

INTISARI

UTAMI F., 2020, FORMULASI EMULGEL PIROXICAM DENGAN PROPYLENGLIKOL DAN MENTOL SEBAGAI *PENETRATION ENHANCERS* SERTA UJI ANTIINFLAMASI PADA TIKUS PUTIH JANTAN (*Rattus novergicus*), SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA.

Piroxicam (NSAID) memiliki aktivitas yang baik sebagai antiinflamasi dalam menghambat siklooksigenase (COX) sehingga prostaglandin dan tromboksan terhambat. *Penetration enhancers* digunakan untuk meningkatkan kemampuan kulit menyerap obat. Penelitian ini bertujuan untuk mengetahui piroxicam memiliki uji mutu fisik dan stabilitas yang baik dari sediaan emulgel dengan penambahan *penetration enhancers* mampu mengatasi aktivitas inflamasi dengan metode eritema.

Setiap kelompok tikus putih dicukur bulu punggungnya kemudian dipapar sinar UVB selama 24 jam. Setelah adanya eritema dioleskan emulgel piroxicam, kelompok 1 diberikan formula 4 tanpa mengandung piroxicam, kelompok 2 diberikan formula 1 mentol 5%, kelompok 3 diberikan formula 2 mentol:PG (1,5:5%), kelompok 4 diberikan formula 3 PG 10%, dan kelompok 5 diberikan sediaan Pirofel® gel piroxicam. Pengamatan dilakukan hingga 72 jam mengalami penurunan kemerahan kemudian diperoleh data dianalisis menggunakan ANOVA dua faktor.

Hasil penelitian menunjukkan sediaan emulgel piroxicam mempunyai mutu fisik dan stabilitas yang baik, sediaan emulgel juga memiliki aktivitas antiinflamasi paling baik adalah formula 3, propilenglikol secara tunggal 10% sebagai *penetration enhancers* mampu mempercepat penyembuhan dengan mempengaruhi komponen lipid ekstraseluler sehingga mendorong proses difusi dan memfasilitasi obat ke kulit.

Kata kunci: Piroxicam, *penetration enhancers*, Emulgel, antiinflamasi

ABSTRACT

UTAMI F., 2020, FORMULATION EMULGEL PIROXICAM WITH PROPYLENGLICOL AND MENTHOL AS PENETRATION ENHANCERS AND ANTIINFLAMMATORY TEST ON MALE WHITE MOUSE (*Rattus novergicus*), THESIS, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA.

Piroxicam is a nonsteroidal anti-inflammatory drugs that has good activity as an antiinflammatory effects. Its mechanism of action is thought to be through inhibition of COX-1 and COX-2, key enzymes in the biosynthesis of prostaglandin. The major problem associated with transdermal drug delivery is barrier properties of the stratum corneum, these permeation problems can be minimized by use of chemical penetration enhancer. The present study aims to develop piroxicam emulgel (PE) as transdermal delivery system in order to overcome the skin erithema in transdermal drug delivery.

The experiments were performed using white rats. The rats were subcutaneously radiated UVB rays for 24 hours then followed by giving an emulgel contains piroxicam. The rats were randomized into 5 groups, emulgel were applied to group 1 (formula 4), PE comprising 5% menthol group 2 (formula 1), PE comprising 1,5% menthol and 5% propylene glycol group 3 (formula 2), PE comprising 10% propylene glycol group 4 (formula 3) and Pirofel[®] gel piroxicam group 5 to the derms of rats. The erithema observed 72 hours, data were analyzed statistically using Two Way ANOVA method.

In this study, PE showed significantly effective for reducing erithema by using penetration enhancer in formulation with high physical stability. An emulgel has the ideal antiinflammatory activity is a Formula 3, propylen glicol 10% be able to healing affecting extra-cellular lipid components, which encourages diffusion process and facilities a drug to the skin.

Keywords: Piroxicam, *penetration enhancers*, Emulgel, antiinflammatory