

## Study of oral microbiota and diet as causal factors of Black Stains in the pediatric patient

*Pediatric Dentistry*

CUSIMANO D.\*, GIAMMANCO G., GIAMMANCO M., PIZZO G., GIULIANA G.

The aim of the following study is to identify and quantify microorganisms in the saliva of black stain patients using species-specific probes for *Actinomyces israelii*, *Actinomyces naeslundii*, *Streptococcus mutans* and *Lactobacillus* spp, as well as a universal probe for bacterial 16S rDNA, to obtain the figure of the total bacterial counts (for test and control group). This study represents a first phase of the research line on extrinsic tooth pigmentation on developmental age patients.

**Materials and methods.** The selected sample is composed of 20 subjects aged between 2 and 15 years and in good general and oral health among the patients included in a dental examination trial at the Department of Pediatric Dentistry of the University Hospital of Palermo, after obtaining informed consent from parents. Subjects with a positive anamnesis for systemic diseases or with enamel defects were excluded from the study. Exclusion criteria were also a diet including regular use of tea, coffee, iron supplements, or antibiotic therapies in the 3 months prior to enrollment and the use of mouthwashes/toothpastes containing antiseptics.

Parents/tutors were asked to complete a questionnaire on their occupational status and level of education, as well as their eating habits, the frequency of brushing and the patient's dental records. A sample of 20 patients without BS was used as control group. From all subjects participating to the study a sample of 5ml of unstimulated saliva was recovered from the right and left buccal area through a sterile syringe, after 2 minutes waiting for the accumulation of an adequate amount of saliva.

Statistical analysis was carried out using descriptive and inferential statistics (mean and standard deviation; chi-square test, t test for non-paired data). StatView 5.0.1 statistical software (SAS Institute, Cary, NC, USA) was used for this purpose, and the tests were considered significant at p values less than or equal to 0.05.

The study protocol will be presented for approval to the Palermo 1 ethics committee.

### REFERENCES:

1. Y. Li, Q. Zhang, F. Zhang, R.Liu, H. Liu, F. Chen; Analisi of the Microbiota of Black Stain in the Primary Dentition; PLOS ONE September 4, 2015.



2. T. Gyba, B. Kawala, J. Antoszevska-Smith, M. Kawala; Black Stain and Dental Caries: A Review of the Literature; Biomed Res Int. 2015
3. K. Prskalo, E. Klarić Sever, I. Alerić, T. Antonić Jelić, I. Žaja; Risk factors associated with black tooth stain; Acta Clin Croat 2017