

Chapter 5. A Concise Review on Fast Dissolving Tablets

Anjali Ravindra Kawade¹, Akshada Rajendra Jadhav¹, Shreya Dipak Jangam¹, Sanika Prashant Kokate¹

¹Department of Pharmaceutics, SGMSPM's Sharadchandra Pawar College of Pharmacy, Dumberwadi (Otur), Tal-Junnar, Dist.- Pune, Maharashtra, India, 410504.

Abstract :

Fast dissolving tablets (FDTs) have emerged as one of the most innovative and patient-friendly oral dosage forms, offering a convenient solution for individuals who experience difficulty swallowing conventional tablets or capsules. They are especially advantageous for pediatric and geriatric patients, as well as for bedridden, psychiatric, or uncooperative individuals. FDTs disintegrate or dissolve rapidly in saliva, typically within 60 seconds, eliminating the need for water and allowing quick drug absorption through the buccal cavity. The formulation employs superdisintegrants to facilitate rapid disintegration and enhance drug bioavailability. Combining the advantages of both solid and liquid dosage forms, FDTs offer improved patient compliance, accurate dosing, and better chemical stability. Multiple technologies—including direct compression, spray drying, sublimation, melt granulation, lyophilization, phase transition, and mass extrusion—have been developed for their manufacture. This review summarizes the definition, need, formulation aspects, advantages, limitations, challenges, and marketed products of FDTs, highlighting their growing importance in modern pharmaceutical technology.

Keywords: Fast Dissolving Tablets, Superdisintegrants, pediatric patients, Swelling

Introduction :

Formulation of drugs into a presentable form is the basic requirement and need of today. The dosage form is a mean of drug delivery system, used for the application of the drug to a living body. Various type of dosage forms are available such as tablets, syrups, suspensions, suppositories, injections, transdermal and patches having a different type of drug delivery mechanisms. These classical/ modern dosage forms have some advantages and disadvantages. Therefore, the development of an ideal drug delivery system is a big challenge to the pharmacist in the present scenario. In order to get the desired effect, the drug should be delivered to its site of action at such rate and concentration to achieve the maximum therapeutic effect and minimum adverse effect. For the development of a suitable dosage form a thorough study about the physicochemical principles that governs a specific formulation of a drug should be subjected [1]. Oral routes of drug administration have wide acceptance up to 50-60% of total dosage forms. Solid dosage forms are popular because of ease of administration, accurate dosage, self-medication, pain avoidance and most importantly the patient compliance. The most popular solid dosage forms are being tablets and capsules; one important drawback of this dosage forms for some patients is the difficulty to swallow. Drinking water plays an important role in the swallowing of oral dosage forms. Often times people experience inconvenience in swallowing conventional dosage forms such as tablet when water is not available, in the case of the motion sickness (kinetosis) and sudden episodes of coughing during the common cold, allergic condition and bronchitis. For these reason, tablets that can rapidly dissolve or disintegrate in the oral cavity have attracted a great deal of attention [2]. The problem of swallowing is a common phenomenon in a geriatric patient due to fear of choking, hand tremors, dysphasia and in young