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"Tea Bag Formulation Of Herbal Ingredients: A Novel Approach For The Treatment Of PCOS"

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Abstract:

Polycystic Ovary Syndrome (PCOS) is a complex endocrine, metabolic, and genetic disorder affecting women of reproductive age. Conventional treatments often target specific symptoms but come with risks and adverse effects. This review highlights the efficacy of a tea bag formulation containing Ashoka, Shatavari, Lodhra, Guduchi, and Haritki in reducing PCOS symptoms. These herbs improve ovarian morphology, lower hyperandrogenism, and exhibit hypoglycemic, anti-obesity, and hormone-regulating qualities. The tea bag formulation offers a safe, effective, and convenient management strategy for PCOS, with no documented adverse effects. This review aims to compile existing research on the use of herbal formulations, particularly the tea bag formulation, as a supplemental management strategy for PCOS.

Keywords: PCOS, herbal formulation, tea bag, Ashoka, Shatavari, Lodhra, Guduchi, Haritki.

1 . Introduction :

Menstruation is a vital aspect of women's reproductive health, yet various menstrual disorders can significantly impact their quality of life. Among these disorders, Polycystic Ovary Syndrome (PCOS) stands out as a complex and multifaceted endocrine, metabolic, and genetic disorder affecting millions of women worldwide. Characterized by irregular menstrual cycles, infertility, hirsutism, acne, and insulin resistance, PCOS poses significant challenges to women's physical, emotional, and reproductive well-being. Despite its prevalence, PCOS remains poorly understood, and conventional treatments often focus on managing individual symptoms rather than addressing the underlying causes. Recently, herbal remedies have emerged as a promising approach to managing PCOS, offering a safe, effective, and holistic solution. This review aims to explore the current state of knowledge on the use of herbal formulations, particularly a novel tea bag formulation, as a supplemental management strategy for PCOS. The pathogenesis of Polycystic Ovary Syndrome (PCOS) remains uncertain, with epigenetic factors likely playing a significant role. Despite ongoing research, the underlying mechanisms of PCOS are still not well understood, hindering the development of effective treatments. The condition significantly impairs quality of life, and current management

options primarily focus on alleviating symptoms rather than addressing the root causes. As a result, PCOS management remains a challenging and complex issue, underscoring the need for novel therapeutic approaches that target the underlying pathophysiology The increasing popularity of herbal formulations can be attributed to their efficacy and safety record. Unlike conventional medicines, herbal remedies boast a broader spectrum of active components and fewer side effects. Certain herbs, including Ashoka, Shatavari, Lodhra, Guduchi, Tulsi, and Haritaki, have a rich history of effectively treating various health conditions, making them an attractive option for those seeking natural remedies.

Polycystic Ovary Disease :

Polycystic Ovary Disease (PCOD), also known as Polycystic Ovary Syndrome (PCOS), is a prevalent hormonal disorder affecting women of reproductive age. Characterized by multiple cysts on the ovaries, irregular or absent menstrual periods, and elevated androgen levels, PCOD was first described by Irving F. Stein and Michael Leventhal in 1935.

The condition is marked by hormonal imbalances, ovulatory dysfunction, and the presence of multiple ovarian cysts. Common symptoms include irregular menstrual cycles, hirsutism, acne, and infertility, which can significantly impact the physical, psychological, and reproductive health of affected individuals. Notably, the effects of PCOS can be far-reaching, influencing future generations through epigenetic factors that affect fetal brain and germ cell development during pregnancy.

Causes of PCOS:

- PCOS is caused by genetic susceptibility.
- The relationship between fat and insulin resistance Adrenal gland activation is high in children.
- imbalance in hormones. Buildup of toxicity Ovarian and uterine inflammation under stress

Types of PCOS:

PCOS is Classified into various types,

- Classical PCOS: This is the most common type, characterized by high levels of androgens (male hormones), ovulatory dysfunction, and polycystic ovaries.
- Ovulatory PCOS: Women with this type experience ovulatory dysfunction, but may not have high androgen levels or polycystic ovaries.
- Non-Polycystic Ovary PCOS: This type is characterized by high androgen levels and ovulatory dysfunction, but without the presence of polycystic ovaries.
- Non-Hyperandrogenic PCOS: Women with this type experience ovulatory dysfunction and polycystic ovaries, but do not have high androgen levels.

Symptoms of PCOS

- Irregular Menstrual Cycles: Infrequent or prolonged menstrual periods, or complete absence of menstruation.
- Abnormal Menstrual Bleeding: Heavy or prolonged menstrual bleeding.
- Hirsutism: Excess hair growth on the face, chest, back, or buttocks. Skin Issues: Acne, oily skin, or dandruff.
- Weight Management: Weight gain or difficulty losing weight.
- Male-Pattern Baldness: Thinning hair or male-pattern baldness.
- Skin Darkening: Darkening of the skin, particularly in the neck creases, groin, and under the breasts.
- Skin Tags: Small excess flaps of skin in the armpits or neck area.

2 . Treatments of PCOS with herbal ingredient

INGREDIENT	IMAGE	SYNONYMS	FAMILY	USES
1.Ashoka		Saraca asoca.	Legumenosae	Rgulates menstrual cycles
2.Lodhra		Symplocos racemosa	Symplocaceae	Balance Harmones
3.Shatavari		Asparaus racemosus	Asparagus	Improve Fertility
4.Tulsi		Ocimum sanctum linn	lamiaceae	Reduces Stress
5.Guduchi		Tinospora cordifolia	Msenispermaceae	Reduce Inflamation
6.Haritki		Terminalia chebula	Combretaceae	Improve Hormone Balance

TABLE NO :1

Formula for the PCOS Tea bag is

Formula no: 1

Ashoka	40%
Lodhara	30%
Shatavari	20%
Tulsi	5%
Guduchi	3%
Haritaki	2%

TABLE NO :2

Formula no: 2

Ashoka	50%
Lodhara	25%
Shatavari	15%
Tulsi	5%
Guduchi	3%
Haritaki	2%

TABLE NO :3

Formula no: 3

TABLE NO :4

TEA BAG

3 . Materials and Method

Materials Required

- Ashoka (Saraca asoca) dried stem bark Powder
- Lodhara (Symplocos racemosa) dried stem bark Powder
- Shatavari (Asparagus racemosus) dried root Powder
- Tulsi (Ocimum sanctum) dried leaves
- Guduchi (Tinospora cordifolia) dried stem Powder
- Haritaki (Terminalia chebula) dried fruit Powder

Method of Preparation

Step 1: Cleaning and Drying

1. Clean and dry all the herbal ingredients to remove any dirt, debris, or moisture.

2. Use a drying oven or dehydrator to dry the herbs at a temperature of 40-50°C for 2-3 hours.

Step 2: Grinding

1. Grind each herbal ingredient into a fine powder using a grinder or pulverizer.

Ashoka	45%
Lodhara	30%
Shatavari	15%
Tulsi	5%
Guduchi	3%
Haritaki	2%

2. Sift the powders through a sieve to ensure uniform particle size.

Step 3: Blending

1. Weigh the herbal powders according to the formula: Ashoka (20%), Lodhara (20%), Shatavari (20%), Tulsi (10%), Guduchi (5%), and Haritaki (5%).

2. Mix the powders thoroughly in a bowl until well combined.

Powders Granules

Step 4: Tea Bag Preparation

1. Cut the tea bag filter paper into desired sizes (e.g., 5 cm x 5 cm).

2. Place 1-2 teaspoons of the herbal blend into the center of each tea bag filter paper.

3. Fold the paper over the herbal blend and staple or tie with a thread to close the tea bag.

Step 5: Quality Control

1. Check the tea bags for uniformity in size, weight, and herbal blend distribution.

2. Store the tea bags in airtight containers to maintain freshness and potency.

Step 6: Packaging and Labeling

1. Package the tea bags in airtight containers or bags.

2. Label the packages with the product name, ingredients, instructions for use, and any relevant warnings or cautions.

This PCOS tea bag formulation is now ready for use. Steep one tea bag in boiling water for 5-7 minutes, then strain and drink. Consume 2-3 cups per day for optimal benefit

4 . Evaluation Parameters :

Physicochemical Evaluation Parameters

1. **Moisture Content**:

Moisture content is the percentage of water present in a substance, expressed as a percentage of the total weight of the substance. [5-10%] (Ashoka: 6.5%, Lodhara: 5.5%, Shatavari: 7.5%, Tulsi: 4.5%, Guduchi: 6%, Haritaki: 5%)

- Moisture Content (%) = ((Weight of Water in Sample) / (Total Weight of Sample)) x 100

- Method: Oven drying method or Karl Fischer titration

- Significance: Moisture content affects the stability and shelf-life of the tea bag formulation

2. **Ash Value**:

Ash value, also known as ash content or total ash, is the percentage of residual inorganic material (ash) rmaining after a sample is incinerated at high temperatures, typically between 500°C to 600°C. 5-8% (Ashoka: 6.2%, Lodhara: 5.8%, Shatavari: 7.2%, Tulsi: 4.2%, Guduchi: 6.5%, Haritaki: 5.5%)

- Method: Incineration method

- Significance: Ash value indicates the presence of inorganic matter and affects the quality of the tea bag formulation

3. **PH Value**:

pH (Potential of Hydrogen) is a measure of the concentration of hydrogen ions (H+) in a solution, indicating its acidity or basicity.5.5-6.5 (Ashoka: 6.2, Lodhara: 5.8, Shatavari: 6.5, Tulsi: 5.5, Guduchi: 6.0, Haritaki: 5.8)

- Method: pH meter

- Significance: pH value affects the stability and bioavailability of the bioactive compounds

4.Penetration Time in Water

Heres a step-by-step guide to perform the methods for evaluating penetration time in warm water:

Visual Observation Method

1.Prepare tea bags: Select tea bags with the same herbal blend and material

2.Prepare warm water: Heat water to 90-100°C (194-212°F).

3.Place tea bag in water: Put a tea bag in a glass or cup filled with warm water

4. Observe and record: Observe the tea bag and record the time when the flavors and colors start to release into the water Repeat the test:

5. Repeat steps 3-4 for multiple tea bags to ensure consistent results.

5 . Results :

Parameter	Formula 1: Women's Health Tea	Formula 2: Menstrual Relief Tea	Formula 3: Hormonal Balance Tea
Organoleptic Property	-Pleasant flora aroma -Light reddish color -slightly bitter taste	-Herbal mild earthy aroma -Light reddish color - slightly bitter taste	-slightly sweet mild aroma - -Light reddish color -smooth subtle taste
Moisture Content	~5-7%	~5-7%	~5-7%
Ash Value	~4-8%	~5-7%	~4-5%
PH Value	~6.0-6.2	~6.0-6.4	~6.0-6.5
Penetration Time in Warm Water	3-4 minutes	3-4 minutes	3-4 minutes

TABLE NO :5

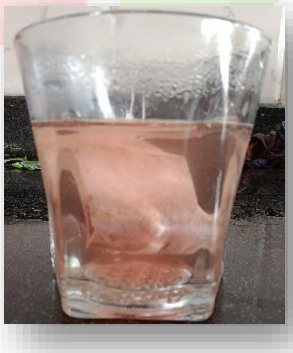
Penetration Time in Warm Water			
Time	1 minute	2-3 minute	3-4 minute

TABLE NO :6

6 . Conclusion :

Herbal remedies are a safe ,efficient way to manage Polycystic Ovary Syndrome (PCOS) and other female reproductive diseases. Using single or combination herbs like Ashoka, Lodhra, Shatavari, Tulsi, Guduchi, and Haritaki can provide therapeutic advantages without negative side effects. Combining herbs enhances their pharmacological effects .

7. Refrence :

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