INTISARI

Jerawat merupakan inflamasi pada kulit yang disebabkan *Propionibacterium acne* (*P.acne*). Daun binahong (*Anredera cordifolia (*Ten*.)* Steenis) telah diteliti mempunyai kemampuan inhibisi terhadap bakteri ini, karena mengandung flavonoid. Tujuan dari penelitian ini adalah (1) mengetahui kemampuan inhibisi ekstrak etanol daun bianahong (EEDB) terhadap *P.acne,* (2) mengetahui formula optimum dari PEG 400:PEG 4000 sebagai basis salep, dan (3) mengetahui kemampuan inhibisi salep EEDB terhadap *P.acne.*

EEDB diperoleh dari maserasi dengan etanol 96%. Kemampuan inhibisi EEDB diuji dengan metode difusi agar menggunakan media *Brain Heart Infusion* (BHI). Optimasi formula dari PEG 400 dan PEG 4000 ditentukan dengan metode *Simplex Lattice Design* (SLD). Penentuan formula optimum didasarkan pada pengukuran respon viskositas dan analisia tekstur (*hardness, adhesiveness,* dan *gumminess*). Verifikasi hasil respon pada formula optimum dilakukan dengan *one sample T-test* pada *software* SPSS versi 22. Kemampuan inhibisi salep diuji menggunakan metode difusi agar, dengan gel Mediklin sebagai kontrol positif dan basis salep sebagai kontrol negatif.

Hasil penelitian menunjukkan bahwa EEDB memiliki kemampuan inhibisi dengan nilai kadar hambat minimum sebesar 2,5% (b/b). Formula optimum dari basis salep PEG 400:PEG 4000 adalah 49%:33% b/b, dengan kemampuan inhibisi berdasarkan diameter hambatan pada salep EEDB, gel Mediklin, dan basis salep secara berurutan adalah 10,49 ± 7,88 mm, 41,15 ± 1,26 mm, dan 0,00 mm.

Kata kunci: ekstrak etanol daun binahong, antibakteri, *P.acne,* salep, optimasi PEG

ABSTRACT

Acne is a skin inflammation that caused by *Propionibacterium acne* (*P.acne*). Binahong leave (*Anredera cordifolia* (Ten.) Steenis) has been studied that contain flavonoid which can inhibit the growth of *P.acne*. This study aimed to (1) verify the antibacterial activity of Binahong leave ethanolic extract (BLEE) against *P.acne*, (2) analyze the optimum formula of PEG 400:PEG 4000 as an ointment base, and (3) evaluate the antibacterial activity of BLEE ointment against *P.acne*.

BLEE was obtained by maceration using 96% ethanol. The inhibitory effect of the extract was tested through solid disk diffusion and liquid dilution method by using Brain Heart Infusion as the media. Optimizing formulas of PEG 400 and PEG 4000 were determined by Simplex Lattice Design method. The optimum formula was determined based on the viscosity and texture analyze (hardness, adhesiveness, and gumminess). The optimum formula was verified by one sample T-test method. The antibacterial activity of ointment was carried out by using the solid disk diffusion method with mediklin gel as the positive control, and ointment base as the negative control.

The minimal inhibitory concentration of BLEE was 2.5 % (w/w). The optimum formula of PEG 400 : PEG 4000 was 49% : 33% (w/w). The inhibitory effect of BLEE ointment, Mediklin gel, and ointment base were 10,49±7,86 mm; 41,15±1,26 mm; and 0,00 mm. The optimum formula showed that had a signification value >0,05.

Keywords: Binahong leaves ethanolic extract, antibacteri