ABSTRAK

WAHDHATUL HANIFAH, 2025, FORMULASI DAN UJI AKTIVITAS SEDIAAN EMULGEL KOLAGEN CEKER AYAM BROILER TERHADAP PENYEMBUHAN LUKA BAKAR PADA KELINCI PUTIH *New Zealand*, SKRIPSI, PROGRAM STUDI S1 FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh apt. Dwi Ningsih, M.Farm. dan apt. Taufik Turahman, M.Farm.

Ceker ayam terdiri dari komponen kulit, tulang, otot, dan protein yang kaya akan kolagen. Kolagen dari ceker ayam broiler memiliki aktivitas sebagai penyembuhan luka bakar. Kolagen dapat diformulasikan menjadi sediaan emulgel untuk mempermudah pengaplikasiannya pada kulit. Sediaan emulgel menggunakan *Hydroksi Propyl Methyl Cellulosa* (HPMC) sebagai *gelling agent* pada fase air untuk mengubah sistem emulsi menjadi emulgel. Penelitian ini bertujuan untuk mengetahui pengaruh variasi konsentrasi HMPC pada mutu fisik sediaan emulgel kolagen ceker ayam broiler dan efektifitasnya terhadap penyembuhan luka bakar pada kelinci.

Metode ekstraksi kolagen melalui proses maserasi menggunakan asam asetat 5%. Ekstrak kolagen ceker ayam broiler diformulasi dalam sediaan emulgel dengan variasi konsentrasi HPMC 2%, 2,5%, dan 3%. Sediaan emulgel dilakukan pengujian mutu fisik dan stabilitas sediaan. Uji efek penyembuhan luka bakar dari sediaan emulgel kolagen ceker ayam broiler dilakukan pada 5 ekor kelinci. Setiap ekor dibuat 5 area luka bakar dengan menempelkan logam panas berdiameter 2 cm pada kulit punggung kelinci. Emulgel dioleskan 2 kali sehari dan dilakukan pengamatan pengecilan diameter luka selama 21 hari. Hasil pengukuran penyembuhan luka bakar dianalisis statistik dengan metode *One Way* ANOVA.

Hasil penelitian menunjukkan bahwa variasi konsentrasi HPMC pada sediaan emulgel kolagen ceker ayam broiler mempengaruhi viskositas, pH, daya lekat, daya sebar, stabilitas, dan aktivitas penyembuhan luka bakar. Formula 1 sediaan kolagen ceker ayam broiler dengan konsentrasi HPMC 2% menunjukkan hasil yang paling baik dilihat berdasarkan parametrik mutu fisik, stabilitas, dan aktivitas penyembuhan luka bakar.

Kata kunci: Kolagen, ceker ayam broiler, HPMC, emulgel, luka bakar.

ABSTRACT

WAHDHATUL HANIFAH, 2025, FORMULATION AND ACTIVITY TEST OF BROILER CHICKEN CLAW COLLAGEN EMULGEL PREPARATION ON BURN HEALING IN WHITE RABBITS *New Zealand*, SKRIPSI, BACHELOR OF PHARMACY, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA. Supervised by apt. Dwi Ningsih, M.Farm. and apt. Taufik Turahman, M.Farm.

Chicken feet consist of skin, bone, muscle, and protein components that are rich in collagen. Collagen from broiler chicken feet has activity as burn wound healing. Collagen can be formulated into an emulgel preparation to facilitate its application to the skin. The emulgel preparation uses Hydroxy Propyl Methyl Cellulose (HPMC) as a gelling agent in the water phase to change the emulsion system into an emulgel. This study aims to determine the effect of variations in HMPC concentration on the physical quality of broiler chicken feet collagen emulgel preparations and their effectiveness on burn wound healing in rabbits.

Collagen extraction method was through maceration process using 5% acetic acid. Broiler chicken feet collagen extract was formulated into emulgel preparations with variations in HPMC concentrations of 2%, 2.5%, and 3%. The emulgel preparations were tested for physical quality and stability. The burn wound healing effect of broiler chicken feet collagen emulgel was tested on 5 rabbits. Each rabbit made 5 burn areas by attaching hot metal with a diameter of 2 cm to the skin of the rabbit's back. Emulgel was applied twice a day and wound diameter reduction was observed for 21 days. The results of burn healing measurements were statistically analyzed using the *One Way* ANOVA method.

The results showed that the variation of HPMC concentration in broiler chicken feet collagen emulgel preparation affected viscosity, pH, adhesion, spreadability, stability, and burn healing activity. Formula 1 of broiler chicken feet collagen preparation with 2% HPMC concentration showed the best results based on parametric physical quality, stability, and burn healing activity.

Kata kunci: Collagen, broiler chicken feet, HPMC, emulgel, burn.