

INTRODUCTION & BACKGROUND INFORMATION

- Early childhood caries (ECC) is the presence of one or more carious lesions in a primary tooth in children below the age of 71 months
- It can begin in early life, and progress rapidly in individuals who are at high risk
- ECC affects 60-90% of school-aged children
- Sugars are considered the most dietary etiological contributor to caries
- The frequent consumption of carbohydrate-containing snacks is known to increase the prevalence of ECC
- The simple carbohydrates in the mouth are fermented by cariogenic bacteria (*streptococcus mutans*) and collect in a dense matrix called plaque
- ECC is caused by the acid buildup and demineralization of the teeth

OUR RESEARCH QUESTION

In regards to early childhood caries (ECC), is the disease more prevalent in children that consume frequent snacks in-between meals or children that rarely snack?

DISCUSSION

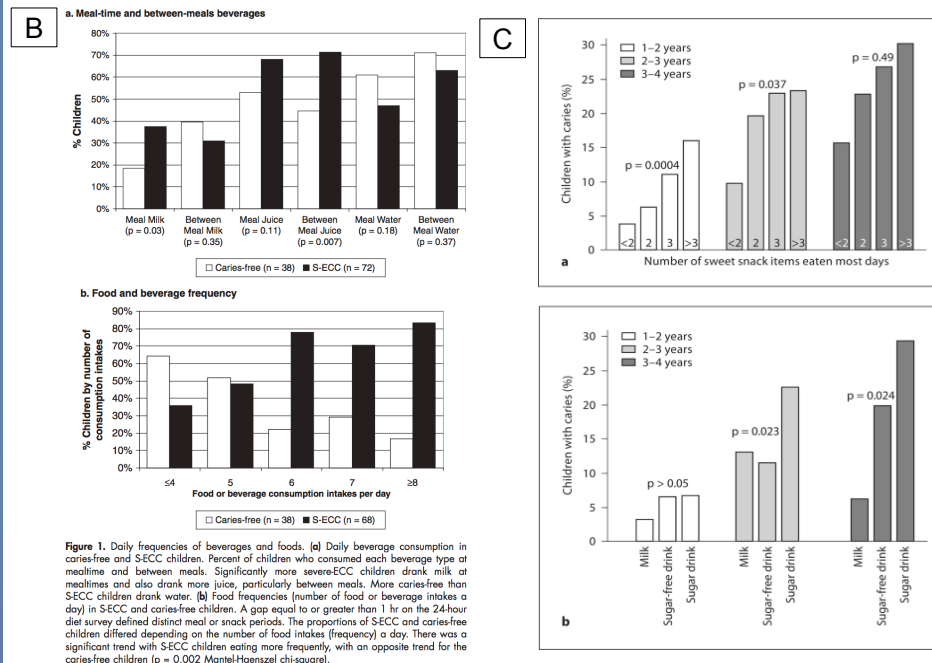
- Difficult to select articles based on age and sample size
- The data was generally consistent, but varies on the precision of results
- Future research should establish the most common of these risk behaviors and investigate the effectiveness of interventions to prevent or counteract them.

WHY IS IT RELEVANT?

Early childhood caries (ECC) affect populations across the world. In the United States alone, the National Health and Nutrition Examination Survey found that 23% of children aged 2 to 5 years had dental caries in primary teeth, and 14% of children aged 2 to 8 had untreated decay in primary teeth. The same study also found: untreated tooth decay was more prevalent among Hispanic and non-Hispanic black children compared with non-Hispanic white children; twenty-seven percent of Hispanic children aged 6 to 11 had caries in permanent teeth compared with 18% of non-Hispanic white and Asian children; approximately three in five adolescents aged 12 to 19 had caries in permanent teeth, with 15% experiencing untreated tooth decay.

RELEVANT FINDINGS

- Significant predictors of caries experience were: age, gender, visible plaque accumulation and the habit of having sugar-containing food and drinks between main meals.
- Prevalence of caries was thus higher in children who consume snacks frequently than in children who consume snacks rarely (Iftikhar et al., 2012).
- Children with severe early childhood caries are also more likely to drink sugary drinks, like juice, compared to children that are caries free (Palmer et al., 2010).
- The proportions of children with caries increased by increasing number of sweet items reported to be eaten most days (Johansson et al., 2010).
- Snacks containing large amounts of sugar increase the risk of caries due to prolonged contact between sugars in the consumed food or liquid and cariogenic bacteria on the susceptible teeth (Declerck et al., 2008).
- The presence of visible plaque accumulation and reported consumption of sugared drinks were associated with prevalence of caries (Declerck et al., 2008).
- The severity of ECC was associated with various risk indicators such as gender, presence of plaque, living in areas of low socioeconomic status, lack of preventative approaches, and limited access to dental care. (Declerck et al., 2008)



CONCLUSIONS

- Frequent consumption of sugar in-between meals is a high risk factor to microbial etiology and ECC.
- Snacks containing large amounts of sugar increase the risk of caries due to prolonged contact between sugars in the consumed food or liquid and cariogenic bacteria on the susceptible teeth.
- The presence of visible plaque accumulation and reported consumption of sugared drinks were associated with prevalence of caries.
- Severity of ECC was associated with gender and with presence of plaque.
- Other risk factors included living in areas of low socioeconomic status, lack of preventative approaches, and limited access to dental care.
- These results underline the importance of plaque control, diet management, and oral health knowledge from a very young age on.

REFERENCES

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