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**Name of the faculty**: **Dr. J Gomathi.**

**Article title**: RAFT-FORMING DRUG DELIVERY SYSTEM: A FLOATATION-BASED STRATEGY FOR GASTRORETENTION

**Author's name**: **Dr. J Gomathi,** Sama Sulaika M

**Abstract:**

Gastroretentive drug delivery systems (GRDDS) have emerged as a promising strategy to enhance the therapeutic efficacy and bioavailability of orally administered drugs with a narrow absorption window or that are poorly soluble in higher pH environments. Among various approaches, the raft-forming system has garnered significant attention for its simplicity, efficacy, and patient compliance. These systems form a low-density, gel-like "raft" upon contact with gastric fluids, allowing the formulation to float and remain in the stomach for an extended duration. This enhances localized drug action and prevents gastric reflux by acting as a barrier between the stomach and esophagus, particularly benefiting conditions such as GERD, heartburn, and esophagitis. The design involves gel-forming agents like alginic acid and gas-generating components such as sodium bicarbonate, which facilitate in situ gelation and buoyancy. Despite formulation challenges related to pH sensitivity, polymer stability, and gastric motility variations, raft-forming systems offer several advantages, including rapid onset, prolonged activity, ease of administration, and reduced dosing frequency. This review highlights the anatomy and physiology relevant to gastric retention, mechanisms of raft formation, formulation strategies, and potential candidates, emphasizing the system's growing role in advanced oral drug delivery.

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