

Dental caries incidence in a sample of endurance sports athletes

Translational research and innovation in Human in health sciences

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Introduction: The Sports Dental Medicine is preventive multidisciplinary and specific area which allows oral health and the treatment of oral cavity diseases that can interfere with physical performance(1). Dental caries are a chronic disease with high prevalence and results from the dental demineralization in acidic environment and it is initiated by micro-organisms(2). In endurance sports it is very common and increased intake of carbohydrates which are essential for an adequate performance(3). This intake leads to a decrease in oral cavity pH which can promote enamel demineralization, exposing the individual to an increased risk of dental caries(4).

Purpose: The goal of the present investigation was to estimate the prevalence of dental caries in endurance sports athletes.

Material and methods: This transversal and observational study was approved by Egas Moniz Ethical Committee (process number 531). The sample (n=65) consisted of male and female individuals and after given informed consent, all were submitted to a food intake and sports practice questionnaire as well as an oral exam to observe the index of decayed teeth, loss teeth or sealed teeth (CPOD). The cariogenic risk was obtained using the software *Cariogram*®. Collected data were analyzed through descriptive statistics measures and using frequency, dispersion and central tendency models.

Results: In the sample of 65 athletes, 55% were male and were 31.5 years old (± 0.71 years). The CPOD was 5.3 (± 2.1). The results had shown that 66% of the athletes had high risk of caries, 11% had a moderate risk of caries, 23% had a low risk of caries (Fig.3). In the sample, 52% had caries (Fig.1) and a round 32% had loss at least one tooth due to caries (Fig.2). From the information on food questionnaire, it was possible to calculate that the athletes had in average 45g of carbohydrates (± 28 gramas) within which 19g were sugars (± 8 gramas) just from dietary supplements (Fig.4).

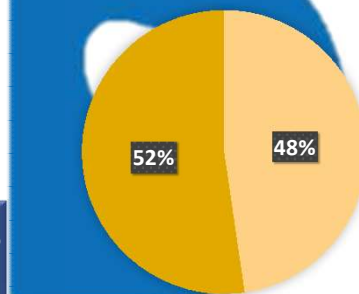


Fig.1 - Distribution of the sample according to the presence of caries.

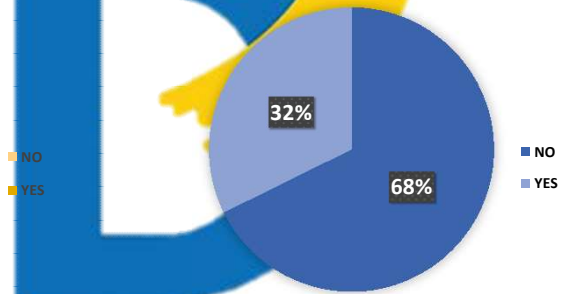


Fig.2 - Distribution of the sample according to teeth lost by caries.

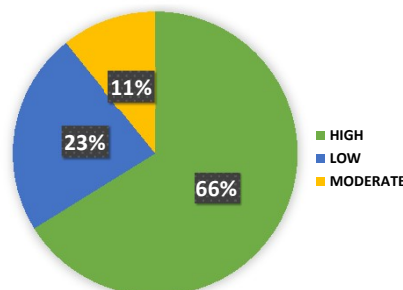


Fig.3 - Distribution of the sample according to the caries risk given by the Cariogram® program.

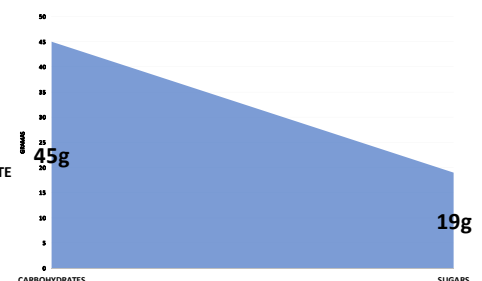


Fig.4 - Distribution of the sample according to the consumption of carbohydrates and sugars by the athletes.

Discussion and Conclusions: It was possible to observe a high risk of caries in this sample as well as a considerable incidence of this pathology. One of the probably high risk factors contributing for this result was the exposition to high levels of carbohydrates and sugars not only from diet but also from dietary supplements.

References:

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