Karakteristik dari Bidang Fisika, Kimia, Unique Manuka Factor, dan Efek Antibakterial Madu Lokal Indonesia Dibandingkan dengan Madu Manuka New Zealand = Characteristic of Indonesian Local Honey Compared to Manuka Honey from the Physical Chemical Component, Unique Manuka Factor, and Antibacterial Effect

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Abstrak

Madu memiliki berbagai efek positif bagi tubuh manusia dan telah digunakan sebagai obat selama berabad-abad. Madu Manuka dan MedihoneyTM di Indonesia masih sulit dilakukan karena harganya yang mahal dan ketersediaannya. Penelitian sebelumnya telah mengevaluasi aktivitas fisika kimia antara madu Nusantara (madu lokal) dan Madu Manuka. Namun dalam penelitian ini kami menambahkan lebih banyak variasi madu lokal dan komponen kimiawi yang bermanfaat untuk aktivitas antimikroba, antara madu lokal dibandingkan dengan madu Manuka. Namun dalam penelitian ini kami menambahkan lebih banyak variasi madu lokal dan komponen pemeriksaan kimia yang bermanfaat sebagai indikator untuk melihat aktivitas antimikroba terhadap bakteri K. pneumonia ATCC 13883, P. aeruginosa ATCC 27853 dan S. aureus ATCC 25923, E. cloacae ATCC 23355, E. coli ATCC 25922 pada setiap sampel. Hasil penelitian menunjukkan bahwa madu manuka memiliki pH lebih rendah, keasaman lebih tinggi, viskositas lebih tinggi dan kadar gula lebih tinggi dibandingkan madu lokal Indonesia, madu manuka memiliki kandungan MGO dan NPA lebih tinggi dibandingkan madu lokal Indonesia, tetapi madu nusantara memiliki tingkat MGO yang lebih tinggi dibandingkan dengan madu Jawa. Madu Manuka memiliki aktivitas antibakteri yang sebanding pada bakteri P. aeruginosa ATCC 27853, S. aureus ATCC 25923, K. pneumonia ATCC 13883, E. coli ATCC 25922, and E. cloacae ATCC 23355 dibandingkan dengan madu lokal Indonesia.
.....Honey has various positive effect human body, and has been used as medicine for centuries Manuka honey and Medihoney™ has been accepted widely used by medical honey. Research has been conducted for these honeys and shown to have in vivo activity and are suitable for the treatment of ulcers, infected wounds and burns. But using Manuka honey and MediHoney™ in Indonesia is still difficult due to its high cost and availability. The previous study had evaluated in physiochemical activity between Nusantara honey (local honey) and Manuka Honey. However, in this study we added more variety of local honey and chemical components that was beneficial for antimicrobial activity, between the local honey compared Manuka Honey. More extensive research was needed especially the physicochemical and antibacterial effect of Indonesian local honey, The purpose of this study is as a baseline data to produce our own medical grade honey that was equal compared to the international medical grade honey. This is a descriptive analytical study using samples of Indonesian local honey and Manuka honey, and check each samples for physical chemical characteristic, Unique Manuka Factor, and antimicrobial effect for K. pneumonia ATCC 13883, P. aeruginosa ATCC 27853, S. aureus ATCC 25923, E. cloacae ATCC 23355, E. coli ATCC 25922 in every honey samples. The results of the study shows that New Zealand manuka honey has lower pH, higher acidity, higher viscosity, and higher sugar content compared to Indonesian local honey, New Zealand manuka honey has higher MGO content and NPA compared to Indonesian local honey, but Nusantara honey shows has higher MGO level, compared to Java honey. New Zealand manuka honey has lower pH, higher

acidity, higher viscosity, and higher sugar content compared to Indonesian local honey. New Zealand manuka honey showed comparable antibacterial effect for P. aeruginosa ATCC 27853, S. aureus ATCC 25923, K. pneumoniaATCC 13883, E. coli ATCC 25922, and E. cloacae ATCC 23355 compared with Indonesian local honey.<i/>