

# Review on Transdermal Drug Delivery in Diabetes Mellitus Treatment

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**Abstract:** *The following review paper describes about transdermal drug delivery system. Diabetes mellitus is a chronic metabolic disorder characterized by persistent hyperglycemia resulting from defects in insulin secretion, insulin action, or both. Conventional therapies, including oral hypoglycemic agents and injectable insulin, are effective but often face challenges such as poor patient compliance, gastrointestinal degradation, first-pass metabolism, fluctuating plasma drug levels, and discomfort associated with repeated injections. Transdermal drug delivery systems (TDDS) have emerged as a promising non-invasive alternative that can overcome these limitations by providing controlled, sustained, and targeted delivery of antidiabetic agents through the skin. This review discusses the principles and potential of TDDS in diabetes treatment, highlighting the physiological barrier of the stratum corneum and the need for permeation-enhancing strategies.*

**Keywords:** Transdermal Drug Delivery System, Diabetes Mellitus, Microneedles, Smart Patches

