

The Transdermal Drug Delivery System: An Evaluation

Dileep Kumar Awasthi¹ and Dr. Sangamesh B. Puranik²

Research Scholar, Department of Pharmacy¹

Professor, Department of Pharmacy²

OPJS University, Churu, Rajasthan, India

Abstract: A revolutionary medication distribution system must include a transdermal drug delivery system. Medications used topically come in patches that, when placed to the skin, release the medicament. The medication for operational TDDS may readily pass through skin and arrive at the intended location. With TDDS, gastrointestinal side effects are reduced, administration frequency is decreased, and first pass metabolism is avoided. Because of the constant and ideal blood concentration, side effects are reduced to minimum. Its medication effectiveness and bioavailability are higher. The human skin is a complex organ with several histological layers. The biggest organ in the body is the skin. Its main duties include controlling body temperature, controlling the flow of fluids, and protecting the main or critical internal organs from external threats. Polymers need to be non-toxic, chemically inert, non-reactive, and reasonably priced. They should also not break down during storage. For instance, gelatin, zein, and compounds of cellulose. Protecting the active layer of the transdermal patch is the primary function of backing films. Evaluation of transdermal patches may be done by *in vitro* investigations, interaction studies, thickness, weight uniformity, drug content, moisture content, and swelling index, which is a fundamental component of TDDS.

Keywords: Transdermal drug delivery, Drug absorption

REFERENCES

- [1]. Sakalle P, Dwivedi S and Dwivedi A. Design, Evaluation, Parameters and Marketed Products of transdermal patches: A Review. Journal of Pharmacy Research, 2010; 3(2): 235-240.
- [2]. Panchagnula R. Transdermal delivery of drugs. Indian journal of pharmacology, 1997; 29: 140-156.
- [3]. Sharma N, Agrawal G, Rana A, Alibhat Z and Kumar D. A Review: Transdermal Drug Delivery System: A Tool For Novel Drug Delivery System. International Journal of Drug Development & Research, 2011; 3(3): 70-84.
- [4]. Singh MC, Naik AS and Sawant SD. Transdermal Drug Delivery Systems with major emphasis on Transdermal patches: A Review. Journal of Pharmacy Research 2010; 3(10): 2537-2543.
- [5]. Kurz A, Farlow M and Lefevre G. Pharmacokinetics of a novel transdermal rivastigmine patch for the treatment of Alzheimer's disease: a review. International Journal of Clinical Practice, 2009; 63(5): 799-805.
- [6]. Panner Selvam R, Kumar Singh A and Sivakumar T. Transdermal drug delivery systems for antihypertensive drugs - A review. International Journal of Pharmaceutical And Biomedical Research, 2010; 1(1): 1-8.
- [7]. Shiva Kumar H N, et al, Formulation characterization, and evaluation of matrix-type transdermal patches of a model antihypertensive drug, Asian Pharm, 2009; 56: 59-65.
- [8]. Kusuma Devi V, et al, Design and evaluation of matrix diffusion controlled Transdermal patches of verapamil hydrochloride. Drug Dev Ind Pharm, 2003, 29: 95-103.
- [9]. Controlled drug delivery – Fundamental and Application, 2nd edition, by Joseph R. Vincent, H.C. Lee, 524-589.
- [10]. The Eastern Pharmacist – “Transdermal drug delivery system”, 1991; 34.
- [11]. Jain N K. Advances in controlled and Novel drug delivery, CBS, New Delhi, 1st Edition, 2001; 108.

- [12]. Chein Y W, Transdermal drug delivery systems, Marcel Dekker, Inc, 2nd edition, 1992; 301.
[13]. USP. US pharmaceutical national formulary, usp 27 NF 22.2nd edition, Rockville, Md, USP, 2003; 140.