World Academy of Science, Engineering and Technology
International Journal of Pharmacological and Pharmaceutical Sciences
Vol:12, No:02, 2018

Design, Development and Characterization of Pioglitazone Transdermal Drug Delivery System

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Abstract : The main aim of this research work was to design and development characterization of Pioglitazone transdermal drug delivery system by using various polymers such as Olibanum with different concentration by solvent evaporation technique. The prepared formulations were evaluated for different physicochemical characteristics like thickness, folding endurance, drug content, percentage moisture absorption, percentage moisture loss, percentage elongation break test and weight uniformity. The diffusion studies were performed by using modified Franz diffusion cells. The result of dissolution studies shows that formulation, F3 (Olibanum with 50 mg) showed maximum release of 99.95 % in 12hrs, whereas F1 (Olibanum and EC backing membrane) showed minimum release of 93.65% in 12 hr. Based on the drug release and physicochemical values obtained the formulation F3 is considered as an optimized formulation which shows higher percentage of drug release of 99.95 % in 12 hr. The developed transdermal patches increase the therapeutic efficacy and reduced toxic effect of pioglitazone.

Keywords : pioglitazone, olibanum, transdermal drug delivery system, drug release percantage
Conference Title : ICIPPP 2018 : International Conference on Industrial Pharmacy and Pharmacy Practices
Conference Location : Kuala Lumpur, Malaysia
Conference Dates : February 12-13, 2018