**Comparative Study Between Photodynamic Therapy with Urucum + Led and Probiotics in Halitosis Reduction – 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 this study is to determine whether treatment with antimicrobial photodynamic therapy (aPDT) and treatment with probiotics are effective at eliminating halitosis. Fifty-two patients from 18 to 25 years old with a diagnosis of halitosis (H2S≥112 ppb determined by gas chromatography) were randomly allocated to four groups (n=13) who received 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 were 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 inter-group analysis was performed for each time studied individually. At the initial time, there was no significant difference between the studied groups (p = 0.0706, Kruskal-Wallis ANOVA), indicating that the groups were well balanced in relation to the initial condition. In the analysis of the other times after the treatments, no significant difference was observed between the groups studied (p = 0.9581, p = 0.6187 and p = 0.9635 for the times “immediately”, “7 days” and “30 days”, respectively. Kruskal -Wallis ANOVA). The analysis of the “Scraper” group showed that the time “immediately after” differs significantly from all other times (p = 0.0006, Friedman). The analysis of the “aPDT” group showed that the time “immediately after” differs significantly from all other times (p = 0.0008, Friedman). The analysis of the “Probiotic” group showed no significant difference in the times studied (p = 0.7530, Friedman). The analysis of the “PDT + Probiotic” group showed that the time “immediately after” differs significantly from the time “30 days” (p = 0.0008, Friedman). The objective of the microbiological evaluation will be to determine the effectiveness of hygiene control, aPDT and probiotics for the reduction of bacteria on the surface of the tongue.

**Biography:**

Pamella motta is a dental surgeon, master in biophotonics from Uninove, specialist in pediatric dentistry and works in the area of facial aesthetics, joined the doctorate in biophotonics in 2021 at Universidade Nove de Julho. She became interested in the area because she previously worked as an assistant to Dr. Sandra Kalil Bussadori, where she started using lasers and led treatments and developed an interest in research. Following the team's line of research, she develops studies on halitosis. Pamella is also very interested in the use of laser in facial aesthetics. She loves to travel and always tries to associate travel with studies.