



A Review on Fast Dissolving Tablets

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ABSTRACT

Fast dissolving tablet (FDT) is one such type of an innovative and unique drug delivery system which is swiftly gaining much attention in the research field of rapid dissolving technology. Few solid dosage forms like capsules and tablets are present days facing the problems like difficulty in swallowing (dysphagia), resulting in many incidences of non-compliance and making the therapy ineffective. FDT have benefits such as accurate dosing, easy portability and manufacturing, good physical and chemical stability and an ideal alternative for paediatric and geriatric patients. Fast dissolving Tablets are disintegrating and/or dissolve rapidly in the saliva without the need for water. Some tablets are designed to dissolve in saliva remarkably fast, within a few seconds, and are true fast-dissolving tablets. FTD contain agents to enhance the rate of tablet disintegration in the oral cavity, and are more appropriately termed fast-disintegrating tablets, as they may take up to a minute to completely disintegrate. FDTs formulations contain super disintegrants to enhance the disintegration rate of a tablet in the buccal cavity. This review describes the various advantages, limitations, desired characteristics, formulation aspects, super-disintegrate employed, technologies developed for FDTs, novel hole technology, evaluation tests, drugs used in fast dissolving tablets, marketed formulations and patented drugs.

Keywords: Fast dissolving tablets, super disintegrants, advantages of fast dissolving tablets, various methods and patented technologies.

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INTRODUCTION

Fast dissolving tablets Tablet is the most popular among all dosage forms existing today because of its convenience of self-administration, compactness and easy manufacturing. However, swallowing the tablets becomes a problem for patients suffering from problems like hand tremors, dysphasia (in case of geriatric patients) and under developed muscular and nervous. This may lead to poor patient compliance. To overcome these drawbacks fast dissolving tablets (FDT) have emerged as alternative oral dosage form. These are novel types of tablets and disintegrate/dissolve / disperse in saliva within a few seconds. According to European Pharmacopoeia, the FDT should disperse/disintegrate in less than three minutes. A fast-dissolving drug delivery system, in most cases, is a tablet that dissolves or disintegrates in the oral cavity without the need for water or chewing. Most fast-dissolving delivery system films must include substances to mask the taste of the active ingredient. This masked active ingredient is then swallowed by the patient's saliva along with the soluble and insoluble excipients. These are also called, melt in mouth tablets, rapid-melts, quick dissolving tablets, mouth dissolving tablets, orally disintegrating tablets or dispersible tablets. Their characteristic benefits

like, rapid on-set of action, increased bioavailability, good stability and better patient compliance make these tablets popular as a dosage form of choice.

Advantages

1. Ease of administration to the patient who cannot swallow, inclusive of elderly, stroke victims, bedridden patients, affected person suffering from renal failure and patient who refuse to swallow such as paediatrics, geriatric & psychiatric patients
2. No want of water to swallow the dosage form, which is highly convenient feature for patients who are travelling and do not have immediate access to water.
3. Rapid dissolution and absorption of the drug, which will produce rapid onset of action. Some tablets are absorbed from the mouth, pharynx and esophagus because the saliva passes down into the stomach. In such instances bioavailability of drug is highly increased.
4. Good mouth feel property helps to change the perception of medication as bitter pill particularly in pediatrics affected person.
5. The chance of choking or suffocation all through oral administration of traditional formulation due to physical obstruction is avoided, thus providing improved safety Administration to the patients who cannot swallow, such as the elderly, bedridden patients, patients affected by renal failure & patients who cannot swallow, inclusive paediatric, geriatric & psychiatric patients.
6. Rapid drug remedy intervention.



7. Achieve enhanced bioavailability/rapid absorption through pre-gastric absorption of medication from mouth, pharynx & esophagus as saliva passes down.

8. Convenient for administration and affected person compliant for disabled, bedridden patients and for vacationers and busy people, who do not always have access to water.

9. Good mouth feel property helps to change the perception of medication as sour tablet especially in paediatric patients. The chance of choking or suffocation all through oral administration of traditional formulations due to physical obstruction is avoided, thus providing improved safety.

Mechanism of Fast Dissolving Tablets

To achieve the tablets fast dissolving properties

1. Water must quickly enter into the tablet matrix to cause rapid disintegration and instantaneous dissolution of the tablet.

2. Incorporation of an appropriate disintegration agent or highly water-soluble excipients in the tablet formulation

These are some under mentioned mechanisms by which the tablet is broken suspension of drug.¹

EXCIPIENTS IN FDT'S

Excipients utilized in FDTs contain at least one super disintegrant, a diluent, a lubricant and optionally a swelling agent, a permeabilizing agent, sweeteners and flavouring agents.

1. Super disintegrants: As day's passes, demand for the faster disintegrating agents in formulation is increased. So, the pharmacist wishes to formulate disintegrants i.e., super disintegrants which might be powerful at low concentration and have greater disintegrating efficiency, and they have greater effective intragranular. These super disintegrants act by swelling and because of swelling stress exerted withinside the outer direction or radial direction, it causes the tablet to burst or the increased absorption of water leading to an enormous increase in the volume of granules to promote disintegration.^{2,3}

• Factors to be considered for choice of super disintegrants

Disintegration The disintegrant should quickly wick saliva into the tablet to generate the volume expansion and hydrostatic pressure important to offer fast disintegration with in the mouth.^{4,5}

2. Compactibility: It is suitable to have FDT with ideal hardness and much less friability at a given compression force to produce robust tablets that keep away from the need to use specialised packaging at the same time as maximising manufacturing speed.

3. Mouthfeel: Large debris can bring about a gritty feeling withinside the mouth. Thus, small debris are preferred. If the tablet forms a gel-like consistency on contact with

water, however, it produces a gummy texture that many consumers find objectionable.

4. Flow: In common tablet formulation, super disintegrants are used at 2-5 wt % of the tablet formulation. With FDT formulation, disintegrant level can be significantly higher.⁶

5. Bulking substances: Bulking substances are important in the improvement of fast dissolving tablets. They make a contribution the feature of a diluent, filler and cost reducer. Bulking agents improve the texture of the tablets that consequently enhances the disintegration in the mouth, besides adding volume and reducing the concentration of the active in the formulation. The bulking agents for this dosage form should be more sugar-based such as mannitol, polydextrose, lactose derivatives such as directly compressible lactose (DCL) and starch hydrolysate for higher aqueous solubility and good sensory perception. Mannitol mainly has excessive aqueous solubility and good sensory perception, because it provides a cooling effect due to its negative heat of solution. Bulking agents are added in the range of 10% to approximately 90% via way of means of weight of the final composition. The descending order of brittleness of excipients is ranked as microcrystalline cellulose>alpha lactose monohydrate> spray-dried lactose>anhydrous beta lactose>anhydrous alpha lactose>> dicalcium phosphate dihydrate. The usually used sugar-based excipients are mainly bulking agents (like dextrose, fructose, lactitol, maltitol, maltose, mannitol, sorbitol, starch hydrolysate, polydextrose and xylitol) which exhibit excessive aqueous solubility and sweetness thereby contribute taste masking property and provide pleasant feel in the mouth. Sugar primarily based excipients can be of types on the basis of moulding and dissolution rate: Type 1 saccharides: (lactose and mannitol) which exhibit low moldability but however dissolution rate. Type 2 saccharides: (maltose and maltitol) which exhibit high moldability however low dissolution rate.^{7,8}

6. Emulsifying agents: Emulsifying agents are significant for formulating fast dissolving tablets as they help in quick disintegration and drug release without the want for chewing, swallowing or consuming water. Also, emulsifying agents stabilize the immiscible blends and enhance bioavailability. A kind of emulsifying agents for fast dissolving tablet formulations consists of alkyl sulfates, propylene glycol esters, lecithin, sucrose esters and others. These may be added in the range of 0.05% to approximately 15% by weight of the final formulation.^{9,8}

7. Lubricants: Though now no longer crucial excipients, these can aid in making the tablets more palatable after they disintegrate with in the mouth. Lubricants lessen grittiness and help in the drug transit process from the oral to the stomach.⁵

8. Flavours (taste masking agents) and Sweeteners: Flavours and taste masking agents make the products greater palatable and pleasing for patients. The incorporation of those substances assists in overcoming



bitterness and undesirable tastes of some actives. Natural as well as artificial flavours may be used to enhance the organoleptic characteristic of fast dissolving tablets. An extensive variety of sweeteners consisting of sugar, dextrose and fructose, in addition to non-nutritive

sweeteners such as aspartame, sodium saccharin, sugar alcohols and sucralose are available. The addition of sweeteners imparts a pleasant taste as well as bulk to the formulation.^{5,8}

CHALLENGES OF FAST DISSOLVING TABLETS^{10,11,12}

Challenge	Explanation
Mechanical strength and disintegration time	MDTs are formulated to obtain disintegration time usually less than a minute. While doing so, maintaining a good mechanical strength is a prime challenge. Many MDTs are fragile and there are many chances that such fragile tablet will break during packing, transport or handling by the patients. It is very natural that increasing the mechanical strength will delay the disintegration time
Taste masking	Many drugs are bitter in taste. So effective taste masking of the bitter drugs must be done so that the taste of the drug is not felt in the oral cavity
Mouth feel	Tablet should not disintegrate into larger particles in the oral cavity. The particles generated after disintegration of the Tablet should be as small as possible. Tablet should leave minimal or no residue in mouth after oral administration.
Sensitivity to environment	Tablet generally should exhibit low sensitivity to environment conditions such as humidity and temperature as most of the materials used in a Tablet are meant to dissolve in minimum quantity of water
Palatability	As most drugs are unpalatable, tablets should contain the medicament in a taste-masked form
Mechanical strength	In order to allow ODTs to disintegrate in the oral cavity, they are made of either very porous and soft-moulded matrices or compressed into tablets with very low compression force, which makes the tablets friable and/or brittle, difficult to handle, and often requiring specialized peel-off blister packing that may add to the cost.
Hygroscopic property	Several orally disintegrating dosage forms are hygroscopic and cannot maintain physical integrity under normal conditions of temperature and humidity. Hence, they need protection from humidity which calls for specialized product packaging
Aqueous solubility	Water-soluble drugs pose various formulation challenges because they form eutectic mixtures, which result in freezing-point depression and the formation of a glassy solid that may collapse upon drying because of loss of supporting structure during the sublimation
Size of table	It has been reported that the easiest size of tablet to swallow is 7-8 mm while the easiest size to handle was one larger than 8 mm. Fast Disintegration FDTs should disintegrate in the mouth.
Fast Disintegration	FDTs should disintegrate in the mouth without additional water or with a very small amount (e.g., 1–2 mL) of water.

TECHNIQUES OF FAST DISSOLVING TABLETS

The various techniques involved in fast dissolving tablets:

1. Freeze-drying or lyophilization

It is a pharmaceutical procedure that allows the drying of heat sensitive drugs and biological at low temperature with the aid of using the utility of vacuum to get rid of water with the useful resource of the use of sublimation. Drugs are dissolved or dispersed in aqueous medium of a carrier, transferred to preformed blister packs and subjected to nitrogen flush to freezeout, then positioned withinside the fridge to finish the procedure. Characteristics of lyophilization strategies are, they own excessive porosity and unique surface area, and get dissolve swiftly in mouth imparting excessive drug bioavailability. The major

drawback is excessive cost, time-consuming method and fragility, making traditional packing beside the point for packing this dosage form and stability problems beneath stress condition.¹³

2. Tablet Molding

Molding method is of kinds i.e., solvent approach and heat method. Solvent approach includes moistening the powder mixture with a hydro alcoholic solvent observed through compression at low pressures in molded plates to shape a wetted mass (compression molding). The solvent is then eliminated through air-drying. The drugs synthetic on this way are much less compact than compressed drugs and possess a porous shape that speeds up dissolution. The heat molding method includes instruction of a suspension that



includes a drug, agar and sugar (e.g., mannitol or lactose) and pouring the suspension withinside the blister packaging wells, solidifying the agar on the room temperature to shape a jelly and drying at 30°C below vacuum. The mechanical strength of molded drugs is an issue of tremendous concern. Binding agents, which boom the mechanical electricity of the drugs, want to be incorporated. Taste protecting is a delivered hassle to this technology. The flavour masked drug debris have been organized through spray congealing a molten combination of hydrogenated cottonseed oil, sodium carbonate, lecithin, polyethylene glycol and an energetic element right into a lactose primarily based totally pill triturate shape. Compared to the lyophilization method, drugs produced through the molding method are simpler to scale up for industrial manufacture.¹⁴

3.Spray drying

In this technique, gelatin is used as a matrix and an assisting agent, mannitol as a bulking agent, and super disintegrants like croscarmellose or sodium starch glycolate or cross povidone. The Tablets manufactured from the spray-dried powder containing bulking agent, super disintegrant and an acidic ingredient (citric acid) and/or alkaline components. (e. g. sodium bicarbonate) were mentioned to disintegrate in within 20 seconds in aqueous medium. This spray-dried powder, compressed into tablets confirmed fast disintegration and improved dissolution.¹⁵

4.Direct Compression

Direct compression represents the best and most cost-effective tablet manufacturing technique. This method can now be applied to preparation of ODT due to the availability of improved excipients specially super disintegrants and sugar-based excipients.¹⁶

- (a) Super disintegrants: In many orally disintegrating tablet technologies primarily based on direct compression, the addition of super disintegrants basically imparts the rate of disintegration and therefore the dissolution. The presence of different formulation ingredients such as water-soluble excipients together with effervescent agents further speed up the process of disintegration.
- (b) Sugar Based Excipients: This is another approach to technique ODT by direct compression. The use of sugar primarily based excipients specially bulking agents like dextrose, fructose, isomalt, lactitol, maltitol, maltose, mannitol, sorbitol, starch hydrolysate, polydextrose and xylitol, which shows high aqueous solubility and sweetness, and hence impart taste masking property and a pleasing mouthfeel. Mizumito et al have classified sugar-based excipients into two types on the basis of molding and dissolution rate.

Type 1 saccharides (lactose and mannitol) show off low mouldability but excessive dissolution rate.

Type 2 saccharides (maltose and maltitol) show off excessive mouldability and low dissolution rate.¹⁷

5.Sublimation

The incorporation of volatile ingredients to generate a porous mixture undergoes a sublimation process. Highly volatile ingredients such as benzoic acid, ammonium bicarbonate, ammonium carbonate, camphor, naphthalene, urea, phthalic anhydride and urethane can be compressed with other excipients in one tablet. By sublimation, this volatile material is then removed, leaving behind a very porous matrix. Tablets made with this technique have been reported to generally disintegrate within the seconds.

6.Mass-extrusion

In this the blended substances are softened via way of means of water-soluble component i.e., polyethene glycol, the use of methanol as solvent, passing through an extruder to form thin cylinders. Which in addition get sliced with a heated blade to form small tablets. Characteristics of this technique is those products can be used to mask sour tasting drugs making small granules thus consequently, improving oral bioavailability.^{17,19}

PATENTED TECHNOLOGIES OF FAST DISSOLVING TABLETS

Rapid dissolving characteristics of FDT is generally attributed to fast penetration of water into tablet matrix resulting in its fast disintegration. Several technologies have been developed on the basis of formulation aspects and different process and patented by several pharmaceutical companies.

1) Lyoc (cephalon corporation)

Lyoc approach became owned with the aid of using cephalon corporation. Lyoc makes use of a freeze-drying technique but differ from Zydys in that the product is frozen at the freeze dryer shelves. The liquid solution or suspension preparation evolves fillers, thickening agents, surfactant, non-volatile flavoring agents and sweeteners alongside drug. This homogenous liquid is positioned in blister cavities and subjected to freeze drying. To prevent inhomogeneity with the aid of using sedimentation at some point of this technique, those formulation require a large proportion of undissolved inert filler(mannitol), to enhance the viscosity of these suspension. The high proportion of filler reduces the capacity porosity of the dried dosage form and outcomes in denser tablets with disintegration rates are corresponding to loosely compressed rapid melt formulation.²⁰

2) Frosta (Akina)

It makes use of the idea of formulating plastic granules and compressing them at low pressure to produce strong tablets with excessive porosity. Plastic granules composed of porous and plastic material, water penetration enhancer and binder. These techniques entails blending the porous plastic material with water penetration enhancer accompanied with the aid of using granulating with binder.



The tablets obtained have excellent hardness and fast disintegration time ranging from 15 to 30 sec depending on size of tablet.²¹

3) AdvaTab (Eurand)

In this technology, microencapsulation technique is used for coating the drug particles with gastro soluble polymer for you to mask the taste along with restriction of drug dissolution in mouth cavity. AdvaTab tablets disintegrate fastly in the mouth, usually in much less than 30seconds. These tablets are mainly proper to the ones suffers that experience difficulty in swallowing capsules and tablets. AdvaTab is wonderful from other orally disintegrating tablet technology as it may be combined with Eurand's complimentary particle technology like its world leading Microcaps® (taste masking technology) and its Diffucaps® (controlled release technology).²²

4) OraQuick (KV Pharmaceutical co., Inc.)

OraQuick makes use of its own patented taste masking technology i.e., MicroMask®. In MicroMask® technology, taste masking process is done by incorporating drug into matrix microsphere. In this method, tablet is ready with the aid of using dissolving the sugar (sucrose, mannitol, sorbitol, xylose, dextrose, fructose or mannose) and protein (albumin or gelatin) in an appropriate solvent including water, ethanol, isopropyl alcohol and ethanol-water mixture. The solution of matrix is then spray dried, yielding distinctly porous granules. Also, utilization of lower heat of production is advantageous for heat-sensitive drugs. Granules formed then combined with drug and different excipients and compressed at low compression force. KV pharmaceuticals claimed that matrix formed protects and surrounds the drug powder in micro encapsulated particles is greater reliable during this step.²³

5) Multiflash (Prographarm)

Multiflash is a multi-unit tablet composed of coated microgranules and fast-disintegrating excipients. This multiparticulate tablet quickly disintegrates withinside the esophagus after being swallowed with a minimum quantity of water. This tablet avoids mucosal adhesion, and coated pellets can match various dissolution rates.²⁴

6) EFVDAS (Elan corporation)

EFVDAS or Effervescent drug absorption system is a drug delivery technology that has been used withinside the improvement of some of each OTC and prescription medications. This is specially superb for situation including colds and flu, for which Elan has changed its EFVDAS technology to develop hot drink sachet products that combine medicines and nutrients for OTC use. The granular contents of the sachets may be delivered to boiling water to produce pleasant-flavored solution. In those instances, the effervescence of the granulate mixture is changed to accommodate the use of heated water. Examples of products that Elan has developed include effervescent ibuprofen, acetaminophen, cimetidine, naproxen and codeine mixture product.²⁵

7) Pharmabust Technology

SPI Pharma, new castle has a patent over this technology. It makes use of the coprocessed excipients to develop MTD's, which dissolves within 30-40 seconds. This technology involves dry mixing of drug, flavors and lubricant observed via way of means of compression into tablets. Tablets obtained have enough strength in order that they may be packed in blister packs and bottles.²⁶

8) Nanocrystal technology

This technology includes nanocrystal colloidal dispersion of drug substances are mixed with water soluble GRAS (Generally regarded as safe) ingredients, crammed into blister and lyophilized. The resultant wafers are remarkably robust, but dissolve in very small portions of water in seconds. This technique avoids production technique inclusive of granulation, blending and tableting which has greater advantageous for highly potent and risky drugs. As manufacturing losses are negligible, this technique is beneficial for small portions of drug.²⁷

9) Frosta technology

A new method called Frosta (Akina) was developed for making FMT's. The Frosta technology utilizes the traditional wet granulation technique and tablet press for cost-effective production of tablets. The Frosta tablets are mechanically strong with friability of <1% and are stable in accelerated stability conditions when packaged right into a bottle container. They are robust sufficient to be packed in multi-tablet vials. Conventional rotary tablet presses may be used for the manufacturing of the tablets and no other special instruments are required. Thus, the cost of making FMT's is decrease than that of different current technologies. Depending at the size, Frosta tablets can melt in <10 seconds after placing them in the oral cavity for easy swallowing. The Frosta technology is ideal for wide application of FMT's technology to numerous drug and nutritional formulations.²⁸

10) Dispersible tablet technology

Lek in Yugoslavia have a patent over this method. Dihydroergotoxine is poorly soluble in water withinside the free base form. An advanced dissolution rate of dihydroergotoxine methane sulphonate was observed with dispersible tablets containing 08-10%, preferably about 4% by weight, of an organic acid. One of the vital excipients withinside the cimetidine formulation was a disintegrating agent. The disintegrating agents include starch or modified starches, microcrystalline cellulose, alginic acid, cross-linked sodium carboxy methyl cellulose and cyclodextrin polymers. Dihydroergotoxine and cimetidine, which had been claimed to disintegrate in less than 1 minute when in contact with water at room temperature.²⁹

11) Durasolv technology

Durasolv is the patented technology of CIMA labs. The tablets made by this technology consist of drug, filler and a lubricant. Tablets are prepared by using traditional



tableting equipment and having good rigidity. These can be packaged into conventional packaging system like blisters. Durasolv is the suitable technology for product requiring low amounts of active ingredients.³⁰

12) WOWTAB Technology

The WOWTAB rapid-dissolving\disintegrating tablet formulation has been at the Japanese market for a some of years. It has just recently been introduced into the U.S. the WOWTAB technology makes use of sugar and sugar-like (eg., mannitol) excipients. The two different types of saccharides are mixed to obtain a tablet formulation with adequate hardness and rapid dissolution rate. Due to its significant hardness, the WOWTAB formulation is a bit more stable to the environment than the Zydis or OraSolv. It is appropriate for both conventional bottle and blister packaging. The taste masking technology applied withinside the WOWTAB is proprietary, however claims to provide advanced mouthfeel due to the patented SMOOTHMELT action. The WOWTAB product dissolves fastly in 15seconds or less. The WOW in WOWTAB signifies the tablet is to given without addition of water. Two WOWTAB formulation presently at the U.S. market are Benadryl allergy and sinus FASTMELT and children's Benadryl allergy and cold FASTMELT.³¹

EVALUATION OF FAST DISSOLVING TABLETS

1) Physical appearance

Physical appearance of tablets is determined by visual identity which involves the measurement of number of factors such as tablet size, shape, color, odour, taste, surface texture and any identification marks present on the tablet.

2) Weight variation test

The weight variation test is performed by taking 20 tablets from each formulation and weighing the individual tablets by using electronic balance. Their average weight was calculated as

$$\% \text{ Weight variation} = (WA - WI) \times 100 / WI$$

Where, WI = Individual weight of the tablets

WA = Average weight of the tablet

3) Thickness

Thickness of the tablet was determined using vernier calipers. Five tablets from each batch were used, and an average value was determined.

4) % Friability

Friability of the tablets was determined in a Roche friabilator. Ten tablets were weighed initially (W1) and placed in the friabilator that revolves at a speed of 25rpm, dropping those tablets at a distance of six inches height with each revolution and rotated in the friabilator for 100 revolutions. After completion of rotations, the tablets were dedusted and weighed (W2). The percent loss in weight is calculated by using the formula

$$\% \text{ Friability} = (\text{Initial weight} - \text{Final weight}) / \text{Initial weight} \times 100$$

5) Content uniformity

The test for uniformity of content is based on the assay of the individual contents of active substances to determine whether the individual contents are within limits set with reference to the average content of the sample.

Method; 30 tablets are kept aside and 10 tablets are assayed. 9 tablets should have %limit of 85-115% if more than 1 tablet has 85-115% then, 20 tablets are assayed not more than one tablet should have 75-125%.

6) In-vitro disintegration studies

In-vitro disintegration time was performed by apparatus specified in USP. The water was used as disintegration medium, and the temperature was maintained at and the time in seconds taken for the complete disintegration of the tablet, with no palpable mass remaining in the apparatus, was measured in seconds.

7) In-vitro dissolution studies

In-vitro dissolution study was performed by using USP type-II dissolution test apparatus (paddle type) at 75rpm. 900ml of buffer medium was used as the dissolution medium which was maintained at 37±0.5degree centigrade. Aliquotes of dissolution medium (5ml) were withdrawn at specific time intervals and were filtered. The amount of drug dissolved was determined by UV spectrophotometer by measuring the absorbance of sample.

Drugs Used in Fast Dissolving Tablets³²

Therapeutic activity	Drugs used
Analgesic and anti-inflammatory	Aloxiiprin, fenbufen, meclofenamic acid, oxaprozin, oxyphenbutazone, ibuprofen, nabumetone, piroxicam
Anthelmintics	Albendazole, cambendazole, ivermectin, pyrantel, praziquantel, mebendazole, thiabendazole, hydroxyl naphthoate.
Anti-arrhythmic agents	Amiodarone HCl, disopyramide, flecinitic acetate, vanidine sulphate
Anti-coagulants	Dicoumarol, dipyrimidine, phenindione, nicoumalone
Anti-bacterial agents	Cinoxicam, clofazimine, cloxacillin, doxycycline, nitrofurantoin, ehionamide, banethamine, penicillin, sulphadoxine, sulphabenzamide, sulphapyridine, trimethoprim
Anti-depressant	Amoxapine, ciclazindol, mianserin HCL, trazodone HCL, trimipramine, maleate, maprotiline HCL
Anti-diabetics	Acetohexamide, chlorpropamide, gilbenclamide, gliclazide, glipizide, tolbutamide



Anti-epileptics	Clonazepam, methion, phenacemide, phenobarbitone, sulthiame, phenytoin, oxcarbazepine, methyl phenobarbitone.
Anti-fungal	Clotrimazole, flucytosine, griseofulvin, natamycin, amphotericin, terconazole, tioconazole, itraconazole
Anti-malarial	Amodiaquine, chlorproguanil HCL, pyrimethamine, chloroquine, mefloquine
Anti-muscarinic agents	Atropine, biperiden, hyoscyamine, oxyphencyclimine HCL, tropicamide.
Anti-protozoa agents	Clioquinol, benznidazole, diloxamidesfuroate, metronidazole, benznidazole, tinidazole.
Anxiolytics, sedatives, hypnotic and neuroleptics	Alprazolam, barbitone, bentazepam, bromazepam, clozapine, bromperidol, diazepam, ethinamate, flurazepam, droperidol
Cardiac inotropic agents	Amrinone, digitoxin, digoxin, medigoxin, enoximone.
Anti-parkinsonian agents	Bromocriptine, mesylate.

CONCLUSION

Fast dissolving tablets are innovative dosage forms developed and specifically designed to overcome some of the problems that seen in traditional solid dosage forms i.e., issue in swallowing of the tablet in geriatric and paediatric patients. Fast dissolving tablets are designed to dissolve or disintegrate quickly withinside the saliva generally inside much less than 60 seconds (range 5-60 seconds). Fast dissolving tablets have better patient compliance and acceptance may improve biopharmaceutical properties, bioavailability, improved efficacy, patient convenience and better safety compared with conventional oral dosage forms. The popularity of FTD's has increased fabulously over the last decade. FTD's need to be formulated for psychotic patients, bedridden, geriatric and paedritic patients, for those patients who may not have access to water, patients who are busy in travelling. FTD's formulations formulated by some of these conventional and patent technologies and FTD's have sufficient mechanical strength, quick dissolution in the buccal cavity without water. The newer technologies utilized for the formulation of the FTD's that provide more effective dosage forms with more advantages and minimal disadvantages.

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