Latin American Journal of Pharmacy
(formerly *Acta Farmacéutica Bonaerense)*
Lat. Am. J. Pharm. **30** (2): 318-24 (2011)

Original Article
Received: May 13, 2010
Revised version: June 24, 2010
Accepted: June 29, 2010

In Vitro/In Vivo Assessment of Flurbiprofen-Matrix Type Transdermal Delivery System

Muhammad F. AAMIR [1], Mahmood AHMAD [1], Ghulam MURTAZA [2] *& Shujaat A. KHAN [1]

[1] *Faculty of Pharmacy and Alternative Medicines, the Islamia University of Bahawalpur, Bahawalpur-63100, Pakistan.*

[2] *Department of Pharmaceutical Sciences, COMSATS Institute of Information Technology, Abbottabad, Pakistan.*

***SUMMARY*. In this study, matrix type patch formulations of flurbiprofen using certain skin permeation enhancers [isopropyl myristate (IPM), isopropyl palmitate (IPP) and Tween 80] were formulated, evaluated and compared. The cumulative amounts permeated and the permeation rates were higher for the prepared formulations as compared to the controls (without enhancers). The results also revealed better skin permeation characteristics of flurbiprofen using IPM than other enhancers. The pharmacokinetic parameters of the optimized formulation (F7), calculated from the blood levels of the drug, revealed a profile with the ability to maintain adequate plasma levels for 24 h (i.e. up to the next application): $AUC_{(0-24)}$ 10.406 ± 1.34ng.h/ml, T_{max} 1.5 ± 0.91 and C_{max} 1.3049 ± 0.21 μg.ml^{-1}. The amount of drug bioavailable for targeting the site of action is comparable to that of market control. Based on experimental results, preparation of 10 % flurbiprofen matrix type patch formulation containing IPM is promising.**

KEY WORDS: Flurbiprofen, Permeation enhancers, Permeation studies, Pharmacokinetics.

* Author to whom correspondence should be addressed. *E-mail:* gmdogar356@gmail.com

ISSN 0326-2383