

Fast Dissolving Oral Films A Review with Future Prospects Practices

¹Prameshwar B. Matlabe, ^{1*}Aniket A. Sable, ¹Radhesham M. Jadhav, ¹Awinash S. Chavan

Raosaheb Patil Danve College of Pharmacy, Badnapur¹

Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad MS

Corresponding Author: Aniket A. Sable

sableaniket473@gmail.com

Abstract: *Fast dissolving oral films (FDOFs) have gained significant recognition as an innovative and patient-friendly drug delivery system aimed at improving safety, efficacy, and treatment adherence. These thin, flexible, water-soluble films rapidly disintegrate when placed on the tongue, releasing the drug into saliva for absorption in the oral cavity or gastrointestinal tract. This eliminates the need for water, reduces the risk of choking, and offers improved mouthfeel, making FDOFs particularly suitable for pediatric, geriatric, and dysphagic patients who face difficulties swallowing conventional tablets or capsules. This review provides a comprehensive assessment of oral mucosal absorption, formulation components, and key manufacturing techniques such as solvent casting, hot-melt extrusion, electrospinning, and emerging 3D printing. Critical quality attributes, bioavailability enhancement strategies, and current pharmaceutical and nutraceutical applications are highlighted. Challenges, including dose limitation, moisture sensitivity, and scale-up issues, are also discussed. Future prospects emphasize personalized medicine, smart responsive films, biodegradable polymers, and advancing industrial technologies, positioning FDOFs as a promising next-generation dosage form.*

Keywords: Fast dissolving oral films, Patient-centric drug delivery, Nanotechnology, Future pharmaceutical prospects.