

Pengaruh ph larutan ebi air tawar macrobrachium sp. terhadap remineralisasi enamel gigi = The effect of freshwater dried shrimp solution ph to tooth enamel remineralization

Maria Alvira Vanessa, author

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Abstrak

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Udang kering ebi adalah sumber daya alam Indonesia yang mudah diperoleh dengan harga terjangkau dan diketahui mengandung kalsium yang tinggi. Penelitian ini bertujuan untuk mengetahui pengaruh aplikasi larutan ebi air tawar Macrobrachium sp. dengan pH basa dalam meningkatkan remineralisasi enamel gigi melalui peningkatan microhardness. Aplikasi dilakukan selama 5 menit untuk setiap spesimen enamel sebanyak 26 kali dengan tingkat pH 8, 9, 10. Penelitian ini menggunakan uji kekerasan Vickers Microhardness Tester, Scanning Microscope Electron, dan Energy Dispersi X-Ray Spectrometer untuk mengukur retensi ion kalsium pada permukaan enamel gigi. Hasil penelitian menunjukkan nilai kekerasan mikrostruktur permukaan enamel tertinggi diperoleh setelah diberikan aplikasi larutan ebi air tawar Macrobrachium sp. dengan pH 10, yaitu sebesar 390 VHN dengan persentase retensi ion kalsium sebesar 15,18 .Kesimpulan: aplikasi larutan ebi air tawar Macrobrachium sp. meningkatkan proses remineralisasi enamel gigi.

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ABSTRACT

Dried shrimp ebi is one of the natural resources available in Indonesia that can be easily attained with affordable price. It is also known to contain high amount of calcium. This research rsquo s objective was to analyze the effect of freshwater ebi solution Macrobrachium sp. application with various alkaline pH level in increasing the remineralization of tooth enamel. Application were done for 5 minutes each, 26 times application, using pH level 8.0 to 10.0 respectively. Result analyze were done using Vickers Microhardness test, Scanning Electron Microscope, and Energy Dispersion X Ray. The result of this research showed the highest value of microhardness in enamel surface microstructure was after being applied by freshwater ebi solution Macrobrachium sp. with a pH level 10.0 and a value of 390 VHN with calcium ion retention percentage of 15.18 .Conclusion application of freshwater dried shrimp solution increase the remineralization process of enamel surface.