

Original research article

KAP among dental practitioners towards child management in the dental clinic: across-sectional questionnaire based study**Dr. Abhishek Anand¹, Dr. Swati Sharma², Dr. Ajay Kumar Shahi****¹Senior Resident, Department of Dentistry, Narayan Medical College and Hospital, Sasaram, Bihar, India****²Assistant Professor, Department of Periodontics, Dental Institute, RIMS, Ranchi, Jharkhand, India.****³Associate Professor, Department of oral and Maxillofacial Surgery, Dental Institute, RIMS, Ranchi, Jharkhand, India.****Corresponding Author: Dr. Abhishek Anand****Email id:abhishekanandmds22@gmail.com****Abstract**

Aim: To evaluate the knowledge, attitude, and practices of dental surgeons in the city of Sasaram Bihar.

Material and methods: A cross-sectional study was conducted in the Department of Dentistry, Narayan Medical College and Hospital, Sasaram, Bihar, India, for 13 months. A cluster-sampling technique was used and 50 dental surgeons from six different dental institutions were selected. A self-constructed questionnaire was distributed to the dental surgeons that comprised 20 closed-ended questions, including the parental influence, communication with the child, decorations and accoutrements depicting definite settings, importance of demonstrating a child about treatment, sedative procedures, and various barriers that hinder the dental treatment. Dental surgeons with the clinical experience of 3 years and above currently working in dental institutes of Bihar were included in this study.

Results: The present study comprised 50 dental surgeons of experience level 3 years and above. Results showed that 18(36%) dental surgeons took the responsibility of managing pediatric patient when given; 16 (32%) dental surgeons allowed the parents in the clinic as a spectator to encourage and assure the child to work in a satisfactory manner; 27 (54%) dental surgeons are of the view that colorful and fun environment in dental clinic makes the child at ease, while 16 (32%) dental surgeons think that having a handy music system/video will provide comfort to frightened children; 14 (28%) always demonstrate the dental procedure to the child to eradicate imaginary fears; 25(50%) preferred not to inform the child that the dental procedure could involve pain.

Conclusion: we concluded that the all the members of dental profession must be aware of patients' perceptions, preferences, and fear to meet patient's needs. Dental studies should include guidelines and techniques to train the upcoming dentists for excellent practice in pediatric dentistry.

Keywords: knowledge, attitude, practice, child, dental clinic

Introduction

Pediatric dentistry is considered to be the most needed, yet neglected area of all the services performed by the dental surgeons.¹Consequently, clinical reference must be balanced with the clinicians' professional proficiency and the patient's preference.²Every dentist must deliver the highest quality of treatment to individual pediatric patients and apply advances in science and technology to continually improve oral health. Dental surgeons should be encouraged to

increase and update their clinical skills and knowledge in behavior guidance techniques. The establishment of a good relationship between dentist and the child has been shown to increase the success of treatment in terms of the child's cooperation during the treatment or advice for prevention. Dental anxiety and fear of dental treatment in children are considered to be the main reason for management problems and avoidance of dental care. These problems sometimes require the replacement of conventional treatment with more complicated alternatives such as sedation or general anesthesia (GA).³ Shortcoming of most of the dental surgeons when treating children is their lack of knowledge, clinical skill, or attention to the vital performance of providing and assuring profound local anesthesia. Most of the dental surgeons felt uncomfortable with their clinical skills and avoid giving children local anesthesia. For this vision to become a reality, many more dental professionals will need to be aware of and skilled in the communication management methods advocated by the American Academy of Pediatric Dentistry (AAPD).⁴ To execute a successful preventive practice, there is need of a better understanding of practice pattern that will help in targeting the continuing education by professional dental associations as well as encouraging evidence-based utilization of different preventive therapies.⁵ Shortcoming of most of the dental surgeons when treating children is their lack of knowledge, clinical skill, or attention to the vital performance of providing and assuring profound local anesthesia. Most of the dental surgeons felt uncomfortable with their clinical skills and avoid giving children local anesthesia. For this vision to become reality, many more dental professionals will need to be aware of and skilled in the communication management methods advocated by the American Academy of Pediatric Dentistry.⁴ Therefore, the aim of the study was to evaluate the knowledge, attitude, and practices of dental surgeons in the city of Sasaram Bihar.

Material and methods

A cross-sectional study was conducted in the Department of Dentistry, Narayan medical college and hospital, Sasaram, Bihar, India, for 13 months, after taking the approval of the protocol review committee and institutional ethics committee. To evaluate the knowledge, attitude, and practices of dental surgeons in Sasaram Bihar, providing treatment to pediatric patients.

Methodology

A cluster-sampling technique was used and 100 dental surgeons from six different dental institutions were selected. A self-constructed questionnaire was distributed to the dental surgeons that comprised 20 closed-ended questions, including the parental influence, communication with the child, decorations and accouterments depicting definite settings, importance of demonstrating a child about treatment, sedative procedures, and various barriers that hinder the dental treatment.

Inclusion Criteria

Dental surgeons with the clinical experience of 3 years and above currently working in dental institutes of Bihar.

Exclusion Criteria

Clinical experience below 3 years.
Currently not working in a dental institution.

Statistical Analysis

The data was entered and analyzed for frequency and percentages by using Statistical Package for the Social Sciences (SPSS) version 19.0.

Results

The present study comprised 50 dental surgeons of experience level 3 years and above. Table 1 shows the descriptive analysis of the knowledge, attitude, and practices of dental surgeons providing treatment to pediatric patient. Results showed that 18 (36%) dental surgeons took the responsibility of managing pediatric patient when given; 16 (32%) dental surgeons allowed the parents in the clinic as a spectator to encourage and assure the child to work in a satisfactory manner; 27(54%) dental surgeons are of the view that colorful and fun environment in dental clinic makes the child at ease, while 16(32%) dental surgeons think that having a handy music system/video will provide comfort to frightened children; 14 (28%) always demonstrate the dental procedure to the child to eradicate imaginary fears; 25 (50%) preferred not to inform the child that the dental procedure could involve pain.

Table 2 shows behavior attributes of dentists toward pediatric patients; 26 (52%) dental surgeons preferred to treat the child without anesthesia to prevent from unpredictable behavior of child; 24 (48%) dental surgeons preferred the child to be treated in GA to avoid difficult behavior of the child; 34(68%) dental surgeons did not show syringe needle or any instrument to the child as a good policy to carry out the treatment; 26(52%) praised the good behavior of child to acknowledge exemplary conduct in a child.

Table 3 shows sedation techniques used by dental surgeons on pediatric patient. Of dental surgeons, 38(76%) occasionally allow the parents to take part in treatment verbally to approach the psychological management of the patient; 16 (32%) tended to modify their voice, tone to direct child's behavior; 21(42%) gave the child an opportunity to participate in the procedures; 24(48%) of dental surgeons deferred the treatment when discomfort is felt; 18 (36%) dental surgeons chose not to engage the child in a conversation if he is not willing or showing interest; 35 (70%) dental surgeons never placed their hand on the mouth of a screaming spoiled child; 24 (48%) dental surgeons immobilize the child by their self and avoid any auxiliary help; 30 (60%) dentists praise the child if he obeys a command in a determined way; 15(30%) dental surgeons promised to gift or reward a child to attain his maximum cooperation. Table 4 shows treatment modalities by different dental surgeons.

Table 1: Descriptive analysis of the knowledge, attitude, and practices of dental surgeons providing treatment to pediatric patients

Questionnaire	Mean	SD
Responsibility of managing child patient	2.12	0.98
Allow parent in clinic	2.21	1.01
Keep office decor	1.69	0.88
Talking and playing video or music to distract the child	2.65	1.21
Demonstrate procedure	2.39	1.11
Aware child of pain	3.32	0.856
Treat without anesthesia	3.45	0.897
Prefer GA for treatment	3.45	0.688
Nitrous oxide inhalation to sedate	3.12	0.698
Don't show needle of syringe	3.59	0.912
Encourage child not to be coward	1.88	1.065
Allow parent to interrupt	2.56	1.036
Modify voice, tone to direct child behavior	2.33	1.021
Allow child to speak	2.61	0.954
Patient to stop treatment on discomfort	1.99	1.021
Stop hysterical child by hand on mouth	3.66	0.865
Immobilize the child	2.99	0.952
Praise the child	1.88	0.963
Give complimentary gifts	2.56	2.267

Table 2: Behavior attributes of dentists toward pediatric patients

Questionnaire	Always	Often	Sometimes	Never
Dental surgeons that manage pediatric patients	18(36%)	11(22%)	19(38%)	2(4%)
Dental surgeons that allow parents in dental clinic	16(32%)	12(24%)	15(30%)	7(14%)
Dental surgeons keep off decor attractive	27(54%)	15(30%)	6(12%)	2(4%)
Talking and playing video or music to distract the child	16(32%)	13(26%)	14(28%)	8(16%)
Dental surgeons who demonstrate the procedure to child	14(28%)	13(26%)	14(28%)	10(20%)
Dental surgeons who encourages child not to be coward	25(50%)	6(12%)	11(22%)	7(14%)

Table 3: Sedation techniques used by dental surgeons on pediatric patient

Questionnaire	Always	Often	Sometimes	Never
Who aware the child about involvement of pain	6 (12%)	7 (14%)	12(24%)	12(24%)
Who treat the child without anesthesia	2 (4%)	7(14%)	15 (30%)	26(52%)
Who prefer the child to be treated in GA	3 (6%)	9 (18%)	24 (48%)	15 (30%)
Who use nitrous oxide inhalation to sedate the child	4(8%)	4(8%)	9 (18%)	33 (66%)
Who do not show needle of syringe/ instrument to child	4(8%)	4(8%)	8 (16%)	34 (68%)

Table 4: Different treatment modalities by dental surgeons

Questionnaire	Always	Often	Sometimes	Never
Who modify their tone to direct child's behavior	16(32%)	15(30%)	14(28%)	6(12%)
Who allow child to speak during treatment	10(20%)	13(26%)	21(42%)	7(14%)
Who stop treatment when discomfort is felt	24(48%)	10(20%)	12(24%)	4(8%)
Who do not speak if child is quiet	11(22%)	10(20%)	18(36%)	12(24%)
Who place handover-mouth of hysterical child	6(3%)	6(12%)	9(18%)	35(70%)
Who immobilize the child by themselves	6(12%)	8(16%)	24(48%)	14(28%)
Who praise child when obeys command	31(62%)	11(22%)	6(12%)	3(6%)
Who promise complimentary gifts	16(32%)	13(26%)	14(28%)	8(16%)

Discussion

Health-related behaviors are influenced by knowledge and awareness, with oral health being no exception. There is an association between oral health knowledge, age, and the education level of mothers, which are directly linked to the status of their children's oral health. Oral health is an integral component of general health that plays an essential role in the life of a child. Dental caries are one of the pertinent oral health problems that are universally present. In most developing countries, the levels of dental caries are steadily rising. Countries in the Middle East have demonstrated a high prevalence of early childhood caries (ECC). Results showed that 18(36%) of the dental surgeons took the responsibility of managing pediatric

patients in dental clinics. The present survey done was one of the first kind to assess the behavior and attitudes of dental surgeons in sasaram bihar toward managing and treating pediatric patients. Dental surgeons may simply be reluctant to see children so young because they perceive them to be difficult to examine. Further, they may not know what to do if, during the examination, it is discovered that the child will require further treatment. Educational programs should be planned for dental surgeons to improve their knowledge and skills in providing treatment to children.⁴ A survey done in Saudi Arabia reported that 85% of the dental surgeons treat children which is encouraging.⁶ Another study conducted by Seale and Casamassimo⁷ reported that more than 90% of dental surgeons provide treatment to children younger than 4 years of age. Pain management during dental procedures is essential for successful behavior guidance and enhancing positive dental attitudes for future appointments. Listening to the child and observing their behavior at first sign of distress would help in diagnosing the situation and facilitate proper behavior guidance techniques.⁸ Children perceive and react to painful stimuli differently from each other and under the age of 4 years are more sensitive to painful stimuli and are not able to communicate as well as older children and teens.⁹ Observing behavior and listening to children during treatment are essential in any evaluation of pain. Facial expressions, crying, complaining, and body movement are important diagnostic criteria.¹⁰⁻¹³ The present study reported that 7 (14%) dental surgeons developed trust and explained the child about the nature of pain perception during dental procedures. Parental accompaniment can significantly affect the atmosphere surrounding the dental visit and dental treatment and may sometimes enhance and sometimes hinder the progress of the child's treatment.¹⁴ The present study results showed that 33(33%) of the dental surgeons allowed parents in dental clinic. Levy and Domoto¹⁵ reported that 88% of dental surgeons and auxiliary staff allowed parents in the dental clinics. A survey done by the Association of Pedodontic Diplomats,¹⁶ nearly 90% of the dental surgeons allowed parents in the dental clinic. Another study¹⁷ reported that 35% of general dentists and 87% of pediatric dental surgeons allowed parents in the operator. Behavior guidance is a clinical art form and a skill built on a foundation of science with the goals to establish communication, alleviate fear and anxiety, deliver quality dental care, build a trusting relationship between dentist, child, and parent, promote the child's positive attitude to dental health.¹⁸ The most popular technique for managing children was tell-show-do and was reported by 213(93%) dental surgeons as their most commonly used behavioral management strategy followed by 149(69%) reported voice control. The technique dentists were least comfortable with was hand-over-mouth; 7(3%) dental surgeons reported feeling uncomfortable with hand-over-mouth techniques, followed by 5(2%) with the papoose board.¹⁹⁻²¹ The present study results reported that 17(34%) of the dental surgeons used distraction technique followed by 16(32%) used voice control technique, 15(30%) tellshow-do technique, 6(12%) used papoose board, and 2(4%) used hand-over-mouth technique. Dental surgeons make every effort to reduce or eliminate pain and anxiety experienced by children, but also to improve patient manageability and satisfaction.²² Klassen et al²³ considered whether music could help control pediatric pain and anxiety. Filcheck et al²⁴ found no differences in disruptive behaviors between music therapy and placebo overall, or by level of disruptiveness, there was a significant difference among the uncooperative children with respect to disruptive behaviors, crying and complaining, and physical restraint required. The present study reported that 16(32%) dental surgeons play music/video to distract the child's focus away from dental treatment. Most children can be managed effectively using the techniques outlined in basic behavior guidance and these techniques should form the foundation for all of the management activities provided by the dental surgeon. The advanced behavior guidance techniques commonly used and taught in advanced pediatric dental training programs include protective stabilization, sedation, and GA.²⁵ The sedation of children is different from the sedation of adults; sedation

in children often is administered to control behavior to allow the safe completion of the dental procedure. A child's ability to control his or her own behavior to cooperate for a procedure depends both on his or her chronologic and developmental age.²⁶ Nitrous oxide (N₂O) is an attractive agent for pediatric procedural sedation because it provides rapid onset and offset of sedation. Most research has used 50% N₂O, and there have been concerns regarding the variability of the sedation provided.^{27,28} A study done by Sarah et al reported that only 12 (6%) of the dental surgeons preferred to use nitrous oxide as a behavioral management technique.²⁹ Another study results reported that 159 (73%) of the dental surgeons were totally comfortable with nitrous oxide sedation technique.¹⁴ The present study results showed that 4(8%) dental surgeons preferred to use nitrous oxide to sedate children. Despite the risk of adverse events of GA, dental treatment performed in a hospital is generally considered safe.³⁰ Pediatric dentists reported a favorable attitude toward dental treatment under GA, and many reported an increasing interest in utilizing this modality more frequently in their dental practices.³¹ Comprehensive dental care under GA is often more efficient and cost effective than repeated dental visits for restorative care utilizing other sedation methods.³² Dental restorations performed under GA, especially for the treatment of early childhood caries, are reported to have greater quality and durability than restorations placed under conscious sedation.^{33,34} Kain et al³⁵ showed greater observed compliance during anesthetic induction. A study done by Manal et al reported that more than 50% of the general dentists and 60% of the pediatric dental surgeons reported the use of GA.³⁶ In the survey by McKnight-Hanes et al,²⁰ 60% of the pediatric dentists used GA in oral rehabilitation. It is likely that the differences are due to the fact that more than 60% of the dental surgeons were working in hospitals where facilities were usually provided for the utilization of GA. A study done by Crossley and Joshi¹⁴ reported that 98(45%) dental surgeons performed treatment under GA. The present study results showed that 3(6%) of the dental surgeons preferred the child to be treated in GA. Klingberg and Broberg³⁷ reported that children and adolescents were expected to experience mild fear and anxiety during their dental treatment. Fear may be observed in children, adults, and the elderly, and it is suggested that young children and females are more likely to suffer from needle phobia.³⁸ The present study results showed that 4(8%) of the dental surgeons do not showed needle to children during treatment.

Conclusion

We concluded that the all the members of dental profession must be aware of patients' perceptions, preferences, and fear to meet patient's needs. Dental studies should include guidelines and techniques to train the upcoming dentists for excellent practice in pediatric dentistry.

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Received: 02-07-2020 || Revised: 13-07-2020 || Accepted: 26-08-2020