

ABSTRACT

Camellia sinensis or tea leaves contain a rich source of polyphenols (catechins), that are a part of flavonoids. Catechins are known to inhibit bacterial growth. Black tea contains polyphenol that can suppress the growth of bacteria and interfere with the attachment of bacteria to the tooth. Based on manufacturing process, white tea has the highest flavonoid. The purpose of this study was to compare the effect of black tea and white tea on the degree of acidity (pH) of artificial saliva induced by *S. mutans* ATCC 25175.

The study used black tea and white tea as the experimental group, while aquadest as a negative control. Each group consisted of 3 samples. In the test tube, 2.5 ml of experimental drink or control were mixed with 2.5 ml of bacterial suspension of *S. mutans* ATCC 25175 at a concentration of 1.5×10^8 CFU/mL then 2.5 ml artificial saliva was added. The degree of acidity (pH) was measured using pH meter, which was calibrated previously. Measurement of pH was done at minute 0, 3, 6 and 9. Furthermore, data analysis was carried out using statistical tests at $p < 0.05$.

The results of ANOVA test showed that there was a significant difference in the pH value between the experimental group (black tea and white tea) and the control group (aquadest). The results of *Dunnet T3* test showed a significant increase in artificial saliva pH in the black tea and white tea drink groups after *S. mutans* ATCC 25175 was induced, while in control group, there was a decrease in pH. It was concluded that the administration of black tea and white tea significantly increased the pH of artificial saliva induced by *S. mutans* ATCC 25175 and there was an increase in pH along with the observation time up to the 9th minute.

Keywords: Black Tea, White Tea, Saliva pH, Artificial Saliva