ABSTRACT

Valsartan is used in the treatment of hypertension. It has a low oral bioavailability (25%). The objective of this research work was to develop matrix-type transdermal film of valsartan by solvent casting method. In the present study, HPMC K4M, HPMC K15M, Eudragit RL 100 and Eudragit RS 100 were used as polymers in different ratios such as 2:8, 8:2, 4:6 and 6:4. Propylene glycol (30% w/w) was used as plasticizer and Span 20 (20%w/w) was used as permeation enhancer in different concentrations. The prepared formulations were evaluated for weight variation, thickness, moisture content, moisture uptake, folding endurance, drug content, *in vitro* diffusion studies. The physicochemical compatibility of the drug and the polymers was performed by FT-IR spectroscopy. The results revealed that there is no incompatibility between the drug and the polymers. Among the formulations, F5 & F8 showed the highest folding endurance. Drug content of formulations ranges between 94.06 - 97.81%. Formulation F6 showed maximum drug release of 96.50% after 24 h. The accelerated stability studies were carried out for formulation F6 as per ICH guidelines. The stability results proved that there was no significant change found in physico-chemical properties, drug content, *in vitro* diffusion studies.

From the research work it was concluded that F6 was considered as the best formulation.

KEYWORDS: Valsartan, Transdermal films, Eudragit, HPMC.