

INTISARI

Jerawat merupakan penyakit kulit yang disebabkan karena peradangan pada kelenjar minyak kulit (folikel pilosebacea) yang ditandai dengan perubahan klinis berupa komedo pada wajah sehingga mengurangi kepercayaan diri penderita. Buah mengkudu (*Morinda citrifolia* L.) mengandung antrakuinon dan flavonoid yang dapat mengobati jerawat. Potensi buah mengkudu sebagai antijerawat dapat dioptimalkan ke dalam bentuk sediaan gel berbasis *hydroxypropyl methylcellulose* (HPMC). HPMC dapat membentuk gel yang jernih, bersifat netral, dan stabil dalam jangka waktu yang panjang. Penelitian ini bertujuan untuk mengetahui pengaruh konsentrasi HPMC terhadap sifat fisik dan aktivitas antibakteri gel yang dihasilkan.

Penelitian ini menggunakan ekstrak etanolik dari buah mengkudu yang diperoleh melalui metode maserasi menggunakan etanol 96%. Ekstrak yang diperoleh kemudian diuji kualitas fisik dan aktivitas antibakteri terhadap *Staphylococcus aureus*. HPMC divariasikan pada konsentrasi 2,25% (formula 1), 2,75% (formula 2), 3,25% (formula 3), 3,75% (formula 4), dan 4,25% (formula 5). Setiap formula gel diuji sifat fisik dan kimianya meliputi organoleptis, pH, homogenitas, daya sebar, daya lekat, dan viskositas serta uji aktivitas antibakteri dengan metode difusi sumuran. Hasil pengujian selanjutnya dianalisis secara statistik menggunakan Kruskal Wallis dan *One-way* ANOVA dengan taraf kepercayaan 95%.

Hasil penelitian menunjukkan variasi konsentrasi HPMC tidak berpengaruh terhadap homogenitas dan pH gel. Kenaikan konsentrasi HPMC berpengaruh signifikan terhadap kenaikan daya lekat, viskositas dan menurunkan daya sebar gel. Zona hambat gel terhadap pertumbuhan *S. aureus* formula gel 1 hingga 5 berturut-turut adalah: 6,20; 6,13; 5,53; 5,0; dan 5,07 mm. Kenaikan konsentrasi HPMC berpengaruh tidak signifikan terhadap aktivitas antibakteri gel.

Kata Kunci : Buah mengkudu, HPMC, gel

ABSTRACT

Acne is a skin disease caused by inflammation of the skin's oil glands (pilosebaceous follicle) that characterized by clinical changes in the form of blackheads on the face, thereby reducing patient confidence. Noni fruit (*Morinda citrifolia* L.) contains anthraquinone and flavonoid that can treat acne. Noni's potential use as an antiacne can be optimized into a gel dosage form with hydroxypropyl methylcellulose (HPMC) base. HPMC produces transparent form solution, neutral, and providing good stability during long-term storage. The aims of this study were to determine the effect of HPMC concentration on the physical properties and antibacterial activity of the noni fruit extract gel.

Ethanol extract of noni fruit obtained through maceration method using ethanol 96%. Extract was tested in the physical quality and antibacterial activity against *Staphylococcus aureus*. HPMC varied at a concentration of 2.25% (Formula 1), 2.75% (Formula 2), 3.25% (formula 3), 3.75% (formula 4), and 4.25% (formula 5). Each of gel formula was tested for their physical and chemical properties including organoleptic, pH, homogeneity, spreading power, adhesion, and viscosity as well as antibacterial activity test by cup-plate technique. The test results were statistically analyzed using Kruskal Wallis and One-way ANOVA with level of 95%.

The results showed that variations in the concentration of HPMC did not affect the homogeneity and the pH gel. The increase in the concentration of HPMC had significant difference effect on the increase in adhesion, viscosity and decrease its spreadability. Growth inhibition zone against *S. aureus* gel formula 1 to 5 are respectively: 6.20; 6.13; 5.53; 5.0; and 5.07 mm. The increase in the concentration of HPMC had no significant difference on the antibacterial activity of the gel.

Keywords : Noni fruit, HPMC, gel