# Effects of Video Counseling to Educate and Prevent ECC

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## Introduction

Early Childhood Caries (ECC) is defined as the presence of one or more decayed (non cavitated or cavitated), missing (due to caries), or filled tooth surfaces in any primary tooth in a child under the age of six. Lack of oral health literacy among parents and young patients can be one of the leading causes of ECC. Young children are not capable of brushing adequately and may not understand the importance of maintaining good oral health; thus, parents play a critical role in the early caries prevention process. A survey instrument was developed to assess the efficacy of an educational children's oral health video given to parents.

## Objective

Short videos containing important oral health information can be an efficient tool to help parents prevent early childhood caries in their home. The objective of this study is to assess the efficacy of an educational video provided to parents. The video consists of critical oral health information and is based on an assessment questionnaire.

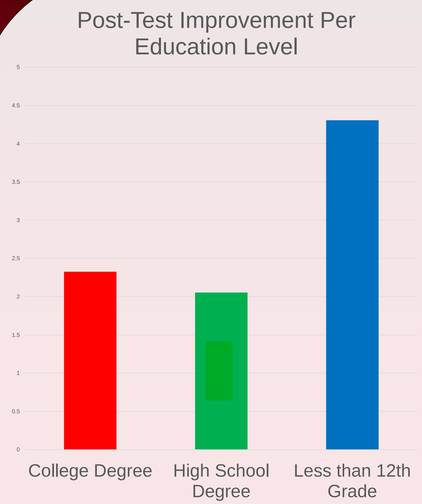
## Methods

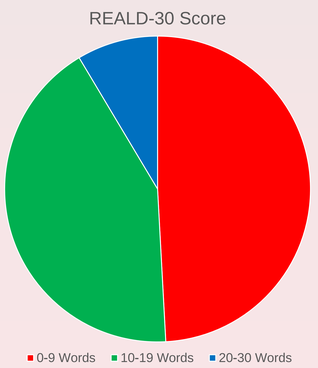
This study was performed to determine the efficacy of an educational children's oral health video. The video was 10 minutes in duration and covered basic oral health topics. Parents answered a 12-question pre-test consisting of dental-based questions, and a demographic and base knowledge survey including Real30-D words, testing word recognition and comprehension. Each dental question was a statement related to oral health followed by a selection of "agree" or "disagree." Following the completion of the survey, an informational video was viewed covering questionnaire topics. A post-survey was then given to assess the efficacy of the video. Education tools were made available in English and Spanish. Parents had to have a child in the 0-6 age range to participate.

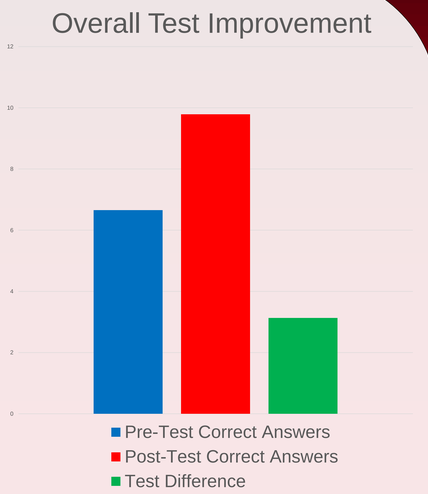
## Results

For the statistical analysis: (N=174) A paired t-test was used to compare the overall difference between pre and post-test scores. To compare the test improvement differences of educational level, an independent samples t-test was used. If the ANOVA was significant, Tukey's honestly significant different test was used for post-hoc pairwise comparisons. Significance was defined as $p < 0.05$.

## Results




| Survey Question | Pre | Post |
|---|---|---|
| 1.All children should be checked by a dentist around the time the first baby tooth comes in or before their first birthday | 75% | 95% |
| 2.Parents should brush their child's teeth twice a day until the child can handle the toothbrush alone | 92.5% | 100% |
| 3.Baby teeth are not important for speech development | 62.5% | 77.5% |
| 4.A cavity in a baby tooth should be filled only when it hurts | 62.5% | 85% |
| 5.Losing baby teeth to cavities is not important | 65% | 90% |
| 6.Bottle or breast feeding at night can cause tooth decay | 70% | 97.5% |
| 7.Parents with cavities can transmit germs that cause tooth decay to their children | 42.5% | 97.5% |
| 8.If you see white spots on your baby's teeth you should take them to see a dentist | 85% | 100% |
| 9.Drinking sugary drinks or eating sugary snacks throughout the day can cause cavities | 95% | 95% |
| 10.Tooth decay can cause infections that can spread to the face or rest of the body | 72.5% | 97.5% |
| 11.Brushing with fluoride toothpaste can prevent decay | 70% | 92.5% |
| 12.Your child should rinse with water after brushing their teeth | 22.5% | 37.5% |

RealD-30 scores were used to evaluate the base knowledge of each participant. Percentages of word recognition and comprehension were grouped by words known, results were 49% knew 0-9 words, 42% knew 10-19 words, and 8% knew 20-30 words. Evaluating the overall test improvement and difference among educational level test improvement, since the p-values were both less than the significance level 0.05, we can conclude that patients performed better on their post-test and there was a difference in test improvement among educational level. Mean correctly answered questions before and after the video were 6.7 and 9.8, respectively. This is represented by an average improvement of 3.1 correctly answered questions with a standard deviation of 2.6 after parents watched the educational video. The "Less than 12th Grade" educational group improved the most (4.3 points ± 2.9 points). Data showed the less-educated group responded better to video instruction. The most missed questions on the pre-test were question numbers 3, 4, 5, 7 and 12. The most missed on the post-test were question numbers 3 and 12; However, both questions showed improved scores post-educational video viewing.

## Conclusion

This study evaluated the effectiveness of the Children's Oral Health Education Video for parents that visited the ULSD Pediatric Clinic. The survey scores varied by parent age, age of child, and parent education level. This study allowed us to begin to understand in which demographics are in the most need of this basic oral health information, as well as what concepts need to be emphasized to our patient population. Educational videos can continue to be made for less-educated (less than 12th grade) that seem to respond well to this style of education compared to higher-education groups. More videos should be made to address brushing instructions and fluoride due to the lack of success of question 12 on the survey. Overall, parents showed improvement in their answers following the video with an average of 3.1 more correctly answered questions on the post-test.

Further studies will be conducted to continue to improve children's oral health knowledge for parents in the Louisville area.

**Limitations**: Surveys collected only from UofL clinics, surveys available in limited languages (English and Spanish), survey required parent participation.

## References

## Acknowledgements

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