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Children Oral Symptoms: The Beneficial Role of the Oral Microbiota and Oral Health Behaviors

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Purpose: United States children, ages 5 to 17 years old, are in distress because of poor oral health and oral symptoms. Recently oral microbiota has been suggested to be associated with oral health and oral symptoms. The purpose of this feasibility study is to understand the relationship between oral microbiome and oral symptoms in children and the influence of tooth brushing and tooth flossing. The related oral symptoms studied are tooth pain, headaches, gum bleeding, gum tenderness, and foul odor caused by cavities and tooth decay.

Methods: The research design is an observational study. This study will examine the association between children's oral microbiota and oral symptoms and influence of tooth brushing and tooth flossing on this relationship. A convenience sample of approximately 10 children school age 7-12 years attending a community dental clinic, both genders and from different socioeconomic status. Three questionnaires will be used to collect information on demographics, oral health behaviors, and oral symptoms. Information related to children's oral health will be collected from the dental record available at the dental clinic. Buccal swabs will be collected to measure oral microbiota. The recruitment site is a Midwest community dental clinic. Participants will be screened based on the eligibility criteria. Participant consent will be obtained from the parent/guardian and assent from the child. Buccal specimens will be collected from the child by the research team. The participant's parent/guardian will complete a demographic questionnaire, and the child will complete the other questionnaires. Children's dental records will be collected by the researchers from the clinic.

Results: This is an ongoing project at the time of the abstract submission. Data collection expected to be completed by May 2018. Results are expected to be presented by July 2018.

Conclusion: The findings will provide knowledge to develop oral health interventions targeting beneficial oral microbiota aimed at improving children oral symptoms.

Title:

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Keywords:

Children, Oral Health and Oral Microbiome

References:

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Abstract Summary:

The participants will expect to learn knowledge on what helps alleviate children oral health symptoms by implementing oral health behavior interventions that target oral microbiota.

Content Outline:

I. Introduction

A. United States children, ages 5 to 17 years old, are in distress because of poor oral health and oral symptoms. Recently oral microbiota has been suggested to be associated with oral health and oral symptoms.

II. Body

A. Purpose

1. The purpose of this feasibility study is to understand the relationship between oral microbiome and oral symptoms in children and the influence of toothbrushing and tooth flossing.

B. Research Design

1. Convenience sample of approximately 10 children school age 7-12 years attending a community dental clinic, boys and girls, and from different socioeconomic status.

2. This study is an observational study.
3. Instruments are three questionnaires will be used to collect data on demographics, oral health behavior, and oral symptoms. Information related to children's oral health will be collected from the dental record. Buccal swabs will be collected to measure oral microbiota.

III. Conclusion

- A. The findings will provide knowledge to develop oral health interventions targeting beneficial oral microbiota aimed at improving children oral symptoms.

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Author Summary: Dr. Calderon is a self-motivated and confident nursing researcher with knowledge, expertise, and experiences in the field of nursing. Her research is dedicated to improve children oral health and access to preventive care.

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A Pilot Study (ISAZ/WALTHAM; PI: Friedmann, E) • Development and Testing of the Feasibility of the Patient-Centered Patient Portal Implementation Toolkit (UMMC/UMSON; PI: Nahm, E. S.) • Dissemination of a Theory-Based Bone Health Program in Online Communities (R01NR011296-NIH/NINR; PI: Nahm, E. S.)

Author Summary: Dr. Chung is an assistant professor at Illinois State University. She was trained at University of Maryland and has worked on several projects funded by the NIH during her time there. Her research is focused on human gut microbiota and their implications for health and her recent work was on temporal dynamics of gastrointestinal microbiota during pregnancy.