REVIEW ARTICLE

ADVANCES IN NOVEL DRUG DELIVERY SYSTEMS FOR NEUROPSYCHIATRIC DISORDERS: A COMPREHENSIVE REVIEW

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ABSTRACT

Neuropsychiatric disorders, such as depression, schizophrenia, and bipolar disorder, pose considerable treatment hurdles due to complicated brain pathophysiology and the blood-brain barrier (BBB), which limits medication delivery. Recent improvements in novel drug delivery systems (NDDS) provide intriguing alternatives for improving treatment effectiveness and patient outcomes. These systems, which include nanoparticles, liposomes, dendrimers, and solid lipid nanoparticles (SLNPs) to intranasal and transdermal delivery methods, enable targeted, sustained, and non-invasive drug administration. These methods increase bioavailability (BA), lessen systemic adverse effects, and enhance medication transport across the BBB. Furthermore, new technologies have emerged and are transforming personalised therapy in neuropsychiatry. This review delves deeply into these cutting-edge techniques, outlining their processes, advantages, problems, and therapeutic prospects in addressing neuropsychiatric disorders.