

Evaluating the Latest Advances in Dry Powder Inhaler Technology

Authors : Leila Asadollahi

Abstract : Dry powder inhalers (DPIs) have come a long way since their creation, starting with the Spinhaler Fisons in 1967. For optimal performance, it is important to consider the interplay between formulation, device, and patient. DPIs have shown great potential in treating systemic disorders, as evidenced by their success in clinical practices. Ongoing clinical trials and market availability of DPI products for systemic disease treatment are also examined. Furthermore, the current COVID-19 pandemic has sparked increased interest in dry powder inhalation as a potential avenue for vaccines and antiviral drugs, prompting further exploration of its applications. To achieve optimal treatment outcomes for respiratory diseases, a thorough understanding of the various types of DPIs currently available is crucial. These include single-dose, multiple-unit dose, and multi-dose DPIs. This informative article delves into the administration of drugs via inhalation, examining its diverse routes of administration. Additionally, it illuminates the exciting advancements in inhalation delivery systems and investigates the latest therapeutic approaches for the treatment of respiratory ailments. Additionally, the article discusses the historical development of DPIs and the need for improved designs to enhance efficacy and patient adherence. The potential of DPIs in treating systemic diseases is also examined. Overall, this review provides valuable insights into the advancements, challenges, and future prospects of inhalation drug delivery systems, highlighting the potential they hold for respiratory and systemic disorders. The review aims to provide valuable insights into the advancements, challenges, and future prospects of inhalation drug delivery systems, highlighting the potential they hold for respiratory and systemic disorders.

Keywords : dry powder inhalers (DPIs), respiratory diseases, systemic disorders, pulmonary drug delivery

Conference Title : ICPP 2023 : International Conference on Pharmacy and Pharmacology

Conference Location : Tokyo, Japan

Conference Dates : October 09-10, 2023