Sci Journo
InClinition's Science Journal

ISSN: Awaited
Volume 1, Issue 1, 2017

Short Communication

Herbal Oral Disintegrating Film

Author: Pratiksha Joshi[1*], Nilkamal Waghamare[1], Madhuri Karande[1]

1. Bharti Vidyapeeth College Of pharmacy, CBD Belapur, Navi Mumbai, India

Corresponding Author:

Pratiksha Joshi (Joshipratiksha95@gmail.com)

Abstract:

In this present study herbal oral dissolving film prepared for mouth ulcer and throat infection treatment. Use of herbal drugs minimizes the side effect which is caused due to synthetic drugs as they absorb from oral mucosa and directly enter in blood circulation. Formulated herbal oral dissolving films contain herbal plants extract and powders of *Ocimum tenuiflorum* (Tulsi), *Glycyrrhiza glabra* (yastimadhu), *Curcuma longa (*turmeric).These plants possess antiulcer, astringent, antimicrobial and anti-inflammatory activity. HPMC for the formulation of the films is suitable polymer and plasticizers are selected. The films were subjected to physical investigations such as uniformity of weight, folding endurance, surface pH. Also evaluation of the films is done by using parameter like disintegration time, % moisture absorption, % moisture loss, surface pH, swelling index etc. The obtained results for prepared herbal films disintegrate within 1 minute. These films are economic, convenient and do not show any side effects.

Keywords

Herbal oral dissolving film, Mouth ulcer and throat infection treatment, Solvent casting method, Disintegration time.

(Received 17 Jan 2017, Revised: 20 Feb 2017, Published: 15 Mar 2017)

Sci Journo
InClinition's Science Journal

ISSN: Awaited
Volume 1, Issue 1, 2017

Introduction

Oral route of administration is the most convenient and preferred route of administration among the various other delivery system. More than 70% of drugs are available in the market in the form of oral drug delivery system due to pain avoidance and versatility. Solid oral dosage forms like tablets and capsules have emerged as the most popular dosage form. Oral route of administration is the most convenient and preferred route of administration among the various routes of administration. They have some drawbacks related to particular class of patients which includes geriatric, pediatric and dysphasic patients associated with many medical conditions as they have difficulty in swallowing or chewing solid dosage forms.

Many pediatrics and geriatric patients are unwilling to take solid preparations due to fear of choking. The problem of swallowing tablets was more evident in geriatric and pediatrics patients, as well as traveling patients who may not have ready access to water. Development of the oral drug delivery system which dissolves and disintegrates quickly in a few seconds when placed on the patient's tongue or any oral mucosal tissue, instantly wet by saliva the film rapidly hydrates and disintegrates quickly to release the medication for oro mucosal and intra-gastric absorption. So they offer substantial advantages over tablets and capsules by eliminating swallowing problems and drinking water is not required which leads to more patient compliance.

Mouth dissolving film dissolves and disintegrates rapidly than the conventional dosage form. This fast-dissolving action is primarily due to the large surface area of the film, which wets quickly when exposed to the moist oral environment, that leads to quickly disintegrate and dissolution in the oral cavity within seconds. Disintegrated film release the drug rapidly from the polymer matrix which can absorb directly and can enter the systemic circulation without undergoing first-pass hepatic metabolism and on increase the bio availability of the active pharmaceutical.

As compared to drops or syrup and other liquid formulations, precision in the administered dose is ensured from each of the strips. Since the first pass effect can be avoided, there can be reduction in the dose which can lead to the reduction in side effects associated with the molecules.

Aim and Rational

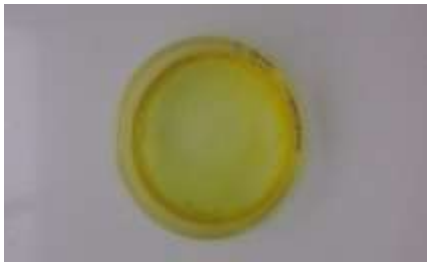
Recurrent Aphthous Stomatitis (RAS) is the most frequent form of oral ulceration, characterized by recurrent oral mucosal ulceration. It affects 1 in 5 persons and usually begins in adolescent and teenage years. During an episode, there may be 1-5 painful ulcers that last 5-14 days. These ulcers are located on the inner cheeks, inner lips, underside of the tongue, or soft palate. A side effect is basically an unintended occurrence that results from taking a drug .All drugs that come in the market cause side effects, where many are minor and few are serious.

Sci Journo
InClinition's Science Journal

ISSN: Awaited
Volume 1, Issue 1, 2017

The main objective of the present study is to formulate herbal mouth dissolving films, by preparing this herbal films; side effects can be minimized. *Ocimumbasilicum* (Tulsi) possess analgesic, anti inflammatory, antimicrobial, antioxidant, antiulcerogenic. Chewing of Tulsi leaves also cures ulcers and infections of mouth.

Glycyrrhizaglabra (Yastimadhu) constituents are having effect on both the oral microbial pathogens and the host immune response involved in common oro-dental diseases, C*urcuma longa (*turmeric) Antiseptic.[1]



Materials and Methods [1]

Ingredients	Quantity
Herbal drug	0. 025g
Dichloro methane	2.4ml
Hydroxy propyl methyl cellulose	0.09g
Methanol	2ml
PEG400	0.01ml
Sodium starch glycolate	0.05g

Table 1 Materials and Methods

Solvent Casting Method

Powders of herbal drugs were weighted and mixed in mortar. Films prepared by the solvent casting method using HPMC. Propylene glycol was used as the plasticizer. Herbal plant extracts as herbal drug was dissolved in 1.5 ml of Di chloro methane. HPMC, methanol, SSG was then added to 1.5ml of Di chloro methane and this solution was stirred till dissolved. To this solution, that herbal solution was mixed. The mixture was constantly stirred until clear gel was obtained. Propylene glycol was mixed .The vessel was closed and kept aside for a few hours until all the entrapped air had escaped. The solution was then cast into a glass petri dish of 9 cm diameter and allowed to dry overnight at room temperature. The films were removed carefully and circular films of 15mm diameter were punched. [2]

Sci Journo
InClinition's Science Journal

ISSN: Awaited
Volume 1, Issue 1, 2017

Results and discussion

Sr. No	Weight of the film	Folding Endurance	Surface pH	Disintegration time	Percent Moisture Loss	Percent Moisture Absorption
1	F1=14.4mg,F2=16.5mg, F3=16.9mg,F4=15.2mg, F5=16.7mg Average weight=16mg	>300	6	58 sec	0.06%	0.08%

Conclusion

The mouth dissolving strips of Herbal drugs was prepared by solvent casting method show acceptable mechanical proportional and satisfactory drug release within one minute. The result of the present studies indicate that Herbal film can be formulated by using polymer like HPMC we can use SSG as super disintegrant.

By evaluation studies we can conclude that the film having disintegration time within one minute they can adhere to mucosa and show therapeutic effect. Side effects of synthetic drugs are avoided by use of herbal drugs. As film contain herbal drugs, gives no side effects of drug even after absorption from mucosal membrane.

References

1. Ambikar R.B, Powar P.V, Phadtare G.A, et'al; "International journal of phytotherapy research; Volume 4; 2014; Akurdi, Pune; Pg No:11-15.
2. M. Repka; J Swarbrick; J Boylan. In Encyclopedia of Pharmaceutical Technology, 2nd Edition, 2002, vol 2, p. 1488–1504.