

The transdermal application of active substances and the related topic - skin barrier permeability were reviewed in theoretical part of this work. Present knowledge in transdermal permeation enhancers was then summarized shortly, with emphasis on Transkarbams and their development on the Faculty of Pharmacy of the Charles University.

The results of the *in vitro* permeation experiments through full thickness pig ear skin are presented in the following experimental part. The acceleration effect of various concentrations of Transkarbam 12 (T12) on caffeine permeation from oleocrems containing 60% aqueous phase is evaluated.

The following values of mean fluxes of caffeine J_r were found $7,88 \pm 1,52 \mu\text{g}\cdot\text{cm}^{-2}\cdot\text{h}^{-1}$; $9,34 \pm 1,62 \mu\text{g}\cdot\text{cm}^{-2}\cdot\text{h}^{-1}$; $10,89 \pm 2,03 \mu\text{g}\cdot\text{cm}^{-2}\cdot\text{h}^{-1}$; $11,29 \pm 3,03 \mu\text{g}\cdot\text{cm}^{-2}\cdot\text{h}^{-1}$ and $11,09 \pm 2,21 \mu\text{g}\cdot\text{cm}^{-2}\cdot\text{h}^{-1}$ for creams containing from creams containing 0%; 0,3%; 0,5%; 0,7% and 1% T12, respectively.

Keywords: transdermal administration of active substances, skin barrier, transdermal permeation enhancers, Transkarbam 12.