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Original Article

Nature's Cure: Evaluating Herbal Treatment of Oral Ulcers

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ABSTRACT

The concept of the mouth ulcer, ulcer of the mouth or mucosa describes to an ulcer, which forms Inside the oral cavity's membrane. Its definition is "a break within the mucosal surface of the oral cavity." In Skin mucosal membranes or skin ulcers, which are open sores, inflammatory dead tissue gets eliminated. Not only may mouth ulcers be irritating and painful, but they may also influence a person's eating habits as they heal. Between oral ulcers, aphthous stomatitis is the most prevalent form. This review's primary focus is on the characteristics that lead to mouth ulcers and their causes. Several synthetic drugs are available to treat mouth ulcers. The most common primary healthcare preference is herbal medicine, as we all know, given its enhanced compatibility with natural products, lesser risk of side effects, and greater cultural tolerance. Additionally, research has shown that a number of medicinal plants may be utilized to cure mouth ulcers. The medicinal plants that can be used as a treatment for treating mouth ulcers are so briefly discussed in this study. Mouth ulcers belong to the disorders that are frequently caused by several reasons. The two most prevalent causes of infection oral ulcers are The two most prevalent causes of infection oral ulcers Aphthous stomatitis (sometimes called " sores caused canker"), which is determined the irregular development irregular of the mouth ulcers caused by primarily Unknown leads to, and local trauma (such as rubbing against a sharp edge on a filling).4. The removal of inflammatory dead tissue is a characteristic of ulcers, which are open skin or mucous membrane sores. Thus, this article includes an overview of the medicinal plants that may be utilized as a medication to cure mouth ulceration.

Keywords: Oral ulcers, Herbal medicines, Skin infection, Mucosal layer

INTRODUCTION

A mouth ulcer develops by the disintegration or a breakdown of the mucosal layer behind. In the oral cavity, it is one of the most prevalent infectious diseases. Aphthamus Mouth ulcers, also known as stomatitis, are ulcerative disorders that affect the oral mucosa and are characterized by chronic ulcers in the oral cavity and throat. [1] Most often found the innermost parts of the lips and cheeks, these sores are typically uncomfortable [2] Mild, substantial, and herpetiform ulcers can be categorized depending on their clinical manifestation. [3] Ulcers, that demonstrate tissue loss in both the epithelium and the underlying connective tissue, can be attributed to many different kinds of justifications, common in the oral mucosa, they can be unpleasant. On the oral mucosa, oral ulcers constitute one of the most prevalent disorders. Numerous known risk factors exist, and mouth ulcers can be a sign of numerous systemic diseases, particularly inflammatory bowel disease [4] It can be described as "a break within the mucosal surface of the oral cavity." In ulcers, which are exposed skin or mucous membrane trauma, inflammatory dead tissue has been eliminated. The skin of the lower limbs and the gastrointestinal tract are the most prevalent areas for ulcers, nonetheless they can appear almost anywhere [5] Ulcers come in many different kinds of forms, such as oral, esophagus, and vaginal. Mouth ulcers are extremely frequent and frequently have no identifiable underlying cause, while they can be brought on by many different kinds of factors and occur in association with a wide range of disorders. Poor oral hygiene can lead to nutritional supplements allergies, mechanical injuries, stress, indigestion, and infections hormone imbalances, skin disorders, and nutritional deficiencies particularly in iron and vitamins B12 and C are prevalent cause of mouth ulcers. [6]

Mouth ulcer

An injury in the epithelium's integrity caused on by molecular necrosis is termed as an ulcer. Patients

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generally seek medical or dental care for ulcers, because they are commonly found in the oral cavity. Typical symptoms including redness, anxiety, and/or a burning. They may appear anywhere in the oral cavity, but if they do so in an adaptable location, it could be irritating. [6]

Types of Oral Ulcers [21]

There are numerous varieties of oral ulcers and sores, such as:

1. Canker sores

Aphthous sores, often known as canker sores. These types of oral ulcers or oral lesions are the most prevalent. It is still unclear to medical specialists about what triggers these diseases and why particular individuals are more prone to them than others. The causes can include little traumas Equivalent to biting your cheek, tension, and acidic foods. Canker sores typically possess red rims and may appear yellow or white.

a. Minor:

It means the pores are less than 5 mm in diameter and heal by their own in 1-2 weeks.

b. Major:

It means the sores are larger and deeper which can be usually 10 mm and more in diameter and may last for 5-10 weeks.

c. Herpetiform:

This are also smaller sores which may take few weeks to cure.

2. Oral lichen planus

This medical condition is characterized by a burning sensation rash and white, lace- as painful sores in your mouth. Lichen planus in the mouth, an immunological system reaction, is particularly prevalent in women 50 years of age or beyond this, in addition to those assigned females at birth (AFAB).

3. Leukoplakia:

This clinical disorder is characterized by grey or white streaks inside your mouth. It is caused by an overabundance of cell division. Prolonged discomfort from acts like tobacco chewing and smoking may lead to Nonetheless, leukoplakia infections are usually harmless, and they frequently appear for no apparent reason.

4. Erythroplakia

Erythroplakia may also be an indication of tobacco chewing or smoking. Erythroplakia patients typically possess red spots below under the tongue or in between the lower front teeth. Leukoplakia lesions are often benign, however areas of erythroplakia are sometimes malignant or precancerous.

5. Oral thrush

This fungal sickness is brought on by a large amount of the yeast Candida albicans in your mouth. It generally occurs when your immune system fails to function at its best or after taking antibiotics. Oral thrush is the cause of mouth sores and irritated, creamy white spots.

6. Mouth cancer

Oral cancer lesions may appear as ulcers or red or white mouth sores. It is not possible for these sores to vanish on their own. If your mouth ulcer continues to persist away after three weeks, let your physician immediately.

Factors responsible for the mouth ulcers [7]

1. Toothpastes and mouthwashes that contain sodium lauryl sulphate
2. Emotional stress / Psychic stress
3. Hormonal changes
4. Nutritional deficiencies
5. Mechanical trauma
6. Viral infections
7. Allergies and sensitivities
8. Genetics
9. Infectious agent [both bacterial and viral]
10. Medical conditions

Causes of ulceration

Sores and erosions can be a particularly common sign of numerous conditions, such as immune system attacks like lichen planus, particular indications of a condition, trauma- induced epithelial damage, infections like TB, syphilis, and viral pathogens, nutritional deficiencies like vitamin deficiency, and immune defects like leukemia and HIV. [5] Some other factor may include:

Importances of Herbal Medicines

For essential healthcare needs, almost 80% of people in the ecosphere still make use of herbal medications given that they are more suitable for the environment, more compatible with the human body and contain less adverse interactions. There are several synthetic medications that can be used to treat mouth ulcers. The most common basic healthcare modality is herbal medicine because of its adoption in culture, compatibility with natural products, and lack of them negative consequences.[8]Herbal treatments involve using plants or parts of plants to treat wounds, illnesses or infections, as well as to prevent and cure diseases and illnesses and to advertise health.[9] Traditional herbal remedies are natural substances derived from plants that have been used for several generations for the treatment of human illnesses. Not surprisingly, Traditional medicines are applied by 1.42 billion people, or one-fourth of the world's population, for the treatment of a range of illnesses. There is evidence that herbal medicine has been used by many people on the planet from the beginning of time. Plant parts are used to treat different illnesses. Therefore, some herbs can aid in the healing of mouth ulcers. [10]

Benefits of herbal medicines [11]

Many conventional medicinal products have been established from natural sources and medicinal compounds have been discovered in nature for thousands of years. [12]

- The only dependable and economical supply of medications because of the increasing number of people worldwide is herbal drugs, which provide as a reversible source.
- Medicinal plants and herbal products have been grown and processed in a sustainable and environmentally safe.
- Evidence of the safety and effectiveness of herbal treatments may be found through prolonged, seemingly uneventful use. [13]

Herbal Drugs:

1. **Aloe Vera**

common Name: Aloe

Biological Source: Several kinds of aloe species, include Aloe Perryi Baker, Aloe Vera Linn, or Aloe barbadensis mil, and Aloe ferox miller, have dried juice that is extracted by cutting the bases of their leaves.

Family: Liliaceae

Chemical constituents

There are more than 100 active biologic components in aloe. Numerous natural chemicals found in the plant have health benefits, including:

Anthraquinones: Aloin A and B (also called barbaloin), isobarbaloin, emodin, anthranol, aloe-emodin, aloetic acid, and cinnamic acid ester.

Vitamins/ Minerals: Vitamins C, A, E, B-carotene, zinc, calcium, copper, magnesium, manganese, phosphorous, and copper.

Amino acids: There are 22 amino acids in aloe.

Enzymes: There are potentially more than the five various digestive enzymes that are now known to exist.

Polysaccharides: As an illustration, the B1-3 and B1-4 glucomannans promote the immune system. Aloe can be used for a variety of objectives, depending from the different elements it includes.

Plant Sterols: Four plant steroids: campestrol, cholesterol, and β-sitosterol [14]

Uses

1. It is used as a purgative.
2. It is used as a laxative.
3. It is used for ulcers and burns.
4. Aloe found many uses in cosmetics now days, like,
   a. Hair conditioner
   b. Hand and body lotion
   c. Moisture base cleanser
   d. Sampoo and facewash
5. It reduces constipation.
6. It clear acne

2. Turmeric [10]

Common name: Haldi

Scientific name: Curcuma longa

Biological source: It is obtained from dried rhizome of curcuma longa linn.

Family: Zingibereceae

Chemical constituents

Diarylheptanoids, Curcumin, dimethoxy curcumin, and Bisdemethoxy curcumin.

Mechanism of action

Curcumin may effectively treat mouth ulcers through increasing wound healing activity by raising the type-III collagen synthesis at the wound site, cellular proliferation, and collagen content in wound tissue, as determined by an increase in total protein and DNA. In combination with increasing tensile strength, this leads to the pace of epithelialization and wound contraction to accelerate.

Uses

1. It is effective as a natural antiseptic and antibacterial for burns and wounds.
2. It has been found to avoid prostate cancer and, when consumed with cauliflower, reduce the spread of prostate cancer that already exists.
3. Prevented mice's breast cancer against growing to their lungs.
4. minimizes the probability for leukemia.
5. It can relieve inflammation of the skin like psoriasis.
6. May prevent the spread among various cancer variations. [15]

3. Guava leaves [16]

Common name: Guava leaves

Scientific name: Psidium guava-java

Biological source: It is obtained from Psidium guajava L. [17]

Family: Myrtaceae

Chemical constituents

Guava leaves consist of numerous kinds of carotenoids and polyphenols, such as leucoanthocyanins and (+) gallocatechin. Because some of these phytochemicals determine the colour and texture of the skin, reddish-orange guavas have more carotenoids and polyphenols than yellowish-green guava

Mechanism of action

It effectively minimizes ulcer size, relieves ulcer pain, and disinfects wounds by utilizing the leaf infusions to rinse the afflicted areas. When guava leaves are used to extract flavonoids such quercetin, morin-3-o-lyxoside, and morin-3-o-arabinoside, may considerably reduce the size of aphthous ulcers.

Uses

Guava is frequently utilized to make preserves, jams, jellies, treats, and marmalades (such as Venezuelan bocadillo, Colombian bocadillo, and Brazilian goiabada). Its high pectin concentration also makes it a colourful jam. Red guava can be exchanged for tomatoes as a basis to decrease the acidity of savory foods such as sauces. This consume alcohol, called "tea" and considered a form of medicine, can be prepared with guava leaves and juice.

4. Tulsi[18]

Common name: Holy basil

Scientific name: Ocimum sanctum L

Biological source: Tulsi obtained from fresh and dried leaves of Ocimum sanctum linn.

Family: Lamiaceae[19]

Chemical constitution

Tulasi contain several kinds of phytochemicals, particularly linalool, carvacrol, rosmarinic acid, ursolic acid, oleanolic acid, eugenol, and β-caryophyllene. Tulsi essential oil primarily consists of eugenol.

Mechanism of action

Tulasi stimulates the skin and blood vessels because of its immunomodulatory actions. For lichen planus, tulsi can therefore be use for oral therapy. To help treat ulcer sores, use tulsi. The antiulcer qualities of Tulasi are attributed to its cytoprotective action.

Uses

Heart-healthy, anti-aging, carminative, antiperiodic, expectorant, and therapeutic for gastrointestinal problems, colds, coughs, kidney stones, headaches, and acne, as well as maintaining tooth and eye health.

a. Leaf: carminative, stomachic, antispasmodic, antirheumatic, expectorant, stimulant, hepatoprotective, antiperiodic, antipyretic and diaphoretic.
b. Roots: antimalarial
c. Seeds: relating genitourinary diseases.
d. Essential oil: antibacterial, antifungal
e. Whole plant: adaptogenic, antistress.

5. Ginger

Common name: Ginger

Scientific name: Ginger root, Black Ginger, Zingiber

Biological source: It is obtained from dried rhizomes of Zingiber officinale roscoe

Family: Zingiberaceae [20]

Chemical constituents: Gingerol, sesquiterpene, oleoresins, hydrocarbons. [21]

Mechanism of action

The anti-inflammatory characteristics of ginger minimize the discomfort associated with ulcers. Employing a mucoadhesive comprising licorice extract can help minimize the lesion's size and the pain it generates. yanoacrylate 2-octyle mucoadhesive, encourages wound healing, reduces lesion size, and speeds up the healing process.

Uses

Anticancer, Antiulcer, Anti-inflammatory, Antioxidant, antimicrobial, anti-diabetic. Ginger is used in the treatment of Aphthous ulcers. [21]

6. Neem

Common name: Azadirachta indica

Biological source: It obtained from dried leaves and seed oil of azadirachta indica.[22]

Family: Meliaceae [23]

Chemical constituents [24]

Some of the components that inhabit various plant parts are utilized for both commercial and medicinal uses since they contain many different kinds of chemical compounds. Some of these are:

Leaf: Quercetin, Nimbin, Nimbosterol.

Flowers: Nimbosterol, kaempferol, malicitrin.

Bark: nimbin, nimbidin, nombosterol, margosine.

Seeds: azadirachtin, azadiradione, nimbin, vepinin, vilasinin, fraxinellone.

Mechanism of action

Neem acts as a biopesticide exhibiting several of effectiveness and modes of action. When an insect larva is hungry and tries to eat a leaf, the presence of azadirachtin, salanin, and melandriol in the leaf produce an antiperistalitic wave in the alimentary canal, leading to the insect appear exactly like it is vomiting. This acts as its primary function as an antifeedant. This unpleasant sensation inhibits the insect from swallowing and from feeding on the neem- treated surface. Second, Neem oil and/or pulverized neem kernels prevent oviposition. inhibiting the female from releasing eggs, when the seeds are stored with embryos. It also influences insect growth. One of the most interesting and unique properties of neem products is their capability to influence juvenile harmone. [23]

Uses

Anti-inflammatory, Anti-oxidant, Anti-ulcer, Anti-viral, Anti-bacterial, Anti-carcinogenic, Anti-mutagenic, Anti-fungal, Antihyperglycemic. [25]

7. Chamomile [26]

Common name: Matricaria chamomila

Biological source: Chamomile consists of dried flower of chamomilia recutitia (German chamomile), chamaemelum nobile (Roman chamomile)

Family: Asteraceae

Chemical constituents with their activities

Chemical constituents	Activity
1.Volatile oil	Anti-inflammatory, Fungicidal, Analgesic, Antiphlogastric, bactericidal, Antiseptic, Antipyretic, Antianaphylatic, spasmolytic, carminative.
a. Chamazulene	Antioxidant, sedative
b. Bisabolol	Anti-corruption, Anti-inflammatory, Anti- microbial.
2. Polyphenol compounds	
a. Luteolin	Anti-inflammatory, Anti-hypertensive.
b. Quercetin	Anti-cancer, Anti-arthritis
c. Limonene	Anti-cancer
d. Apigenin	Anti-cancer
3. Choline	Liver diseases
4. Spiroether	Anti-spasmodic, Anxiolytic, sedative
5. Apple pectin	Anti-diarrheal in children
6. Bodegold	Sedative, anxiolytic, Anti-spasmodic

Other chemical constituents

Isobutyl isobutanoate, 2-Methylbutyl isobutanoate, Isobutyl angelate, Trans-pinocarveol, Estragol, Alpha-Bisabolol, A and B Bisabolol oxide, Spathulenol chamomillol, Phytol, Isophytol, Methyl palmitate.

Uses

- Anti-inflammatory, Anti-viral, Anti-itch. It is treat to rheumatoid arthritis.
- It is used for sun protection.
- It smoothes tough, lifeless skin.
- It is reduces inflammation of the skin.
- It reduces hypertension, cleanses the body, and combats inflammation

8. Liquorice

Common name: Glycyrrhiza glabra [27], [28]

Biological source: It is obtained from dried roots and stolons of glycyrrhiza glabra. [29]

Family: Leguminaseae[27]

Chemical constituents

Phosphoric, sulfuric, and malic acids, calcium and magnesium salts, glycyrrhizicacid, glycyrrhizin, a yellow, amorphous powder, saponin, sugar, asparagin, starch, gum, resin, and mucilage are all produced by the root. Bark provides trace amounts of polyphenols. [29]

Uses

Anti-inflammatory, Anti-bacterial, Anti-ulcer, Anti-hyperglycemic, Anti-oxidant, Anti- fungal, Anti-convulsant, Anti-malerial, Anti-viral and immunostimulatory, Anti- carcinogenic. [27]

9. Honey [30]

Common name: Honey

Biological source: It is consists of honey comb of bees Apis mallifera.

Family: Apeceae

Chemical constituents: Carbohydrates, vitamin, protein, amino acid, minerals, organicsalt, flavonoids, polyphenols, glycosides.

Mechanism of action: Honey's Because of its antibacterial and anti-inflammatory qualities, it can be used to mouth ulcers to help wounds heal through reducing inflammation and killing oral germs.

Uses

- It is used to heal mouth ulcers because it has antioxidant activity and antibacterial activity, which eliminates oral microorganisms.
- It is also used to treat cancer since it exhibits apoptotic activity.
- Additionally, it is utilized to treat diabetes because of its anti-inflammatory properties, which reduce oral inflammation.
- Honey is used to cure asthma. Additionally, honey is utilized to cure heart problems.

SUMMARY

This review establishes as distinct that medicinal herbs have played an important part in the management of oral ulcers. The antiulcer characteristics of herbal plants are probably due to flavanoids, which are more pleasant and have less side effects. The strongest alternative for treating ulcers in the mouth is to use herbal medicines since they contains chemical ingredients that are found naturally. This review indicates that the use of medicinal herbs has been very beneficial in the treatment of mouth ulcers. Herbal plants' antiulcer qualities are probably due to flavanoids, which are more pleasant and have less side effects. The greatest choice for treating mouth ulcers is to use herbal treatments because they contain chemical compounds that are found naturally. The leaves of guava, liquorice (mulethi), turmeric, aloe vera, pomegranate blossoms, Cordia dichotoma (lasoda), and betal (paan) are among the plants that contain flavonoids. Herbal remedies offer less side effects, are more culturally acceptable, and are more compatible with the human body. Because it is naturally occurring and has a variety of uses and therapeutic qualities, herbal medicine is the best substitute for conventional treatment of mouth ulcers.

REFERENCE

1. K. Upadhye, K. Charde, G. Dixit, and S. Bakhle, “Formulation and evaluation of herbal gel for management of mouth ulcers,” Indian Journal of Pharmacy and Pharmacology, vol. 8, no. 3, pp. 226–230, Sep. 2021, doi: 10.18231/j.ijpp.2021.039.
2. A. Agnihotri, A. Kaur, and R. Arora, “Oral Ulceration and Indian Herbs: A Scoping Review,” Dental Journal of Advance Studies, vol. 8, no. 03, pp. 071–079, Dec. 2020, doi: 10.1055/s-0040-1716316.
3. R. Rezvaninejad, N. Nabavi, S. M. Khoshroo, N. Torabi, and Z. Atai, “Herbal Medicine in Treatment of Recurrent Aphthous Stomatitis: A Literature Review,” J Islam Dent Assoc Iran, vol. 29, no. 3, pp. 127–134, Jul. 2017, doi: 10.30699/jidai.29.3.127.
4. S. D. Thakare, S. R. Rajewar, M. B. Gite, P. V Birgad, and U. T. Salve, “Review On Herbs Use In Treatment Of Mouth Ulcer,” 2023. [Online]. Available: www.ijcrt.org
5. V. Burley, Dr. D. Biyani, Dr. M. Umekar, and N. Naidu, “Medicinal plants for treatment of ulcer: A

review," Journal of Medicinal Plants Studies, vol. 9, no. 4, pp. 51–59, Jul. 2021, doi: 10.22271/plants.2021.v9.i4a.1312.

6. M. Chandrakant Farde et al., "Review Article On: Mouth Ulcer Gel," International Journal of Pharmaceutical Research and Applications, vol. 8, p. 1361, doi: 10.35629/7781- 080213611374.
7. S. Mittal and U. Nautiyal, "A Review: Herbal Remedies Used For The Treatment of Mouth Ulcer," Nautiyal International Journal of Health and Clinical Research, vol. 2, no. 1, pp. 17– 23, 2019, [Online]. Available: www.ijhcr.com
8. R. Kumar Yadav, "A Review on Mouth Ulcer and Its Various Treatment," vol. 10, no. 11, 2021.
9. S. Vilas Jadhav, S. T. Chavan, M. M. Namanwar, S. B. Kosalge, and S. V Jadhav, "Issue 1 www.jetir.org (ISSN-2349-5162)," JETIR, 2023. [Online]. Available: www.jetir.orgc704
10. S. Ghorpade, S. Kanase, S. Devkar, O. Gade, S. Ghongade, and A. Professor, "Herbal Treatment of Mouth Ulcer: A Review 1*," 2024. [Online]. Available: www.ijcrt.org
11. N. Shahare, S. CHOUHAN, and G. N. Darwhekar, "Herbs used in treatment of mouth ulcer- a review," International Journal of Pharmacognosy and Chemistry, pp. 68–74, Jul. 2021, doi: 10.46796/ijpc. v2i3.212.
12. V. Borekar, "Lantana camara: Overview on Toxic to Potent Medicinal Properties," 2012. [Online]. Available: www.ijpsr.com
13. M. Asif Dosani and S. Shafiq, "Formulation Development and Evaluation of Unit Moulded Herbal Semisolid Jelly useful in treatment of Mouth Ulcer."
14. "aloe-vera-plant--review-with---significant-pharmacological-activities".
15. D. Bhowmik, K. P. Sampath Kumar, M. Chandira, and B. Jayakar, "Turmeric: A Herbal and Traditional Medicine," 2009. [Online]. Available: www.scholarsresearchlibrary.com
16. V. Shirke, "Guava Used To Treat Mouth Ulcer," 2023. [Online]. Available: www.wjpr.net
17. A. Teresa, D. B. kumar, and A. John, "Herbal Remedies For Mouth Ulcer: A REVIEW," 2017. [Online]. Available: www.jbino.com
18. "Systematic position and medicinal uses of the following herbs."
19. M. M. Cohen, "Tulsi - Ocimum sanctum: A herb for all reasons," Oct. 01, 2014, Medknow Publications. doi: 10.4103/0975-9476.146554.
20. V. Yadav, P. Yadav, S. Sahu, M. Yadav, and S. narayan gupta, "A Review Literature on Ginger," 2021. [Online]. Available: www.ijcrt.org
21. N. Bhatt, M. I. Waly, and A. Ali, "Ginger: A functional herb," 2014. [Online]. Available: https://www.researchgate.net/publication/257416254
22. V. Burley, Dr. D. Biyani, Dr. M. Umekar, and N. Naidu, "Medicinal plants for treatment of ulcer: A review," Journal of Medicinal Plants Studies, vol. 9, no. 4, pp. 51–59, Jul. 2021, doi: 10.22271/plants.2021.v9.i4a.1312.
23. N. Kumar Verma and A. Roshan, "A brief study on neem (Azarrdirachta indica A.) and its application-A review." [Online]. Available: www.asdpub.com/index.php/rjp
24. S. Pratap Gond Chhatrapati Shahu Ji, J. Kumar, L. Gupta, M. Gupta, and S. Pratap Gond, "A Review On: Herbal Remedies For Treatment Of Mouth Ulcer," World Journal of Pharmaceutical Research www.wjpr.net ⎮, vol. 11, 2015, doi: 10.20959/wjpr202210-24976.
25. A. Agnihotri, A. Kaur, and R. Arora, "Oral Ulceration and Indian Herbs: A Scoping Review," Dental Journal of Advance Studies, vol. 8, no. 03, pp. 071–079, Dec. 2020, doi: 10.1055/s-0040-1716316.
26. S. Aglawe et al., "Chamomile: A Review," Research Journal of Pharmacology and Pharmacodynamics, vol. 12, no. 1, p. 12, 2020, doi: 10.5958/2321-5836.2020.00003.8.
27. S. Kalsi, S. Kumar Verma, A. Kaur, and N. Singh, "A Review on Glycyrrhiza Glabra (Liquorice) And Its Pharmacological Ac-Tivities," International Journal Of Pharmaceutics & Drug Analysis, vol. 4, pp. 234–239, 2016, [Online]. Available: http://ijpda.com;
28. M. Mhaske et al., "JETIR2206735 Journal of Emerging Technologies and Innovative Research (JETIR) www.jetir.org h297 Formulation and Evaluation Of Oral Antiulcer Gel From Liquorice Extract," 2022. [Online]. Available: www.jetir.org
29. B. S. Sawant, J. R. Alawe, and K. V Rasal, "Dr Kaveri V. Rasal et al: Pharmacognostic Study of Glycyrrhiza glabra Linn- A Review." [Online].

Available: http://www.iamj.in/posts/images/upload/3188_3193.pdf

30. "Herbal mouth ulcer gel: A Review." [Online]. Available: https://www.researchgate.net/publication/361216060.

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