



ADVANCEMENT IN TRANSDERMAL DRUG DELIVERY SYSTEM : MICRONEEDLES

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ABSTRACT

One of the thrust areas in drug delivery research is transdermal drug delivery systems (TDDS) due to their characteristic advantages over oral and parenteral drug delivery systems. Researchers have focused their attention on the use of microneedles to overcome the barrier of the stratum corneum. Microneedles deliver the drug into the epidermis without disruption of nerve endings. Recently, the use of micron-scale needles in increasing skin permeability has been proposed and shown to dramatically increase transdermal delivery, especially for macromolecules. Using the tools of the microelectronics industry, microneedles have been fabricated with a range of sizes, shapes and materials. The objective of present review is to focus on the recent advancement in transdermal drug delivery which can serve as a platform for the newer research and development of pharmaceuticals drug dosage form for efficient transdermal drug delivery. This review describes various facets of microneedles a transdermal drug delivery in relation to its type, advantage, disadvantages, mechanism of drug action, methodology of drug release, fabrication, characterization, evaluation, pharmaceutical applications and future perspective in drug delivery.

Key words: *Microneedle, Transdermal Drug Delivery System, fabricated .*