Formulasi sediaan gel yang mengandung ekstrak Etanol Pegagan (Centella asiatica L.) = Formulation of gel dosage form containing Ethanolic extract of Pegagan (Centella asiatica L)

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Abstrak

Pegagan (Centella asiatica L.) merupakan tanaman obat yang tidak asing lagi bagi masyarakat Indonesia. Pegagan mengandung asiatikosid yang berkhasiat terhadap gangguan kulit seperti selulit, bekas luka, bahkan dapat mengobati luka terbuka. Tujuan penelitian ini adalah mengamati pengaruh penambahan propilenglikol terhadap penetrasi in vitro menggunakan sel difusi Franz. Pada penelitian ini dibuat gel yang mengandung ekstrak etanol pegagan sebanyak tiga formula. Dua formula dengan penambahan propilenglikol 5% (formula 1) dan 10% (formula 2), sedangkan formula 3 sebagai kontrol tidak mengandung propilenglikol.
Evaluasi fisik dilakukan terhadap ketiga formula gel yang meliputi uji organoleptis, sineresis, viskositas, konsistensi, dan stabilitas fisik, selain itu dilakukan penentuan kadar zat aktif, dan uji penetrasi secara in vitro menggunakan sel difusi Franz.
Hasil penelitian ini menunjukkan ketiga gel bersifat homogen, berwarna coklat dan tidak terjadi sineresis dan. Kadar zat aktif dalam ketiga formula gel yang diukur dengan metode kromatografi lapis tipis menunjukkan 88,06 - 89,92%. Secara keseluruhan ketiga formula gel memenuhi persyaratan secara fisik, akan tetapi untuk penetrasi secara in vitro tidak dapat dideteksi, karena asiatikosid tidak larut di dalam buffer fosfat pH 7,4 dan pH 5,6. Dapat disimpulkan secara fisik gel yang dihasilkan memenuhi persyaratan akan tetapi sukar berpenetrasi pada kulit.
.....Pegagan (Centella asiatica L.) is a medicinal plant which familiar to Indonesian people. Pegagan contains asiaticoside which efficacious against skin disorders such as cellulite, scars, and even to treat open wounds. The purpose of this study was to observe the effect of propylene glycol addition against in vitro penetration using Franz diffusion cells. In this research, gel containing ethanolic extract of Pegagan was made into three formulas. Two formula contained propyilene glycol, 5% (formula 1) and 10% (formula 2), while the third as a control formula which was not containing propylene glycol.
Physical evaluation performed on all gel formula that included organoleptic test, syneresis, viscosity, consistency, and physical stability, besides that also performed determination of the levels of the active substance and in vitro penetration test using Franz diffusion cells.
The results of this study suggest that all gel formula is homogeneous, brown, and no syneresis. Levels of the active substance in the three gel formula that measured by thin layer chromatography method showed 88.06 to 89.92%. Overall, gel formula meets the physical requirements, but for the in vitro penetration can not be detected, because asiaticoside was insoluble in phosphate buffer pH 7.4 and pH 5.6. It could be concluded that all gel physically qualified but difficult to penetrating the skin.