

# Herbal Jelly : Utilizing Herbal Remedies for the Maintenance of Menstrual Health

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**Abstract:** Chronic non-communicable diseases (NCDs), including cardiovascular diseases, cancers, chronic respiratory diseases, and diabetes, are the primary cause of global disability and mortality, particularly affecting older, experienced members of the workforce. The rise in NCD-related deaths is forecasted to increase by 77% from 1990 to 2020, primarily in developing countries. Traditional herbal remedies are crucial for treating various health issues, with a growing reliance on medicinal plants like *Withania coagulans*, *Asparagus racemosus*, and others for women's health, particularly in managing menstrual problems. *Withania coagulans*, known as paneer doda, is recognized for alleviating menstrual discomfort, while *Shatavari* is revered for its hormonal balancing properties and support of female reproductive health. Fennel, ginger, turmeric, cinnamon, and aloe vera are additional herbs noted for their beneficial effects on menstrual cycles, offering anti-inflammatory, pain-relieving, and hormone-regulating properties. A mix of these herbs has been formulated into jelly for easier consumption, aiming to improve health outcomes in women suffering from dysmenorrhea and other menstrual disorders. Clinical studies attest to the efficacy of these herbal treatments in managing menstrual pain and irregularities, with a promising future for plant-based remedies in gynecological health. Overall, these natural products present less toxicity and lower side effects compared to synthetic medications, fostering a significant interest in herbal medicine as a safer alternative for women's health challenges. Continued exploration of these traditional remedies, focusing on their mechanisms of action and health impacts, remains essential for advancing women's health care.

**Keywords:** jelly, menstruation, relief pain, sufficient amount of menstrual flow

## I. INTRODUCTION

Chronic non-communicable diseases are today the primary cause of both disability and death worldwide. People of various ages and socioeconomic backgrounds are impacted by this diverse set of illnesses, which includes diabetes, cancer, chronic respiratory disorders, and cardiovascular diseases [1]. Non-communicable diseases (NCDs) are expected to cause 77% more fatalities worldwide between 1990 and 2020, with the majority of these deaths taking place in developing nations. In addition to causing great human pain, these illnesses endanger the economies of numerous nations by affecting the more seasoned and elderly workers.[2]

The main source for maintaining a healthy lifestyle and treating and preventing illnesses is plants.[3]

The use of medicinal herbs and herbal medicine has a long history, and recent advancements in contemporary therapeutics have encouraged the use of natural products for a variety of illnesses and conditions all around the world.[4]

## II. BOTANICAL DISCRIPTION

### PANEER DODA

The plant *Withania coagulans* Dunal is a tiny, stiff, gray-white shrub that grows to a height of 60 to 120 cm. The leaves measure roughly 2.5 to 7.5 cm in length and 1.5 cm in width. They are typically lance late oblong, but they can also be oval, obtuse, thin at the base, and have extremely short stalks. The flowers are yellowish, dioecious, and polygamous,



with a diameter of 7–12 mm. Auxiliary cymose clusters contain the flowers. The red, silky berries have a diameter of 7–12 mm and are encased in a leathery calyx. The globose fruit berry is 1.5–1 cm long and 0.7–1 cm wide. The fruit is covered in sepals that finish in a structure resembling a crown. There are 41–59 oval to rounded, yellowish brown seeds that are 0.1–0.3 cm long and 0.2–0.3 cm broad, with dots.



#### **Classification of paneer doda (*withania coagulans* dunal)**

- Biological name: *Withania coagulans* Dunal
- Kingdom: Plantae
- Division: Magnoliophyta
- Class: Magnolipsida
- Order: Solanales
- Family: Solanaceae
- Subfamily: solanoideae
- Genuse: Witnania
- Species: *W.coagulans*
- Sanskrita name: Rishyagandha
- Hindi name: Punir
- English name: Indian cheese maker
- Trade name: Paneer dodi

#### **Vernacular name: The plant is known by different name**

<b>Languages</b>		<b>Vernacular name</b>
Bengal	-	Ashvagandha
Bombay	-	Kaknaj
Gwalior	-	Ashvagandha
Punjab	-	Panir
Sindhi	-	Punirband
Persian	-	Kakanjehindi
Arabic	-	Kaknajehindi
Canaries	-	Ashvagandhi
Telgu	-	Pannerugadda



### Description

This shrub is, common in , East India, Nepal and Afghanistan,. In India it occurs in Punjab, Rajasthan, Simla, Kumaun and Garhwal.

**Use:** Among the many benefits of paneer doda, its ability to help with menstruation issues is becoming more widely acknowledged. Menstruation issues may be treated with medications, however these may have negative side effects. As an alternative, you can use paneer doda to cure painful periods and irregular cycles. Additionally, it keeps the uterus healthy and enhances blood flow. After learning about the numerous health advantages of paneer doda, let's look at some ways to use paneer flowers so you can incorporate this healing herb into your daily routine.

### SHATAVARI

The asparagus species *Asparagus racemosus*, also known as satavar, shatavari, shatamull, or shatawari, is indigenous to Africa and is found throughout southern Asia, including the Indian subcontinent, and northern Australia.[6][7] It loves to establish itself in rocky, gravelly soils high up in the piedmont plains, at elevations of 1,300–1,400 m (4,300–4,600 ft). It grows 1–2 m (3 ft 3 in–6 ft 7 in) tall.[8] In 1799, it was characterized botanically.[5]The demand for *Asparagus racemosus* is continuously increasing due to its many applications. The plant is now deemed \"endangered\" in its native habitat as a result of deforestation, habitat degradation, and destructive harvesting.



### Scientific Classification

- Kingdom: Plantae
- Clade: Tracheophytes
- Clade: Angiosperm
- Clade: Monocot
- Order: Asparagales
- Family: Asparagaceae
- Subfamily: Asparagoideae
- Genus: *Asparagus*
- Species: *A.Racemosus*
- Binomial name : *Asparagus racemosus*

### USE

Known as a potent herb that is good for women, shatavari aids in the treatment of a variety of hormonal issues. It not only aids in the treatment of endometriosis, or inflammation of the uterine lining, but it also keeps blood hormone levels stable, fortifies female reproductive organs, and promotes the development of eggs into follicles. When a person



is attempting to conceive, taking this formulation on a daily basis or eating foods that increase fertility may be quite beneficial because it is a potent uterine tonic.

### **FENNEL**

Fennel (*Foeniculum vulgare*) is a flowering plant species in the carrot family.[9][10] It is a hardy, perennial herb[11] with yellow flowers and feathery leaves.[12] It is indigenous to the shores of the Mediterranean but has become widely naturalized in many parts of the world, especially on dry soils near the sea coast and on riverbanks. It is a highly flavorful herb used in cooking and, along with the similar-tasting anise, is one of the primary ingredients of absinthe. Florence fennel or finocchio is a selection with wollen, bulb-like stem base that is used as a vegetable.

### **Scientific Classification**

- Kingdom: Plantae
- Clade: Tracheophytes
- Clade: Angiosperms
- Clade: Eudicots
- Clade: Asterids
- Order: Apiales
- Family: Apiaceae
- Genus: *Foeniculum*
- Species: *F. vulgare*
- Binomial name: *Foeniculum vulgare*

### **Use**

Fennel seeds are a great source of vitamins, fiber, and antioxidants, among other vital ingredients that contribute to its health advantages. In addition to their well-known therapeutic qualities, they have long been used to treat heavy menstruation, cramping, bloating, and digestion issues. These fennel seeds have natural qualities that can help control heavy menstrual flow and period cramps. Fennel, especially its seeds, has been used traditionally and is being studied for its possible benefits during menstrual cycles, such as pain relief and possibly encouraging regular periods.



### **GINGER**

Ginger (*Zingiber officinale*) is a flowering plant whose rhizome, ginger root or ginger, is widely used as a spice and a folk medicine.[13] It is an herbaceous perennial that grows annual pseudostems (false stems made of the rolled bases



of leaves) about one meter tall, bearing narrow leaf blades. The inflorescences bear flowers having pale yellow petals with purple edges, and arise directly from the rhizome on separate shoots.[14] Ginger belongs to the Zingiberaceae family, which also contains cardamom (*Elettaria cardamomum*), galangal, turmeric (*Curcuma longa*), and [15]. The Austronesian distantly related dicots in the genus *Asarum* are probably the first to domesticate ginger, which has its origins in Maritime Southeast Asia. It traveled with them all the way to Hawaii during the Austronesian expansion (about 5,000 BP) across the Indo-Pacific. Ancient Greeks and Romans utilized ginger, one of the first spices to be shipped from Asia and reach Europe through the spice trade.[16] Due to their similar tastes, the dicots in the genus *Asarum* that are distantly related are frequently referred to as wild ginger.

For millennia, ginger has been utilized as a nutritional supplement and in traditional Chinese, Indian, and Japanese medicine. Ginger has not been shown to be safe, and there is no solid proof that it helps reduce chemotherapy-related or pregnancy-related nausea and vomiting.[17][18] The FDA has not approved the use of ginger as a medication, and it is yet unknown if it can effectively treat any illnesses.[19] India accounted for 43% of the global ginger production in 2020, which totaled 4.3 million tonnes.



#### Scientific classification

- Kingdom: Plantae
- Clade: Tracheophytes
- Clade: Angiosperms
- Clade: Monocots
- Clade: Commelinids
- Order: Zingiberales
- Family: Zingiberaceae
- Genus: *Zingiber*
- Species: *Z. officinale*
- Binomial name: *Zingiber officinale*

**Use:-**Decreases Menstrual Pain: Prostaglandins are hormones that induce pain and inflammation during menstruation, and ginger includes chemicals that may help lower their production. Reduces Cramps: The uterine muscles that can cause menstrual cramps can be relaxed with the use of ginger. Because of its anti-inflammatory and pain-relieving qualities, ginger may be a useful treatment for menstrual cramps and discomfort, possibly lessening the intensity and duration of pain.

#### TURMERIC

*Curcuma longa* [22][23], sometimes known as turmeric [20][21], is a flowering plant that belongs to the Zingiberaceae family of gingers. Native to Southeast Asia and the Indian subcontinent, this perennial herbaceous plant needs significant yearly rainfall and temperatures between 20 and 30 °C (68 and 86 °F) to flourish. Every year, plants are





harvested for their rhizomes, some for eating, and some for multiplication the following season. The main ingredient in turmeric, curcumin, gives it its dyeing properties. The rhizomes are used fresh or boiled in water and then dried before being ground into a deep orange-yellow powder that is frequently used as a coloring and flavoring agent in many Asian cuisines, particularly for curries.[24]



### Description

Turmeric is a perennial herbaceous plant that reaches up to 1 m (3 ft 3 in) tall.[25] It has highly branched, yellow to orange, cylindrical, aromatic rhizomes.[25]

The leaves are alternate and arranged in two rows. They are divided into leaf sheath, petiole, and leaf blade.[25] From the leaf sheaths, a false stem is formed. The petiole is 50 to 115 cm (20–45 in) long. The simple leaf blades are usually 76 to 115 cm (30–45 in) long and rarely up to 230 cm (7 ft 7 in). They have a width of 38 to 45 cm (15 to 17+½ in) and are oblong to elliptical, narrowing at the tip.[25]

### Scientific classification

- Kingdom: Plantae
- Clade: Tracheophytes
- Clade: Angiosperms
- Clade: Monocots
- Clade: Commelinids
- Order: Zingiberales
- Family: Zingiberaceae
- Genus: *Curcuma*
- Species: *C. longa*
- Binomial name: *Curcuma longa*

**Use:** During menstruation, turmeric, especially its active ingredient curcumin, Use: Turmeric, especially its active ingredient curcumin, may help with menstruation. It may help control the menstrual cycle and provide some relief from menstrual pain and abnormalities.

Turmeric is also an emmenagogue which can stimulate blood flow in uterus and pelvic region. Turmeric has antispasmodic effect on the body, which expands uterus and induces menstruation. To reduce menstrual irregularities, drink haldi doodh or turmeric latte regularly.

### CINNAMON

Cinnamon is a spice sourced from the inner bark of various tree species belonging to the genus *Cinnamomum*. It is primarily utilized as a fragrant seasoning and flavoring agent in an extensive range of dishes, both sweet and savory, including cookies, breakfast cereals, snacks, bagels, teas, hot chocolate, and traditional recipes. The scent and taste of cinnamon come from its essential oil, with cinnamaldehyde being the main component, along with several other elements such as eugenol from *Cinnamomum verum*, as referenced in Koehler's Medicinal-Plants (1887).

Cinnamon refers to various tree species and the spice products that some of these trees yield. All of them belong to the genus *Cinnamomum* within the Lauraceae family. Only a limited number of *Cinnamomum* species are cultivated



commercially for spice purposes. *Cinnamomum verum* (also known as *C. zeylanicum*), commonly referred to as "Ceylon cinnamon" due to its origin in Sri Lanka (previously called Ceylon), is regarded as "true cinnamon." [26] However, the majority of cinnamon found in global markets comes from four other species, which are generally and more accurately termed "cassia": *C. burmanni* (Indonesian cinnamon or Padang cassia), *C. cassia* (Chinese cinnamon or Chinese cassia), *C. loureiroi* (Saigon cinnamon or Vietnamese cassia), and the less prevalent *C. citriodorum* (Malabar cinnamon). [26][27][28]



#### Scientific Classification

- Kingdom: Plantae (Plants)
- Division: Magnoliophyta (Flowering plants)
- Class: Magnoliopsida (Dicotyledons)
- Order: Laurales
- Family: Lauraceae (Laurel family)
- Genus: *Cinnamomum*
- Species: *Cinnamomum verum* (True cinnamon or Ceylon cinnamon)

#### USE

Cinnamon supplementation might enhance menstrual regularity in women diagnosed with polycystic ovary syndrome (PCOS) and could also potentially decrease menstrual discomfort and bleeding. Comprehending your menstrual cycle, which generally spans about 28 days, may assist you in monitoring your fertility and recognizing possible health concerns. Some research indicates that taking cinnamon can lead to improved menstrual regularity, especially in females with Polycystic Ovary Syndrome (PCOS). Cinnamon may aid in the regulation of insulin levels, which can influence other hormones and the menstrual cycle. A study published in the American Journal of Obstetrics & Gynecology revealed that cinnamon supplementation notably enhanced menstrual cyclicity in women living with PCOS.

#### ALOE VERA

Aloe vera [29] is a succulent plant species of the genus *Aloe*. [30] It is widely distributed, and is considered an invasive species in many world regions. [30][31]

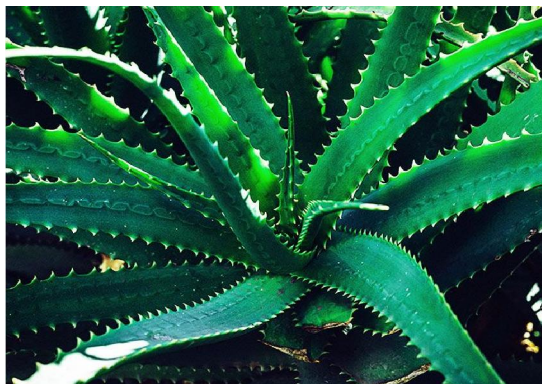
An evergreen perennial, it originates from the Arabian Peninsula, but also grows wild in tropical, semi-tropical, and arid climates around the world. [31] It is cultivated for commercial products, mainly as a topical treatment used over centuries. [31][32] The species is considered attractive for decorative purposes, and is often used indoors as a potted plant. [33]

The leaves of Aloe vera contain significant amounts of the polysaccharide gel acemannan, which can be used for topical purposes. [34] The leaves also contain aloin, which is a toxic compound. Aloe vera products are typically made from the gel.

Aloe vera acemannan may be used in skin lotions, cosmetics, ointments and gels for minor burns, skin abrasions, insect bites, and windburn. [35] Oral ingestion of aloe vera extracts may cause acute abdominal pain and cramps, and hepatitis



if consumed chronically.[32][36]It should not be used during pregnancy. Some people have allergic reactions to aloe when used on skin.[32][36]



#### **Scientific classification**

- Kingdom: Plantae
- Clade: Tracheophytes
- Clade: Angiosperms
- Clade: Monocots
- Order: Asparagales
- Family: Asphodelaceae
- Subfamily: Asphodeloideae
- Genus: Aloe
- Species: A. vera
- Binomial name : Aloe vera

#### **USE**

Aloe vera, known for its calming and cooling effects, may assist in alleviating menstrual discomfort and irregularities by lowering inflammation and cramps, and possibly aiding in hormone regulation. The anti-inflammatory characteristics of aloe vera can help alleviate menstrual pain and cramps. Some believe that aloe vera may assist in normalizing menstrual cycles by promoting hormonal balance. Aloe vera can offer hydration and vital nutrients, which can be advantageous during menstruation. Massaging the abdomen with aloe vera gel can help relieve cramps and diminish bloating. Combining aloe vera with coconut sugar or jaggery may help manage excessive bleeding, particularly when accompanied by pain.

### **III. LITERATURE REVIEW**

**1. Mohaddese Mahboubi et al(2019):-** This review paper evaluates use of *Foeniculum vulgare* extracts as a popular female plant in management of different ailments of women. Information in this paper was gathered from accessible sources (PubMed, Science Direct, Springer, Wiley, and Google), and traditional books (Persian or English modern traditional books), unpublished data (R&D reports, thesis and dissertation) by keywords based on the words *F. vulgare* or fennel and women. Efficacy of oral fennel oil in management of dysmenorrhea, premenstrual syndrome, amenorrhea, menopause, lactation, and polycystic ovary syndrome were confirmed according to results of clinical studies. Results of clinical efficacy of fennel oil on menstrual bleeding is complicated, but results of one meta-analysis study revealed that fennel oil significantly increased means of bleeding in the first menstrual periodic cycle ( $P = 0.001$ ), while fennel oil had no significant effect on bleeding in the second menstrual cycle ( $P = 0.67$ ). Topical and vaginal fennel extract (5%) exhibited good efficacy in treatment of sexual function, vaginal atrophy, and hirsutism. Fennel had no effect on bone density, or body mass index of menopause women. Results of clinical studies introduce fennel as a valuable medicinal





plant in management of women's ailments, but understanding the mechanism of action could be the subject of future studies.

**2. Rizu Negi et al (2021):-** Primary dysmenorrhea is a common menstrual disorder that significantly impacts women's quality of life, productivity, and healthcare utilization. In this randomized, double-blinded, placebo-controlled trial, sixty women with primary dysmenorrhea were randomly divided into two groups with thirty participants each, and were allocated either turmeric–boswellia–sesame formulation (treatment) or placebo. The participants were advised to take two softgels of 500 mg as a single dose of allocated study intervention (total dose 1000 mg) when their menstrual pain reached 5 or more on a numerical rating scale (NRS). Menstrual cramp pain intensity and relief were evaluated every 30 min post-dose until 6 h. Results indicated a promising role of turmeric–boswellia–sesame formulation for menstrual pain relief compared to the placebo. The mean total pain relief (TOTPAR) of the treatment group ( $18.9 \pm 0.56$ ) was found to be 12.6 times better than the placebo group ( $1.5 \pm 0.39$ ). The NRS analysis showed that there was a statistically significant difference in pain intensity between the treatment and placebo groups ( $p < 0.001$ ) at every timepoint. Additionally, the sum of pain intensity difference at 6 h (SPID6) of the treatment group ( $34.32 \pm 1.41$ ) showed a significant difference ( $p < 0.0001$ ) and was 20.19 times better when compared to placebo ( $1.7 \pm 0.56$ ). Based on the study results, the turmeric–boswellia–sesame formulation exhibited remarkable menstrual pain relief as compared to the placebo.

**3. Narayana Charyalu Rompicherla et al (2022):-** Topical treatments are a potential therapeutic option for the therapy of osteoarthritis, with significant data supporting the effectiveness and safety of topical formulation. Topical gel formulations may offer an alternative to oral formulations to relieve osteoarthritis (OA) pain while decreasing systemic exposure. Topical capsaicin transemulgel may represent an effective and safe alternative. The transemulgel was prepared from aqueous Aloe vera gel and Carbopol 934 with capsaicin in clove oil emulsion. The optimized transemulgel of capsaicin showed a pH of  $6.1 \pm 0.1$  and viscosity of 15263–998 cps. Data from in vitro diffusion demonstrated improved permeability properties. The formulation caused no skin irritation when applied topically. The optimal transemulgel spreadability was found to be 20.23 g·cm/s. In vitro and ex vivo studies of the optimized formulation were performed. The skin irritant test was performed on rat skin with an optimized and marketed formulation. Both showed no irritation on the skin. The transemulgel of the capsaicin with Aloe vera gel was proven to be effective for osteoarthritis therapy.

**4. Divya Agarwal et al (2023):-** Primary dysmenorrhea is a common menstrual disorder that significantly impacts women's quality of life, productivity, and healthcare utilization. In this randomized, double-blinded, placebo-controlled trial, sixty women with primary dysmenorrhea were randomly divided into two groups with thirty participants each, and were allocated either turmeric–boswellia–sesame formulation (treatment) or placebo. The participants were advised to take two softgels of 500 mg as a single dose of allocated study intervention (total dose 1000 mg) when their menstrual pain reached 5 or more on a numerical rating scale (NRS). Menstrual cramp pain intensity and relief were evaluated every 30 min post-dose until 6 h. Results indicated a promising role of turmeric–boswellia–sesame formulation for menstrual pain relief compared to the placebo. The mean total pain relief (TOTPAR) of the treatment group ( $18.9 \pm 0.56$ ) was found to be 12.6 times better than the placebo group ( $1.5 \pm 0.39$ ). The NRS analysis showed that there was a statistically significant difference in pain intensity between the treatment and placebo groups ( $p < 0.001$ ) at every timepoint. Additionally, the sum of pain intensity difference at 6 h (SPID6) of the treatment group ( $34.32 \pm 1.41$ ) showed a significant difference ( $p < 0.0001$ ) and was 20.19 times better when compared to placebo ( $1.7 \pm 0.56$ ). Based on the study results, the turmeric–boswellia–sesame formulation exhibited remarkable menstrual pain relief as compared to the placebo.

**5. Bhoir Chanchal et al (2024):-** As we all know that traditional herbs and plants have any medicinal benefits and used in treatment of wide variety of diseases. Panner Doda is traditional plant which is used in treatment of many diseases such as diabetes, wound healing menstrual disorders, etc. Panner phool (withania Coagulans) have medicinal properties



to control diabetes mellitus type 2. Panner dodi is available in powder form (rarely) but most commonly available as dried phool which is soaked overnight in a water to have maximum benefits to control diabetes. But it has only drawn that it is bitter in taste. So oral medicated sweet jelly formulation has a sweet taste and has an attractive appearance. So, it has become easy to have a medicine by altering its bitter taste and can be given to paediatrics as well as geriatric patients suffering from diabetes mellitus. Paneer Doda (Withania Coagulans Dunal), belonging to the family Solanaceae, is a small bush which is widely spread in South Asia. It grows as short shrub (35-75 cm) with central stem. This shrub is common in Afghanistan, East India & Nepal. In India it occurs in Punjab, Rajasthan, Simla, Kumaun and Garhwal. It is commonly known as 'Indian cheese maker' or 'vegetable rennet' due to coagulant property of leaves and fruits. The berries contain two esterases, free amino acids, fatty oil, an essential oil and alkaloids. The amino acids present are proline,

**6. Yadav Chandra Kishor et al (2024):-** Women are boon to the nature. They carry huge responsibility since beginning of their life. Due to excessive workload they don't follow Rajahswalaparicharya, Garbhini paricharya and Sutika paricharya, as a result they suffer from different diseases. Due to unhealthy lifestyle and diet women are prone to disease of reproductive system. They suffer from different diseases such as Yonisrava, Yonikandu, Bandhyatwa, Garbhini vyadhis, Prasava vyadhis, Garbhasaya arbuda, PCOD etc. so for the treatment of these diseases the Ayurvedic herbs play important role. These herbs play important ingredient in Sthanika chikitsa as well. During the procedure like Yoniprakshalana, Yoni pichu, Yoni lepan, Kshar karma these Ayurvedic drugs become the major ingredient. Some herbs like Aloe vera, Shatavari, Kanchnara, Lodhra etc are described in detail. The aim of this article is to document about the Ayurvedic herbs which are commonly used in Gynecological problems. These Ayurvedic herbs are easily available and they don't have much side effects. This information is taken from Pubmed, Google scholar, Scopus, Science Direct and different Ayurvedic books.

#### **IV. AIM AND OBJECTIVES**

##### **AIM :**

To review and study herbal drugs their properties and to formulate and evaluate herbal jelly.

The aim of herbal jelly is to leverage the medicinal properties of herbs for various health benefits, often in a palatable and accessible format.

- **Leverage Herbal Properties:** Harness the beneficial compounds in herbs to address specific health concerns or promote overall well-being.
- **Develop a Palatable Form:** Create a jelly that is enjoyable and easy for people, especially children, to consume, making it a convenient alternative to traditional herbal remedies.

##### **Objectives :**

Objectives include formulating and evaluating the jelly for its efficacy, safety, and physicochemical properties. This can include testing for antibacterial activity, anti-inflammatory effects, or nutritional value, depending on the specific herbs and desired outcome.

##### **Formulation and Evaluation:**

- **Optimizing the Jelly:** Determining the optimal composition of herbs, gelling agents, and other ingredients to achieve desired texture, taste, and stability.
- **Physicochemical Properties:** Assessing parameters like pH, viscosity, spreadability, and taste to ensure the jelly is safe and palatable.
- **Stability Studies:** Evaluating the jelly's shelf life and resistance to degradation over time.

1. To discuss Herbal drugs and their properties.
2. Advantages and disadvantages .
3. Factor influencing their formation.
4. Method of preparation .






5. Characterization.
6. Applications.

**PLAN OF WORK**

1. Literature Review.
2. Collect necessary crude drug needed for experimentation.
3. To formulate herbal jelly by various curde drug.
4. To evaluate formulated Jelly.
5. Data Analysis.
6. Documentation.

**NOTE :**

**FORMULA FOR FORMULATION OF JELLY**

INGREDIENTS	QUANTITY	IMAGES
Panner phool powder	0.5gm	
Shatavari powder	0.5gm	
Fennel powder	0.5gm	



Ginger powder	0.5gm	
Turmeric powder	0.5gm	
Cinnamon powder	0.5gm	
Aleo vera powder	0.5gm	



Agar agar powder	1.2gm	
Distilled water	75ml	
Jaggery powder	35gm	

#### PROCEDURE FOR A UNIT JELLY

<p>Paneerphool(0.08gm)+shatavari(0.08gm)+fennel(0.08gm)+ginger(0.08gm)+turmeric(0.08gm)+ cinnamon(0.08gm)+aleovera (0.08gm)</p> <p>↓</p> <p>Agar(0.2gm)</p> <p>↓</p> <p>Distilled water(15ml)</p> <p>↓</p> <p>Formation of jelly</p>
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### EVALUATION TEST

- Solubility test:**

Formulation of solubility of product was done, which includes the selection of suitable solvent to dissolve the jelly as well as excipients such NaOH, Hcl, Water, Ethanaol, Chloroform.

- pH test:**

The Ph of jelly was measured by using a digital pH meter at room temperature 25 C. For this purpose, 0.5gm of jelly was dispersed in 50ml of distilled water to make 1 percent of solution and the reading was noted.

- Organoleptic Properties**

- Colour
- Odour
- Taste

### MATERIALS AND EQUIPMENTS

CRUDE DRUGS	USES	QUANTITY
Paneer doda	Paneer doda for treating irregular menstrual cycles and painful menstruation. It also helps improve the blood flow and keep the uterus healthy.	-
Satavari	Beneficial for regulating hormonal balance and alleviating menstrual discomforts like cramps.	-
Fennel	Fennel seeds are traditionally used to alleviate menstrual pain and regulate the menstrual cycle due to their anti-inflammatory and hormone-balancing properties.	-
Ginger	Ginger seeds (or ginger root, rhizome) can be used during the menstrual cycle, particularly to help manage pain and discomfort associated with primary dysmenorrhea (painful menstruation).	-
Turmeric	Turmeric, particularly its active compound curcumin, is traditionally used in Ayurvedic medicine to support menstrual health, potentially helping with pain, inflammation, and regulating periods	-
Cinnamon	Cinnamon can be helpful during menstruation by potentially reducing heavy bleeding and menstrual cramps. Some studies suggest it can also help regulate menstrual cycles, especially in women with polycystic ovary syndrome (PCOS).	-
Aloevera	Aloe vera is commonly used for various health benefits, including menstrual cycle regulation.	-
Agar-Agar	Agar-agar is primarily used as a gelling agent in food, microbiology, and certain industrial applications.	-
APPARATUS	USES	PRINCIPLE
Butter paper	It is used as weighing paper.	-
Filter paper	Use for filtration.	Separation of solid





		particles from liquids.
Water bath	Use for extraction.	-
Beakers	Use to hold liquid samples.	-
Stirrer	Use for stirring or mixing of solution.	-
Measuring cylinder	Use to measure the volume of liquids.	-
Funnel	Use for transferring liquids in small containers.	-
<b>INSTRUMENTS</b>	<b>USES</b>	<b>PRINCIPLE</b>
Hot air oven	Use to sterilize lab objects and samples.	A hot air oven uses dry heat and conduction to sterilize or dry heat-resistant materials.
Weighing balance	Use to determine the weight or mass of the object.	Weighing balances work on the principle of equilibrium, balancing an unknown weight against a known weight until a state of equilibrium is reached.

## V. EXPERIMENTAL WORK

### METHOD USED FOR THE FORMULATION OF HERBAL JELLY

#### FORMULA FOR FORMULATION OF JELLY

INGREDIENTS	QUANTITY	IMAGES
Panner phool powder	0.5gm	
Shatavari powder	0.5gm	



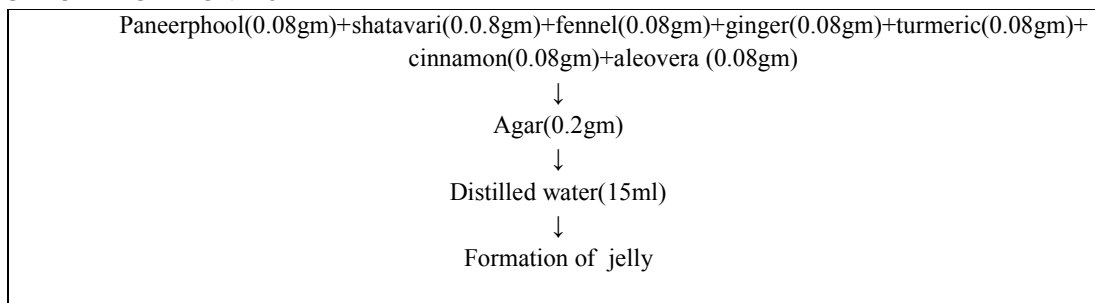
Fennel powder	0.5gm	
Ginger powder	0.5gm	
Turmeric powder	0.5gm	
Cinnamon powder	0.5gm	



Aleo vera powder	0.5gm	
Agar agar powder	1.2gm	
Distilled water	75ml	
Jaggery powder	35gm	



### PROCEDURE FOR A UNIT JELLY



### EVALUATION TEST

- **Solubility test:** Formulation of solubility of product was done, which includes the selection of suitable solvent to dissolve the jelly as well as excipients such NaOH, Hcl, Water, Ethanaol, Chloroform.

SR.NO	SOLVENT	SOLUBILITY
1.	Water	Soluble
2.	NaOH	Sparingly soluble
3.	Chloroform	Soluble

- **pH test:** The Ph of jelly was measured by using a digital pH meter at room temperature 25 C. For this purpose, 0.5gm of jelly was dispersed in 50ml of distilled water to make 1 percent of solution and the reading was noted.
- **Organoleptic Properties**
  - Colour :Brown
  - Odour: Sweet Odor
  - Taste: Sweet to slight bitter.

### LAB WORK



CRUDE DRUGS USED FOR THE FORMULATION OF HERBAL JELLY.







EXTRACTION OF DRUG BY HEATING AND FILTERED IT.



SOLUTION CONTAINING MIXTURE OF CRUDE DRUGS AND EXCIPIENTS ( AGAR –AGAR ).

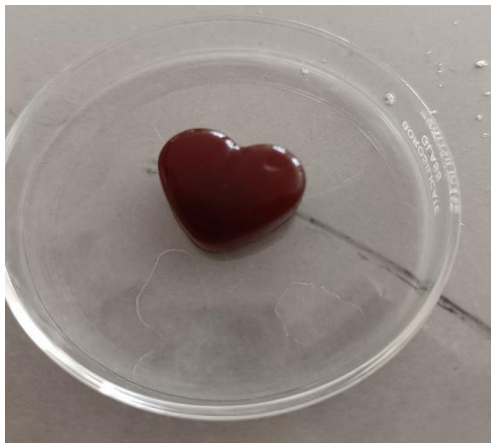


AGAR-AGAR  
( USED FOR THE FORMULATION OF JELLY )



MOULD USED FOR GIVING THE ATTRACTIVE SHAPE TO THE JELLY.





FORMULATED HERBAL JELLY



HERBAL JELLY FORMULATED AT P.WADHAWANI COLLEGE OF PHARMACY GIRIJA NAGAR  
DHAMANGOA ROAD ,YAVATMAL .



PACKAGING OF HERBAL JELLY

**RESULT :** FORMULATION OF HERBAL JELLY IS DONE.



## **VI. RESULTS AND DISCUSSION**

Herbal jelly, particularly those containing ingredients like Paneer phool, Shatavari, and ginger, shows promise in managing menstrual irregularities and related symptoms.

- **Reduced PMS Symptoms:**

A study on royal jelly found that consuming it for two months significantly reduced PMS scores compared to a placebo group, indicating potential benefits for managing premenstrual symptoms like mood swings and bloating.

- **Reduced Menstrual Bleeding:**

Chamomile capsules have been shown to decrease the amount of menstrual bleeding, potentially offering a natural alternative for managing heavy periods.

- **Pain Relief:**

Herbal formulations containing ingredients like ginger, caraway, and turmeric have been traditionally used for pain relief associated with menstruation, and studies suggest they can be effective in managing dysmenorrhea.

- **Potential Side Effects:**

While herbal remedies are generally considered safe, it's important to be aware of potential side effects, especially when used in conjunction with other medications. For example, certain herbs may interact with blood thinners or other medications.

- **Individual Variation:**

The effectiveness of herbal remedies can vary depending on individual factors, such as the type of menstrual issue, the specific herbal ingredients used, and the dosage.

- **Need for Further Research:**

More robust scientific evidence is needed to determine the most effective doses, potential side effects, and the best ways to use herbal jelly for menstrual cycle management.

Discussion Points:

- **Safety and Efficacy:**

While herbal remedies offer a natural alternative for managing menstrual issues, it's crucial to consult with a healthcare professional before using them, especially if you have any underlying health conditions or are taking medications.

- **Formulation and Dosage:**

The specific ingredients and dosage of herbal jelly can significantly impact its effectiveness. More research is needed to optimize formulations and dosages for different menstrual issues.

- **Individualized Approach:**

The best approach to managing menstrual issues may involve a combination of herbal remedies, lifestyle changes, and medical interventions.

- **Collaboration with Healthcare Providers:**

Healthcare providers, including midwives, can play a crucial role in educating women about the potential benefits and risks of herbal remedies and in collaborating with them to develop individualized treatment plans.

## **VII. CONCLUSION**

Crude drug jelly candy has the ability to lessen both the severity and length of primary dysmenorrhea. However, the reduction in severity and duration of primary dysmenorrhea in adolescents taking ibuprofen is greater than that in those who consume ginger jelly candy. Nonetheless, offering crude drug jelly candy can serve as an alternative treatment for dysmenorrhea among adolescents who prefer not to use medications.

Plant drugs are considered to be lesser toxic with lower side effects than synthetic drugs.



Curde drug is seven medicinal plants having the treasure of natural medicines which will be used in the treatment of mensuration problem.

Herbal jellies, particularly those incorporating ginger, pineapple, and papaya, show promise in managing menstrual irregularities and related symptoms. Studies suggest they may be safe and effective natural remedies, potentially helping to alleviate discomfort and regulate the menstrual cycle. However, more research is needed to fully understand their effects and optimal formulations.

**Elaboration:**

- **Natural Remedy Potential:**  
Some studies have shown that herbal jellies, especially those including ginger, pineapple, and papaya, can be a safe and effective way to manage menstrual problems like irregular cycles and related symptoms.
- **Ginger's Role:**  
Ginger is known for its anti-inflammatory properties, which may help alleviate menstrual pain and potentially help regulate the menstrual cycle.
- **Other Herbal Ingredients:**  
Cinnamon, ashwagandha, shatavari, and fennel are also mentioned as potential herbal remedies for irregular menstruation, with each offering different benefits.
- **Syneresis and Storage:**  
Herbal jellies can be affected by syneresis (the contraction and removal of water from the gel) during storage, especially at room temperature. Formulations that show syneresis are often rejected in further research.
- **Effectiveness:**  
Studies have shown that some herbal jellies can be effective in reducing premenstrual syndrome (PMS) symptoms. One study, for example, found that royal jelly significantly reduced PMS scores compared to a placebo.
- **Chamomile's Benefits:**  
Chamomile, commonly used in herbal formulations, has also been shown to reduce menstrual bleeding.
- **Further Research:**  
While promising, more research is needed to understand the precise effects of various herbal jellies, determine the most effective doses and formulations, and explore potential side effects.
- **Patient Compliance:**  
Herbal jellies, as a dose form, can be beneficial for patients who have difficulty taking traditional medications, such as children or individuals with dysphagia.
- **Herbal Infusions:**  
Herbal infusions, such as tea formulations, are also used to manage menstrual pain, often incorporating ingredients like ginger, chamomile, and fennel.

**FUTURE SCOPE**

**1. Improved Health Outcomes:**

- **Early Detection of Health Conditions:**  
Tracking menstrual cycles can help identify potential health issues and gynecological problems earlier, leading to better management and outcomes.
- **Understanding Menstrual Cycle Variability:**  
Research into the variability of menstrual cycles and its impact on health, including cardiometabolic biomarkers, is crucial for developing more accurate diagnostic and treatment approaches.
- **Personalized Healthcare:**  
Understanding individual menstrual cycle patterns can help personalize healthcare recommendations and interventions, optimizing health and wellness.



## **2. Enhanced Menstrual Health Education and Literacy:**

- **Combating Stigma:**  
Addressing the stigma surrounding menstruation is crucial for promoting open discussions and improving access to information and resources.
- **Empowering Women:**  
Providing comprehensive menstrual health education empowers women and girls to understand their bodies, manage their health, and make informed decisions about their reproductive health.
- **Addressing Period Poverty:**  
Tackling period poverty, which occurs when women lack access to menstrual products, is essential for ensuring equitable access to basic needs and promoting gender equality.

## **3. Technological Advancements:**

- **Menstrual Cycle Tracking Apps:**  
The use of mobile apps for tracking menstrual cycles provides valuable data for research and can empower individuals to understand their cycles better.
- **Data Analysis and AI:**  
Advancements in data analysis and artificial intelligence can help identify patterns and predict potential health issues related to menstrual cycles.
- **Development of Innovative Products:**  
Research and development of new menstrual products that are affordable, accessible, and environmentally sustainable are crucial.

## **4. Addressing Global Inequalities:**

- **Access to Menstrual Products and Facilities:**  
Ensuring that all women and girls have access to safe, affordable, and hygienic menstrual products and facilities is a global health priority.
- **Water, Sanitation, and Hygiene (WASH) Infrastructure:**  
Improving access to clean water, sanitation, and hygiene facilities is essential for managing menstruation effectively and preventing infections.
- **Collaboration and Partnerships:**  
Addressing menstrual health issues requires collaboration across diverse disciplines, including science, social science, and patient-facing organizations.

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