

# DIFFERENT CHILD-IDENTIFIED STRATEGIES THAT CHILDREN USE TO MANAGE FEAR AND PAIN DURING NEEDLE-RELATED DENTAL PROCEDURES: A QUALITATIVE STUDY

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## ABSTRACT

### *Background*

Fear and pain associated with dental treatment represent major barriers to successful pediatric dental care. Needle-related procedures, in particular, provoke anxiety and distress in children, negatively influencing treatment acceptance and future dental attitudes. While parents and healthcare professionals often interpret children's reactions, limited evidence exists regarding children's own perceptions and self-identified coping strategies.

### *Aim*

To investigate strategies identified and utilized by children to manage fear and pain during needle-related dental procedures within a dental setting.

### *Materials and Methods*

A qualitative study design was employed involving children aged 6–12 years who had previous experiences of needle-related dental treatment within the preceding month. Open-ended interviews explored children's emotions, perceptions, and coping mechanisms related to dental procedures. Interview transcripts underwent qualitative content analysis to identify recurring themes and categories.

### *Results*

Children described multiple self-developed and externally supported coping mechanisms. Major themes included controlling thoughts, body positioning preferences, receiving procedural information, environmental support, courage-building, parental presence, involvement in decision-making, and distraction techniques using digital devices and recreational activities.

### *Conclusion*

Children possess valuable insight regarding management of dental fear and pain. Pediatric dental care should prioritize child-centered communication and individualized coping strategies to improve treatment experiences and reduce procedural distress.

**Keywords:** Pediatric dentistry, dental fear, procedural pain, child-centered care, coping strategies, needle anxiety.

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## INTRODUCTION

Fear and pain are common experiences among children undergoing healthcare procedures and represent significant challenges within pediatric dentistry. Repeated hospital and dental visits often expose children to uncomfortable or painful procedures that can contribute to long-lasting anxiety and treatment avoidance.

Pain has been defined by the International Association for the Study of Pain as an unpleasant sensory and emotional experience associated with actual or potential tissue damage. Pain perception is highly individualized and influenced by previous experiences, emotional state, cognitive development, and environmental factors.

Needle-related dental procedures—including local anesthesia administration—are among the most anxiety-provoking aspects of dental treatment for children. Procedural fear may impair cooperation, prolong treatment duration, and negatively influence oral healthcare outcomes.

Traditionally, healthcare decisions regarding pediatric patients rely heavily on reports provided by parents and healthcare professionals. However, children themselves possess unique perspectives regarding their experiences and coping strategies. Young children have historically been underestimated as reliable reporters of their own well-being because of developmental immaturity.

A distinction exists between a child perspective, which reflects adult interpretations of children's experiences, and the child's perspective, which directly represents children's own views and lived experiences. Recognition of children's voices has become increasingly important in pediatric healthcare research.

Understanding child-identified coping mechanisms may help pediatric dentists develop more effective behavioral guidance techniques and create more supportive treatment environments.

## AIM AND OBJECTIVES

### *Aim*

To investigate strategies identified and utilized by children to cope with fear and pain during needle-related dental procedures.

### *Objectives*

1. To identify coping mechanisms used by children during needle administration.
2. To understand children's preferences regarding communication during dental treatment.
3. To evaluate environmental and interpersonal factors influencing fear reduction.
4. To emphasize child-centered approaches in pediatric dental practice.

## MATERIALS AND METHODS

### *Study Design*

A qualitative descriptive study was conducted using semi-structured interviews.

### *Participants*

Children aged 6–12 years receiving needle-related dental treatment were included.

### *Inclusion Criteria*

- Children aged between 6 and 12 years
- Previous experience with needle-related dental care within the preceding month
- Ability to communicate experiences verbally

### *Exclusion Criteria*

- Significant medical history
- Special healthcare needs
- Previous severely unpleasant medical experiences

### *Data Collection*

Participants received age-appropriate verbal and written information before participation.

Semi-structured interviews employed open-ended questions including:

- “Tell me how you feel when you first enter a dental healthcare unit.”
- “Have you ever felt pain in the dental hospital?”
- “How afraid are you of dental instruments?”
- “What was your experience during your last dental visit?”
- “How do you keep yourself calm during injections?”

Additional probing questions encouraged detailed responses regarding coping strategies.

### *Data Analysis*

Qualitative content analysis methodology was utilized.

Interview transcripts underwent repeated reading to obtain familiarity with the data. Meaningful text units related to the study objective were identified and coded. Similar responses were grouped into preliminary subcategories.

Continuous comparison between categories and interview content facilitated development of final themes describing children's coping strategies.

## RESULTS

Children identified numerous approaches that assisted in coping with procedural fear and pain.

### **1. Controlling Thoughts**

Children frequently described attempting cognitive distraction or positive thinking to minimize anxiety.

Some deliberately focused on unrelated thoughts, while others consciously avoided anticipating painful procedures.

Positive self-talk emerged as an important coping mechanism.

### **2. Being in Charge of Their Body**

Body positioning influenced children's comfort levels.

Several participants preferred lying down during injections because it reduced perceived discomfort and enhanced feelings of security.

Providing autonomy regarding positioning contributed to reduced anxiety.

### **3. Information and Timing Preferences**

Children emphasized the importance of receiving information before procedures.

Unexpected procedures increased fear levels substantially.

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Participants preferred receiving procedural explanations immediately before treatment rather than prolonged anticipation periods.

Clear communication improved predictability and reduced distress.

### 4. Supportive Clinical Environment

Environmental modifications influenced children's emotional experiences.

Participants valued:

- Child-friendly surroundings
- Colorful decor
- Play opportunities
- Interaction with peers
- Reduced hospital-like atmosphere

A welcoming environment reduced procedural fear.

### 5. Encouragement and Courage Building

Children highlighted the importance of emotional empowerment.

Many described needing encouragement to express concerns and communicate preferences.

Lack of opportunity for self-expression increased feelings of helplessness.

### 6. Presence of Loved Ones

Parental presence represented an important source of emotional support.

Children frequently described hand-holding during injections as comforting.

Physical reassurance provided distraction and enhanced emotional regulation.

### 7. Child Participation in Decision-Making

Participants consistently reported feeling safer when healthcare professionals sought their preferences.

Children valued involvement regarding:

- Treatment approaches
- Timing considerations
- Comfort preferences

Shared decision-making reduced anxiety and increased cooperation.

### 8. Distraction Techniques

Distraction emerged as a highly preferred coping strategy.

Children reported benefit from:

- Digital tablets
- Television
- Mobile phones
- Video games
- Arts and crafts activities

Technology-assisted distraction reduced procedural awareness and improved treatment tolerance.

## DISCUSSION

The present findings emphasize the importance of recognizing children as active participants in healthcare experiences rather than passive recipients of treatment.

Fear and pain management strategies varied considerably between individuals, highlighting the necessity of individualized pediatric dental care approaches.

The findings align with previous work by Kleye et al., who demonstrated that children require opportunities to express personal needs during healthcare procedures. Healthcare professionals must remain adaptable and responsive to children's preferences.

Coyne et al. emphasized transitioning from family-centered care toward child-centered care models. Excessive parental or professional dominance may unintentionally diminish children's autonomy and participation.

The relationship between fear and pain has been extensively investigated. Hedén et al. demonstrated that procedural fear strongly correlates with pain perception, suggesting interventions addressing fear may indirectly reduce pain experiences.

Nilsson et al. highlighted the distinction between "child perspective" and "child's perspective," emphasizing the importance of directly involving children when developing healthcare strategies.

The present findings reinforce the value of child-centered communication within pediatric dentistry and suggest behavioral guidance should be individualized according to children's preferences and coping styles.

## CLINICAL IMPLICATIONS FOR PEDIATRIC DENTISTRY

### *Pediatric dentists should:*

- Encourage child participation during treatment planning
- Provide age-appropriate procedural information
- Utilize distraction techniques effectively
- Offer flexibility regarding positioning preferences
- Promote parental involvement when beneficial
- Create child-friendly clinical environments

These approaches may improve cooperation and reduce dental anxiety.

## CONCLUSION

Children possess meaningful insights regarding management of procedural fear and pain.

Fear reduction strategies are highly individualized and should be incorporated into child-centered dental care models.

Healthcare professionals should actively listen to children, acknowledge their preferences, and integrate individualized coping mechanisms into clinical practice.

Promoting children's participation during dental care may improve treatment experiences, reduce procedural distress, and foster positive long-term attitudes toward oral healthcare.

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