

# EROSIVE TOOTH

## WEAR in Flanders

### (Belgium).

#### Epidemiological Aspects and Monitoring of Progression.

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**48.6%** of Belgian Adolescents demonstrated to have at least one tooth surface affected by ETW.

**31.5%** adolescents in Flanders reported to consume soft drinks daily.

progression of ETW lesions. Therefore, the overall aim of this study was first to increase the knowledge concerning the epidemiological aspects of ETW in Flanders, Belgium, and second to evaluate the progression of ETW using novel technologies that could facilitate the early detection of ETW lesions in the primary care. The following chapters based on publications are described in this thesis:

- **Chapter 3:** The influence of behavioural and sociodemographic risk indicators on ETW in Flemish adolescents, Belgium.
- **Chapter 4:** School food policies related to soft drinks and fruit juices consumption as a function of education type in Flanders, Belgium.
- **Chapter 5:** ETW in Special Olympics athletes with intellectual disabilities

- **Chapter 6:** Associations between obesity, dental caries, erosive tooth wear and periodontal disease in adolescents: A case-control study.
- **Chapter 7:** Monitoring the progression of ETW using BEWE index in casts and their 3D images: A retrospective longitudinal study.
- **Chapter 8:** Quantifying increased rates of ETW progression in the early permanent dentition.

### Main Findings

Students belonging to **vocational/technical schools presented a higher prevalence of ETW** than the students of general high schools. VSE students reported to consume soft drinks more frequently than students from GSE schools (44% v/s 18%).

The **“frequent consumption of soft drinks,”** specifically the consumption of one cup of soft drinks a day, was associated with a higher risk of ETW (OR: 2.08, 95% CI: 1.38–3.14).

**44%** of the schools in Flanders claim to have written SFP related to the consumption of soft drinks. SFP expressly prohibiting or limiting acidic beverages were significantly more frequent in GSE schools than in VSE schools.

**BEWE index** demonstrated to be a suitable tool for the scoring of ETW lesions in 3D images and cast. **Incidence and progression** of ETW using 3D images was **13.3%** and **60.9%** respectively, with two subjects developing BEWE=3 in at least one tooth surface. Molar surfaces with visible wear progression were observed to have an average loss of **-2.19mm<sup>3</sup>** over a period of two-years, while in molar surfaces without visible progression, the tissue loss observed was **-0.37mm<sup>3</sup>**. The recommended value for diagnosing a high rate of ETW progression in adolescents is **-1.22mm<sup>3</sup>** over two-years.

The results of **chapter 8** demonstrated that the use of IOS and the alignment software (WearCompare) is a promising tool for monitoring ETW/TW progression in clinical practice; however, it

needs further improvements of the technology before it can be used as a diagnostic tool.

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