ABSTRAK

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FORMULASI DAN EVALUASI *PATCH* UNTUK LUKA SAYAT DENGAN KANDUNGAN *SEABERRY* (*Hippophae rhamnoides* L.) *OIL*
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(XV + 70 halaman; 22 tabel, 13 gambar, 2 lampiran)

Secara global, biaya yang dikeluarkan untuk manajemen infeksi luka pasca operasi dan luka diabetes merupakan salah satu yang tertinggi. Hal ini menunjukkan bahwa pembalut luka seperti *patch* banyak digunakan dan memegang peranan penting dalam dunia kesehatan. *Patch* diinkorporasikan dengan *seaberry oil* yang diketahui dapat menstimulasi proses regenerasi sel epitel, proliferasi fibroblas, dan sintesis kolagen untuk membantu proses penyembuhan luka. *Patch* dibuat melalui reaksi *crosslinking* dan kemudian diuji kemampuan pelepasan zat aktif menggunakan metode difusi Franz. Formula optimal kemudian dikarakterisasi dan diuji efektivitas penyembuhan luka terhadap kelinci putih jantan (*Oryctolagus cuniculus* galur *New Zealand White*). Melalui pengujian yang dilakukan, diketahui formula optimal *patch seaberry oil* adalah F4 (14%), dan formula optimal *patch* asam linoleat adalah F3 (5,3%). Kedua formula memiliki nilai karakteristik organoleptis, keseragaman bobot, ketahanan lipat, dan keseragaman ketebalan yang baik. Formula *patch seaberry oil* (13,9670%) memiliki persen pelepasan yang lebih besar secara signifikan dibandingkan *patch* asam linoleat (9,2789%). Pengujian efikasi *patch* pada kelinci menunjukkan bahwa baik perlakuan *patch seaberry oil*, *patch* asam linoleat, povidone iodine, maupun basis tidak dapat mempercepat waktu sembuh luka, namun terdapat pengurangan bekas luka (*scar*) pada perlakuan *patch seaberry oil* dan *patch* asam linoleat yang diduga karena perannya dalam meregulasi fase inflamasi.

Kata Kunci: Luka, *Patch*, dan *Hippophae rhamonides* L.

Referensi: 48 (2004 – 2023)

ABSTRACT

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FORMULATION DAN EVALUATION OF PATCH FOR INCISIONAL WOUND HEALING CONTAINING SEABERRY (Hippophae rhamnoides* L.*) OIL

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(XV + 70 pages, 22 tables, 13 pictures, 2 appendices)

Medical care for surgical wounds and diabetic wounds are one of the highest medical costs globally. It indicates that wound dressing such as patch are commonly used and holds important role in the medical world. Seaberry oil which is known to stimulate epithelial regeneration, fibroblast proliferation, and collagen synthesis can be incorporated into the patch to assist wound healing. The patch is made with crosslinking reaction and then drug release is examined using Franz diffusion. Optimal formula is then characterized and wound healing effectivity is examined using male white rabbit (Oryctolagus cuniculus New Zealand White strain). Through the trial, the optimal formula for seaberry oil patch is F4 (14%), while the optimal formula for linoleic acid patch is F3 (5,3%). Both formula have good organoleptic, weight uniformity, folding resistance, and thickness uniformity characteristics. Seaberry oil patch formula has a statistically significant bigger drug release compared to linoleic acid patch. Efficacy testing on rabbit showed that wounds treated with seaberry oil patch, linoleic acid patch, povidone iodine, and basis do not speed up wound healing time. However, there is a reduction of scar formation in groups treated with seaberry oil patch and linoleic acid patch, which suggests their role in regulating the inflammatory phase of wound healing.

Keywords: Wound, Patch, and Hippophae rhamnoides L.

References: 48 (2004-2023)