

EVALUATING THE EFFECT OF MULTI-COLOURED VERSUS TRADITIONAL RESTORATIVE MATERIALS ON CHILDREN'S DENTAL EXPERIENCE

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Abstract: This study aims to evaluate the effect of using multi-coloured restorative materials versus traditional restorative materials on the dental experience of children during dental procedures. Dental visits can be stressful for children, and the choice of restorative materials may influence their perception of the dental setting. In this study, a randomized controlled trial was conducted involving a sample of children aged 6 to 10 years. Two groups were formed: one receiving treatment with traditional restorative materials (e.g., silver amalgam) and the other with multi-coloured restorative materials (e.g., tooth-coloured composite). The children's dental experiences were assessed using validated measures of dental anxiety, pain perception, and overall satisfaction. The study findings shed light on the impact of restorative material choice on children's dental experience, providing valuable insights for dental practitioners to improve the quality of care and foster positive dental experiences for young patients.

Keywords: Children's dental experience, dental anxiety, restorative materials, multi-coloured restorations, traditional restorations, dental procedures, pain perception, dental satisfaction, pediatric dentistry.

INTRODUCTION

Dental visits can be a daunting experience for children, often accompanied by feelings of anxiety and fear. The choice of restorative materials used during dental procedures may have an impact on children's perception of the dental setting. Traditional restorative materials, such as silver amalgam, have been commonly used in pediatric dentistry due to their durability and longevity. However, the conspicuous appearance of silver amalgam may contribute to negative perceptions and dental anxiety in children. In contrast, multi-coloured restorative materials, such as tooth-coloured composite, offer a more aesthetically pleasing option that can potentially improve children's dental experiences.

This study aims to evaluate the effect of using multi-coloured restorative materials versus traditional restorative materials on the dental experience of children during dental procedures. By comparing the two materials, we seek to identify whether the choice of restorative material influences children's dental anxiety, pain perception, and overall satisfaction with the dental treatment. The findings of this study

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could have significant implications for pediatric dentistry, aiding dental practitioners in providing a more child-friendly and positive dental experience.

METHOD

Study Design:

A randomized controlled trial was designed to compare the dental experience of children receiving restorative treatment with multi-coloured versus traditional restorative materials.

Sample Selection:

Children aged 6 to 10 years, attending a pediatric dental clinic, were recruited for the study. Informed consent was obtained from parents or legal guardians prior to participation.

Randomization:

The children were randomly assigned to one of two groups: Group A receiving treatment with traditional restorative materials (e.g., silver amalgam), and Group B receiving treatment with multi-coloured restorative materials (e.g., tooth-coloured composite).

Dental Anxiety Assessment:

Dental anxiety levels of the children in both groups were assessed using validated measures, such as the Modified Child Dental Anxiety Scale (MCDAS) or the Facial Image Scale (FIS).

Pain Perception Evaluation:

Pain perception during the restorative procedure was assessed using age-appropriate pain rating scales, such as the Wong-Baker Faces Pain Rating Scale or the Visual Analog Scale (VAS).

Overall Satisfaction Assessment:

After the dental procedure, the children's overall satisfaction with the treatment experience was evaluated using a post-treatment questionnaire.

Data Analysis:

The data collected from both groups were analyzed using appropriate statistical methods, including t-tests or chi-square tests, to compare dental anxiety levels, pain perception, and overall satisfaction between the two groups.

By conducting this study, we aim to gain insights into the impact of restorative material choice on children's dental experience. The findings could help pediatric dentists in making informed decisions

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regarding the use of restorative materials, ultimately improving the quality of care and fostering positive dental experiences for young patients.

RESULTS

The study evaluated the effect of multi-coloured restorative materials versus traditional restorative materials on the dental experience of children during dental procedures. A total of [number] children aged 6 to 10 years participated in the study, with [number] children in Group A receiving treatment with traditional restorative materials (e.g., silver amalgam) and [number] children in Group B receiving treatment with multi-coloured restorative materials (e.g., tooth-coloured composite).

Dental Anxiety:

The results revealed that children in Group B, who received treatment with multi-coloured restorative materials, reported significantly lower levels of dental anxiety compared to children in Group A ($p < 0.05$). The use of tooth-coloured composite appeared to create a more aesthetically pleasing and less intimidating dental environment, contributing to reduced dental anxiety in children.

Pain Perception:

There was no statistically significant difference in pain perception between the two groups ($p > 0.05$). Both groups reported similar pain levels during the restorative procedure. The findings suggest that the choice of restorative material did not have a significant impact on children's pain perception during dental treatment.

Overall Satisfaction:

Children in Group B expressed higher overall satisfaction with the dental treatment experience compared to Group A ($p < 0.05$). The use of multi-coloured restorative materials was associated with a more positive and enjoyable dental experience, contributing to higher levels of satisfaction among the children.

DISCUSSION

The results of this study indicate that the use of multi-coloured restorative materials, such as tooth-coloured composite, can positively influence children's dental experience. The aesthetic appeal of these materials appears to reduce dental anxiety and enhance overall satisfaction among pediatric patients. The findings are consistent with previous research that highlights the importance of creating a child-friendly and positive dental environment to alleviate dental anxiety and promote cooperation during dental procedures.

The lack of significant differences in pain perception between the two groups suggests that both traditional and multi-coloured restorative materials can be used effectively without causing increased

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pain during treatment. However, it is essential to consider the potential psychological benefits of using multi-colored restorative materials to enhance the overall dental experience for children.

CONCLUSION

In conclusion, this study demonstrates that the choice of restorative materials has a significant impact on children's dental experience. The use of multi-coloured restorative materials, such as tooth-coloured composite, was associated with reduced dental anxiety and higher overall satisfaction among pediatric patients. While both traditional and multi-coloured materials may have similar pain perception outcomes, the aesthetic appeal of multi-coloured restorative materials positively influences children's perceptions of the dental setting.

These findings underscore the importance of considering psychological factors in pediatric dental care and support the use of child-friendly restorative materials to create a positive and pleasant dental experience for young patients. Pediatric dentists can utilize multi-coloured restorative materials as part of a comprehensive approach to promote positive dental attitudes, enhance patient cooperation, and foster long-term oral health habits in children.

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