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Introduction

- Pediatricians play a critical role in oral health prevention, and establishing collaborative relationships between physicians and pediatric dentists can increase access to dental care for all children.¹
- Past studies have attempted to assess the pediatrician's knowledge and confidence regarding oral health care and prevention.¹²³
- Pediatricians self-report inappropriate education, lack of confidence, and lack of time as barriers to providing oral health education for patients.³

Purpose

The aim of this study was to assess the effectiveness of an oral health training seminar in improving the knowledge and perceived confidence of Hennepin Healthcare pediatric medical providers regarding oral health topics.

Methods

- An oral health training seminar was delivered virtually at a meeting held for pediatric medical providers within the Hennepin Healthcare network.
- Topics for the seminar were chosen based on results of a previously conducted needs assessment where Hennepin Healthcare pediatric medical providers identified knowledge gaps relating to oral health.
 - Topics included the age for establishing a dental home, toothbrushing techniques, defining and detecting early childhood caries, performing oral exams, oral pathology, and silver diamine fluoride.
- Participants completed a pre- and post-survey immediately before and after the seminar that assessed their knowledge and perceived confidence regarding oral health topics.
 - The survey included six demographic questions, eight knowledge-based questions, and seven questions assessing perceived confidence using a five-point Likert scale.
- Results of the pre- and post-surveys were evaluated with descriptive statistical analysis to assess the effectiveness of the training seminar in improving knowledge and perceived confidence among participants.

Table 1. Demographic data of survey participants		
Age		
	25-34	4 (19%)
	35-44	6 (28.6%)
	45-54	4 (19%)
	55-64	6 (28.6%)
	>65	1 (4.8%)
Ethnicity		
	White	14 (66.7%)
	Black or African American	1 (4.8%)
	Asian or Pacific Islander	3 (14.3%)
	Hispanic	3 (14.3%)
	Native American or Alaska Native	0 (0%)
Title		
	Physician	15 (71.4%)
	Nurse Practitioner	6 (28.6%)
	Medical Student	0 (0%)
Specialty		
	Pediatric Medicine	17 (81%)
	Family Medicine	4 (19%)
Years in practice		
	1-10 years	8 (38.1%)
	11-20 years	7 (33.3%)
	>21 years	6 (28.6%)
Hours of oral health education		
	1-5 hours	14 (66.7%)
	6-10 hours	4 (19%)
	11-20 hours	2 (9.5%)
	>20 hours	1 (4.8%)

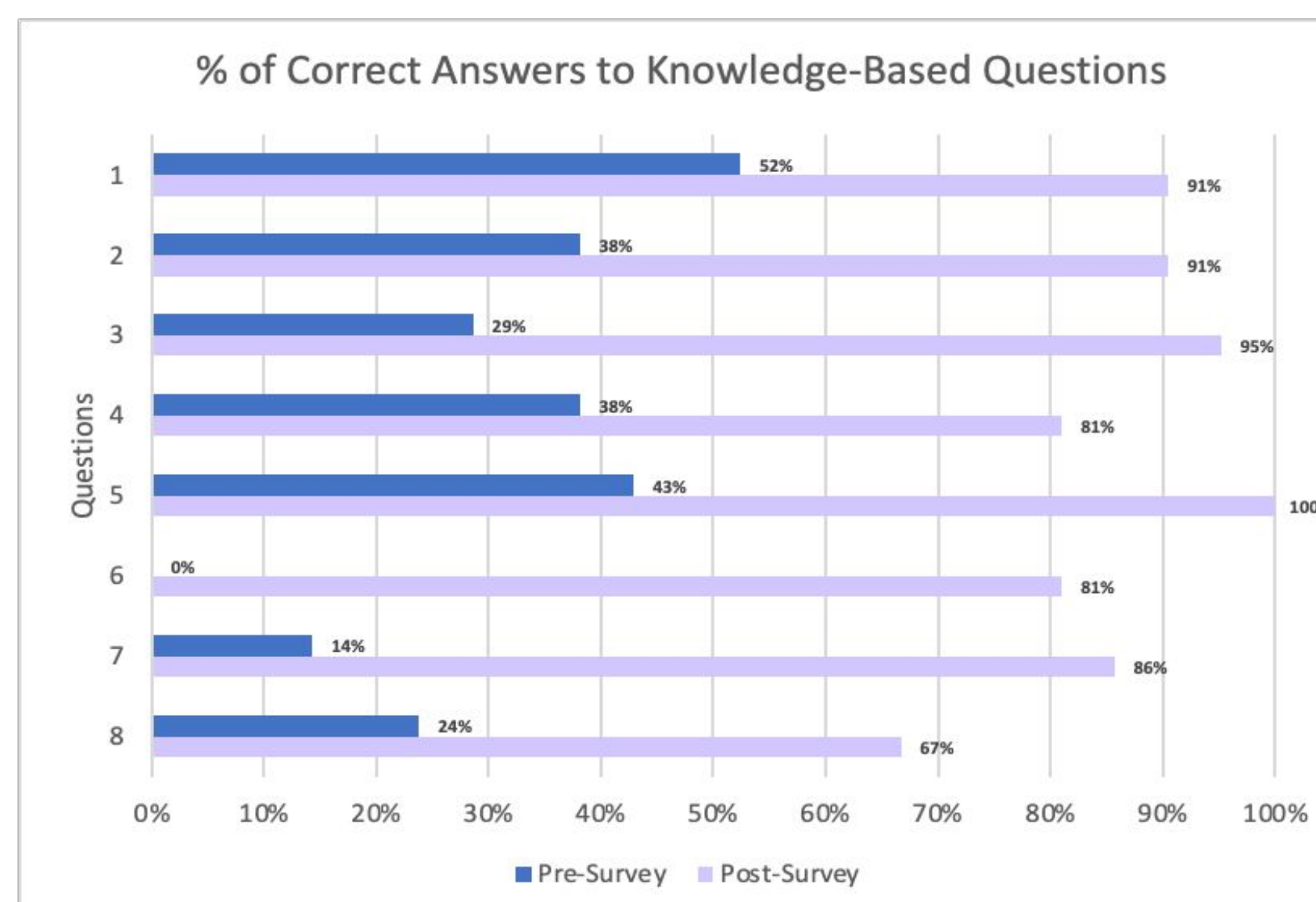
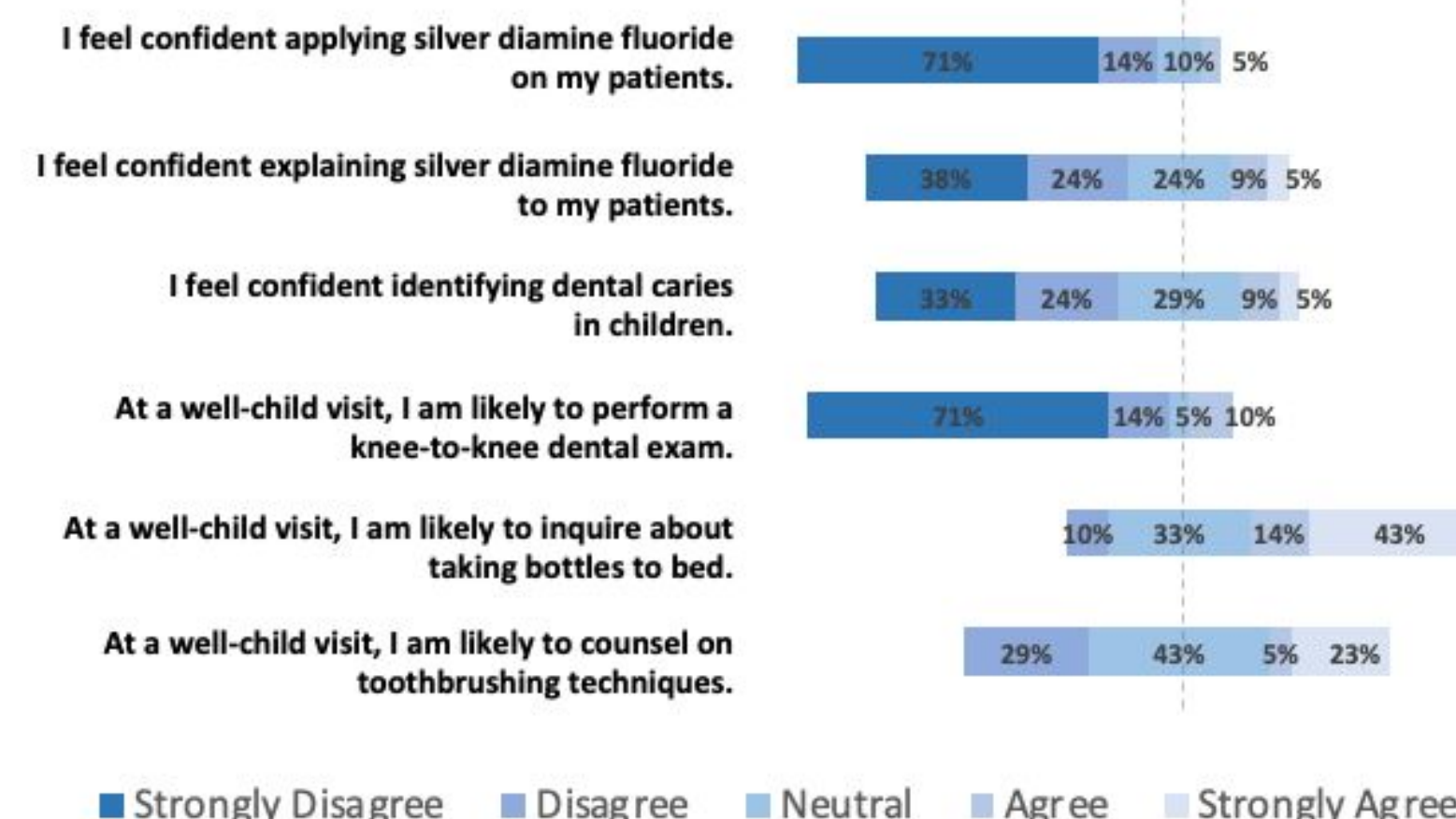


Figure 2. Pre- and Post-Survey comparison of knowledge-based questions answered correctly.

Pre-Survey Perceived Confidence



Post-Survey Perceived Confidence

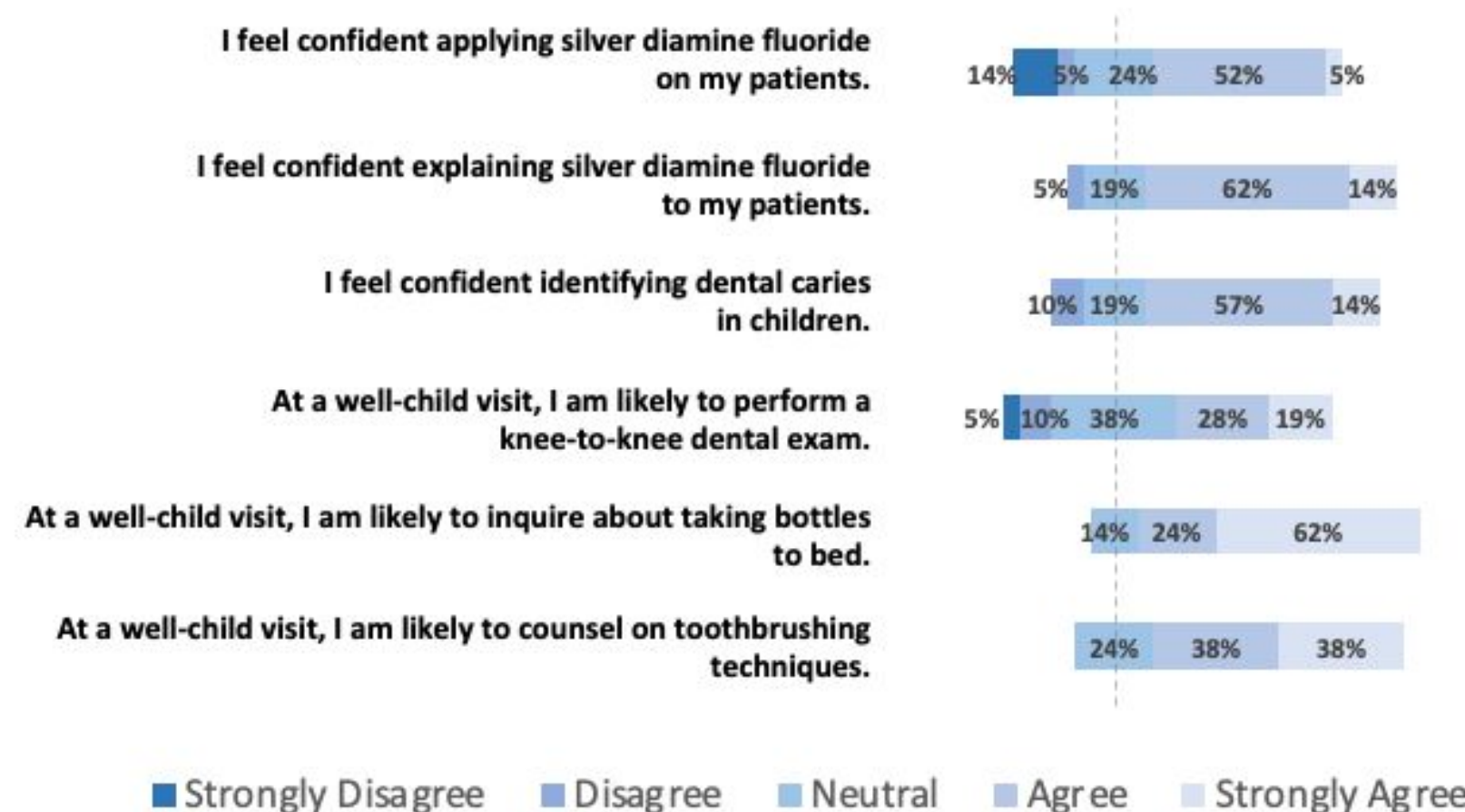


Figure 1. Pre- and Post-Survey comparison of perceived confidence in oral health topics.

Reported Confidence in Knowledge-Based Questions

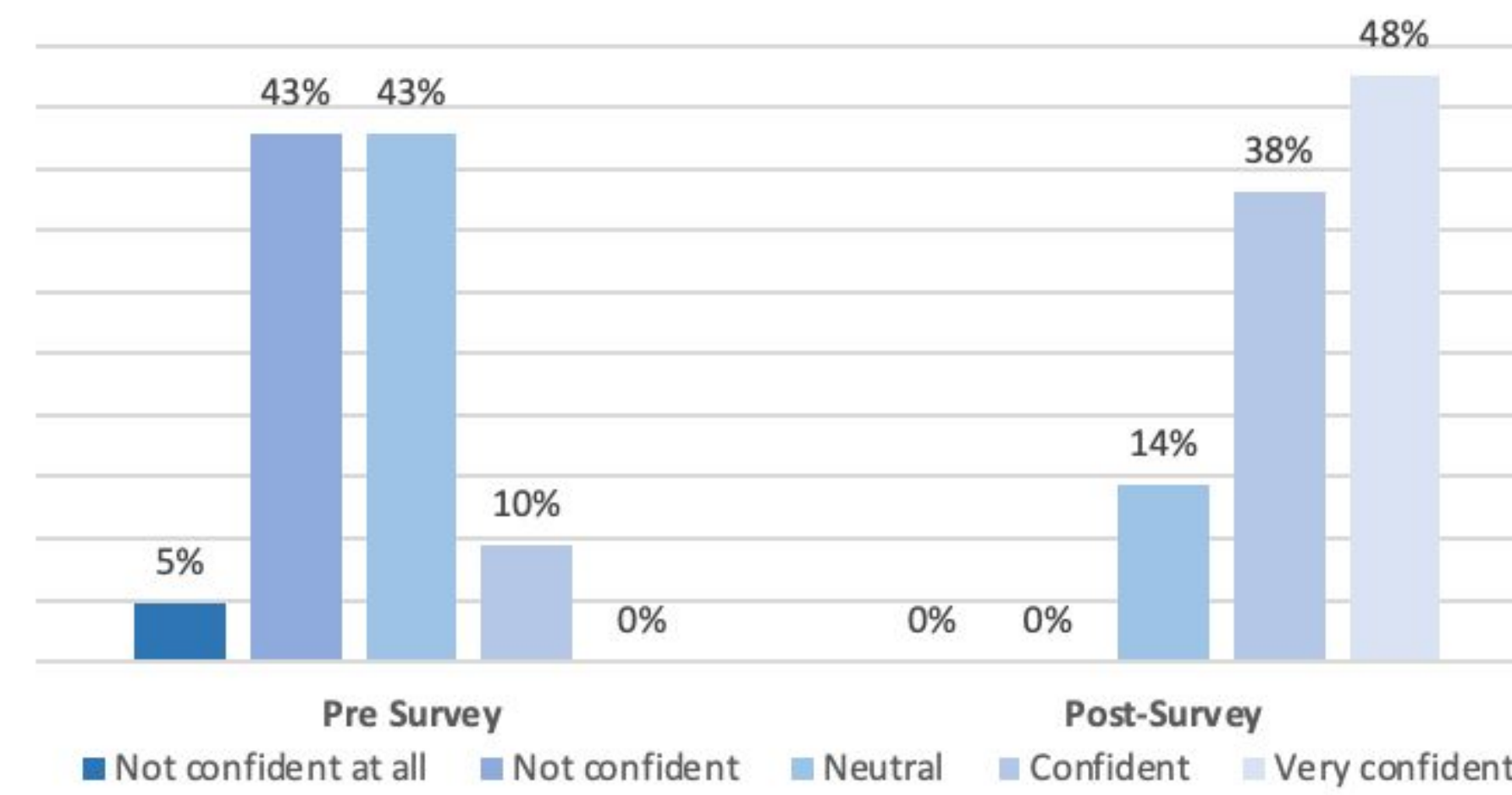


Figure 3. Pre- and Post-Survey comparison of confidence in answering the knowledge-based questions.

Results

- A total of 35 providers attended the virtual oral health training seminar and 21 completed both the pre- and post-survey.
- The majority of survey participants were physicians (71.4%), practiced pediatric medicine (81%), and reported only one to five hours of oral health education (66.7%).
- A knowledge-based question regarding the definition of early childhood caries received the most number of incorrect responses on the pre-survey, with 0% of participants answering correctly. In the post-survey, 81% of providers answered this question correctly.
- Only 10% of participants reported feeling confident about their responses to the knowledge-based questions in the pre-survey, while 86% reported feeling confident about their responses to the knowledge-based questions after the oral health training seminar.
- The greatest improvement in perceived confidence involved the practice of applying silver diamine fluoride on patients. Only 5% of participants reported feeling confident performing this procedure in the pre-survey compared to 57% in the post-survey.

Discussion

- The sample size was insufficient to evaluate for statistical significance, however, the trend in reported perceived confidence shows an overall improvement in provider confidence levels after the oral health training seminar (Figure 1).
- There was an overall improvement in the percentage of correct answers and reported confidence answering knowledge-based questions after the training seminar (Figure 2 and Figure 3).
- Survey participants reported a pre-survey lack of confidence regarding the ability to perform an oral exam and recognize dental caries in children. A high percentage of incorrect answers to the knowledge-based questions on early childhood caries support this finding.
- Limitations of this study include the small sample size and a lack of a control group to compare this virtual training seminar to other forms of educational mediums.

Conclusions

- A targeted hour-long virtual training seminar was successful in improving knowledge and perceived confidence on oral health topics for pediatric medical providers.
- A follow-up study evaluating knowledge and perceived confidence several months after the seminar may better assess the long-term efficacy of this educational medium and inform appropriate intervals for continuing education on oral health topics.

References

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