

Patient-Centric Approaches to Gastroretentive Floating Tablets: Tailoring for Diverse Clinical Needs

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Abstract: *Gastroretentive tablets have emerged as a promising platform for controlled drug delivery, offering the potential for prolonged gastric residence time and enhanced therapeutic outcomes. This comprehensive review explores the paradigm shift towards patient-centric approaches in the development of gastroretentive tablets. The journey begins with an examination of the historical evolution of gastroretentive technologies, tracing advancements in formulation techniques, materials, and technologies that have paved the way for patient-centric designs.*

The review delves into patient-centric formulation strategies tailored for diverse populations, including pediatrics and geriatrics. It highlights the importance of considering patient-specific needs, preferences, and physiological characteristics in optimizing dosage forms. Regulatory considerations and compliance-enhancing features are scrutinized, providing insights into the delicate balance between personalized medicine and regulatory expectations.

Real-world applications are illuminated through case studies, offering success stories across pediatric, geriatric, and personalized medicine contexts. Clinical outcomes, including adherence metrics and patient satisfaction, provide tangible evidence of the impact of patient-centric gastroretentive tablets.

Challenges in formulation development and regulatory implementation are critically examined, with a focus on technical hurdles and strategies for navigating evolving regulatory landscapes. The conclusion distills key findings and outlines implications for future research and clinical practice, emphasizing continued innovation, strategic regulatory engagement, and interdisciplinary collaboration.

This review serves as a comprehensive resource for researchers, clinicians, and regulatory professionals engaged in advancing patient-centric gastroretentive tablets. It offers a roadmap for the integration of innovative technologies into clinical practice, fostering a patient-centered approach in the evolution of controlled drug delivery systems.

Keywords: Gastroretentive Tablets, Patient-Centric Approaches, Controlled Drug Delivery, Formulation Strategies, Regulatory Considerations, Real-World Applications, Clinical Outcomes, Interdisciplinary Collaboration.

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