

Advancements in Pharmaceutical Dosage Forms: From Traditional Tablets to 3D-Printed Drug Delivery Systems

Mr. Kartik Pallavi Rajendra Hire

kartikhire007@gmail.com

Nashik

Abstract: *The development of pharmaceutical dosage forms designed according to modern drug delivery technology plays a crucial role in ensuring the precision and safety of drug delivery. This review summarize all aspects of diverse dosage forms, including some, their design, clinical application, and manufacturing process. It covers both classic and novel formulations (Ex- solids, liquids, semi-solids, or even novel systems such as nanoparticles and 3D-printed tablets). The review also discusses issues such as drug stability, patient compliance and regulatory compliance, along with trends in DMF submissions, personalized medicine, AI-informed formulations, and sustainable practices, while accounting for future developments. This paper highlights the crucial contribution of dosage forms toward better therapeutic outcomes and the future of healthcare by integrating advancements from multiple relevant disciplines..*

Keywords: solid, liquid, gases, route of administration, dosage form

