

ABSTRACT

EFFECT OF CHITOSAN CONCENTRATION TO PENETRATION OF *p*-METHOXYCINNAMIC ACID (PMCA) FORMULATED IN NANOEMULSION

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The aim of this study is to know the effect of chitosan addition with various concentration on penetration *p*-methoxycinnamic acid from nanoemulsion system. chitosan is used as thickening agent which act as nanoemulsion droplets stabilizer. Concentration that used for nanoemulsions were without chitosan (Formula I), chitosan 0,05% (Formula II), chitosan 0,15% (Formula III) and chitosan 0,3% (Formula IV). Nanoemulsion system was prepared for transdermal delivery system. In vitro penetration study of nanoemulsion system of *p*-methoxycinnamic acid through Wistar rat skin was determined using Franz Diffusion Cell. Several parameters, such as flux and membrane permeability were determined. However, according to the result of statistical analysis there was no significant difference on flux and membrane permeability of each formula among others.

Keywords : *p*-methoxycinnamic acid, chitosan, nanoemulsion, penetration