

Cystic Fibrosis Research News

Title:

DENTAL PROBLEMS AND GUM DISEASE IN PATIENTS WITH CYSTIC FIBROSIS - A SYSTEMATIC REVIEW

Authors:

Pawlaczyk-Kamieńska Tamara¹, Borysewicz-Lewicka Maria¹, Śniatała Renata¹, BaturaGabryel Halina², Cofta Szczepan²

Affiliations:

¹Department of Paediatric Dentistry, Poznan University of Medical Sciences, Bukowska 70, 60-812 Poznań, Poland

²Department of Pulmonology, Allergology and Respiratory Oncology, Poznan University of Medical Sciences, Szamarzewskiego 82/84, 60-569 Poznań, Poland

What was your research question?

Oral health is not a traditional focus of the multidisciplinary cystic fibrosis (CF) team. To broaden the knowledge about the oral health problems in people with CF, we conducted a systematic review of the latest research literature regarding most common oral diseases.

Why is this important?

The mouth (oral cavity) is a reservoir for many microorganisms (bacteria, viruses and fungus) and can also be a harbor for a number of disease-causing microorganisms, including those which can cause disease in the airways. This is especially true for individuals with poor oral hygiene. The relationship between oral health and respiratory infections, including infection from aspiration (breathing in fluid found in the mouth) of oral bacteria, is usually ignored. Because people with CF are at an increased risk of lung infection, there is a need to prevent local oral infection and inflammation. Therefore, up-to-date knowledge about the oral condition and the most common dental problems in people with CF is important for overall management of CF.

What did you do?

A systematic review of papers published from 1997 to 2018 regarding the oral status of children and adults with CF was carried out. We focused on the following oral health problems: developmental defects of enamel (changes in the tooth enamel), dental caries and

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gum disease. The search resulted in 143 studies. Thirteen publications met the inclusion criteria and qualified for further analysis.

What did you find?

Most of the studies looked at people with CF under 18 years of age. We found that despite no significant difference in the level of dental hygiene, compared to people without CF, people with CF have: 1. an equal or a higher frequency and more severe enamel defects in adult teeth, 2. an equal or lower risk of dental caries, 3. lower frequency of bleeding gums. For people with CF, this results in a bacterial plaque biofilm accumulating on their teeth and surrounding tissues and a high level of bacteria, which are considered to be the main risk factor for oral diseases.

What does this mean and reasons for caution?

The history of oral disease should be taken into account as part of the medical care of people with CF. Changes in tooth enamel, which are seen in people with CF are not only a problem of appearance, but also may increase the susceptibility to caries. The presence of chronic inflammation in the mouth as a result of poor oral hygiene or the presence of dental caries may be associated with possible lung infection due to the aspiration of oral bacteria. The sources of infection cannot be removed from the mouth, but they can be controlled by good oral hygiene and adhering to caries prevention and early dental treatment when it is required.

What's next?

It is necessary to improve the oral health of people with CF. A comprehensive individualized plan to prevent infection, including daily brushing and good dietary habits, regular preventive dental visits, and early dental treatment should be an important factor in treating people with CF.

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