

ABSTRACT**INFLUENCE OF ENHANCER MENTHOL ON
THE CHARACTERISTIC GEL AND PENETRATION OF
DICLOFENAC SODIUM IN CARBOMER-940 GEL BASE
(Membrane Penetration used Wistar Rat Skin)****NOVIA MAULINA**

The present study was designed to observe the influence of menthol addition as enhancer to characteristics dosage form (organoleptic, pH, and viscosity) and diclofenac sodium penetration in Carbomer-940 gel base. Menthol was added in formula II (menthol 0,5%), formula III (menthol 0,75%) and formula IV (menthol 1,0%). As a control (Formula I) was the diclofenac sodium in Carbomer-940 gel base without menthol. The result of characteristic test were not influenced pH, but decrease viscosity dosage form.

The result of dosage form characteristics study were formula II, III, and IV had same colour with formula I. Formula III and IV consistencies were more dilute than formula I and II. Formula II, III, and IV smells were more menthol specific than formula I. Formula III and IV viscosities were lower than formula I and II. Formula II, III, and IV pH were same with formula I.

The result of diclofenac sodium penetration study is flux. Flux is the cumulative amount of diclofenac sodium which is penetrated per cm^2 per minute. It was analyzed by statistic programmed of SPSS 16 using one way analysis of variance (ANOVA). Flux of formula I was $3,9235 \pm 1,4704 \mu\text{g}/\text{cm}^2/\text{minute}$; formula II was $3,7761 \pm 1,2783 \mu\text{g}/\text{cm}^2/\text{minute}$; formula III was $3,9391 \pm 0,8207 \mu\text{g}/\text{cm}^2/\text{minute}$ and formula IV was $4,9111 \pm 1,1038 \mu\text{g}/\text{cm}^2/\text{minute}$. In ANOVA test, the result showed that there was no significant difference between formula.

In conclusion, the gel containing 0,5%; 0.75%; and 1% menthol showed no effects on penetration rate (flux) and membrane permeability.

Keywords : Diclofenac sodium; menthol; Carbomer-940 Gel base