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"Development and Characterization ofHerbal Mouth Dissolving Film"

Medha dandekar[1], Prasad bodhgire[2], Siddheshwar mule[3], Birappa dudhal[4]

Nootan college of pharmacy, narsinhgaon, 416405, maharashtrra

Abstract

MDF attracted great attention in the pharmaceutical and healthcare industries due to their potential as a patient-friendly dosage form. These thin, flexible The film is designed to dissolve rapidly upon contact with saliva, offering convenient administration, improved patient compliance, and enhanced bioavailability. This review provides an overview of theformulation strategies employed in the development of MDFs, including choice of polymers, plasticizers, and taste-masking agents. Evaluation parameters such as disintegration time, mechanical properties, drug release kinetics, and stability are discussedin detail, highlighting the importance of optimizing these parameters to achieve desired product performance. Additionally, the diverse applications of MDFs across various therapeutic area, including analgesics, antiemetic, antihistamines, and vitamins, explored. Future perspectives on the advancement of MDF technology, including novel formulation approaches and emerging applications, are also presented. Overall, mouth dissolving films represent a promising dosage form with the potential to revolutionize drug delivery and improve patient outcomes.[1] Mouth dissolving films (MDFs) have emerged as a novel drugdelivery system offering numerous advantages over traditional dosage forms. This article provides details of mouth dissolving films, their composition, manufacturing methods, andapplications in the pharmaceutical and nutraceutical industries. Additionally, it discusses theformulation considerations, advantages, challenges, and future prospects of MDFs.

Keywords: Amla, Ginger, Coriander Seeds, Mint, Lemon

INTRODUCTION

Oral films (MDFs) have emerged as a promising drug delivery method that provides convenience, rapid onset, and improved patient compliance. This water-soluble film is designed to dissolve or dissolve in the oral cavity and deliver the drug directly to the body system through the oral mucosa.

In recent years, MDFs have attracted great attention in the pharmaceutical industry as they have many advantages over pharmaceutical forms such as tablets, capsules and syrups[14,16].Its unique design allows for precise injection, improved bioavailability and ease of administration; It is especially beneficial for children, the elderly and dysphagia patients[3]. This next article aims to provide an overview of orally dissolving films,

including their composition, manufacturing processes, pharmaceutical use and future prospects. By understanding the science behind MDF and its implications for drug delivery, researchers, clinicians, and pharmaceutical companies can use this new technology to improve patient outcomes and improve drug use.[4]

In recent years, MDF (MDF) has received widespread attention due to its simplicity, rapid disintegration, and increased patient compliance. The film is thin, quickly adapts when in contact with saliva, delivering the contents directly to the mouth, bypassing the intestine.[6] These properties make MDF an attractive choice for children, the elderly,and dysphagia patients who are having difficulty swallowing tablets or capsules[5].

In recent years, mediumdensity fiberboard (MDF) has received widespread attention due toits simplicity, rapid disintegration, and improved patient compliance[6]. The membrane is thinand flexible when it comes to saliva and carries the contents through the intestines directlyto the mouth.[7] These properties make MDF a good choice for children, the elderly, and dysphagia patients who are having difficulty swallowing tablets or capsules. [8,9] The anotherterm including in the formulation is herbal formulation.

Here the combination of 5 herbs in subject of migraine patients are poured for MDF thoseare Amla (fruit), Ginger (rhizome), Coriander Seeds (seeds),Mint (leaves), Lemon
(fruit).

So here are the reasons to choose these combinations of these herbs.1.effective against migraine without any side effect.

2. safe in pregnancy and breastfeeding as well.3.economical.

Materials and Methods

Film-Forming Agents: Hydrocolloids: Examples include hydroxypropyl methylcellulose (HPMC), sodium alginate, or pullulan. These polymers contribute to the film's structure anddisintegration characteristics. [2]

Plasticizers: Polyols: Such as glycerol or propylene glycol. These enhance the flexibilityand elasticity of the film, improving its handling and mouthfeel. [5,13]

Disintegrants: Super disintegrants: Examples include crospovidone or croscarmellosesodium. These help the film disintegrate rapidly upon contact with saliva.[10.11]

Sweeteners: Artificial Sweeteners: Such as aspartame, sucralose, or steviol glycosides. They enhance palatability. [12 ,20]

Flavoring Agents: Natural or Artificial Flavors: To improve the taste and overall sensoryexperience. [13]

Colorants: Food-Grade Colors: Optional for aesthetic appeal.

Active Pharmaceutical Ingredient (API): Therapeutic Agent: If the mouth dissolving film is a pharmaceutical product, the active ingredient should be incorporated.

Equipment used: hot air oven, petri plates, beaker, vernier caliper.

Results and Evaluation test -

Sr. no	Test	Description	Expected result	Actual result	Pass / fail
1	Dissolution test	Adjust pHbetween 6.5 to 7.2 in petri plate and placefilm in this. record timing.	Should not exceed than 2 min.	38 sec	pass
2	Film thickness	By vernier caliper. At 5 sites including center	0.3 to0.06 mm	a.0.04mm b.0.04mm c.0.03mm d.0.04mm e.0.04mm	pass
3	Folding endurance study	Measured manually by foldingfilm at same place till broke	3 to 5 folds	3 folds	pass
4	Weight (mass weight)	Weighted manually on digital weighing machine	79 to 81 mg	79.5 mg	pass
5	Size offilm	Breadth and length manually	5cm(b) 1 cm(l)	1.5cm(b) 1cm(l)	pass

Conclusion

Mouth dissolving films are somehow promising the pharmaceutical as well as nutraceuticalnew drug delivery system. The combination of these 5 crude drugs doesn't gives any otherside effects as well as the excipient used in this formulation are safe in sensitive conditionssuch as pregnancy as well as breastfeeding or lactation. The cause of mentioning breastfeeding as well as pregnant women is the nausea as well as migraine occurred in the same so the women isn't supposed to take any either medicaments for the same. This can help to control the nausea as well as migraine pain in that condition. As well as in most of the patients while taking the medicaments of migraine suffers from absolute tremendous vomiting conditions by taking the medicine with water immediately so this can help to overcome this problem.

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