Is dental caries a multifactorial disease? Likely not!

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editorial

Dental caries is frequently defined as a "multifactorial disease" on the grounds that its onset involves carbohydrates, oral microorganisms, acids, salivary flow, fluoride, and the frequency of carbohydrates intake.

However, there is extensive scientific evidence that free sugars are the primary necessary factor in the development of dental caries.

After sugar consumption there is an increase in H+ in dental plaque, causing the dissolution of hydroxyapatite crystals to their ionic components.

Since 1967, Sheiham stated that without sugars the causal chain is broken and the disease does not occur.

The most remarkable data on the relationship between dietary sugars and caries come from the meticulous sequential annual studies conducted in Japan by several researchers [Takahashi, 1959; Okuya, 1960; Takeuchi, 1961; Koike, 1962; Sheiham and James, 2015]. The results of these studies showed a clear correlation between average sugar intake and dental caries.

The most comprehensive systematic review ever conducted on sugars and caries using rigorous methods was that by Moynihan and Kelly [2014], who found a large effect size for the impact of sugars intake on dental caries. Furthermore, their analyses indicate that dental caries progresses with age and that the effects of sugars on the dentition are lifelong.

Even with low levels of caries in childhood, there were progressive increases throughout the life, and despite the protection offered by fluoride the causal relationship between free sugars and dental caries remained.

In March, the WHO released new guidelines in order to reduce the risk of non-communicable diseases in adults and children, recommending that only 5% of a person's total daily caloric intake should come from sugar, though they acknowledged that such a drastic cutback might not be feasible. "We should aim for 5 percent if we can," the WHO Director of Nutrition Dr. Francesco Branca said in a news conference, "but 10 percent is more realistic."

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The Letter to the Editor should be **no longer than 300 words** and submitted to: ***luigipaglia@hotmail.com*** along with a head-and-shoulder photo of the author.