level	2.4	13.3	15.6	

**Table (5)** There is no statistically significant difference was observed regarding dental visit according to level of education among the study sample.

**Table 6:-**Assessment of attitude regarding primary teeth treatment according to level of education.

Do you think that primary teeth need dental treatment?					
Variables	Stat	Pre-University	University & Post - Graduate	Total	$\chi^2$ (P)
Yes	Count	74	377	451	1.99* 0.159
	% within education level	14.7	74.7	89.3	
No	Count	13	41	54	
	% within education level	2.6	8.1	10.7	
If a carious tooth of your child needs filling, do you agree for the treatment?					
Yes	Count	84	397	481	0.40* 0.530
	% within education level	16.6	78.6	95.2	
No	Count	3	21	24	
	% within education level	.6	4.2	4.8	
If a badly carious tooth of your child needs to be restored with pulp treatment do you agree for the treatment?					
Yes	Count	72	356	428	0.32* 0.570
	% within education level	14.3	70.5	84.8	
No	Count	15	62	77	
	% within education level	3.0	12.3	15.2	
If No, what is the reason?					
No time for visits	Count	1	1	2	3.06* 0.548
	% within education level	1.3	1.3	2.6	
Primary teeth don't need pulp treatment	Count	10	45	55	
	% within education level	13.0	58.4	71.4	
expensive	Count	3	9	12	
	% within education level	3.9	11.7	15.6	
Small child's age	Count	0	5	5	
	% within education level	0	6.5	6.5	
No qualified dentists	Count	1	2	3	
	% within education level	1.3	2.6	3.9	
If the options for treatment of the carious tooth of your child is either pulp treatment or extraction, what option do you chose?					
Pulp treatment	Count	63	290	353	0.32* 0.574
	% within education level	12.5	57.4	69.9	

Extraction	Count	24	128	152	
	%within education level	4.8	25.3	30.1	
Have any of your children had pulp treatment of their primary teeth?					
Yes	Count	20	110	130	0.42* 0.518
	%within education level	4.0	21.8	25.7	
No	Count	67	308	375	
	%within education level	13.3	61.0	74.3	

**Table (6)** Eighty nine percent of the study sample thought that primary teeth need dental treatment, high percentage (74.7%) was from University & Post – Graduate Asking the parents [if a badly carious tooth of your child needs to be restored with pulp treatment do you agree for the treatment?], (15.2%) of them refuse that. Regarding the options of pulp treatment and extraction, only 30% of the study group prefer extraction.

### Discussion:-

Oral health education and prevention play an important role in minimizing oral disease. Parents are responsible for the oral care of their children. Many of them believe that primary teeth are temporary, so they are not worth preserving and wasting time and money in their treatment. Even in developed countries, most of the parents still bring their children to the dentist for radical treatment rather than preventive treatments. To emphasize the critical importance of primary teeth and their need for pulp therapy, the present study was planned and conducted. The objective of this study was to evaluate the level of awareness and attitude of parents toward the concept of pulp treatment of primary dentition and to compare the results according to gender and level of education.

Fourty eight percent of the study sample was found to be aware about the pulp treatment of primary teeth. The highest percentage was among the females 154(30.5 %). This result is in accordance with that of Tangade et al, (2011), where they stated that the female subjects had better knowledge as compared to their male counterpart.<sup>[7]</sup> The importance of pulp treatment of primary teeth were known by 74.9 % of the parents as they identified that the main reason for opting pulp therapy for primary teeth is relief of pain.

Around 70.3% of the study subjects (the majority of them were females) believed that pain is the basic reason for visiting a dental clinic. These findings are similar to an earlier study that was conducted in India stated that pain and associated features were the commonest reasons for visiting the dental clinic.<sup>[8]</sup> The result of this study showed higher percentage when compared with the results of previous study carried out in Riyadh Saudi Arabia which reported that, 28.1 % of parents considered the pain as a main reason.<sup>[1]</sup> The results also showed that a good percentage of the parents (84.4%) bring their child to the dentist regularly for check -up . However, the previous study in Saudi Arabia also reported a lesser percentage (40.3%).<sup>[1]</sup>

Primary teeth need dental treatment. This was reported by (89.3%) of the present study sample, (61.2%) of them were females. Similarly, (64.6%) of females agreed for the treatment, if a carious tooth of their child needs filling. No contradiction of this result when compared to that one stated in the study carried out in 2011, where they reported that a major percentage of both urban (96%) and rural (73.3%) populations thought that there is a need for primary teeth treatment.<sup>[2]</sup>

When parents were asked about their perception regarding the need for any dental treatment to save the pulpally involved primary tooth, a high percentage (85%) of both female (57%) and male (27.7%), populations believe that there is a need for pulp treatment for primary teeth, and a very less number (15. %) among them thought that these teeth do not need pulp treatment since they are temporary and will be replaced by permanent successors. This is not the only justification of this group, since (16%) of them think that the cost of treatment refute them from doing pulp treatment for primary teeth .In contrast, another study demonstrated that the commonest reason for unwillingness of parents was the wasting of time with monetary considerations being the next common cause and very few not stating exact reasons.<sup>[9]</sup>

The university and post - graduate subjects had better knowledge as compared to their pre-university counterparts. This reflects that the highly educated parents in this study have acquired a higher sense of responsibility towards the importance and treatment of primary teeth. This finding is in agreement with the study conducted by Pai V et.al in 2006 in Mangalore city reported that a higher level of knowledge was revealed among Kannada and English medium primary school teachers.<sup>[10]</sup>

The trend of preferences for seeking treatment of primary teeth in various education levels in this study reported that check-up is the third reason for visiting dental clinic, after pain and trauma. This is in agreement to a study in India done by Dr. Jyothsna V in (2011) in which he stated that routine dental check-up is the last reason.<sup>[2]</sup> This result indicates the lack of awareness and bad attitude regarding dental visit and routine check-up.

The study results also showed that university and post-graduate parents think that primary teeth need dental treatment and most of them are willing to do pulp treatment for their child's teeth. This result was confirmed when parents were asked if the options for treatment of the carious tooth of their child is either pulp treatment or extraction, most of them (69.9%) preferred pulp treatment.

### **Conclusion:-**

The current study revealed that the knowledge of parents was inadequate in most aspects of pulp therapy of the primary teeth except for the importance of pulp treatment, but they didn't know the reason of its importance as to preserve space for the permanent tooth. The majority of parents showed that the pain is the reason for visiting a dentist, they didn't go regularly for check-up. Furthermore, the parents who didn't accept pulp treatment to a badly carious tooth believed that primary teeth don't need pulp treatment. Female, university and post - graduate parents reported a greatest level of Awareness and attitude toward pulp therapy of the primary teeth comparison to their counterparts.

### **Recommendations:-**

Raising parents' awareness in the direction of maintaining a healthy primary teeth and inform them about the consequences of early loss of primary dentitions is of great importance. The concept of the tooth as a best space maintainer for a normal development of the dental arch needs to be emphasized.

There is a real need to improve the parents' attitude toward visiting the dental clinic for regular check-up

### **Limitations:-**

The sample size of 505 is not considered to be representative for parents in Qassim. However, we believe that the sample was drawn from an economically diverse area to make the study group reasonably representative for other regions of Qassim. Also because the study was limited to Qassim province, other areas in Saudi Arabia need to be assessed. However, the results of the current study can be used as a baseline for enhancing the knowledge toward pulp therapy of the primary dentitions.

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