Formulasi gel hand sanitizer ekstrak kulit batang salam (syzygium polyanthum (wight.) walp) dan uji efektivitasnya terhadap bakteri staphylococcus aureus = Formulation of salam bark (syzygium polyanthum (wight.) walp) extract hand sanitizer gel and its effectiveness against staphylococcus aureus

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Abstrak

ABSTRAK
Ekstrak kulit batang salam mengandung tanin dan flavonoid yang dapat menghambat pertumbuhan Staphylococcus aureus. Kemampuan senyawa tanin dan flavonoid dapat diformulasikan menjadi gel hand sanitizer. Tujuan penelitian adalah menentukan konsentrasi hambat minimal KHM ekstrak kulit batang salam, memformulasikan dan mengevaluasi gel hand sanitizer, serta mengetahui efektivitas gel terhadap bakteri di telapak tangan. Basis gel dioptimasi dengan membuat tiga perbandingan antara karbomer dan trietanolamin. Kemudian dipilih basis gel terbaik, diformulasikan dengan ekstrak kulit batang salam. Uji stabilitas fisik dilakukan terhadap gel hand sanitizer yang mengandung ekstrak kulit batang salam 4,04 F1 dan 7,77 F2 , disimpan pada suhu 4 2 C, 27 2 C dan 40 2 C selama 12 minggu. Efektivitas gel hand sanitizer F1 dan F2 diujikan pada telapak tangan 30 responden. Dari penelitian diperoleh nilai KHM ekstrak kulit batang salam adalah 3,12 . Berdasarkan optimasi basis gel, basis gel terbaik diperoleh dari perbandingan karbomer dan trietanolamin 1 : 4 dengan pH 5,50. Gel hand sanitizer F1 dan F2 menunjukkan stabilitas yang baik selama 12 minggu. Uji efektivitas gel hand sanitizer menunjukkan F2 cenderung menurunkan jumlah bakteri P= 0,125 lebih banyak dibandingkan F1 P= 1,000 . Berdasarkan uji hedonik, responden lebih menyukai gel hand sanitizer F2 dibandingkan F1. Berdasarkan keseluruhan hasil, gel hand sanitizer F2 lebih baik dibandingkan F2.
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ABSTRACT
Salam bark extract contains tannins and flavonoids that can inhibit the growth of Staphylococcus aureus. The ability of two compounds can be formulated into hand sanitizer gel. The objectives of study were determining minimum inhibitory concentration MIC of salam bark extract, formulating and evaluating the hand sanitizer gel, as well as studying the gel effectiveness against bacteria on the palms. Gel base was optimized by preparing three formulas containing carbomer and triethanolamine in different ratio. The best gel formula was mixed with salam bark extract. Physical stability of hand sanitizer gel containing 4.04 F1 and 7.77 F2 salam bark extract was carried out at 4 2 C, 27 2 C, and 40 2 C for 12 weeks. The effectiveness of F1 and F2 hand sanitizer gel were examined on palms of 30 respondents. The results showed that MIC of salam bark extract was 3.12 . Based on the gel base optimization, the best gel base was containing carbomer and triethanolamine in the ratio of 1 to 4 with pH of 5.50. The F1 and F2 hand sanitizer gel gave good stability for 12 weeks. The antibacterial effectiveness study showed that F2 hand sanitizer gel tended to decrease amount of bacteria P 0.125 better than that F1 P 1.000 . Based on the hedonic study, F2 hand sanitizer gel was more preferred than F1. According to all of the results, it could be concluded that the F2 hand sanitizer gel was much better than the F1.