

Knowledge, Attitude, and Practice amongst General Dentists Regarding Dental Pain Perception in Children

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ABSTRACT

Aim: The objective of this study was to evaluate the knowledge, attitude, and practice among general dentists regarding perception of dental pain in children.

Materials and methods: A cross-sectional study was conducted among 208 general dentists in a dental hospital in Chennai. A self-constructed questionnaire was distributed to the dental practitioners, which comprised 23 closed-ended questions. The data were entered and analyzed for frequency and percentages by using Statistical Package for the Social Sciences (SPSS), version 21.

Results: Results showed that most of the dentists (46%) treated less than five children per week and were having less than 2 years of experience (47%). Seventy one percent of the dentists felt that they did not feel prepared to identify a child with dental pain, and 57% of the dentists had less than two years of experience

Conclusion: Most of the dentists did not feel prepared to identify the children with dental pain. Measures should be introduced to train the general dental practitioners in identifying pain perception in children so as to achieve effective behavior management of children.

Keywords: Pain, Perception, Quality of life.

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INTRODUCTION

According to the International Association for the Study of Pain, pain is defined as an unpleasant sensory and emotional experience leading to tissue damage.¹ It is one of the adverse stimuli experienced by children. Dental anxiety is defined as the state of apprehension that occurs during dental treatment.² Acute and chronic pain pathway involves underlying peripheral as well as central pathogenic mechanisms.³ For the children undergoing dental treatment, pain may be aggravated due to the unexpected stimuli and may also increase due to stressful conditions.⁴ Pain in infants and children is often underestimated and not treated. Dental anxiety and fear enhance the pain during dental treatment, which results in impaired child's compliance during treatment and poor oral health.⁵ The severity of the pain perception differs among different age-groups based on the developmental stage of the child.⁶ Pain assessment in children is very important to reduce stress in children and to make them comfortable before, during, or after treatment. The lack of pain assessment and management will have a negative influence on children's overall health.⁷ Parents are responsible for health-related necessities of their children. In pediatric dentistry, the foremost important tool is to focus on identifying the developmental stage of the individual.⁶ A child's cognitive function and speech and language development also play a crucial role in the perception of pain in children.⁸ A child's behavior may also be modified by the attitude of the parents, siblings, or peer group influences.⁹ If the dental pain in children is not assessed or identified, it may lead to long-term psychological disturbances, leading to changes in their quality of life.¹⁰ There is a powerful interaction between pain and anxiety in children. As the anxiety rises, the likelihood of acquiring noxious stimuli such as pain increases.¹¹ In dental practice, young children do not cooperate in dental procedures due to the fear of dentist and the dental treatment. Children who are most fearful in the uptake

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of painful stimuli have the greatest chance of acquiring dental anxiety, which may affect the behavior toward the treatment in the dental setting.¹² Age is an important factor which influences the behavior and cooperation of a child during dental treatment. Dental environment also plays a major role in provoking anxious response, which in turn affects the pain perception and behavioral response of a child in dental pain.¹³ Healthcare professionals should be more concerned in eliminating the distress and pain in the children for effective child management and treatment. Insufficient knowledge of the pain perception of children leads to untoward consequences in the management of the pediatric patients.¹⁴ Professionals should understand the pain levels of each child by anticipating the painful experiences using the appropriate pain and anxiety assessment tool prior to the treatment to gain appropriate behavior of the child.¹⁵ Surveys have been done regarding pain perception among pediatric dentists. The study done by Daher et al., a survey evaluating the pediatric dentists' perception of pain, reported that the pain perception depends on their knowledge and experience

in treating the children.¹⁶ Knowledge about the children's pain perception levels among the undergraduate students and general dentist is lacking. So, this cross-sectional study aims to assess the knowledge, attitude, and practice among general dentists with less experience in treating children regarding perception of dental pain to assess whether they feel prepared to identify the dental pain.

MATERIALS AND METHODS

A study protocol was approved by the Institutional Review Board, Saveetha Dental College [STP/SDMDS2015PED56]. This was a prospective descriptive survey conducted among general dentists. A total of 230 dentists were invited to participate in the study. Among them, 208 dentists were willing to participate in the survey. Pediatric dentists were not included in this study. A self-constructed questionnaire was developed based on the objective of the study. The questionnaire consisted of 23 closed-ended questions, which collects data on socio-demographic and pain perception in children. The domains assessed include the experience of dentists, number of children attended by them per week and the opinions, at what age they were prepared to identify the pain in children, whether they feel that there will be difficulty in identifying the dental pain in children less than one year of age, do the children differentiate discomfort and pain, do the children forget the previous pain experience faster than the adults, perceptions of the dentists in assessing the dental pain in children, What do the dentists think is the reason behind their difficulty to identify the pain in younger children, whether the presence of pain during treatment will affect the child's cooperation in treatment, is pain-free dental treatment impossible to achieve in children, how frequently do the parents recognize dental pain in children, how often the dentists think that dental pain has an impact on the quality of life, what are the methods they use to identify pain during treatment in children such as either by clinical signs and symptoms, or by child's self-report, or by child's facial expression, or by all of the above. The questionnaire also included the methods used to alleviate or reduce the pain during treatment in children: the pharmacological and non-pharmacological methods used, whether the administration of local anesthesia increases the anxiety of the child during treatment, and does the application of topical anesthetic agents can reduce the anxiety perceived by children during administration of local anesthesia. Based on the years of experience, knowledge, attitude, and practice of dentists, their willingness to be prepared to identify the children in dental pain was determined. The data were entered and analyzed by performing descriptive statistics using Statistical Package for the Social Sciences (SPSS) software, version 21.0.

RESULTS

A total of 230 dentists were invited to participate in the study; of these, 208 participants responded. Thirty five percent were general dentists, 59% of the participants were pursuing postgraduation, and 6% had completed their postgraduation. Among the respondents, 92 were males and 116 were female dentists. The age of the respondents ranged between 22 years and 43 years. Fifty seven percent of the dentists had less than two years of experience, 25% had 2–5 years of experience, 12% had 5–10 years of experience, and 6% had more than 10 years of experience.

Most of the dentists (46%) treated less than five children per week and were having less than 2 years of experience (47%). The association between them was not carried out due to the less variability of the sample.

The important variables used to assess the preparedness of the dentists to identify the children in dental pain are based on the experience of the dentists and those who thought that dental pain in children could be mostly identified by the parents and methods used by the dentists to identify the pain among children. Only 29% of the dentists were feeling prepared to identify the pain in children. Dentists who thought that younger children will have more difficulty in perceiving pain were considered as those who do not feel prepared to identify the pain in children. Majority of the respondents (71%) stated that children less than 5 years of age had higher difficulty in perceiving dental pain and those who had less than 2 years experience were considered unprepared to identify the children in dental pain. But on Chi-square analysis, there was no statistical significant difference between prepared and not prepared groups ($p = 0.048$).

Forty percent of the dentists who treated less than five children per week reported that it is impossible to perform pain-free dental treatment in children. Thirty-nine percent of the dentists felt that the presence of pain during treatment always affects the child's cooperation in treatment ($p = 0.73$). Forty-nine percent of the dentists reported that changes in the child's routine quality of life were associated with the clinical signs and symptoms of pain at night time, inability to eat and sleep properly, and frequent crying. But, there was no significant difference between the prepared and not prepared groups ($p = 0.576$).

Fifty-seven percent of the dentists reported that they will use crying as a clinical tool to identify pain, and 32% used children's facial expression to identify the child in dental pain. Thirty-six percent stated that the presence of dental pain will not always have an impact on the quality of life of children.

DISCUSSION

In pediatric dentistry, it is of utmost importance to identify the pain perception and know the attitude of the children toward treatment, which aids in modifying the behavior of children and get adequate cooperation for effective management of children in the clinical setting.⁵ There are various neurochemical mechanisms or pathways involved in pathogenesis in anxiety and pain. Pain is a complex process, as various factors may influence the perception of pain, and it is usually associated with dental treatment.¹⁷ Dental care professionals should be able to detect the symptoms and signs of pain in different age-groups and determine whether these symptoms are caused by pain or other factors.¹⁸ It is necessary for every dental practitioner to acquire adequate knowledge, since they are expected to diagnose and treat children at an earlier age to avoid consequences in the later stages of life.¹⁹ The fear of dental pain has been known to alleviate the avoidance of the patients from seeking dental care.²⁰ Dental treatment should be delivered with minimal discomfort to avoid non-compliance of the patient. Knowledge on children's psychology and behavior management techniques helps in the treatment of young children. Pain-related behaviors such as facial expression, limb movement, grasping, holding, and crying are considered to be the major factors in identifying the pain in children than self-reports.¹¹

This study was done to assess the knowledge, attitude, and practice of the general dental practitioners and specialists, who are not involved in managing young children. General dentists were selected for this survey because it is hypothesized that pediatric dentistry is the most neglected area among many dental practitioners.²¹ This study evaluated the preparedness of

the dentists regarding pain perception in children, who had no adequate knowledge in treating young children. A total of 180 dentists participated in the study. Most of the general dentists with less than two years of experience usually show reluctance to treat young children since they consider it difficult to examine and perform behavior management of a child patient. In this study, most of the dentists (71%) felt unprepared to identify the children in dental pain. This could be due to reduced efficacy of the general dentists and the fear of performing complex treatment.²² This is in agreement with the study by Rich et al. who reported that only 33.4% of general dentists indicated that they were well prepared to treat children under the age of 6 years.²³

Fifty-three percent of them felt that children less than one year of age often perceive dental pain. Thirty seven percent felt that there is difficulty in perceiving dental pain among children between two to five years of age. This may be due to improper cognitive function. Most of the dentists who had less experience in treating children felt that crying is the clinical sign of identification of pain in children. Dentists who were better prepared to identify pain in children thought that the parents do not always but have difficulty in assessing the dental pain. This is in contrast to the study done by Daher et al. who stated that parents most often recognize the dental pain.¹⁶ Assessing the dental pain during treatment in pediatric patients has a strong impact on the quality of life of children.²⁴ In this study, most of the dentists (63%) felt that dental pain in children will sometimes have an effect on their quality of life. This may be due to the less experience in treating children and low communication skills compared to pediatric dentists.²⁵

In this cross-sectional study, a greater number of dentists (57%) considered crying as a major tool for the identification of dental pain and 32% preferred using the child's facial expression followed by the child's clinical signs and symptoms (11%) to identify a child in pain. This could be due to the inexperienced dentists and their difficulty in managing young children. This is in accordance with the study done in 2006, which stated that majority (64.9%) of the respondents believed that the best way to judge the intensity of pain is by the child's self-report.²⁶ Another study reported that pediatric dentists usually consider parent's report to identify the child in dental pain.^{27,28} It has been shown that the dental health of the children is strongly associated with oral health knowledge of their parents, which becomes established during early infancy and childhood.²⁹ The present study results reported that 67 (33.5%) of the dental surgeons used touch and reassurance as the non-pharmacological behavior management technique followed by distraction and relaxation technique, whereas, in contrast to this study, tell-show-do was the most popularly used behavior modification technique used.²⁹⁻³¹ Similarly, in a study reported by McKnight-Hanes where 213 (93%) dental surgeons stated that the most popular technique for managing children was tell-show-do.³⁰

Sixty-nine percent of the dentists preferred using pharmacological methods to control a child's behavior. Among all the pharmacological pain control methods available in the literature, 72% of the practitioners most commonly used local anesthesia to alleviate pain in the clinical setting. A study done by Subhashini et al. reported that two-third of the respondents preferred using non-pharmacological methods.³² Wali et al. in a survey assessing the knowledge, attitude, and practice in managing the dental pain reported that 94 (47.0%) dental surgeons preferred performing treatment in children under general anesthesia to avoid negative behavior of the children.²¹ Majority of the dentists (71%)

felt that it is impossible to achieve pain-free dental treatment in children as they were not prepared to identify dental pain and most of the dentists were less experienced in managing the patients.

CONCLUSION

Majority of the general dentists were unprepared to identify the child in dental pain which is dependent on the level of experience and the willingness to treat child patients. Most of the dental practitioners felt that the clinical symptoms and facial expression during treatment are important to identify the child in dental pain. All the dentists must be aware of children's perception of pain, fear, and anxiety to meet their needs and gain confidence among the children toward dentists for effective behavior management which is the foremost important part of pediatric dentistry. Measures should be taken to inculcate appropriate knowledge and training of the general dentists toward pediatric dental perspectives.

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