

CURRENT STATUS ON MOUTH DISSOLVING TABLET**Parimita Sahu*, Sradhanjali Patra, Ananya Kumari Aich and Bhagyashree Patra**University Department of Pharmaceutical Sciences, Utkal University, Vanivihar,
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Pharmaceutical Sciences,
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Bhubaneswar-04.**INTRODUCTION**

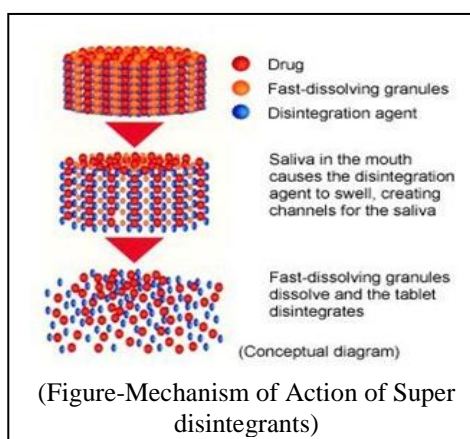
Mouth Dissolving drug delivery systems (MDDDS) are a new generation of formulations which combine the advantages of the both liquid and conventional tablet formulation, and at the same time advantages over both the traditional dosage form. This formulation is especially designed for dysphasic, geriatric, paediatric, travelling and psychotic patients who are unable to swallow or refuse to swallow conventional oral formulation. Mouth dissolving tablets are known by various names such as “melt in mouth tablet, repimelts, porous tablet, fast melting, fast dissolving, oral disintegrated or orodisperse”.

Ideal Characteristics of mouth dissolving tablets

- Rapid dissolution of drug and absorption which may be produce rapid onset of action.
- Ability to provide advantages of liquid medication in the form of solid preparation
- Pre-gastric absorption can result in improved bioavailability and as a result of reduced dosages, improved clinical performance through a reduction of unwanted effects.

Excipients of mouth dissolving tablets

- Diluents
- Binders
- Glidants
- Disintegrants
- Lubricants
- Anti-adherents
- Coating materials
- Flavouring agents



- Colorants
- Sweeteners
- Super disintegrants

Mechanism of Super Disintegrants

There are 4 major mechanisms for tablets disintegration as follows:

1. Swelling
2. Porosity and capillary actions(wicking)
3. Due to disintegrating particles/particle repulsive forces
4. Due to deformation

Techniques of Mouth Dissolving Tablets Formulations

- Freeze-Drying or lyophilisation
- Tablet moulding
- Direct compression
- Cotton candy process
- Spray drying
- Sublimation
- Mass extrusion
- Nanonization
- Fast dissolving films

Table: Comparison of Mouthdissolving Techniques.

ZYDIS (R.P.SCHERER, INC)		
Novelty	Handling/Storage	Drug release/Bioavailability
First to market Freeze Dried	Do not push Tablet through foil Sensitivity to degradation at humidities >65%	Dissolves in 2-10 s May allow pre gastric absorption leading to enhanced bio availability
ORASOLV(CIMA LABS,INC.)		
Unique test masking Lightly compressed	Packaged in patented oil packs	Disintegrates in 5-45 s depending upon the size of the tablet No significant change in drug bioavailability.
DURASOLV(CIMA LABS, INC.)		
Similar to Orasolv,but with better mechanical strength	Packaged in foil or bottles Package in bottles	Disintegrates in 5-45 s depending upon the size of the tablets No significant change In bioavailability.

Wowtab (Yamanouchi Pharma Technologies.Inc)		
COMPRESSED DOSAGE FORM	Avoid exposure to moisture or humidity.	Disintegrates in 4-45 depending upon the size of tablet
Proprietary taste masking	Avoid exposure to moisture or humidity. required specialized	No significant change in drug bioavailability
Flashdose(fuisz technologies.ltd)		
Uniques spinning mech producing floss-like crystalline structure as cotton candy	Avoid exposure to moisture and humidity	Dissolve within 1 min. enhanced bioavailability

Evaluation of Mouth Dissolving Tablets

- Measurement of tablet Tensile Strength
- Friability
- Moisture uptake study
- Measurement of tablet porosity
- Wetting time and water absorption ratio
- Fineness of dispersion
- Disintegration time
- Wetting time and water absorption ratio
- Water absorption ratio
- In vitro dispersion time
- Uniformity of dispersion

Marketed Mouth Dissolving Tablets.

Sl no.	Name of the product	Active ingredients
1	Nimulid-MD	Nimesulide
2	Zyrof Meltab	Rofecoxib
3	Feldene Melt	Piroxicam(10 or 20mg)
4	Maxa It-MLT	Rizatriptan(5 or 10mg),peppermint flavour
5	Zofran ODT	Ondasetron(4 or 8mg),strawberry flavour

CONCLUSION

Mouth dissolving tablets constitute an innovative dosage form, which overcomes the problem of swallowing and provides a quick onset of action. The basic approach followed by all the currently available technologies engaged in the formulation of mouth dissolving tablets is to maximize the porous structure of the tablet matrix and incorporate super disintegrating agents in optimum concentration so as to achieve rapid disintegration and instantaneous dissolution

of the tablet along with good taste masking properties and excellent mechanical strength. The oral mucosa are highly acceptable by patients, shows good permeability with reach blood supply, robustness and short recovery times after damage or stress. Now a day the more and more research is taking place in field of MDT. More and more advanced techniques such as freeze drying, sublimation and spray drying have wider scope for research.

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