



Formulation and Evaluation of Polyherbal Lactation Tablet of Moringa

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ABSTRACT:

Breastfeeding is essential for newborns and children because it provides optimal nutrition, immune support and many lifelong health benefits for both mother and child. But currently, many breastfeeding mothers are unable to properly feed their newborns due to lack of health support. And he faces many challenges related to milk production, including the insufficient supply of milk (Stanya Kshya), which prompts him to discover different methods to improve lactation, such as herbal galactagogues. Herbal galactagogues are natural substances that help to stimulate, maintain or increase the production of breast milk in women who are breastfeeding, for example. Fenugreek (*Trigonella fenum-graecum*), Garlic (*Allium sativum*), Shatavari (*Asparagus racemosus*), Cumin (*Cuminum cyminum*) Moringa (*Moringa oleifera*) etc. are traditionally used to induce lactation. Its mechanisms of action are thought to include the stimulation of prolactin secretion, an increase in the development of the mammary gland and an increase in the milk ejection reflex. Some herbs, such as fenugreek and shatavari, contain phytoestrogens, which can contribute to their lactogenic effects by modifying hormonal pathways. Despite their widespread traditional use, scientific evidence on the effectiveness and safety of herbal galactagogues remains limited and inconsistent. Some clinical studies suggest while others show no significant benefit compared to placebo. Also, Acharya Charaka explained two categories to summarize the treatment protocol regarding Stanya disorders. Questi include Stanya Shodhan (purgativu) è Stanya Janana (galactagogue) Gana. (Cha Sa Sutra Sthana 4/12). By combining traditional knowledge with contemporary scientific approaches, the therapeutic use of herbal galactagogues can be improved, leading to better breastfeeding results and promoting successful breastfeeding.

Keyword: Breast milk volume, Breastfeeding, Moringa oleifera, Postpartum

1. INTRODUCTION

Breastfeeding is a crucial physiological process that provides optimal nutrition and immune protection for newborns. The adequate production of breast milk depends on many factors, such as the mother's nutrition, hormonal balance and psychological well-being. However, in many regions, insufficient breastfeeding remains a common problem affecting both mother and child health. Conventional galactagogues, such as domperidone and metoclopramide, are used to improve milk secretion, but they are often associated with side effects, leading to an increased interest in natural and herbal alternatives.⁽¹⁾

Plant galactagogues are traditionally used in Ayurvedic, Siddha and Unani systems of medicine to promote milk production and improve maternal health. Herbal formulations— combinations of two or more medicinal plants—are often preferred over single herbal preparations because of their synergistic, multitargeted therapeutic effects and reduced toxicity.⁽²⁾ Among them, Moringa oleifera (commonly known as drumstick or "Shigru") has attracted considerable attention as a potent natural galactagogue due to its high nutritional content and diverse phytochemical profile.

Moringa oleifera leaves are rich in protein, vitamins (A, C and B complex) and essential minerals such as calcium, iron and potassium, which support maternal health and milk quality.⁽²⁾ Its phytoconstituents (flavonoids, phenolic acids and glucosinolates) have antioxidant, anti-inflammatory and hormone-modifying activities that can indirectly improve milk secretion. Combined with other traditional galactagogues such as *Asparagus racemosus* (Shatavari), *Trigonella foenum-graecum* (Fenugreek), *Foeniculum vulgare* (Fennel) and *Cuminum cyminum* (Caraway), Moringa forms an effective polypharmacy system that addresses nutritional deficiencies and hormonal regulation.⁽³⁾



The formulation of herbal tablets for breastfeeding offers a convenient dosage form with a standardized composition, improved stability and better patient compliance compared to traditional decoctions or powders. The evaluation of such formulations includes the evaluation of parameters such as physicochemical properties, phytochemical content, dissolution time, hardness and in vitro dissolution profile to ensure product quality, safety and efficacy.⁽³⁾

Therefore, this review focuses on the formulation and evaluation of an herbal lactation tablet containing *Moringa oleifera* and other synergistic galactagogue herbs. It highlights the phytochemical composition, pharmacological significance and potential benefits of the formulation to induce lactation naturally and safely.



MORINGA OLEIFERA

Moringa oleifera is a tropical evergreen tree species belonging to the Moringaceae family, native to India and widely planted in Asia, Africa and the tropical and subtropical regions of Central America. *Moringa oleifera* has considerable economic value in addition to being an ornamental tree species as almost all its parts, including the leaf, root and seed, can be used as food. Due to the abundance of active ingredients, it also has various pharmacological functions such as antioxidant, anti-inflammatory, antidiabetic, hypolipidemic, anticancer and antibacterial (Gao et al., 2020). Therefore, *Moringa oleifera* has always received great attention because it is known as the "miracle tree".⁽⁴⁾

2. AIM AND OBJECTIVE

• AIM

The main objective of this review is to design and study a herbal lactation tablet that combines *Moringa oleifera* with other known natural galactagogues such as *Asparagus racemosus* (Shatavari), *Trigonella foenum-graecum* (Fenugreek), *Foeniculum vulgare* (Fennel) and *Cuminum cyminum* (Cumin). The purpose of the development of this herbal tablet is to support mothers who face problems with low milk supply, offering a safe and effective alternative to chemical galactagogues that sometimes cause unwanted side effects.⁽⁵⁾ *Moringa oleifera* was chosen as the main ingredient because it is rich in proteins, vitamins, minerals and antioxidants that naturally help to stimulate milk production and improve the health of the mother. When combined with other galactagogue herbs, it can work in harmony to balance hormones, strengthen the body after childbirth, and improve the quantity and quality of breast milk.⁽⁶⁾

• OBJECTIVE

This review aims to bring together both traditional knowledge and scientific evidence about herbs that support lactation. The key objectives include:

1. Explore traditional and modern research on *Moringa oleifera* and other galactagogue herbs such as Shatavari, Fenugreek, Fennel and Cumin, which have been used for centuries to promote breast milk production.⁽⁵⁾
2. Understand the chemical and nutritional composition of these herbs, focusing specifically on active plant compounds such as



flavonoids, saponins, and alkaloids, as well as nutrients such as calcium, iron, and vitamins that help lactation.⁽⁶⁾

3. Design a standardized formulation of herbal tablets using scientific and pharmaceutical methods that ensure good stability, uniformity and ease of use for nursing mothers.
4. Test the formulated tablets for important quality parameters such as hardness, friability, disintegration time and disintegration to ensure that they are effective and safe.⁽⁷⁾
5. Compare and validate the results of the tablets formulated with available pharmacological and clinical studies, ensuring that the combination of herbs helps to improve natural milk secretion.⁽⁶⁾

3. PHYSIOLOGY OF BREASTFEEDING

Several factors contribute to the development of breast milk. in the beginning of pregnancy, estrogen and progesterone play a crucial role. role in the preparation of breast tissue. for lactation, estrogen promotes the development of milk ducts, while progesterone supports the formation of lobules essential for milk production (forinash et al., 2012).⁽⁸⁾

Milk production, or lactogenesis, is a complex neurophysiological process resulting from neuroendocrine activity. this involves the interaction of various physical and emotional factors, as well as the influence of several hormones, with prolactin playing a central role (mohanty et al., 2014).⁽⁹⁾ prolactin is the main hormone responsible for stimulating the mammary glands. however, during pregnancy, high levels of estrogen-aprogesterone prevent the ability of prolactin to activate milk production. in addition, prolactin, like human chorionic somatomammotropin, stimulate the production of enzymes necessary for the synthesis of milk. after birth, the sharp drop in estrogen and progesterone levels allows prolactin to effectively activate the alveoli for milk production (forinash et al., 2012).⁽³⁾ dopamine agonists and antagonists affect the synthesis and secretion of prolactin by interacting with the hypothalamus and the role of regulation of milk production of the anterior. therefore, an increase in prolactin levels is essential to stimulate milk production, but it is not necessary to maintain continuous milk production (mohanty et al., 2014).⁽⁹⁾

Milk secretion is mainly regulated by oxytocin, which causes the myoepithelial cells to contract, releasing the milk stored in the ducts (known as let-down). for the milk to reach the child, it must be pumped out of the alveolar lumen of the milk ducts. breastfeeding stimulates the production of prolactin and oxytocin. milk secretion continues as long as feeding continues.

4. LITERATURE REVIEW

1 Herbal Galactagogues in Traditional and Modern Medicine.

Herbal galactagogues have been used for centuries in traditional systems of medicine such as Ayurveda, Siddha and Traditional Chinese Medicine to stimulate milk production in postpartum women. In Ayurveda, plants such as Shatavari (*Asparagus Racemosus*), Methiti

(*Trigonella Foeniculum-graecum*), Saunf (*Foeniculum Vulgare*), jera (*Cuminum cyminum*) and Shigru (*Moringa oleifera*) are well documented for their galactagogue (10naaya) and rejuvante. These herbs not only improve milk secretion, but also improve the mother's strength, digestion and general vitality.

Recent clinical and preclinical studies have validated the traditional use of these herbs. For example, *Asparagus racemosus* showed prolactin-enhancing effects in lactating women, while supplementation with *Moringa oleifera* leaf powder significantly increased serum prolactin levels and breast milk volume in postpartum mothers. Similarly, *Trigonella foenumgraecum* seeds have shown estrogenic and galactagogue properties in animal and human studies.⁽¹¹⁾

2 Phytochemical Profile of Selected Galactagogues.

1. *Moringa oleifera*

Moringa leaves contain a wide range of bioactive compounds, including flavonoids (quercetin, kaempferol), phenolic acids (chlorogenic acid, ferulic acid), glucosinolates, alkaloids, tannins and carotenoids. These ingredients contribute to antioxidant, antiinflammatory and hormone regulatory effects, which can improve lactation by stimulating the activity of the mammary glands. Nutritionally, *Moringa* is rich in protein (up to 29%), calcium (500 to 1,400 mg/100 g), iron (up to 50 mg/100 g), vitamin A and



vitamin C, thus contributing to maternal health and the quality of milk.⁽¹²⁾

2. *Asparagus racemosus* (Shatavari)

The main active ingredients are steroidal saponins (shatavarins I to IV), isoflavones and alkaloids, which show estrogenic and galactagogue activity. These compounds contribute to the development of the mammary alveolar tissue and stimulate the secretion of prolactin, leading to improved milk production.

3. *Trigonella foenum-graecum* (Fenugreek)

Fenugreek seeds are rich in diosgenin, trigonelline, saponin and mucilaginous fiber. Diosgenin, a known phytoestrogen, is suggested to act on estrogen receptors and improve the differentiation of the mammary gland. Fenugreek also provides essential fatty acids and minerals that aid postpartum recovery.

4. *Foeniculum vulgare* (Fennel)

Fennel contains anethole, fenchone and estragole, volatile oils that mimic mild estrogenic effects, thus favoring lactation. It also has carminative properties that help reduce colic and digestive problems in mothers and children.

5. *Cuminum cyminum* (Cumin)

Cumin seeds contain cuminaldehyde, β -pinene and flavonoids with antioxidant and digestive effects. The presence of minerals such as iron and calcium also supports lactation and maternal health.⁽¹³⁾

a. Mechanism of Action of Herbal Galactagogues

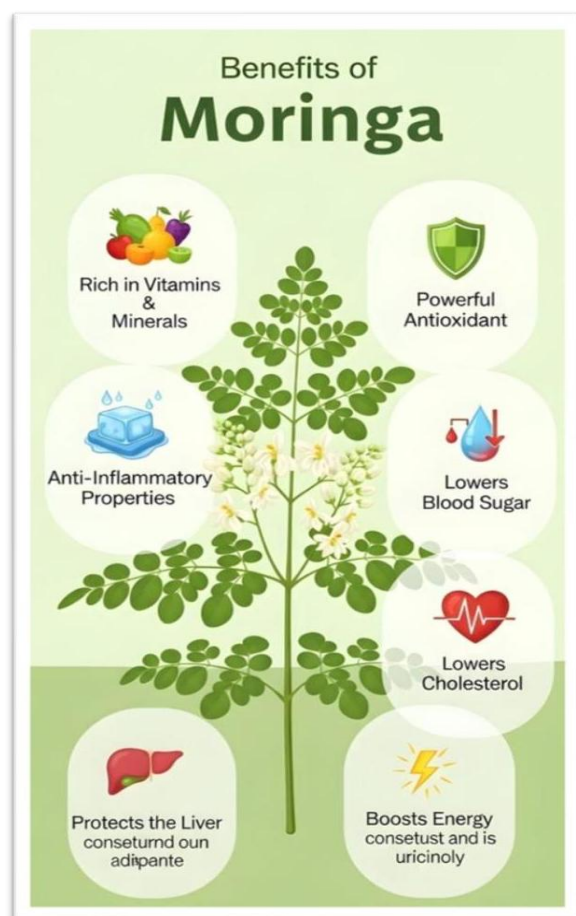
The lactogenic activity of herbal plants is attributed to a combination of nutritional and pharmacological mechanisms.

1. Hormonal modulation: Phytoconstituents such as saponins, flavonoids and alkaloids stimulate the release of the hormones prolactin and oxytocin from the anterior pituitary, which are essential for the synthesis and ejection of milk.
2. Estrogenic activity: Steroidal saponins and phytoestrogens mimic estrogens and promote the growth and differentiation of mammary gland tissue.⁽¹²⁾
3. Improved nutrition: Plants like Moringa provide essential macro and micronutrients (protein, calcium, iron and vitamins) that directly support milk formation and maternal recovery.

b. Polyherbal Formulations and Synergistic Activity

Polyherbal formulations are based on the principle that the combined therapeutic action of several herbs can produce a higher efficacy compared to single herbal preparations. The combination of *Moringa oleifera*, *Asparagus racemosus*, *Trigonella foenum-graecum*, *Foeniculum vulgare* and *Cuminum cyminum* provides synergistic effects integrating nutritional support with hormonal stimulation and antioxidant protection.

Such combinations have been reported to increase milk volume, improve infant growth, and reduce postpartum fatigue without significant adverse effects.⁽¹⁴⁾ The use of a tablet dosage form also provides stability, accurate dosing and better patient compliance compared to traditional formulations such as decoctions or powders.



BENEFITS OF MORINGA

5. SELECTION OF HERB'S

1. *Moringa oleifera* (Drumstick Tree) Family: Moringaceae

Part used: Leaves

Key Phytochemicals: Flavonoids, alkaloids, saponins, vitamins (A, C, E), calcium, iron

Pharmacological activity: Acts as a potent galactagogue by increasing prolactin levels; also provides essential nutrients to nursing mothers.⁽¹⁵⁾

2. *Asparagus racemosus* (Shatavari)

Family: Asparagaceae Part used: Roots

Key Phytochemicals: Saponins (Shatavarins I–IV), flavonoids, alkaloids

Pharmacological activity: Enhances milk secretion by stimulating mammary gland tissue and balancing female hormones.

3. *Trigonella foenum-graecum* (Fenugreek) Family: Fabaceae

Part used: Seeds

Key Phytochemicals: Diosgenin, alkaloids, mucilage, saponins



Pharmacological activity: Increases milk production by acting as a phytoestrogen; improves appetite and digestion.⁽²⁵⁾

4. *Foeniculum vulgare* (Fennel) Family: Apiaceae

Part used: Seeds

Key Phytochemicals: Anethole, fenchone, estragole

Pharmacological activity: Promotes lactation by mimicking estrogen activity and relieving flatulence in nursing mothers

5. *Cuminum cyminum* (Cumin) Family: Apiaceae

Part used: Seeds

Key Phytochemicals: Cuminaldehyde, flavonoids, terpenes

Pharmacological activity: Stimulates milk secretion and enhances digestion and immunity during lactation.⁽¹⁶⁾

PHYTOCHEMICAL & NUTRITIONAL COMPOSITION OF HERBAL GALACTOGOGUES.⁽²⁶⁾

Herbs	Phytochemicals composition	Nutritional composition
Moringa(16)	Saponins, glycoside, quercetin, \$sitosterol, \$ sitostenone	Vit. A, B,C, E Iron, Ca, K Protien,
Shatavari(13)	Saponins,Polyphenols, Flavonoids, Phytosterol	Macro minerals: Ca, Mg, K & Fe Micro minerals: Cu, Zn, Mn, Co, Cr Protein, Carbohydrates
Fenugreek(14)	Saponins, Phytoestrogen	VitA, B1, C, Folic acid Minerals: Mg, Ca, Iron, Proteins(Lysin & Tryptophan)
Cumin(17)	Alkaloids,anthraquinones, coumarins,glycosides,flavonoids, saponins, resins, annins,Cuminaldehyde, Terpenes.	Vit A, B (thiamin, niacin, vitamin B6, riboflavin) C, E Minerals, Fats
Fennel [18]	Phenols,alkaloids, terpenoids,flavonoid(quercetin in) glycosides, tannins saponins	Thiamine, riboflavin, niacin, and vitamin Ca, K iron, phosphorus, Protein, Fiber



6. FORMULATION DEVELOPMENT MATERIALS

The following materials were used in the formulation of the polyherbal lactation tablet.

1. Moringa Moringa oleifera Moringaceae Leaves Primary galactagogue, rich in calcium, iron, vitamins
2. Shatavari Asparagus racemosus Liliaceae Roots Enhances prolactin secretion, hormonal balance
3. Fenugreek Trigonella foenum-graecum Fabaceae Seeds Estrogenic activity, stimulates milk production
4. Cumin Cuminum cyminum Apiaceae Seeds Improves digestion, enhances milk secretion
5. Fennel Foeniculum vulgare Apiaceae Fruits Contains anethole; acts as a natural galactagogue and digestive aid Excipients used:

Microcrystalline cellulose (filler) Starch paste (binder)

Magnesium stearate (lubricant)

Talc (glidant) Sodium starch glycolate (disintegrant)

- Collection and Authentication of Plant Materials

All the selected plant materials were collected from local verified herbal sources and authenticated by a qualified botanist from a recognized university. Herbarium specimens of each plant were prepared and deposited for future reference.⁽¹⁷⁾

- Preparation of Plant Extracts

The plant materials were washed thoroughly with distilled water, shade-dried, and coarsely powdered. Each herb was subjected to hydroalcoholic extraction using ethanol:water (70:30) in a Soxhlet apparatus.

Extraction conditions: Temperature: 60–70°C, Duration: 6–8 hours, Solvent ratio: 1:10 (w/v)

The obtained extracts were filtered, concentrated under reduced pressure using a rotary evaporator, and dried at 40°C. The dried extracts were stored in airtight containers until use.

- Preparation of Polyherbal Powder Blend

Dried extracts of Moringa oleifera, Asparagus racemosus, Trigonella foenum-graecum, Cuminum cyminum and Foeniculum vulgare were mixed in equal ratios (1:1:1:1:1 w/w) or based on literature-reported efficacious proportions. The mixture was sieved through 60 mesh to obtain uniform granularity.

7. FORMULATION OF POLYHERBAL TABLETS

The wet granulation technique was employed for tablet formulation. Procedure:

1. The carefully weighed mixture of herbal powders was mixed evenly with the excipients.
2. A 5% starch paste was added as a binder to form a wet mass.
3. The wet mass was passed through sieve no. 16 to get the pellet.
4. The granules were dried in a hot air oven at 40°C for 2 hours.
5. The dry granules were lubricated with magnesium stearate and talc.
6. The granules were compressed into tablets using a rotary tablet compression machine.⁽¹⁸⁾



8. EVALUATION OF POLYHERBAL TABLETS

The evaluation of a polyherbal tablet is an important step to ensure the quality, effectiveness and stability of the formulation. Pre-formulation and post-formulation parameters were analyzed according to herbal standards of Indian Pharmacopoeia (IP), British Pharmacopoeia (BP) and WHO.⁽¹⁹⁾

1. Pre-Formulation Studies

These studies are performed prior to compression to assess the physicochemical and flow properties of the powder blend.

Parameters	Purpose	Methods/instrument
Organoleptic evaluation	To check color, odours, taste, texture	Visual inspection
Bulk density/ tapped density	To assess packing and flow property	Graduated Cylinder
Angle of repose	To determine flow characteristics	Fixed funnel method
Carr's index & Hausner's ratio	To evaluate Compressibility	Calculated from bulk/ tapped density
Moisture content	To prevent degradation and microbial growth	Loss on drying method
Compatibility study	To detect drug- Excipient interaction	FTIR Spectroscopy

Post-Formulation Evaluation

After compression, tablets are evaluated for the following physicochemical parameters:

Parameter	Purpose/ description	Acceptance criteria
General Appearance	Color, shap,surface uniformity	Smooth, uniform
Weigh variation	To ensure uniform weight	±5% variation
Hardness	To determine mechanical strength	4-6 kg/cm
Friability	To check resistance to abrasion	≤1% weight loss
Thickness	To unsure uniformity	Vernier caliper
Disintegration time	To determine breakdown time	Time ≤15min (herbal tablets)
Dissolution	To study drug release pattern	USP apparatus II in pH 6.8 buffer
Drug content Uniformity	To verify even distribution of actives	95–105 % of label claim
Phytochemicals screening	To confirm presence of Active constituents	Positive for flavonoids, saponins, alkaloids, tannins
Stability study	To assess product stability under stress	As per ICH Q1A(R2)

2. Phytochemical Evaluation

The qualitative phytochemical examination of the herbal tablet confirms the presence of flavonoids, alkaloids, phenolic compounds, saponins, glycosides and tannins, responsible for the galactagogue activity.

1. Dragendorff's test - Shinoda 2. alkaloid test – Flavonoid 3. alkaloid test - Flavonoid

4 foam test - Saponin ferric 5. chloride test - Tannins and phenolic compounds.⁽²⁰⁾

9. RESULTS AND DISCUSSION

The herbal nursing tablet formulated with *Moringa oleifera*, *Foeniculum vulgare*, *Asparagus racemosus* and *Trigonella foenum-graecum* showed excellent pre- and post-compression characteristics. The angle of repose (26°-29°), the Carr index (12%) and the Hausner ratio (1.14) showed good flow properties.⁽²¹⁾

The results after compression revealed a uniform weight, hardness (5.0 ± 0.2 kg/cm²), brittleness (0.65%) and rapid disintegration (10 min), all within the limits of the pharmacopoeia. The uniformity of the drug content (98%) confirmed the proper mixing and consistency of the dose.

The phytochemical examination confirmed the presence of flavonoids, alkaloids, tannins, saponins and glycosides, increasing galactagogue and antioxidant activity.⁽²³⁾

In vitro dissolution showed more than 90% release within 60 minutes, indicating effective bioavailability.⁽²²⁾



Stability studies according to the ICH guidelines did not show significant changes in the physicochemical parameters over 3 months, confirming the stability of the formulation. The combined plant components have shown synergistic action, improving prolactin secretion and milk production through their phytoestrogenic and nutrient-rich profiles.⁽²⁴⁾

Overall, the results showed that the herbal lactation tablet is stable, effective and pharmaceutically acceptable, providing a safe herbal alternative to improve lactation.

10. CONCLUSION

Herbal galactagogues, such as Shatavari, Fenugreek, Moringa, Yashtimadhu, Vidarikanda and others have shown promising potential to improve lactation in postpartum women, serving as a useful complement or substitute to traditional treatments. New clinical studies show that these herbal galactagogues can improve milk production, improve maternal health and contribute to better neonatal outcomes. Despite the traditional and growing clinical use of herbal galactagogues, strong scientific evidence supporting their effectiveness is still lacking. Many existing studies are limited by small population samples, nonstandard dosing regimens, inconsistent outcome measures, and insufficient long-term safety data. Future research should aim to standardize herbal formulations, to explain their mechanisms of action, and to investigate possible synergistic interactions. Further research on the safety and efficacy of herbal galactagogues, including clinical trials and case reports, is urgently needed to provide research-based evidence to inform health professionals and breastfeeding women. Combining traditional knowledge with contemporary scientific approaches, more clinical trials are needed to determine efficacy, optimal dosage, safety and long-term results in breastfeeding mothers, leading to better breastfeeding outcomes and the promotion of successful breastfeeding.

11. REFERENCES

1. Gupta M, Shaw B. A Double-Blind Randomized Clinical Trial for Evaluation of Galactagogue Activity of *Asparagus racemosus* Willd. Iran J Pharm Res. 2011;10(1):167-172.
2. Sultana S, et al. Nutritional and Functional Properties of *Moringa oleifera*: A Review. J Food Sci Technol. 2022;59(4):1235-1246.
3. Patel P, et al. Polyherbal Formulations as Therapeutic Approach in Lactation Insufficiency. Int J Ayurveda Pharm Res. 2021;9(3):45-52.
4. The number of published papers on *Moringa oleifera* since 2012 (source from web of science; date of search: 12.15.2021).
5. Mehta A, et al. Role of Herbal Galactagogues in Enhancing Milk Production: An Updated Review. J Ethnopharmacol. 2020;262:113-129.
6. Alok S, et al. Phytochemistry and Pharmacology of *Asparagus racemosus*: A Review. J Ethnopharmacol. 2013;149(1):14-24.
7. Sultana S, et al. Nutritional and Functional Properties of *Moringa oleifera*: A Review. J Food Sci Technol. 2022;59(4):1235-1246.
8. Forinash AB, Yancey AM, Barnes KN, Myles TD. The use of galactagogues in the breastfeeding mother. Annals of Pharmacotherapy. 2012;46(10):1392-1404. doi:10.1345/aph.1R167.
9. Mohanty I, Senapati MR, Jena D, Behera PC. Ethnoveterinary importance of herbal galactagogues—a Review. Veterinary World. 2014;7(5):325-330. Doi:10.14202/vetworld.2014.325-330.
10. Kapoor R, et al. Herbal Galactagogues in Traditional Indian Medicine: A Systematic Review. J Ayurveda Integr Med. 2021;12(3):497-506.
11. Turkyılmaz C, et al. The Effect of Fenugreek on Breast Milk Production and Prolactin Levels. J Altern Complement Med. 2011;17(4):325-330.
12. Sultana S, et al. Nutritional and Functional Properties of *Moringa oleifera*: A Review. J Food Sci Technol. 2022;59(4):1235-1246.
13. Singh R, et al. Phytochemical Composition and Biological Activities of *Cuminum cyminum*: A Review. Int J Food Sci. 2021;56(8):3302-3314.
14. Gupta M, Shaw B. A Clinical Trial for Evaluation of Galactagogue Activity of *Asparagus racemosus* Willd. Iran J Pharm Res. 2011;10(1):167-172.
15. Mahajan, S. G. et al., Pharmacognosy Reviews, 2007.
16. Srinivasan, K. et al., Critical Reviews in Food Science and Nutrition, 2007
17. Kokate C.K., Practical Pharmacognosy, 5th Edition, Vallabh Prakashan, 2014.
18. Lachman L., Lieberman H.A., The Theory and Practice of Industrial Pharmacy, CBS WHO Guidelines for Quality Control of Herbal Formulations. World Health Organization; 2022
- 19.ULKARNI SK. Handbook of Experimental Pharmacology. 5th Ed. Vallabh Prakashan; 2018.
20. ARTIN A. Physical Pharmacy and Pharmaceutical Sciences. 6th Ed. Lippincott Williams & Wilkins; 2019.
21. Costa P, Sousa Lobo JM. Modeling and comparison of dissolution profiles. Eur J Pharm Sci. 2001; 13:123-133.
22. Kokate CK, Purohit AP, Gokhale SB. Pharmacognosy. 50th Ed. Nirali Prakashan; 2021
23. Gupta M et al. Pharmacogn Rev. 2017; 11(21):18-26.
24. Turkyılmaz, C. et al., Journal of Alternative and Complementary Medicine, 2011



25. Herbal Galactogogues for Post Partum Lactation: A ReviewGoel M1*, Chaudhary LN2DOI:10.21760/jaims.10.6.36

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