

Chapter 4. An Overview of Sublingual Tablet

Ekta Rajesh Shigwan¹, Kaveri Sharad Shinde¹, Narhari Navnath Shinde¹, Sudarshan Satish Wakchaure¹,
Najiya Jakir Tamboli¹, Saloni Rajendra Sutar¹, Vrushali Nawale¹

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

ABSTRACT:

Sublingual pills are solid dosage forms that dissolve quickly under the tongue, enabling the medicine to pass past the mucosal lining and into the systemic circulation. By avoiding hepatic first-pass metabolism, this injection method guarantees a quick onset of action and increased bioavailability. Patients with swallowing difficulties, such as children, the elderly, and mental health patients, benefit greatly from sublingual pills. Although their usage is restricted in circumstances including swallowing, speaking, or prolonged dosage, they provide convenience of administration, enhanced patient compliance, and a quick therapeutic response. Lipophilicity, mucosal thickness, salivary pH, and solubility in saliva are some of the variables that affect sublingual absorption. The pills fall into one of several categories, including vitamin-based, lipid matrix, bioadhesive, fast-disintegrating, and immunotherapy. Direct compression, compression molding, freeze-drying (lyophilization), and hot-melt extrusion are common manufacturing processes that affect the mechanical characteristics and rate of disintegration of tablets. To guarantee product performance and patient acceptability, critical quality attributes like hardness, friability, disintegration time, and drug content uniformity are crucial. The effectiveness and palatability of tablets are further improved by the appropriate use of excipients, such as superdisintegrants, binders, sweeteners, and permeation enhancers. All things considered, sublingual tablets are a practical and effective drug delivery method that offers a variety of therapeutic agents enhanced bioavailability and quick systemic action.

KEY WORDS: Sublingual drug delivery system; Bioadhesive tablets; Lyophilization; Hot-melt extrusion, Superdisintegrants.

INTRODUCTION:

By allowing the medication to be absorbed straight via the mucosal lining of the mouth beneath the tongue, they are intended to be positioned beneath the tongue and provide an instant systemic action. The medication that the stomach absorbs travels to the mesenteric circulation, which is connected to the stomach by the portal vein. Therefore, first-pass metabolism is avoided by absorption through the oral cavity. The tablets are usually small and flat, compressed lightly to keep them soft. For the medications to be rapidly absorbed, the tablet needs to dissolve rapidly. The depicts the drugs which have been used in formulation of sublingual tablets. It is made to dissolve in a tiny amount of saliva. In order to maintain the tablet in place, the patient should refrain from eating, drinking, smoking, and possibly speaking after it has been inserted beneath the tongue. Swallowing of saliva should also be avoided since the saliva may contain dissolved drug. Bland excipients are used to avoid salivary stimulation. The excipients used in formulation of sublingual tablets. Various techniques can be used to formulate rapidly disintegrating or