

INTISARI

Jambu biji (*Psidium guajava* Linn) adalah tanaman buah yang mengandung vitamin C dua kali lebih banyak dibandingkan dengan kandungan vitamin C pada Jeruk. Selain vitamin C, jambu biji merah juga mengandung Vitamin A, vitamin B6, vitamin B12, zat besi, natrium, kalium, kalsium, fosfor, dan magnesium. Buah jambu biji sebagian dikonsumsi secara langsung atau dikonsumsi setelah melalui berbagai proses pengolahan antara lain dibuat minuman kemasan dan jus buah segar. Tujuan penelitian ini adalah untuk mengetahui efek jus kemasan jambu dibandingkan jus segar terhadap derajat keasaman (pH) saliva tiruan yang dipapar *Streptococcus mutans* ATCC 25175.

Penelitian menggunakan jus jambu segar dan jus kemasan jambu sebagai kelompok perlakuan sedangkan Aquades sebagai kelompok kontrol negatif, masing-masing sebanyak 3 sampel. Pada tabung reaksi dicampurkan 2,5 ml minuman perlakuan dengan 2,5 ml suspensi bakteri *S.mutans* konsentrasi $1,5 \times 10^8$ CFU/mL serta ditambahkan dengan saliva tiruan sebanyak 2,5 ml. Pengukuran pH menggunakan alat pH meter yang telah dikalibrasi sebelumnya, dilakukan pada menit ke-0, 2 dan 30. Selanjutnya dilakukan analisis data dengan menggunakan uji statistik pada $p < 0,05$.

Hasil uji Kruskal-Wallis menunjukkan bahwa terdapat perbedaan bermakna nilai pH antar kelompok perlakuan (Jus jambu segar dan Jus kemasan jambu) serta Aquades. Hasil uji *Mann-whitney* menunjukkan penurunan bermakna pH saliva tiruan pada kelompok jus kemasan jambu dan jus jambu segar. Kesimpulan penelitian menunjukkan bahwa derajat keasaman (pH) saliva tiruan pada semua kelompok menurun setelah dipapar *S. mutans* ATCC 25175 dan pH saliva tiruan pada jus kemasan jambu lebih rendah bermakna dibandingkan jus jambu segar setelah 2 menit.

Kata Kunci: Buah Jambu, Jus Jambu Kemasan, Jus Jambu Segar, pH saliva, Saliva Tiruan

ABSTRACT

Guava, *Psidium guajava* Linn, is a fruit that contains twice as much vitamin C than in oranges. Guava also contains vitamin A, vitamin B6, vitamin B12, zinc, sodium, potassium, calcium, phosphor, and magnesium. Some of the Guava fruit is consumed directly or consumed after going through various processing processes including packaged drinks and fresh fruit juices. The aim of this study was to determine the effects of packaged guava juices compared to fresh guava juices on the acidic levels pH of artificial saliva exposed to *Streptococcus mutans* ATCC 25175.

This study used fresh guava juices and packaged guava juices as the treatment group, while the aquadest was a negative control group, 3 samples each. In a test tube, 2.5 ml of treatment drink was mixed with 2.5 ml of *S. mutans* bacterial suspension with a concentration of 1.5×10^8 CFU/mL and 2.5 ml of artificial saliva was added. Measurement of pH using a previously calibrated pH meter was carried out at 0, 2 and 30 minutes. Furthermore, data analysis was carried out using statistical tests at $p < 0.05$.

The results of the Kruskal-Wallis test showed that there was a significant difference in the pH value between the treatment groups (fresh guava juice and packaged guava juice) and Aquades. The *Mann-Whitney* test showed a significant decrease in the pH of artificial saliva in the fresh guava juice group, and packaged guava juice. The conclusion of this study showed that the acidic levels pH of the artificial saliva decreased after being exposed to *S.mutans* ATCC 25175. The pH of the artificial saliva in the packaged guava juice was significantly lower than the fresh guava juice on the second minute.

Keywords: Guava, Packaged Guava Juice, Fresh Guava Juice, Saliva pH, Artificial Saliva