ECC or SECC: Can a Visual Component Create a Lasting Behavior Change?

Estela Gomez Licea, D.D.S, Maria Jose Cervantes Mendez, D.D.S., M.S., Kevin J. Donly, D.D.S., M.S.
The University of Texas Health Science Center at San Antonio, San Antonio, TX 78229

UT Health San Antonio
The University of Texas Health Science Center at San Antonio

UT Health San Antonio
The University of Texas Health Science Center at San Antonio

ABSTRACT

As part of our preventive methods, our discussion with family during anticipatory guidance covers known etiologic factors in development of caries, and we typically emphasize how to incorporate protective factors in the behaviors of our pediatric patients. It has been shown through past studies that education alone is not sufficient to equip parents to make lasting behavior changes (Reisine & Douglas, 1998). However, our verbiage is standard for all families and may not have the best impact in families who face greater barriers in making changes to their existing oral health care habits. The Pediatric Oral Health Research & Policy, 2013 states that delivery of education must be tailored to build from a family's existing beliefs and cultural values. Delivery and content of our message should entail an understanding of the basic resources our families have available to them. Using images, may be an impactful tool that could improve self-efficacy in parent and thus increase their commitment to make behavior changes that would help prevent or manage oral disease in children. Consciousness of each family's healthcare beliefs, the quality of their diet and their dental health comprehension and awareness is paramount to equip them to make lasting oral health care behavior changes.

MATERIALS and METHODS

Participants: Families of children 2-5 years old, who were diagnosed with Early Childhood Caries (ECC) or Severe Early Childhood Caries (SECC).

Survey: A Spanish or English survey included four general topic areas; family demographics, nutrition and oral hygiene knowledge, access to nutritious foods/meals, and current oral hygiene habits. An Action plan was the last component of the survey.

Randomization: Experimental or Control via coin flip.

Intervention: Visual intervention in form of 7 images from the book, "The Grosser, More Disgusting, But Still Totally Cool Mouth Book" By Dr. Theodore Croll, followed by a tailored discussion of 2-3 minutes about caries development, risk and protective factors.

Follow up Phone Calls: Telephone calls were made at three weeks and 3 months post initial survey to determine if they continued behavior change.

RESULTS

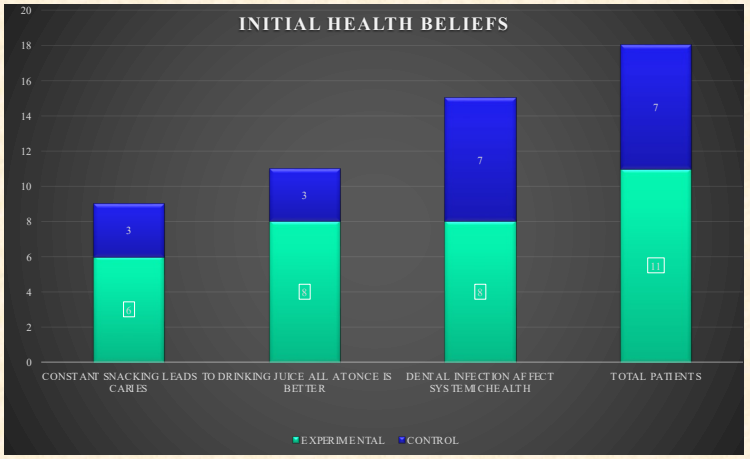
Analysis of data was conducted via SigmaStat 3.5 statistical software from Informer Technologies, Inc. utilizing the student t-test for comparisons. Of the total 24 initial participants, only 18 remained at end of data collection and follow up; 11 experimental and 7 control.

Eighteen total participants remained in study for collection of data. In the intervention group, 62% (7 out of 11) continued their behavioral change after 3 months, while only 43% (3 out of 7) did so in the control group.

The intervention group followed desired long-term behavior change at home more , however, there was no statistically significant ($p<0.05$) difference between the groups.

- 83% of final participants were Spanish speaking only (15/18).
- 82% of participant families selected juice or soda as the primary drink at home.
- 4 out of 11 families in the experimental group had older siblings who had undergone full mouth rehabilitation OR or treatment under Oral Conscious sedation

RESULTS *(cont.)*



Few of Images provided on Visual Intervention

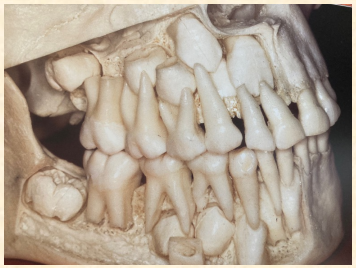


Figure 1

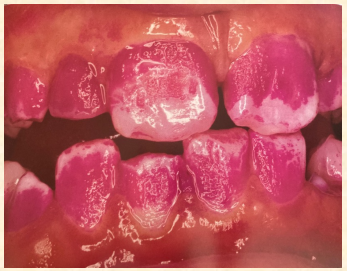


Figure 2

Figure 3

Figure 4

CONCLUSIONS

- Although data showed no statistically significant difference between the groups; There was a greater percentage of families who followed their selected behavior change in experimental group, with most families giving positive remarks about their knowledge about caries development. Equipped with appropriate information, parents reported greater control over the decisions to continue with the change.
- At follow-up phone calls, there was significant hesitation from mothers and fathers to answer any of follow-up questions, and additional disclosure of how this would not affect their presence in our clinic was necessary to ease families worries. This could potentially be due to patient population distrust of disclosing personal information that may endanger the safety of their family.
- Other factors that could contribute to parent's adherence to long-term behavior changes will lie in diverse traits in parents, such as self efficacy and locus of control (), however, having more information on the individual challenges families face, may help tailor our discussions to include pertinent and realistic expectations.

REFERENCES

1. Reisine, S., & Douglass, J. M. (1998). Psychosocial and behavioral issues in early childhood caries. *Community dentistry and oral epidemiology, 26*(1 Suppl), 32–44. https://doi.org/10.1111/j.1600-0528.1998.tb02094.x
2. Hill B. (2020). Evaluating the association between food insecurity and dental caries in US children 1-19 years: results from the National Health and Nutrition Examination Survey (NHANES) 2013-2014. *Journal of public health dentistry, 80*(1), 14–17. https://doi.org/10.1111/jphd.12345
3. Croll, Theodore. *The Grosser, More Disgusting, but Still Totally Cool Mouth Book*. Reed Drabick Publishers, 2012.
4. Frazão, Paulo et al. "Food insecurity and dental caries in schoolchildren: a cross-sectional survey in the western Brazilian Amazon." *European journal of oral sciences*vol. 122,3 (2014): 210-5. doi:10.1111/eos.12124
5. Rubin, Marcie S et al. "A survey of US early childhood caries programs: findings and recommendations." *Journal of public health dentistry* vol. 79,2 (2019): 116-123. doi:10.1111/jphd.12302
6. Evans, E Whitney et al. "Dietary intake and severe early childhood caries in low-income, young children." *Journal of the Academy of Nutrition and Dietetics* vol. 113,8 (2013): 1057-61. doi:10.1016/j.jand.2013.03.014