

FISSURE SEALING AND FLUORIDATION IN CONTEXT OF MODERN CARIES PROPHYLAXIS

PhD thesis - summary

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Introduction. Dental caries is one of the prevalent diseases in all geographic areas of the world, which, due to its early onset, long lasting evolution and the consequences upon overall health of the body should represent a priority in public health programs. According to the World Health Organization sanitation of oral cavity can not be achieved globally because of the required expenses, thus only prophylactic measures may lower the morbidity of dental caries.

In recent decades developed countries have shown a remarkable decline in the prevalence of dental caries due to the application of several preventive measures, such as oral hygiene, dietary habits, fluoridation and pit and fissure sealing.

In the developing countries, such as our country too, high caries indices are still being reported, thus it can be easily claimed that in these states caries is reaching epidemic proportions.

The present doctoral thesis outlines the sight of the dental caries experience in 1st grade school children from Targu Mures, analyses the influence of socioeconomic and behavioral factors on the prevalence of this condition and also to assesses the effectiveness of some very simple and low cost prophylactic measures that can be applied in the usual conditions of dental offices.

The thesis has two main parts: I. General part and II. Personal part.

I. THE GENERAL PART contains two chapters: the first one presents the general information regarding dental caries and the second one describes the main aspects of caries prophylaxis.

1. Dental caries. This chapter defines dental caries, presents concepts of etiology, classification and diagnosis of caries and also depicts the prevalence and the main caries indices.

2. Dental caries prophylaxis. The second chapter presents the four anti-carious prophylactic strategies recommended by the WHO, namely oral hygiene measures, dietary habits, fluoridation and pit and fissure sealing.

II. THE PART OF PERSONAL RESEARCH consists of five studies regarding the prevalence of tooth decay, the social, economical and behavioral factors involved and also three other studies that assess the effectiveness of some specific preventive measures.

3. Clinical statistical study on the prevalence of tooth decay in a group of school children. The first study assesses dental caries in a group of 385 schoolchildren of 1st grade from Targu Mures with the use of DMF caries index. The study reveals a high prevalence of caries in deciduous and permanent dentition of these children.

4. Study of influence of some socio-economic and behavioral factors on caries experience. This study implied the use of questionnaires applied in two groups: 1st grade schoolchildren and their parents, respectively. The collected results of these surveys draw attention to the need for education regarding dental health among children and their parents and highlight the influence of socioeconomic and behavioral factors on the caries experience of the subjects.

5. Clinical assessment of the effectiveness of some pit and fissure sealants. The fifth study compares the effectiveness of two sealants (one with, the other one without fluorides) in two

groups of children, in terms of retention to the tooth surface and the occurrence of tooth decay. No statistically significant differences were found between the two materials, both proved good effectiveness in preventing this disease.

6. Assessing the effectiveness of caries prophylactic measures. This chapter evaluates two specific caries prophylactic measures: pit and fissure sealing of first permanent molars and topical fluoridation with fluoride varnishes. The results reveal only the effectiveness of pit and fissure sealing, contrary to most studies in the literature, with no effectiveness of fluoride varnishes.

7. Clinical study regarding the effectiveness of fluoride tablets. This last study analyses and demonstrates the efficiency of fluoride tablets administered systemically both in deciduous and permanent dentition starting from the first days of life or from the age of 6 months until the age of seven years.

There are **13 general conclusions** that highlight the need to improve dental health in child population, and also that achieving and maintaining proper oral hygiene, regular dental checkups starting with early ages and application of specific preventive measures are mandatory.

References consist of 292 titles and annexes consist of four articles published in CNCSIS B+ papers.

Keywords: tooth decay, prevalence, DMF index, prophylaxis, sealing, fluoridation.