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Review Article

A Review on Mouth Dissolving Film

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ABSTRACT

Mouth dissolving film is the most advanced oral solid dosage form due to its flexibility and comfort in use. Mouth dissolving films are oral solid dosage form that disintegrate and dissolve within a minute when placed in mouth without taking water or chewing. This dosage form allows the medication to bypass the first pass metabolism so bioavailability of medication may be improved .Mouth dissolving film has potential to improve onset of action lower the dosing and eliminate the fear of chocking. This review gives an idea about formulation techniques, evaluation parameters, overview on packaging and some available marketed products of mouth dissolving films.

INTRODUCTION

Oral route of drug administration is a most preferred route due to its ease of administration, non-invasiveness, adaptability, patient compliance and acceptability. Regarding oral route of drug administration, many substitutes have continuously been presented by using recent novel technologies for pediatrics, geriatrics, nauseous and non-compliance patients. ODFs are kind of formulations which are commonly prepared using hydrophilic polymers enabling rapid dissolution upon contact with saliva. These systems were developed in late 1970 to serve as an alternative to conventional dosage forms, for instance, fast disintegrating tablets and capsules for geriatrics and pediatric patients having difficulty in swallowing conventional dosage forms.[1].The administration of ODFs has numerous advantages and some of them are as follows:

i. Easy transportation.
ii. Ease of swallowing for geriatrics and pediatrics.
iii. Convenient and accurate dosing.
iv. No need of water for administration.
v. Convenient for dysphasic patients having difficulty in swallowing tablets and capsules.
vi. Rapid onset of action with increased bioavailability dueto bypassing hepatic first pass effect and stability [2].

2. Composition Of Mouth Dissolving Film [3]:

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Composition	Concentration	Examples
Drug	1-25%	Antiallergic, Antiemetic, Antiepileptic, Antimigrant etc.
Water soluble polymer	40-50%	HPMC E3, E5and E15 and K-3, Methyl cellulose A-3 , A- 15, Pullan, , Polyvinylpyrollidone, PVP k-90, Pectin, Gelatin,Sodium Aliginate etc.
Plasticizers	0-15%	Glycerol,Dibutylpthallate, PEG400,Polyethylene Glycol
Saliva stimulating agent	2-6%	Citric acid,Malic acid, Lactic acid and Ascorbicacid
Sweetening agent	3-6%	Saccharin, Cyclamate and Aspartame
Surfactant	Q.S	Polaxamer 407, Sodium Lauryl Sulfate, Benzalkonium Chloride, Benzthonium Chloride, Tweens and Spans etc..
Flavouring and colouring agent	Q.S	D and C colour, US FDA approved flavors

3. Method Of Preparation of Fast Dissolving Film: One or a combination of the following processes can be used to manufacture the Mouth dissolving film:

1. Solvent casting
2. Hot-melt extrusion
3. Semisolid casting
4. Solid dispersion extrusion
5. Rolling

4. Evaluation Parameters:

1. Thickness test
2. Weight variation
3. Folding endurance
4. Content uniformity
5. Disintegration time
6.In- vitro dissolution test

5. Future Prospects: In the pharmaceutical industry, great advancements have been made in oral drug delivery technologies. The market has come a long way from the conventional tablets/capsules to modern-day fast disintegrating and rapidly acting tablets/films. Various limitations such as lower bioavailability of oral solid drugs, the inconvenience of administering injections, inaccurate dosing by liquid formulations are keystone which has turned the focus of pharmaceutical companies to develop novel oral dosage forms that eliminate these limitations. Fast dissolving oral thin films are designed to meet most of these challenges. The concept isn't new and several over the counter oral thin films are readily available. Good acceptance from the users and an increasing demand of over-the-counter oral film products has led to the development of prescription drugs into oral thin films [3].

6. CONCLUSION: The present review shows that oral fast disintegrating films are one of the novel approaches in the field of pharmaceutical sciences. They have improved acceptance and patient compliance with no risk of choking associated with better safety and efficacy in comparison with conventional dosage forms. The main idea behind formulation of ODFs was to cope with the difficulty in swallowing conventional oral dosage forms among pediatric, geriatric and psychiatric patients with dysphagia.Presently, ODFs are widely available for hypertension, acidity, allergy, pain, etc. reflecting their importance. Major advantages of such dosage

form are their administration without the use of water fulfilling the need of target population seeking convenience in drug administration along with bypassing the hepatic metabolism, consequently, leading to improved therapeutic response.

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