

Floating Drug Delivery System

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Abstract: Any drug delivery system is aimed to achieve desired concentration of the drug in blood or tissue, which is therapeutically effective and non-toxic for a prolonged period. Recent pharmaceutical research and development focuses on the formulation of floating drug delivery system (FDDS). FDDS have low density systems that float over the gastric contents in stomach and remain buoyant in the stomach for a prolonged period of time without affecting the gastric emptying rate due to buoyancy force. Various approaches such as low density systems, swelling and expanding systems, bioadhesive systems, high density systems or other delayed gastric emptying devices have been discovered. This review composition gives detailed information on the pharmaceutical basis of their design, advantages and disadvantages, ideal candidates, classification, methods of preparation, in vitro and in vivo evaluation parameters, etc.

Keywords: Floating drug delivery systems (FDDS), gastric residence time, buoyant, Effervescent system, Non effervescent system

REFERENCES

- [1]. Nama M, Gonugunta CSR, Reddy Veerareddy P. Formulation and Evaluation of Gastroretentive Dosage Forms of Clarithromycin. AAPS PharmSciTech. 2008 Feb 7; 9(1):231.
- [2]. Niharika MG, Krishnamoorthy K, Akkala M. OVERVIEW ON FLOATING DRUG DELIVERY SYSTEM. International Journal of Applied Pharmaceutics. 2018 Nov 7; 65–71.
- [3]. Review Article on Floating Drug Delivery System [Internet]. PharmaTutor. [cited 2023 Jan 24]. Available from: <https://www.pharmatutor.org/articles/review-article-on-floating-drug-delivery-system>
- [4]. Bhosale A, Shinde J, Chavan S. A Comprehensive Review on Floating Drug Delivery System (FDDS). Journal of Drug Delivery and Therapeutics. 2020 Dec 20; 10:174–82.
- [5]. Singh S, Chaturvedi S, Agrawal V, Kumari P. Approaches to increase the gastric residence time: Floating drug delivery systems- A review. Asian Journal of Pharmaceutical and clinical research. 2013 Jul 10; 6:1–9.
- [6]. Figure 6. Volatile Liquid Containing System (Meenakshi et al., 2015) [Internet]. ResearchGate. [cited 2023 Jan 24]. Available from: https://www.researchgate.net/figure/Volatile-Liquid-Containing-System-Meenakshi-et-al-2015_fig4_324523954
- [7]. MICROSPHERES AS HYDRODYNAMICALLY BALANCE SYSTEM [Internet]. PharmaTutor. [cited 2023 Jan 24]. Available from: <https://www.pharmatutor.org/articles/microspheres-hydrodynamically-balance-system>
- [8]. Doon College of Pharmacy, Sunderpur, Saharanpur, U.P., India247001, Hafeez A, Maurya A, Doon College of Pharmacy, Sunderpur, Saharanpur, U.P., India247001, Singh J, Doon College of Pharmacy, Sunderpur, Saharanpur, U.P., India247001, et al. An overview on floating microsphere: Gastro Retention Floating drug delivery system (FDDS). J Phytopharmacol. 2013 Jun 25; 2(1–3):1–12.
- [9]. Jpsr12012013.pdf [Internet]. [cited 2023 Jan 24]. Available from: <https://www.jpsr.pharmainfo.in/Documents/Volumes/vol12issue01/jpsr12012013.pdf>
- [10]. Choi BY, Park HJ, Hwang SJ, Park JB. Preparation of alginate beads for floating drug delivery system: effects of CO₂ gas-forming agents. Int J Pharm. 2002 Jun 4; 239(1–2):81–91.
- [11]. Panda S, Madhusrota P, Sethi G. Raft Forming System- A Novel Approach for Improving Gastric Retention. J Pharm Sci. 2019; 11.
- [12]. R NA, C NA, Z SA. A Short Review on Floating Drug Delivery System. Asian Journal of Pharmacy and Technology. 2022 Aug 10; 12(3):272–6.

- [13]. Yadav S, Yadav S, Kumar A, Mishra A. Floating Drug Delivery System an Aid to Enhance Dissolution Profile of Gastric. Journal of Drug Delivery and Therapeutics. 2021 Nov 15; 11(6):286–96.
- [14]. Doshi MU, Chivate ND. Floating Drug Delivery Systems, An effective tool for Control Release-A Complete Review. Rese Jour of Pharm and Technol. 2015; 8(9):1320.
- [15]. Floating Drug Delivery System - Semantic Scholar. 2017-08-27... Floating drug delivery systems, Approaches to Gastro-Retentive Drug Delivery Systems The controlled - [PDF Document] [Internet]. fdocuments.us. [cited 2023 Jan 25]. Available from: <https://fdocuments.us/document/floating-drug-delivery-system-semantic-scholar-2017-08-27-floating-drug-delivery.html>
- [16]. Gohel MC, Mehta PR, Dave RK, Bariya NH. A More Relevant Dissolution Method for Evaluation of Floating Drug Delivery System. Dissolution Technol. 2004; 11(4):22–5.
- [17]. Document 13308304 [Internet]. studylib.net. [cited 2023 Jan 26]. Available from: <https://studylib.net/doc/13308304>