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Selection of behaviour management techniques among pediatric dentists and pediatricians of Uttar Pradesh, India - A comparative study

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Abstract

Introduction: Paediatric dentists and Paediatricians play a major role in treating any child patient. Selection of behaviour management techniques may be through verbal, non-verbal techniques in cooperative as well as non-cooperative patients. Behaviour management is a science aimed to gain a confidence relationship between patient and practitioner. Therefore, the study was conducted with the aim of seeking knowledge of Paediatric dentists and paediatrician in selecting behaviour management technique.

Materials and Methods: A total 300 participants of postgraduate students of MDS paediatric dentists and MD paediatrician were included in the study. The study was conducted in the Department of Pedodontics and Preventive Dentistry, Rama Dental college and Hospital, Kanpur, Uttar Pradesh. The data were collected over a period of 6 months from July 2021 to January 2022. Google forms were circulated in various dental and medical colleges of Uttar Pradesh.

Results: In the present study, 56% were Paediatric dentists and 44% were Paediatrician. The results of the study found to be statistically significant.

Discussion: It is primary responsibility of every paediatric dentist and paediatrician to be upgraded with the behaviour management technique. It improves the quality of treatment, making the children more comfortable in the clinic.

Conclusion: It was concluded that MDS Paediatric dentists were shown to be more likely than MD

Paediatricians to use a variety of behaviour management techniques. Choice of BMT is dependent on various factors like patients age and previous experiences.

Keywords: Behaviour Management; Pediatric Dentist; Pediatrician; Dental Anxiety; Dental Phobia; Children; Behaviour modification

Introduction

According to AAPD, Paediatric dentistry is an age-defined specialty that provides both primary and comprehensive preventive and therapeutic oral health care for infants and children through adolescence, including those with special health care needs[1]". Paediatric dentistry encompasses a variety of disciplines, techniques, procedures, and skills that share a common basis with other specialties, but are modified and adapted to the unique requirements of infants, children, adolescents, and those with special health care needs[2].

According to American Academy of Paediatrics, Paediatrics is a speciality of medical science concerned with physical, mental, social health of children from birth to adulthood[3].A paediatrician participates at the community level in preventing or solving problems in child health care and publicly advocates the causes and attitude of children. Management of Behaviour plays a major role in treating any paediatric patient.

According to American Academy of Paediatric dentistry (AAPD) Behaviour management is defined as "continuum of interaction with a child/parent directed towards communication and education"[4]. The selection of behaviour management techniques begins with non-verbal and verbal techniques that forms as the structure for the cooperative and non-cooperative patients[5].

Paediatric Patients are not young adults, their attitude, behaviour, maturity, personality, ability to understand and imagination vary considerably from that of adults and from each other children[6]. Parents visit their paediatrician or paediatric dentist equipped with learned set of behaviours that help them to cope with the strategies that are helpful in reducing anxiety related or fear related situations. Some children are capable to cope well with potentially distressing situations, whereas others are more vulnerable to their own fears and impulses, thus making them more likely to react with emotional symptoms or non-cooperative behaviours[7].

Cooperativeness of the patient plays a major role in treating any paediatric patient, without which dentist will not be able to perform any operatory procedure. It is believed that one of the biggest challenges faced in Paediatric patient is Behaviour management, a worldwide problem and a biggest barrier to health care[8]. Many variables such as psychological, socio-cultural and consent of the parent are involved in any treatment interfering with professional performance.

Behaviour management techniques start as soon as the patient enters in the clinic involves attire, voice tone, facial expression, sense of humour of practicioner[9]. Behaviour management is a science aimed to gain a confidence relationship between patient and practitioner. The children's reactions to dental treatment are associated with age, temperament characteristics, maturity, personality, previous experiences, and common and dentist-related fears[10].

To be successful paediatric dentist, it is necessary to choose adequate strategies based on procedures that stimulate children's cooperative behaviour and knowledge which should have been acquired during formal dentistry training. Management strategies are means to reduce the level of stress, fear and anxiety for any treatment. Behaviour management techniques

consists of two techniques such as non-pharmacological and pharmacological techniques.

For a child who is not capable of cooperate, the dentist has to rely on other behaviour management techniques (BMTs) as communication and education.

The link between paediatric dentistry and children and their families helps the practitioner to notice the child's behaviour and, in most cases, identify child abuse. It is ought to be responsibility of every practitioner to look psychic disorders such as fear, anxiety, anger, distress, depression and isolation, lack of confidence, unjustified crying along with physical characteristics[11].

There are many behaviour-rating scales available to assess and evaluate the behaviour of a child on each dental visit. Behaviour management techniques are a set of procedures aimed at enhancing a child's useful coping skills, in order to achieve complete willingness and acceptance of dental care, and ultimately reduce the child's perception that the dental situation is overwhelming or dangerous[12]. To select the appropriate technique and strategies of effective management with primary goal of installing a positive attitude is the need of hour. Anticipation of the newer strategies of behaviour management and updating them is a vital task for the dentist. This present study was conducted to know the attitude of paediatric dentists and Paediatricians in selecting the behaviour management techniques which can improve the quality of care of the patient[13].

Materials and method

Study settings

A survey was conducted to evaluate the selection of behaviour management techniques among the students of MDS Paediatric Dentistry and MD Paediatrician in various colleges of Uttar Pradesh.

Source of data

The study was conducted in the Department of Pedodontics and Preventive Dentistry, Rama Dental college and Hospital, Kanpur, Uttar Pradesh and data collection was done in different universities of Uttar Pradesh where MD and MDS degrees were provided.

Sample size determination

Sample size was estimated based on the previous study.

Inclusion criteria

1. The study included postgraduates of MDS Paediatric and Preventive Dentistry and MD Paediatrics from the colleges of Uttar Pradesh that provided these degrees.
2. Those who were ready to fill the google forms.
3. Those who were ready to sign the consent form.

Exclusion criteria

1. MD/MDS in any other specialities were excluded from the study.
2. Those were not ready to sign the consent form.

Data collection

The nature and purpose of the study were elucidated to the institutional review board, and ethical clearance was acquired 02/ IEC/ RDC HRC/ 2022 - 23/ 053 Prior permission was obtained from the institutional ethical committee and review board of the Rama Dental college, Kanpur. Written informed consent was obtained from all the study participants. The data were collected over a period of 6 months from July 2021 to January 2022.

Google forms were circulated in various dental and medical colleges of Uttar Pradesh.

A total 300 Postgraduates of MD Paediatrics and MDS Paediatric dentistry were included in the study.

Statistical analysis

The data were entered into the computer (MS Office, Excel) and were subjected to statistical analysis using the statistical package IBM SPSS Statistics for Windows,

Version 20 (IBM Corp., Armonk, N.Y., USA). Descriptive statistics such as mean, standard deviation, median, and frequency percentage were calculated. The levels of significance 5% ($P < 0.05$) and 1% ($P < 0.01$) were significant and highly significant, respectively.

Chi Square Test

It is a statistical test for possible association between two categorical variables. According to specific hypothesis we can expect to get data and compare it.

Results

The present study was conducted in Various dental and medical colleges of Uttar Pradesh.

Demographic Characteristics

A total sample of 300 Paediatric Dentists and Paediatrician were included in the study. Majority56% of study participants were Paediatric dentists followed by paediatrician 44%. Most of the participants were female 56.7% followed by male 43.3%. Table (1).

Table 1: Demographic characteristics of the participants

Qualification	Number	Percentage
Paediatric Dentists	168	56.0
Paediatricians	132	44.0
Gender		
Male	130	43.3
Female	170	56.7

Comparison of various variables among the postgraduate students of Paediatric dentists and Paediatricians.

Among the 300 participants, 75% of the paediatric dentists always give extra time for the examination and treatment of a fearful child followed by 36% sometimes and 6% rarely. While, only 62% of paediatrician give time for the same.

Majority 68% of paediatric dentists always alter their treatment plan according to child's fear while only 10% of the paediatrician do the same. All the paediatric dentists have child psychology as a part of their curriculum while only 87% of paediatrician agrees as a child psychology as a part of curriculum**.** (Table 2)

Table 2: Comparison of various variables among the postgraduate students of Paediatric dentists and Paediatricians.

	Paediatric Dentists n (%)	Paediatricians n (%)	p-value
How often do you allow extra time for the examination and treatment of a fearful child?			
Always	126 (75.0)	82 (62.1)	
Rarely	6 (3.6)	10 (7.6)	0.043
Sometimes	36 (21.4)	40 (30.3)	
How often do you alter your treatment plan according child's fear?			
Always	68 (40.4)	10 (7.6)	
Never	6(3.6)	2(1.5)	
Rarely	4 (2.3)	26(19.7)	<0.001*

Sometimes	90 (53.7)	94 (71.2)	
Was "Child Psychology" a part of your curriculum?			
Yes	168 (100.0)	116 (87.9)	<0.001*
No	0(0)	16 (12.1)	
Which one do you prefer?			
Pharmacological	68(40.4)	10(7.6)	<0.001*
Non-Pharmacological	168(100)	110(86.1)	
Both	95(59.1)	90(69.9)	
Chi-square test, P≤0.05 – Significant			

Distribution of study population according to, factors that influence the selection particular Behavio ur Management Technique (BMT)

Among the study participants, 10% of paediatric dentists are affected in selecting the behaviour management technique. Factors such as child's age, Child's past dental experience, emotional state, medical status, Parent's fear and anxiety in paediatric dentists while only 1% of paediatrician are affected by these factors. Child age and gender does not influence the selection of behaviour management technique. (Table 3)

	Pediatric Dentists	Pediatrician	P value
Child's age, Child's past dental experience, Child's emotional state, Child's medical status, Parent's fear and anxiety	18(10.9)	1(0.8)	
Child's age, Child's past dental experience, Child's emotional state	12(7.2)	2(1.6)	
Child's age, Child's past dental experience, Child's emotional state, Child's medical status	7 (4.1)	4(3.0)	
Child's age, Child's past dental experience	11(6.8)	1(0.8)	
Child's past dental experience	9(5.4)	2(1.6)	
Child's Age	7(4.1)	17 (13.0)	
Child's age, Child's emotional state, Child's medical status, Parent's fear and anxiety	9(5.4)	11(8.3)	
Child's age, Child's past dental experience, Child's emotional state, Gender of the child, Child's medical status, Parent's socioeconomic status, Parent's fear and anxiety, Personal condition on that day	8 (4.8)	4(3.0)	<0.001*
Child's age, Child's past dental experience, Child's emotional	2 (1.1)	1(0.8)	

state, Parent's socioeconomic status, Parent's fear and anxiety			
Child's age, Child's past dental experience, Parent's socioeconomic status, Parent's fear and anxiety	4 (2.3)	3(2.2)	
Child's age, Gender of the child	1(0.6)	7(5.4)	
Chi-square test, P≤0.05 – Significant			

Table 3: Distribution of study population according to, factors that influence the selection particular Behaviour Management Technique (BMT)

Distribution of study population according to the selection of Non-Pharmacological Behaviour Management Technique

Among the 300 study participants, Communication, love tender care, parental presence/absence are most common behaviour management techniques used for selection. (Table 4)

	Pediatric Dentist	Pediatrician	P value
Communication	9(5.2)	12(9.1)	<0.001*
Tell-Show-Do (TSD),	16(9.5)	4(3.0)	
Love Tender care	11(6.5)	3(2.2)	
Modelling	6(3.6)	2(1.6)	
Desensitization	6(3.6)	6(4.5)	
Voice control	3(1.7)	4(3.0)	
Parent presence/ absence	10(6.0)	2(1.6)	
Physical restraints	2(1.1)	3(2.2)	
Voice control	3(1.7)	4(3.0)	
Euphemisms/ Use of second language	6(3.6)	2(1.6)	
Audio Visual Aids	5(3.0)	5(3.7)	
Chi-square test, P≤0.05 – Significant			

Table 4: Distribution of study population according to the selection of Non-Pharmacological Behaviour Management Technique

Discussion

Behaviour management is the most common challenging problems faced by the practitioners. Behaviour management techniques plays an important role in establishing social and relationship directives. Symptoms such as anxiety, fear and stress may be present in children which can have negative impact on their quality of life[14].

The rationale for the practice of paediatric dentistry is based on the ability to guide children in their experiences during the treatment. It is necessary to choose adequate strategies for the treatment based on children's behaviour and knowledge.

In the present study, we had found that majority of post graduates were female. The study conducted by Lewis et al also concluded that paediatric dentists give time for examination and treatment of a fearful child which is similar to present study. All paediatric dentists have child

psychology as a part of their curriculum whereas paediatrician also think the same[15].

Factors such as child's age, Child's past dental experience, emotional state, medical status, Parent's fear and anxiety in paediatric clinical setup are affected by these factors. Child age and gender does not influence the selection of behaviour management technique**.** It is ought to be the responsibility of every clinician to be always be in the direct exposure and position to cope with the children and update with all new behaviour modalities. It is the need of every paediatric dentist and paediatrician to update the latest behaviour management aids to install a positive attitude in the child[16].

Behaviour management techniques are very effective way of management behaviour of the children in the practice. It helps in developing the communication, alleviate fear and anxiety, practice delivery of quality of dental care. Behaviour management techniques develops the relationship between the paediatric dentists, Paediatricians, child & parent and develop the positive attitude towards oral health care as well as general well-being. The management of children's behaviour is an integral component of paediatric dental practice[17]. Behaviour modification techniques are employed by dental practitioners to establish communication, alleviate fear and anxiety, delivery of quality dental care.

Choice of behaviour management technique is the most important backbone of treatment quality of the children. However, in present study communication and love tender care are the common behaviour management technique used by both paediatric dentists and paediatrician and are considered to be the key to make the child comfortable in the environment[18]. In present study, MDS Paediatric dentists were shown to be more likely than MD Paediatricians to use a variety of behaviour management techniques. Choice of BMT is dependent on various factors like patients age and previous experiences. However, it was also noticed in this study that various drugs such as Sevoflurane, propofol, Nitrous Oxide, promethazine, Clonazepam, Diazepam, Midazolam nasal spray, Dexmedetomidine are the most common drugs in pharmacological management. In the present study, there are new behaviour techniques used which are very helpful in treating the child such as cognitive behaviour therapy, magic tricks and audio-visual aids.

Conclusion

It was concluded that both Paediatric dentists and Paediatrician use a variety of behaviour management techniques in delivering the treatment to child. However, it is important to update themselves with each technique. Therefore, it is recommended that they must possess strong theoretical knowledge of behaviour management principles and application of the same.

This can also be done as a part of continuing dental and medical education (CDE & CME) by providing hands-on training and conducting workshops.

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