IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 2, December 2025
Impact Factor: 7.67

A Review on Ocular Drug Delivery Systems for Glaucoma

Miss. Shrawani Bhingare*[1], Asst. Prof. Rajlaxmi Deolekar[2] and Mr. Tushar Wankhede [3]
Student B-PHARM, Independent Researcher Maharashtra, India.[1]
M-PHARM[2]
Student B-PHARM, Independent Researcher Maharashtra, India.[3]
New Montfort Institute of Pharmacy, Ashti.
bhingareshrawani@gmail.com and tusharwankhede037@gmail.com

Abstract: *The human eye is a highly sensitive and complex organ whose proper function is essential for maintaining quality of life. Visual impairment resulting from disorders such as cataract and glaucoma continues to pose major global health challenges. Cataracts remain the leading cause of blindness worldwide, while glaucoma, often symptomless in its early stages is the second most common cause of irreversible blindness. Conventional ophthalmic drug delivery systems, primarily eye drops and ointments, suffer from rapid precorneal elimination and poor bioavailability, necessitating frequent dosing. To overcome these limitations, advanced ocular drug delivery approaches such as in-situ gels, nanoparticles, liposomes, nanosuspensions, microemulsions, iontophoresis, and ocular inserts have been developed to provide sustained, controlled, and targeted drug release. These innovative systems not only enhance corneal contact time and therapeutic efficacy but also improve patient comfort and compliance. As the prevalence of glaucoma continues to rise, these newer delivery technologies hold significant promise in improving disease management and preventing progressive vision loss.*

Keywords: Glaucoma, Ocular Drug Delivery

DOI: 10.48175/IJARSCT-30311