

Knowledge and parental perception on pit-and-fissure sealants in children

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Purpose

The main objective of this study was to assess and interpret parental knowledge and attitudes regarding pit-and-fissure sealants. The findings of this study may serve as a baseline for future studies on the knowledge of pit-and-fissure sealants, as well as recognize a need for oral health education interventions.

Introduction

- Dental caries or tooth decay is a chronic oral disease that has a prevalence of 2.03 billion cases worldwide.¹
- The process by which dental caries takes place is multi-factorial in nature, resulting from an interaction between bacterial biofilm, the oral environment, and tooth structure.²
- Dental sealants are characterized as a coating that is placed on a tooth surface to provide a barrier preventing the growth of biofilm by restricting nutrition. The barrier is placed in areas where plaque build-up occurs and are more difficult to cleanse.³
- Currently, the American Dental Association Council on Scientific Affairs (ADA CSA), along with the American Academy of Pediatric Dentistry (AAPD) recommend the use of pit-and-fissure sealants compared to non-use on the occlusal surfaces of primary and permanent molars in children and adolescents.⁴
- Regardless of these recommendations and the known benefits in its use, the application of pit-and-fissure sealants continues to be neglected and underutilized for many pediatric patients.

Methods

- Parents/legal guardians of patients aged 6-14 presenting to the pediatric clinic at BronxCare Health System for routine dental care were issued paper questionnaires to complete.
- Questionnaires were provided in English and Spanish.
- First section: demographic questions on the participants, including age, gender, race/ethnicity, education level, income, age of child, frequency of dental visits, and sources of prior information on sealants.
- Second section: questions pertaining to the parent's knowledge and attitudes towards pit-and-fissure sealants (total of 15 questions).
- The questionnaire was assessed based on a three-point Likert scale (agree, unsure, disagree).

Results

- A total of 210 questionnaires were collected.
- 86% of respondents were female while 14% were male.
- The average age of respondents was 34.1.

Parental Knowledge

- Figure 4 highlights respondents' knowledge on pit-and-fissure sealants based on their responses to the questionnaire (Q1-Q8, Q13)
- 66% of parents were aware that pit-and-fissure sealants are successful in preventing caries. (Q2)
- 51% of respondents agreed with the recommendation of their placement on both primary and permanent teeth. (Q3)
- Knowledge on anesthesia use, mechanism of application, and type of materials used was low (16%, 11%, 16% respectively). (Q3, Q4, Q5)
- 61% of respondents believed that once a tooth receives a pit-and fissure sealant, it will never have caries. (Q13)

Parental Attitudes

- Figure 5 highlights respondents' attitudes on pit-and-fissure sealants based on their responses to the questionnaire (Q9-Q12, Q14-15)
- 50% of respondents believed placement of pit-and-fissure sealants would not damage the tooth, however, 43% were unsure. (Q9)
- 44% of respondents were unsure whether the procedure would invoke fear or anxiety in their children. (Q10)
- 56% of respondents were unsure whether the esthetic of the tooth is affected by pit-and-fissure sealant placement. (Q12)
- Overall, 56% of respondents were favorable to the placement of pit-and-fissure sealants on their children, while 39% were unsure, and only 5% were unfavorable. (Q15)

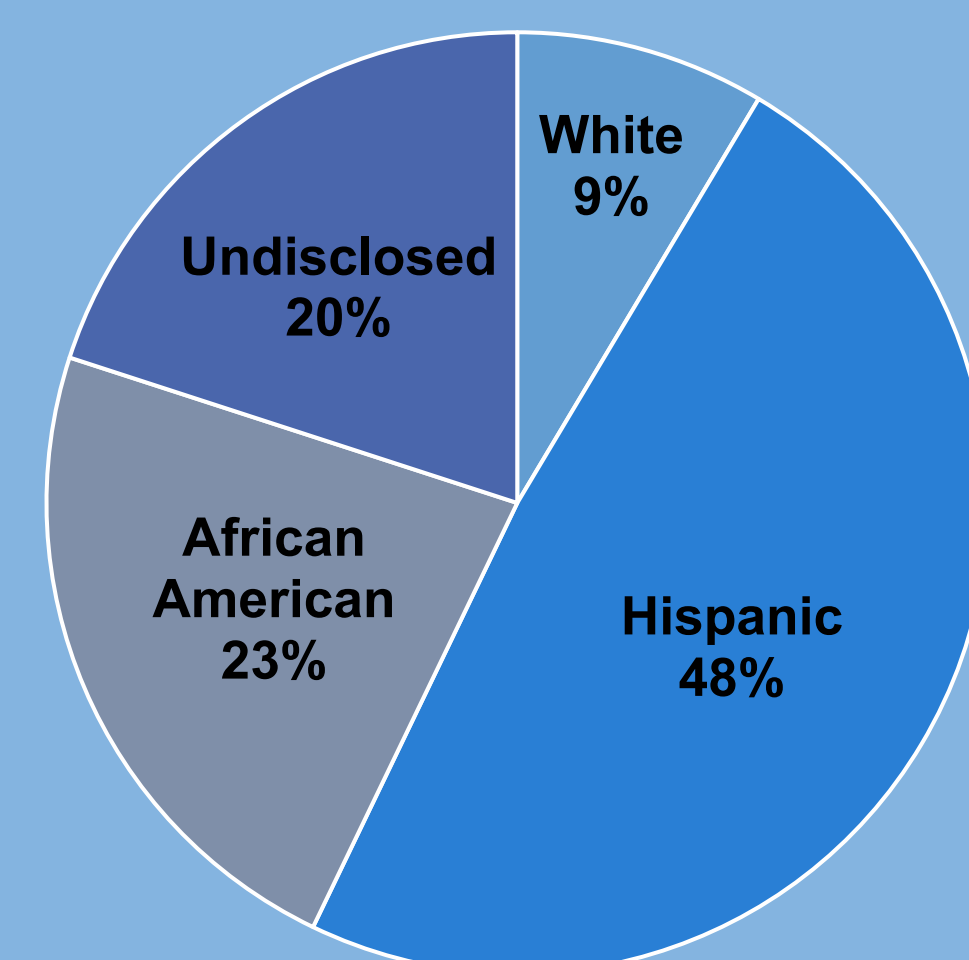


Figure 1. Race/Ethnicity

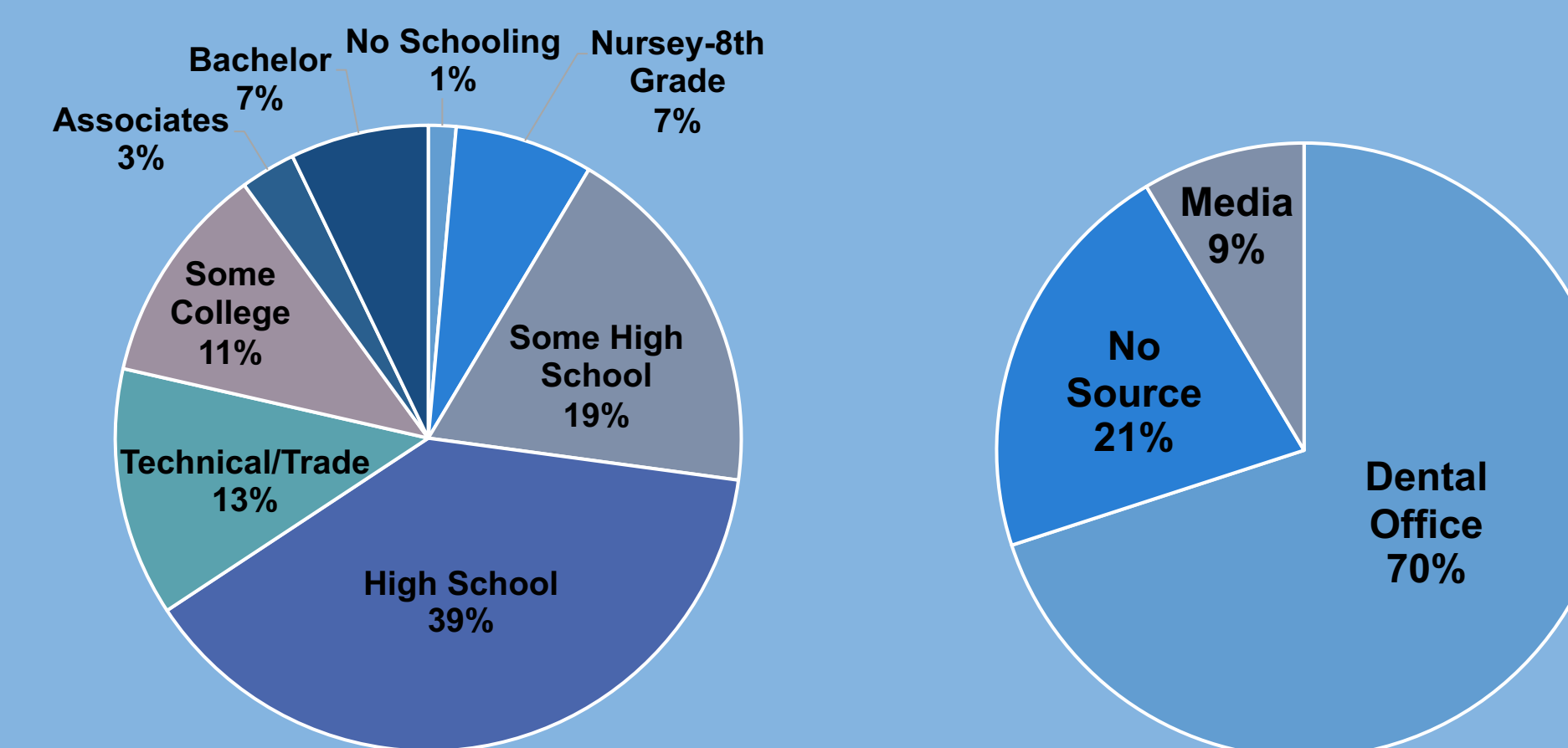


Figure 2. Education

Figure 3. Sources of information

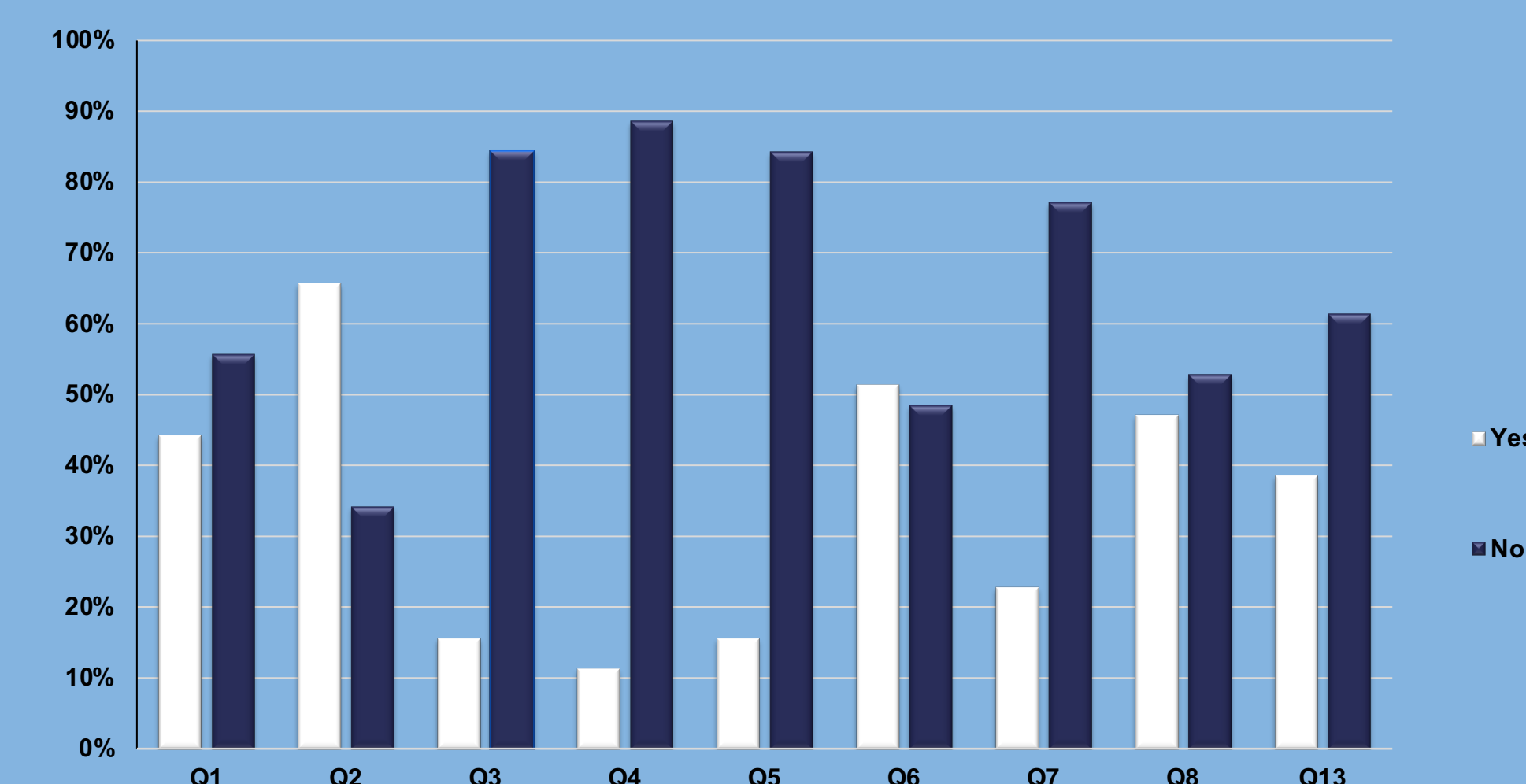


Figure 4. Parental knowledge on pit-and-fissure sealants

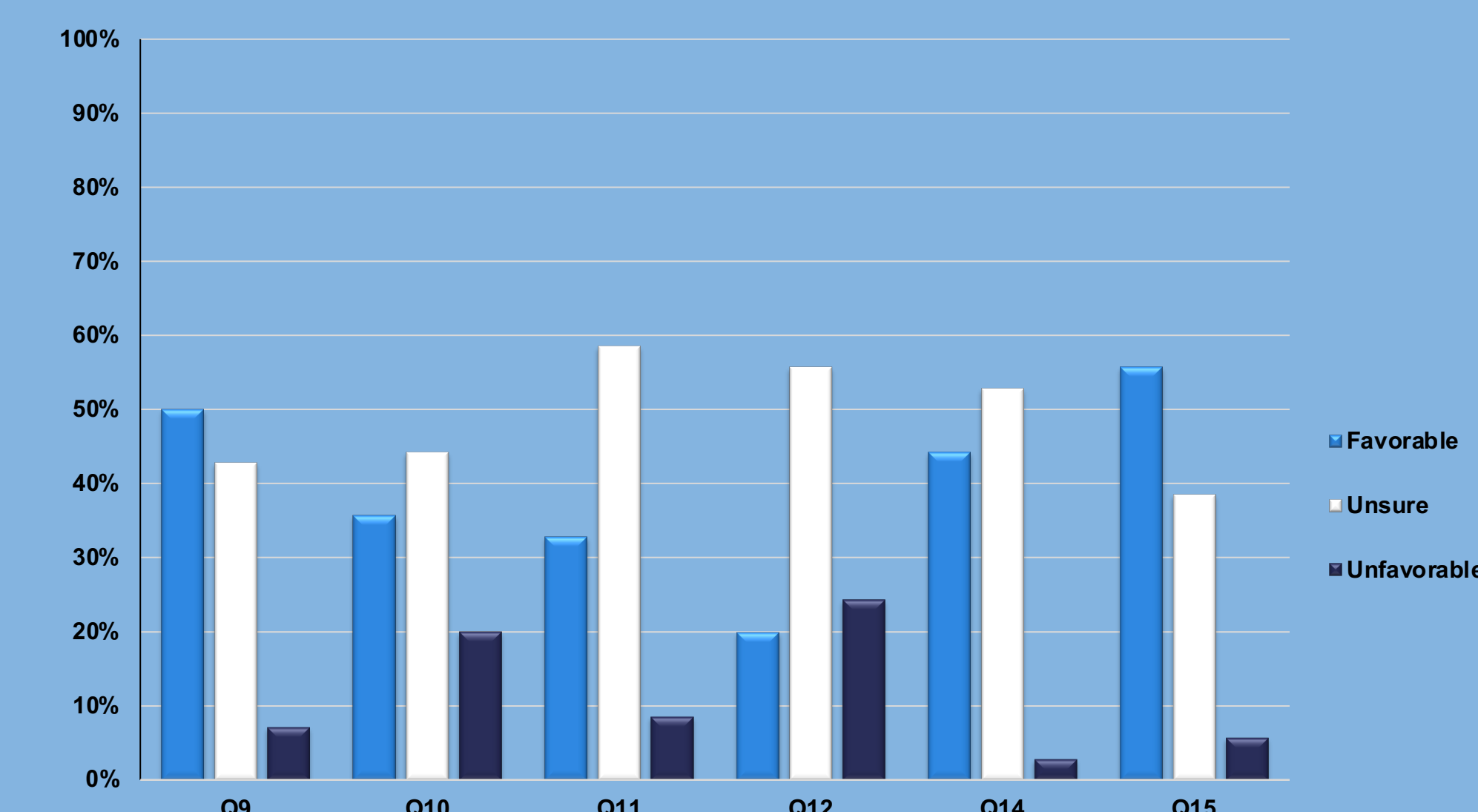


Figure 5. Parental attitudes on pit-and-fissure sealants

Discussion

- The collected data suggests a lack of parental knowledge on pit-and-fissure sealants.
- Parents are aware pit-and-fissure sealants are successful in preventing caries but lack further knowledge.
- Overall, parental attitudes towards pit-and-fissure sealants were favorable, however many respondents demonstrated uncertainty.
- Parents were predominantly uncertain regarding the procedure invoking fear in their child, along with the ease of brushing and esthetics of the teeth after placement of pit-and-fissure sealants.
- A possible lack of knowledge may contribute to uncertain attitudes.
- Further research is needed to examine the reasoning behind parents' uncertain attitude toward pit-and-fissure sealants.
- Increasing the knowledge and attitudes of parents through oral health education interventions plays a pivotal role in improving and maintaining the overall dental health of children.

Conclusion

Pit-and-fissure sealant knowledge is low amongst parents of children treated at BronxCare Health System. Parental perception was mixed, with either favorable or uncertain outlooks on pit-and-fissure sealants. A lack of knowledge may contribute to the uncertain attitude parents have towards pit-and-fissure sealants.

References

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