

# Pasta Gigi Propolis UI Berpotensi Menurunkan Indeks Plak, Gingiva, dan Perdarahan Papila, serta Bakteri Nonspesifik Rongga Mulut = The UI Propolis Toothpaste Potentially Reduce Plaque Index, Gingival Index, Papillary Bleeding Index, and Non-Specific Oral Bacterial

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## Abstrak

### <b>ABSTRAK</b>

Latar Belakang: Gingivitis dapat didiagnosa berdasarkan indeks plak, gingiva, dan perdarahan papila. Etiologi utama gingivitis adalah dental plak yang berisi bakteri nonspesifik, dapat dikontrol dengan menyikat gigi. Kandungan flavonoid yang terdapat dalam propolis dilaporkan sebagai agen antibakteri dengan menghambat aktivitas enzim glukotransferase dan agen antiinflamasi dengan menghambat biosintesis prostaglandin. Tujuan: Mengetahui efek pasta gigi propolis UI terhadap indeks-indeks gingivitis serta penurunan koloni bakteri nonspesifik rongga mulut. Metode: Penelitian ini menggunakan 18 subjek yang diinstruksikan untuk menyikat gigi dan berkumur dua kali sehari menggunakan pasta gigi dan obat kumur nonpropolis selama 14 hari. Selanjutnya indeks plak, gingiva, dan perdarahan papilla subjek dievaluasi dan sampel plak diambil dari sulkus gingiva aspek bukal gigi 12 untuk analisa bakteri nonspesifik rongga mulut. Kemudian subjek diminta menggunakan pasta gigi propolis UI selama 14 hari dan dilakukan pengukuran indeks-indeks gingivitis serta pengambilan sampel kembali. Hasil: Rerata indeks sebelum dan sesudah penggunaan pasta gigi propolis UI adalah sebagai berikut: indeks plak ( $0,7 \pm 0,3$  vs  $0,98 \pm 0,58$ ), indeks gingiva ( $0,2 \pm 0,25$  vs  $0,55 \pm 0,53$ ), indeks perdarahan papila ( $0,18 \pm 0,23$  vs  $0,56 \pm 0,58$ ), dan jumlah bakteri aerob ( $143,33 \pm 96,66$  vs  $292,78 \pm 323,31$ ) secara statistik berbeda bermakna ( $p < 0,05$ ). Sedangkan jumlah koloni bakteri anaerob sebelum dan sesudah penggunaan pasta gigi UI ( $170,67 \pm 156,87$  vs  $237,33 \pm 200,96$ ) secara statistik tidak berbeda bermakna ( $p > 0,05$ ). Kesimpulan: Pasta gigi propolis UI dapat menurunkan indeks plak, indeks gingiva, indeks perdarahan papila, serta jumlah koloni bakteri aerob dan anaerob nonspesifik rongga mulut.

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### <i><b>ABSTRACT</b></i>

Background: Gingivitis can be diagnosed based on the plaque index, gingival index, and papillary bleeding index. The main etiology of gingivitis is dental plaque that contains nonspecific bacteria, which can be controlled by brushing teeth. Propolis has been reported as an antimicrobial and anti-inflammatory material by containing flavonoids that inhibit glycosyltransferase enzyme activity and inhibit prostaglandin biosynthesis. Objective: To find out the effect of UI propolis toothpaste on the gingivitis index and decrease of nonspecific oral bacterial. Methods: A clinical trial developed with 18 subjects. Subjects instructed to brush their teeth and rinse twice a day using assigned toothpaste and mouthwash for 14 days. Subjects examined using plaque index, gingival index, papillary bleeding index, and plaque samples collected from gingival sulcus of buccal aspect tooth 12 to analyzed for nonspecific oral bacterial. Then subjects were instructed to use UI propolis toothpaste for 14 days. After 14 days, subjects re-examined and recollected plaque samples. Results: The main index before and after using UI propolis toothpaste is as follow: plaque index ( $0,7 \pm 0,3$  vs  $0,98 \pm 0,58$ ), gingival index ( $0,2 \pm 0,25$  vs  $0,55 \pm 0,53$ ), papillary bleeding index ( $0,18 \pm$

0,23 vs  $0,56 \pm 0,58$ ), and aerobic bacterial colonies ( $143,33 \pm 96,66$  vs  $292,78 \pm 323,31$ ) statistically there were significant differences ( $p < 0,05$ ). While anaerobic bacterial colonies ( $170,67 \pm 156,87$  vs  $237,33 \pm 200,96$ ) statistically there was no significant differences ( $p > 0,05$ ). Conclusion: The UI propolis toothpaste can reduce plaque index, gingival index, papillary bleeding index, and nonspecific aerobic and anaerobic bacterial colonies of the oral cavity.