Formulation and evaluation of Transdermal Patch of Antipsychotic Drug

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Abstract

In the present study, an attempt was made to formulate transdermal film of Clozapine by solvent evaporation method intended for treatment of Schizophrenia. Drug-excipients incompatibility study was carried out using Fourier Transform Infrared spectroscopy (FTIR) which showed that drug and excipients were compatible to each other. Transdermal film of Clozapine containing Hydroxy Propyl Methylcellulose K15M, Eudragit RS 100, Eudragit RL 100 and glycerin were developed by solvent evaporation method. An optimized formulation was having excellent appearance, transparency, % elongation, tensile strength, folding endurance and *ex vivo* drug release. Batch F2 shows maximum *ex vivo* drug release with a maximum time. Glycerin was used as the plasticizer which gave good elasticity to the film. Stability studies of an optimized batch showed no significant change in appearance, elasticity, folding endurance and in vitro drug release after storage at 40 ±2 ^{o}C and 75±5% RH and 30±2˚C and 65±5 % RH for a period of one month. These studies suggested that the transdermal film of Clozapine using Hydroxy Propyl Methylcellulose K15M and Eudragit RL 100 gave more controlled release action in around 24 hours and may decrease the dosing frequency of the drug.