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A Review on Novel Drug Delivery System

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Abstract: *Although traditional methods of drug delivery are widely used, they often lack the efficiency seen in more advanced and innovative techniques. Many drugs are only effective within a specific concentration range — too much can be toxic, while too little may have no therapeutic benefit.With limited progress in treating serious diseases using conventional methods, there's an increasing demand for integrated, multidisciplinary approaches to drug delivery that can target tissues more precisely. Emerging drug delivery and targeting strategies aim to minimize drug breakdown, enhance bioavailability, reduce side effects, and increase the amount of drug reaching the intended area in the body. Upgrading a medication from a standard formulation to a specialized delivery system can greatly improve its effectiveness, safety, and patient compliance. However, delivering drugs at an exact location and controlled rate presents challenges that well-designed novel drug delivery systems (NDDS) can help overcome. NDDS are designed to maintain therapeutic drug levels over extended periods and, when necessary, transport the drug directly to the site of action. Motivated by the need to improve drug performance and reduce adverse effects, pharmaceutical companies are investing heavily in the development of these advanced delivery platforms.*

Keywords: Targeted drug delivery; Controlled release; Nanoparticles; Liposomes; Niosomes; Bioavailability; Drug carriers

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