



ISSN: 0976-3031

Available Online at <http://www.recentscientific.com>

International Journal of Recent Scientific Research  
Vol. 7, Issue, 8, pp. 13209-13213, August, 2016

**International Journal of  
Recent Scientific  
Research**

## Research Article

### ATTITUDE TOWARDS PEDODONTIC SPECIALITY EDUCATION

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#### ARTICLE INFO

##### Article History:

Received 15<sup>th</sup> May, 2016

Received in revised form 25<sup>th</sup> June, 2016

Accepted 23<sup>rd</sup> July, 2016

Published online 28<sup>th</sup> August, 2016

##### Key Words:

Pedodontist, Speciality education, Pediatric dentistry, Degree of satisfaction.

#### ABSTRACT

A questionnaire based survey of 50 pedodontists residing in pune city was conducted to measure their attitude toward pedodontic speciality education. The maximum response obtained towards treatment approaches in almost all topic areas were given by specialists who work as a practitioner as well as an academician, except in the area of patient education where maximum response obtained from pedodontists who works as an only practitioner (n=10). High degree of satisfaction was seen in areas of behavior management (n=14), pulp therapy (n=23) & scope in new millennium (n=15). Whereas the mild level of satisfaction was seen areas of patient education, behavior management, restorative dentistry, pulpal therapy, traumatic injury, interceptive orthodontics, special children care, academic satisfaction, scope in new millennium. Mild dissatisfaction was seen in areas of hospital dentistry (n=16). Results showed relatively positive satisfaction with all topic areas but significantly positive satisfaction was seen while considering management of pulpal diseases. Behavior management by voice control, formocresol pulpotomy, management of avulsed tooth, stainless steel / zirconia crowns & minimal intervention were best techniques of approaches.

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#### INTRODUCTION

In developing countries, the need need for pediatric oral health care is increasing. Success in pediatric dental practice, apart from technique & skills depends on attitude & behavior (Asokan *et al*, 2016). Pediatric dentistry is an age-defined specialty that provides primary and comprehensive, preventive and therapeutic oral health care for infants and children through adolescence, including those with special health care needs (Tandon *et al*, 2008). In last few years, pediatric dentistry is emerging as a dynamic and diverse profession. Research in attitude towards pedodontic speciality helps to reshape practice, provide optimal patient care and educate the practitioners to the special health care needs of the patient (Aggarwal *et al*, 2015). Pedodontic speciality is a highly promising branch in dentistry as wide gamut of subjects are included, also they are trained with the ability to meet the multi-speciality need of pediatric patients as far as clinical practice is concerned (Aggarwal *et al*, 2015). It is important for the dentist to shift to the quantum phase for qualitative treatments (Asokan *et al*, 2014). In a survey by Benette and coworkers, Pedodontists indicated deficiencies in various treatments, research experience, planning and patient education (Bennett *et al*, 1967). The purpose of this study is to determine how the Pedodontists perception differs, by (program setting and data-based) analysis of Pedodontists attitude towards their speciality education. This

data based attitudinal survey will provide quantitative and qualitative information of their performance. The data can be used as a comparative basis for the self-analysis and future planning (Bell *et al*, 1979). It is believed that materials and methods important previously may not be desirable in present days. Dental visits are a major source of anxiety and a significant stressor for many people including children. To meet the need of child it also involves child's feelings, fear of dental environment, to gain the child's confidence and co-operation for the treatment to be carried out in kind and sympathetic manner. This will also promote child's future dental health by stimulating the attitude and behavior regarding dental care. In developing countries like India, the need for pediatric oral health care is increasing, as there are vast unmet treatment needs in society and there are wide range of needs of pediatric patients that are catered by pedodontists, hence there is utmost need to measure attitude and approach of pedodontists in society towards their delivery of dental care and if found any lacunae, that should be effectively filled by pedodontists themselves. Also, newer speciality education program can be effectively changed accordingly as it may, in turn, change the approach and attitude of upcoming specialists. This may expand the scope of exclusive pedodontic practice in any city.

**Objective;** To find out the best technique of approach for various areas related to patient education, behavior

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management, restorative dentistry, pulpal therapy, traumatic injury, interceptive orthodontics, special children care, hospital dentistry, academic satisfaction, and scope in new millennium.

**MATERIALS AND METHODS**

The survey was conducted by dept. of Pedodontics & preventive dentistry, STES, Sinhgad Dental College & Hospital, Pune. A prevalidated, close-end, self-administered questionnaire of 10 questions along with participation information sheets and informed consent were given to 50 pedodontists residing in Pune city, out of which 44 pedodontists responded. A 5-point Likert-type attitude scale was used to record the degree of satisfaction (Borg et al, 1971). Topics covered in the questionnaire were patient education, behavior management, restorative dentistry, pulp therapy, traumatic injury, interceptive orthodontics, special children management, hospital dentistry, academic satisfaction, and scope in new millennium. The responses obtained from completed questionnaire were entered in Microsoft Excel sheet (version: Microsoft Office 2013). This data was analyzed using Statistical Package for Social Science (SPSS) software descriptive (version: 21 for Windows 8). Statistical methods incorporated to analyze data were one-way analysis of variance and Pearson’s correlation coefficient.

**RESULTS**

Out of 44 participants, 37(84.1%) were of the age group of 15 to 40 yrs. and 7(15.9%) were in age group of 40 yrs or more than 40yrs. There were 33(75%) male participants whereas 11(25%) were female participants. Out of all 44 participants, 22(50%) were both practitioner as well as academicians, 12(27.3%) were only practitioner and 1(2.3%) were academicians, whereas 7(15.9%) were only consultants, 1(2.3%) were associated with only Govt./ hospital care, and only 1(2.3%) was associated with all of above practice option.

Majority of pedodontists gave mild level of satisfaction when asked about patient education (54.5%), behavior management (56.8%), restorative dentistry (61.4%), management of traumatic injury (56.8%), interceptive orthodontics (40.9%), management of children medically or physically special (50%), management in hospital environment by utilizing pharmacological methods (36.4%), academic area (47.7%) and scope of speciality in newer millennium(54.5%).

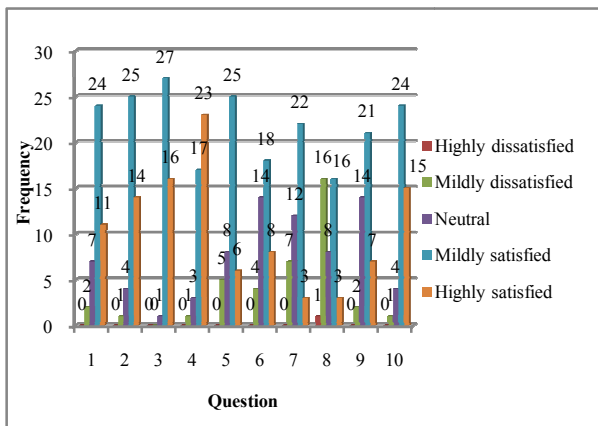
High degree of satisfaction was seen in areas of behavior management (31.8%), restorative management (36.4%), pulpal management in primary and young permanent teeth (52.3%), and scope & use of newer aids in new millennium (34.1%). Mild level of dissatisfaction seen with consideration of management of the pediatric patient in the hospital using pharmacological methods (36.4%) (Figure 1).

Maximum 13(29.5%) out of all, gives their best inability of treatment plan presentation /discussion for patient education. Out of all 44, 18(40.9%) gives their best in voice control technique of behavior management. Maximum of 16(36.4%) shows their best in stainless steel crowns and 15(34.1%) gives their best in zirconia crowns for techniques of approach in restorative dentistry. Formocresol pulpotomy technique was best for 25(56.8%) pedodontists. 27(61.4%) shows their best in managing timing and care in replantation of avulsed teeth. 19(43.2%) suggest their best in techniques for the guidance of eruption. 10(22.7%) gives their best experience in managing patients with a history of cardiovascular disorder and epilepsy. Managing patient under general anesthesia was best experience among 26(59.1%) pedodontists. 19(43.2%) have best teaching experience in the didactic and clinical environment. The Minimal intervention was the best technique out of all as indicated by 12(27.3%) pedodontists out of 44 (Table 1).

**Table 1** Percentage distribution of the best treatment approaches perceived by pedodontists in relation with all topic areas covered

Question	Best response	percentage
1	Treatment plan presentation/discussion	29.5
2	Voice control	40.9
3	Stainless steel crowns	36.4
4	Formocresol pulpotomy	56.8
5	Timing and care in replantation of avulsed teeth	61.4
6	Techniques of guidance of eruption	43.2
7	Precaution in positive cardiovascular histories & Epilepsy and dental treatment	22.7
8	GA experience	59.1
9	Teaching experience in didactic and clinical environment	43.2
10	Minimal intervention	27.3

When the pedodontic specialists were asked about the satisfaction with the ability of patient and parent education, 10 practitioners out of all 44 pedodontist were mildly satisfied in comparison with other pedodontists. This difference is statistically significant (p<0.05). High degree of satisfaction was found in 13 out of 44 pedodontist who work as practitioner as well as academicians when asked regarding pulpal management, this difference was insignificant statistically (p>0.05). When pediatric patient management in hospital utilizing pharmacologic methods, 10 pedodontists who work as both clinician as well as academicians gave mild level of satisfaction, this difference shows statistical insignificance (p>0.05). Pedodontists who work as both clinician, as well as academicians, gave a mild level of satisfaction when asked regarding behavior management, restorative treatment approach, traumatic injury, interceptive orthodontics, health care needs of special children, academic satisfaction and scope, and newer aids in speciality showed mild level of satisfaction, difference of which is statistically insignificant (p>0.05) (Table 2).



**Figure 1** Distribution of study participants on the basis of the degree of satisfaction perceived towards their speciality education experiences

**Table 2** Frequency of pedodontists responding to various treatment approaches perceived by them on the basis of maximum response as the degree of satisfaction

	Practitioner	Academician	Both	Govt./hospital care	consultant	All
<b>Patient education</b>						
Mildly satisfied	10	1	9	0	4	0
<b>Behavior management</b>						
Mildly satisfied	7	0	10	1	6	1
<b>Restorative dentistry</b>						
Mildly satisfied	6	0	16	0	4	1
<b>Pulp therapy</b>						
Mildly satisfied	5	1	13	0	4	0
<b>Traumatic injury</b>						
Mildly satisfied	8	1	12	0	4	0
<b>Interceptive orthodontics</b>						
Mildly satisfied	7	0	8	0	3	0
<b>Special children care</b>						
Mildly satisfied	5	0	14	0	3	0
<b>Hospital dentistry</b>						
Mildly dissatisfied	2	0	10	1	3	0
<b>Academic satisfaction</b>						
Mildly satisfied	5	0	11	0	5	0
<b>Scope in new millennium</b>						
Mildly satisfied	6	0	12	1	5	0

## DISCUSSION

Attitudinal surveys are affected by respondent's feelings, beliefs, knowledge, and predisposition towards a subject (Bell *et al*, 1979). In consideration of these facts, survey methodology incorporates various design measures to minimize bias and increase the usefulness of obtained data. Specific measures incorporated in this study were multiple inquiry items, 5 points Likert-type attitudinal scale, response anonymity, and transmittal letter (Bell *et al*, 1979; Tittle *et al*, 1967). The difference in the degree of satisfaction indicates approach and attitude of specialists towards oral health care delivery.

There is relatively positive satisfaction seen with patient and parent education, restorative management, traumatic injury management, interceptive orthodontic care, management of medically or physically special children, academic approach, and scope in the newer era. Highest satisfaction seen was in areas such as management of pulpal diseases, and behavior management of the child. A survey conducted by Ronald bell and Dennis McTigue in 1979 indicated that positive degree of satisfaction was seen with their educational experiences related to behavior management, restorative dentistry, pulp therapy, traumatic injury and interceptive orthodontics (Bell *et al*, 1979). Traumatic injuries to developing teeth can influence growth and maturation (Agarwal *et al*, 2011), in comparison with this survey, interceptive orthodontic and traumatic injury management experiences should be raised in speciality program. This could incorporate positive attitude in the health care delivery system. Speciality training program requires particular improvement in providing such experience due to lower satisfaction than other groups. In the era of technology, patient education with the use of digital aids should be increased as it may incorporate more positive attitude in children and parent regarding oral health care.

Early childhood caries (ECC) in children presents with multi-surface caries and extensive cervical damage (Sahu *et al* 2016). Caries is a transmittable infectious disease that the child can acquire from the mother (AAP, 2012). Various surveys have shown that pediatrician's awareness regarding the transmission of dental caries is poor despite the publication of reports over 2

decades back (AAPD, 2008). Hence being pedodontists it is very important to deliver designs of preventive strategies to increase the standard of positive oral health attitude among children. Recent concepts like minimal intervention have evolved as a result of changing principles of disease control, better understanding of cariology and advances in techniques & materials that have dramatically altered the approach to diagnosis and management of dental caries (Shashikiran *et al*, 2004). American Academy of Pediatric Dentistry (AAPD, 2008) guideline, which states that the first examination is recommended at the time of the eruption of the first tooth and no later than 12 months of age (AAP, 2012; Nowak *et al*, 2000). Non-counseling may also send wrong signals to parents that the prevention of oral health is not of high value. Information concerning the impact of diet on oral health and counseling with regard to oral hygiene should be shared with parents (Peddikayli *et al*, 2013).

Considering behavior management, the strategy that frequently demonstrates a powerful effect in altering behavior, is that of positive reinforcement (Levy *et al*, 1979). Several authors have recommended the delivery of rewards contingent on appropriate behavior and certainly, giving toys for good operator behaviors would be one application of this technique. Rona Levy and Peter Domoto conducted Study on current techniques in behavior management which could not, however, assess the appropriate use of positive reinforcement and the possibility must be considered that the toys were given following bad behaviors, such as crying in the operator (Levy *et al*, 1979). The specialist should be aware of this possible phenomenon and should try to use positive reinforcement in its most effective form to encourage appropriate behavior (Levy *et al*, 1979). Crossley ML and Joshi G in their survey found that younger dentists found the less authoritarian 'voice control' technique more acceptable than older dentists, also female dentists were more likely to feel uncomfortable with behavioral management techniques such as oral pre-medication and active restraint (Crossley *et al*, 2002). Knowledge and experience regarding other techniques should be positively incorporated in speciality education program for effective management of behavior of the child in dental office.



A survey by Aldrees AM *et al* shows that in comparison with general practitioners and orthodontic as well as pedodontic specialists, pediatrics practitioners tended to rate the need and urgency for the treatment of the temporomandibular disorder is higher (Aldrees *et al*, 2015). Whereas maximum response for interceptive orthodontics was less in comparison with other asked topic areas in the given questionnaire. This further indicates improvement in areas of interceptive orthodontics in newer speciality education program.

Relatively reduced satisfaction was seen in hospital related dentistry especially when emergency drug delivery and their techniques, and knowledge related to hospital protocol were concerned. Considering practice with sedation, only 20% of pediatric dentists periodically retrain the emergency protocol in a survey conducted by Yeonmi Y *et al* in 2014 (Yeonmi *et al*, 2014). Patient's safety should be considered as top priority as far as use of sedation is concerned. Hence, systemic technical training for proper and safe use of sedation and its protocols and related emergency management should be established or should be considered in speciality education program.

Positive satisfaction in teaching experience area indicates that perceived knowledge & experience (in speciality program) is beneficial. However, an academically related topic such as conducting clinical research and evaluation of literature review should be emphasized in the speciality program. The percentage eliciting full-time academic careers represents a substantially lower figure than indicated in the student interest survey (Bell *et al*, 1979).

#### Limitations

This survey had certain limitations like any other. This study is not representative of the country, as it was restricted to a group of pedodontists of one area only. Further similar kind of longitudinal study should be conducted which can measure progressive changes in attitude of pedodontic specialists, as this study was a cross-sectional study. Definitive recommendations cannot be derived as a consequence of limited sample size. Although this study may serve as a reference base for future studies and open a new vista in research.

#### CONCLUSION

This survey was intended to investigate the level of satisfaction of pedodontists towards various treatment approaches and their attitude towards speciality education program. Also to find out the scope of speciality in the new millennium and their best approach in the process of providing effective treatment. The response of all pedodontists was correlated to various treatment approaches and it indicated:

- Relatively positive satisfaction was experienced with patient and parent education skill, restorative dentistry, management of traumatic injury, interceptive orthodontics, management of special children, academics and scope in new millennium.
- The significantly high degree of satisfaction was seen in relation to pulpal management of primary and young permanent teeth.
- Relatively reduced the level of satisfaction was seen with hospital dentistry (sedation).

- Considering all the approaches, treatment plan presentation, behavior management by voice control, restoration with stainless steel / zirconia crowns, formocresol pulpotomy, management of avulsed tooth, techniques for the guidance of eruption, managing patient with cardiovascular disorder and epilepsy, treatment under general anesthesia and minimal intervention were their best treatment approaches.

#### Acknowledgements

The authors would like to thank all of the paediatric dentists of pune, who took the time to participate in this survey, and Dr. Sameer Patil, Principal, STES SDCH pune for constant encouragement during the study.

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**How to cite this article:**

Virati UK., Patil RU and Vinay V. 2016, Attitude towards Pedodontic Speciality Education. *Int J Recent Sci Res.* 7(8), pp. 13209-13213.