**Comparative Study Between Photodynamic Therapy with Urucum + Led and Probiotics in Halitosis Reduction – protocol for a controlled clinical trial**

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**Abstract**

Halitosis is a term that defines any foul odor emanating from the oral cavity. The origin may be local or systemic. The aim of the proposed project is to determine whether treatment with antimicrobial photodynamic therapy (aPDT) and treatment with probiotics are effective at eliminating halitosisFifty-two patients from 18 to 25 years old with a diagnosis of halitosis (H2S≥112 ppb determined by gas chromatography) will be randomly allocated to four groups (n=13) who will receive different treatments: Group 1 – treatment with teeth brushing, dental floss and tongue scraper; Group 2 – brushing, dental floss and aPDT; Group 3 – brushing, dental floss and probiotics; Group 4 – brushing, flossing, aPDT and probiotics. The results of the halimeter testing will be compared before, immediately after, seven days and thirty days after treatment. The microbiological analysis of the coated tongue will be performed at these same times. The quantitative analysis will be conducted using real-time PCRq. The normality of the data will be determined using the Shapiro-Wilk test. Data with normal distribution will be analyzed using analysis of variance (ANOVA). Non-parametric data will be analyzed using the Kruskal-Wallis test. The Wilcoxon test will be used to analyze the results of each treatment at the different evaluation periods. This study has been approved by the Ethics Committee of UNINOVE under process number 3.669.442. Results will be published in peer-reviewed journals and will be presented at national and international conferences.

**Biography**

Pamella motta is a dental surgeon, specialist in pediatric dentistry and works in the field of facial aesthetics, she joined Nove de Julho University to pursue a master's degree in biophotonics. She developed an interest in the area because has already worked as an assistant to PhD Sandra Kalil Bussadori, where she started using laser and led in treatments and developed an interest in research. Following the team's line of research, she conducts studies on halitosis. Pamella is also very interested in the use of laser in facial aesthetics. She really likes to travel and always tries to associate travel with studies.