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Review Article

Phytherapeutic Approach to PCOD: Formulation and Analysis of an Herbal Syrup

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ABSTRACT

Polycystic Ovary Syndrome (PCOS) is a prevalent endocrine disorder among women of reproductive age, characterized by hormonal imbalances, irregular menstrual cycles, and ovarian cysts. The management of PCOS typically involves lifestyle modifications, pharmacological interventions, and herbal therapies. Herbal medicine offers a natural and holistic approach with potentially fewer adverse effects compared to conventional treatments. This study focuses on the formulation and evaluation of a polyherbal syrup for the management of PCOS, aiming to enhance hormonal balance and menstrual regularity. The syrup comprises Ashwagandha (*Withania somnifera*), Shatavari (*Asparagus racemosus*), Turmeric (*Curcuma longa*), and Cinnamon (*Cinnamomum verum*), which are recognized for their hormone modulating, anti-inflammatory, and insulin-sensitizing properties. Jaggery was incorporated as a natural sweetening agent to improve palatability. Preliminary findings suggest that the formulated polyherbal syrup may serve as a promising natural therapeutic option for PCOS management. However, further clinical investigations are required to validate its efficacy, safety, and long-term effects.

INTRODUCTION

Polycystic Ovary Syndrome (PCOS) is a prevalent endocrine disorder characterized by irregular menstrual cycles, hyperandrogenism, and polycystic ovaries (PCO). It is a leading cause of ovulatory infertility among women of reproductive age, with a global prevalence ranging from 4% to 21%, and between 9.1% and 36% in

adolescents, depending on diagnostic criteria. PCOS is frequently associated with metabolic syndrome features, including insulin resistance and hyperinsulinemia, affecting the majority of patients. Hyperandrogenism, the primary symptom, has significant physical and physiological implications, particularly in young women. Additionally, obesity, present in nearly

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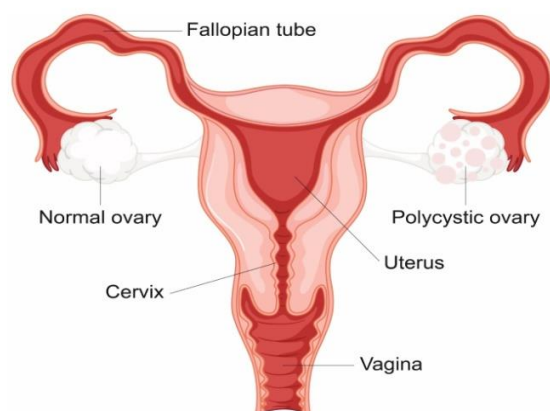
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50% of cases, often precedes symptom onset and exacerbates metabolic disturbances. PCOS is a chronic condition with an unclear etiology, though it is believed to have epigenetic origins influenced by intrauterine factors and behavioral aspects. The disorder is mediated by hormonal imbalances, including elevated androgens, fasting insulin, and an altered ratio of luteinizing hormone (LH) to follicle-stimulating hormone (FSH). These disruptions contribute to impaired ovarian folliculogenesis, chronic anovulation, hyperandrogenic symptoms, and metabolic abnormalities. Genetic studies in specific ethnic populations suggest an autosomal dominant inheritance pattern, indicating that hyperinsulinemia and related metabolic dysfunctions may have a genetic basis.



Furthermore, psychological aspects of PCOS have been explored, with studies by Rasgon and Weiner linking the condition to mood disorders. Kalantaridou and Kirschbaum proposed that activation of the Hypothalamus-Pituitary-Adrenal (HPA) axis in response to stress and depression may suppress reproductive function in affected women.

1.1. Etiology

PCOS is a multifactorial disorder influenced by genetic, hormonal, and environmental factors. A positive family history increases susceptibility,

highlighting the role of genetic predisposition. The pathophysiology is primarily driven by hormonal imbalances, particularly insulin resistance and androgen excess. Insulin resistance, commonly associated with hyperinsulinemia, stimulates androgen overproduction, leading to ovulatory dysfunction. Environmental factors such as obesity, sedentary behavior, and poor dietary habits further aggravate the condition. Additionally, chronic low-grade inflammation is believed to contribute to both the development and progression of PCOS. The interplay of genetic and environmental influences results in hallmark symptoms, including hyperandrogenism, irregular menstrual cycles, and infertility.

Factors Affecting PCOD

1. Genetic Influence:-

A family history of PCOD increases the likelihood of developing the condition. Specific genetic variations may disrupt insulin function, androgen levels, and ovarian activity.

2. Hormonal Irregularities:-

Increased androgen levels interfere with ovulation, leading to cyst formation. Imbalances in luteinizing hormone (LH) and follicle-stimulating hormone (FSH) disrupt normal follicle development. Elevated estrogen levels contribute to menstrual irregularities and endometrial changes.

3. Insulin Resistance and Excess Insulin:-

Reduced cellular response to insulin results in excessive insulin production. Elevated insulin levels trigger an overproduction of androgens, worsening hormonal imbalances. Insulin resistance leads to weight gain and metabolic disturbances.

4. Body Weight and Obesity:-

Excess abdominal fat is linked to insulin resistance and increased androgen production. Obesity contributes to chronic inflammation, affecting ovarian function and reproductive health. Even individuals with normal weight may experience metabolic irregularities in PCOD.

5. Inflammation and Immune System Dysfunction:-

PCOD is associated with higher levels of inflammatory markers. Chronic inflammation plays a role in insulin resistance and ovarian dysfunction.

6. Dietary Habits and Lifestyle Choices:-

Consumption of refined carbohydrates and processed foods can lead to insulin spikes. A sedentary lifestyle contributes to insulin resistance and weight gain. Unhealthy fat intake can negatively impact hormonal balance.

7. Psychological Stress and Mental Well-being:-

Persistent stress raises cortisol levels, which affects insulin regulation and fat storage. PCOD is linked to a higher prevalence of anxiety and depression. Stress-related eating patterns can worsen metabolic symptoms.

8. Environmental and Chemical Exposure:-

Endocrine-disrupting chemicals such as BPA and phthalates may interfere with hormone function. Exposure to pollutants and toxins can contribute to hormonal imbalances.

9. Sleep Patterns and Disruptions:-

Poor sleep quality can affect hormone regulation, including melatonin, cortisol, and insulin. Sleep disorders, including sleep apnea, are more common in individuals with PCOD.

10. Medication Use and Other Medical Conditions:-

Certain drugs, including steroids, antipsychotics, and hormonal treatments, can influence PCOD symptoms. Endocrine disorders like hypothyroidism and adrenal dysfunction may contribute to PCOD-related hormonal imbalances.

11. Gut Health and Microbiome Imbalance:-

An imbalance in gut bacteria can contribute to insulin resistance and inflammation. Poor digestive health can affect estrogen metabolism and hormone regulation.

12. Deficiencies in Essential Nutrients:-

Lack of vitamin D, magnesium, omega-3 fatty acids, and zinc can impact insulin sensitivity and hormonal balance. Nutritional deficiencies may worsen metabolic and reproductive symptoms. Understanding these contributing factors is essential for managing PCOD through a combination of lifestyle adjustments, medical treatments, and targeted interventions.

1.2. Pathophysiology

The pathophysiology of Polycystic Ovary Syndrome (PCOS) is primarily driven by insulin resistance and excess androgen production, leading to complex hormonal imbalances. Hyperandrogenism, a hallmark of PCOS, disrupts ovarian function by inhibiting follicular maturation and causing anovulation. Insulin resistance, commonly observed in both obese and lean women with PCOS, results in compensatory hyperinsulinemia, which further stimulates ovarian androgen production. Additionally, insulin reduces sex hormone-binding globulin (SHBG) synthesis in the liver, increasing free circulating androgens and worsening hyperandrogenism.



Dysregulation of gonadotropin secretion, characterized by elevated luteinizing hormone (LH) and either normal or low follicle-stimulating hormone (FSH) levels, further impairs follicular development and sustains anovulation. Moreover, chronic low-grade inflammation is frequently observed in PCOS, contributing to metabolic and reproductive dysfunctions.

Importance of herbal drugs in PCOS:-

1. Reduces androgen levels, helping to control hyperandrogenism.
2. Balances hormone levels, improving menstrual regularity.
3. Enhances insulin sensitivity, reducing insulin resistance.
4. Alleviates internal inflammation, supporting overall metabolic health.
5. Boosts metabolism, aiding in weight management and symptom relief.

Herbal drugs used in PCOS/PCOD

1. Cinnamon: Cinnamon is a spice made from the inner bark of a number of tree species in the genus *Cinnamomum*. Cinnamon is mainly used as an aromatic condiment and flavoring additive in a wide variety of cuisines, including sweet and savory dishes, breakfast cereals, snack foods, bagels, teas, hot chocolate, and traditional foods. The primary component and essential oil of cinnamon, cinnamaldehyde, is combined with a variety of other ingredients, including eugenol, are in charge of the flavor and aroma of the spice.

•Alternative names for cinnamon include Chinese cassia, Ceylon cinnamon, Saigon cinnamon, Cortex cinnamon, and *Cinnamomum aromaticum*.



Supports Blood Sugar and Insulin Control:-

Research on PCOS patients has shown that cinnamon helps lower fasting insulin and blood sugar levels. This suggests its potential as a supportive therapy for type 2 diabetes and PCOS. Cinnamon contains insulin-sensitizing compounds that enhance glucose uptake by cells, mimicking insulin's effects.

Lowers Cholesterol:-Studies indicate that cinnamon supplementation can reduce total cholesterol and improve the balance between good (HDL) and bad (LDL) cholesterol in PCOS patients. While the exact mechanism is unclear, maintaining lower cholesterol levels benefits heart health and reduces the risk of cardiovascular diseases.

Regulates Menstrual Cycles:-Hormonal imbalances, such as low progesterone and high testosterone, often lead to irregular periods in PCOS. Cinnamaldehyde, a key compound in cinnamon, has been found to boost progesterone while reducing androgens like testosterone. Additionally, since high insulin levels contribute to excess testosterone production, cinnamon aids in restoring hormonal balance, promoting regular cycles and improving fertility.

2. Shatavari:-(*Asparagus racemosus*) is a species of asparagus found in Africa, southern Asia (including the Indian subcontinent), and northern Australia. It is also known by various names such

as Satavar, Shatabari, Shatabull, and Shatabarii. This plant thrives in rocky and gravelly soils at elevations between 1,300 to 1,400 meters (4,300–4,600 feet) in the piedmont plains. It typically grows to a height of 1–2 meters (3 ft 3 in – 6 ft 7 in). A botanical description of Shatavari was first documented in 1799. Due to its multiple medicinal applications, it remains in high demand. However, excessive harvesting, habitat destruction, and deforestation have led to its classification as an endangered species in the wild. Shatavari is also known by its synonym *Asparagus Satmuli*. The plant's biological source is its dried tuberous roots, which are obtained from wild specimens.



Shatavari and PCOS :

Polycystic Ovary Syndrome (PCOS) is primarily caused by hormonal imbalances in women. Research suggests that consuming 5 grams of Shatavari can help regulate hormones. This herb naturally enhances reproductive health by improving menstrual cycles, reducing infertility, and increasing antioxidant levels.

Effects of Shatavari on the Reproductive System :

1. **Regulates the Menstrual Cycle** – A typical menstrual cycle lasts between 28 to 35 days, during which the body prepares for conception. Shatavari helps regulate irregular periods by balancing hormones and supporting target cells.

2. **Promotes Follicle Growth** – As a *vrishya* (aphrodisiac) and *shukra vardhak* (sperm and reproductive enhancer) herb, Shatavari aids in follicular development, which is crucial for ovum formation and conception.

3. **Balances FSH and LH Levels** – Ovulation occurs due to FSH (follicle-stimulating hormone) and LH (luteinizing hormone). FSH supports follicle formation, while LH triggers egg release. Shatavari helps maintain these hormonal levels.

4. **Supports Estrogen and Progesterone Balance** – These hormones regulate key ovarian functions like conception, pregnancy, and pain management. They also contribute to bone health, HDL cholesterol levels, and thyroid function.

Shatavari's Impact on the Nervous System :

1. **Supports Nervous System Function** – Shatavari helps maintain motor and sensory nervous system health.

2. **Balances Hormones** – It aids in stabilizing hormone levels in the body.

3. **Calms the Mind** – With its natural cooling properties, it helps reduce stress and mental tension.

4. **Acts as a General Tonic** – Beneficial for fatigue, weakness, and overall well-being.

5. **Nervine Tonic** – Used for managing neurological disorders.

6. **Enhances Lactation** – Commonly prescribed post-pregnancy to boost milk production and ejection.

3.Turmeric:- The flowering plant known as turmeric, or *Curcuma longa*, is a member of the ginger family, *Zingiberaceae*. This perennial herbaceous plant, which is native to Southeast Asia and the Indian subcontinent, requires high

annual rainfall and temperatures between 20 and 30 °C (68 and 86 °F) in order to thrive. Plants are harvested for their rhizomes each year; some are used as food, while others are multiplied for the following growing season.



1. It may help reduce insulin resistance. Insulin resistance affects 50-67% of PCOS patients, impacting overall health and quality of life.

2. It is rich in antioxidants. Curcumin, the active compound in turmeric, has strong anti-inflammatory and antioxidant effects. Antioxidants like vitamins C and E protect against free radical damage, which can accelerate diseases such as diabetes, inflammatory joint conditions, and cancer.

3. It may help combat depression. Turmeric not only supports physical health but also shows potential antidepressant and stress-relieving effects. Research suggests a link between depression and inflammation, and turmeric's anti-inflammatory properties may help reduce depressive symptoms.

4. Ashwagandha (*Withania somnifera*):-

Ashwagandha, also known as winter cherry, is an evergreen shrub from the Solanaceae family, found in Africa, the Middle East, and India. It shares morphological similarities with other species in the *Withania* genus.

Related terms: *Withania* root, ashwagandha, clustered winter cherry.

Biological source: The dried roots and stem bases of *Withania somnifera* Dunal.

Parts used: Roots, bark, leaves, fruits, seeds, and ashwagandha powder.

Benefits of Ashwagandha for PCOS :

Ashwagandha is a traditional adaptogenic herb known for its ability to balance hormones, reduce stress, and manage PCOS symptoms.

1. Regulating Hormones – PCOS often leads to an excess of androgens (male hormones), causing symptoms like acne, irregular periods, infertility, and excessive hair growth. Studies suggest that ashwagandha may help lower testosterone levels, reducing these symptoms.

2. Maintaining HPA Axis Balance – The hypothalamic-pituitary-adrenal (HPA) axis plays a crucial role in hormone regulation. Ashwagandha supports the HPA axis, helping to maintain hormonal balance in the body.



Research has shown that ashwagandha influences the hypothalamic-pituitary-adrenal (HPA) axis by increasing the levels of thyroid-stimulating hormone (TSH) and follicle-stimulating hormone (FSH) and decreasing cortisol. This regulation may aid in the preservation of hormonal balance in women with PCOS.

Ashwagandha: an anti-inflammatory :Persistent low-grade inflammation in the body, which increases the risk of insulin resistance, cardiovascular disease, and other harmful health outcomes, is the hallmark of PCOS. Ashwagandha's anti-inflammatory qualities could ease the irritation that PCOS-affected women experience. It accomplishes this using the following techniques:

Cutting down on cytokines that encourage inflammation Ashwagandha has been shown to decrease the generation of pro-inflammatory cytokines, which are elevated in women with PCOS. Among these cytokines are IL-6 and TNF-alpha. Because it reduces the production of these cytokines, ashwagandha may help reduce inflammation in the body.

•Using ashwagandha as a fertility remedy : Preliminary studies suggest that ashwagandha may help with infertility and irregular menstrual cycles. One last thing about ashwagandha and PCOS.

Ashwagandha has shown encouraging results in helping women with PCOS control their symptoms. It can reduce stress and anxiety, which are often associated with the hormonal imbalances that define PCOS. In addition, it can promote ovulation, regulate the HPA axis, and improve hormonal balance. But it's crucial to remember that ashwagandha is still a topic of ongoing research and that there are currently limitations to its usefulness. Before taking ashwagandha, women with PCOS should consult their doctor to make sure it's safe for them. On the other hand, ashwagandha is a herbal remedy that might improve the quality of life for women with PCOS.

5. Glycyrrhiza glabra

Source: The dried roots and rhizomes of the licorice plant, *Glycyrrhiza glabra*, are used to make it.

Family: Leguminosae (Fabaceae)



Uses of Licorice in PCOS :

1. Hormonal regulation – Licorice may help reduce elevated androgen levels, which are commonly seen in women with PCOS.
2. Anti-inflammatory effects – Glycyrrhizin, the active compound in licorice, has anti-inflammatory properties that may help manage metabolic issues in PCOS.
3. Improving insulin sensitivity – Licorice may aid in reducing insulin resistance, a common concern in PCOS.
4. Menstrual cycle regulation – By supporting adrenal function and balancing hormones, licorice may help regulate menstrual cycles.

6 German chamomile:-

The **biological source** :- *Matricaria chamomilla*, is derived from the dried flower heads of the German chamomile plant.

Family : Among the Compositae, Asteraceae

Chemical Composition :

German chamomile contains the following active ingredients:



1. Essential oils: bisabolol, bisabolol oxide, and chamazulene.
2. Flavonoids, including luteolin, quercetin, and apigenin.
3. Coumarins: Herniarin and umbelliferone.
4. Additional substances: Phenolic acids, tannins, and mucilage.



Uses of Chamomile in PCOS :

1. Anti-inflammatory properties – Chamazulene and bisabolol in chamomile help reduce inflammation often associated with PCOS.
2. Antioxidant activity – Flavonoids in chamomile protect against oxidative stress, which is linked to insulin resistance and metabolic issues in PCOS.
3. Menstrual regulation – Chamomile's mild estrogenic effects may help regulate menstrual cycles by balancing hormones.
4. Anti-anxiety and stress relief – Chamomile's calming effects can lower cortisol levels, reducing stress and indirectly supporting hormonal balance in PCOS.

Development and Evaluation of Syrup:

- 1) Ashwagandha, shatavari, turmeric, cinnamon was taken and weighed them accurately.

- 2) Then it was sieved and mixed those powders to get uniform particle size.
- 3) Added 400 ml distilled watered to it and mixed it well.
- 4) Then this mixture was heated upto when the 100 ml decoction was formed from it.
- 5) Weighed jaggery and added 50 ml distilled water to it then dissolve the jaggery in water
- 6) After that the volume of jaggery solution was made upto 75 ml.
- 7) Then added 25 ml of decoction in it and preservative such as sodium benzoate in small quantity.
- 8) Mixed well this ingredients then syrup was formed.

Formulation Process of Syrup:-

1. Selection and Preparation of Herbal Ingredients

The herbal ingredients, including ashwagandha (*Withania somnifera*), shatavari (*Asparagus racemosus*), turmeric (*Curcuma longa*), cinnamon (*Cinnamomum verum*), German chamomile (*Matricaria chamomilla*), and licorice (*Glycyrrhiza glabra*), were carefully selected based on their therapeutic properties. Each ingredient was accurately weighed using an analytical balance to ensure proper formulation.

2. Processing of Herbal Powders

The dried herbs were sieved using an appropriate mesh size to obtain a uniform particle size. This step ensures better extraction efficiency and consistent dispersion of active constituents in the syrup.

3. Decoction Preparation

The weighed herbal powders were mixed thoroughly, and 400 mL of distilled water was added. The mixture was stirred well and then heated until the total volume was reduced to 100 mL, forming a concentrated decoction rich in bioactive compounds.

4. Jaggery Solution Preparation

A measured quantity of jaggery was taken separately and dissolved in 50 mL of distilled water with continuous stirring. Once fully dissolved, the final volume of this solution was adjusted to 75 mL to maintain consistency and sweetness in the syrup.

5. Incorporation of Decoction and Preservative

From the prepared decoction, 25 mL was accurately measured and mixed with the 75 mL jaggery solution. To improve the shelf life and prevent microbial contamination, a small quantity of sodium benzoate was added as a preservative.

6. Final Mixing and Syrup Formation

The ingredients were thoroughly mixed to ensure uniformity in the syrup. The final herbal syrup had a smooth consistency and contained the medicinal benefits of all selected herbs.

Ingredients	A1	A2	A3
Ashwagandha	2.08	3.08	4.08
Shatavari	2.08	3.08	4.08
Cinnamon	2.08	3.08	4.08
Turmeric	0.12	0.13	0.14
Glycyrrhizin glabra	2.08	3.08	4.08
German Chamomile	2.08	3.08	4.08
Jaggery	7.4	7.4	7.4
Distilled water	QS	QS	QS
Sodium benzoate	0.2%	0.2%	0.2%

Evaluation Parameters :

1. Procedure for Determining Density:

1. The specific gravity bottle was thoroughly cleaned using nitric acid or chromic acid. 4. Physicochemical characteristics. The herbal syrup was assessed for a number of physicochemical factors, including pH and

physical characteristics (color, flavor, and odor).

a) Color analysis

2. It was then rinsed two to three times with distilled water.

3. If required, an organic solvent like acetone was used for additional cleaning, followed by air drying.



4. The dry, empty bottle along with its capillary tube stopper was weighed (w).

5. The unknown liquid was poured into the bottle, the stopper was secured, and any excess liquid on the exterior was removed using tissue paper.

6. The bottle containing the unknown liquid was weighed using an analytical balance (w_3).

7. The weight of the unknown liquid was determined in grams.

Formula for density: Density of liquid under test (syrup) weight of liquid under test /volume of liquid under test w_3/V .

2.Procedure to determine specific gravity:-

1) Nitric or chromic acid was used to completely clean the specific gravity bottle.

2) Then filtered water was used to rinse the bottle at least twice or three times.

3) Organic solvent, such as acetone was used to rinse the bottle if necessary, then let it dry.

4) Weighed an empty dry bottle with a stopper for a capillary tube.

5) Then poured distilled water into the bottle, insert the stopper, and use tissue paper (w_3) to remove any leftover liquid

from the side tube.

6) Used an analytical balance to weigh a bottle with a stopper and water (W_2).

7) After emptying and drying the liquid under test as instructed in steps 4 through 6, repeat the process with the water

replaced.

8) Used an analytical balance to weigh a bottle with a stopper and the liquid being tested (w_3).

Formula for specific gravity: Specific gravity of liquid under test (syrup) = weight of liquid under test/weight of water

w_s/W_4 .

3.Procedure to determine Viscosity:-

1) Warm chromic acid was used thoroughly clean the Ostwald viscometer, and acetone or another organic solvent should

be used if needed.

2) Installed the viscometer vertically on an appropriate stand.

3) Filled the dry viscometer with water to the mark G.

4) Calculated how long it takes for water to flow from mark A to mark B, in seconds.

5) To get an accurate reading, repeated step 3 at least three times.

6) After that rinsed the viscometer with test liquid, fill it to mark A, and determined how long it will take. For the liquid to

reach the mark B.

7) Calculated liquid densities in accordance with the experiment on density determination.

Formula for viscosity

Viscosity = x Density of test liquid $\times$ Time required for flow test liquid

Density of water $\times$ Time required for flow water.
Viscosity of water

4.Physicochemical characteristics

The herbal syrup was assessed for a number of physicochemical factors, including pH and physical characteristics (color, flavor, and odor).



a) Color analysis

The final five milliliters of syrup were poured into watch glasses and set under a white tube light with a white backdrop. The color could be seen with the unaided eye.

b) Odor analysis

Two milliliters of the finished syrup were each smelled. Two minutes was the time interval between scents in order to counteract the effects of the preceding scent.

c) Tasting analysis

A small amount of the finished syrup was taken and its flavor was assessed using tongue taste buds.

d) Calculation of pH: Two methods are used to determine the pH of syrup. Both glass electrode and pH paper are used.

e) Test for Turbidity:

By measuring the incident light scattered at a right angle from the sample, one can ascertain the concentration of suspended particles in a water sample. Photodiodes are used to collect scattered light, producing an electronic signal that is then transformed into turbidity.

f) Physical steadiness:

The syrups need to be physically stable, meaning they should not exhibit any microbial growth or crystallization in their appearance. Additionally, their color needs to be entirely soluble in other ingredients. Taste and odor (acceptable) Solid materials are perfectly miscible with liquids.

RESULT:

Parameters	A1	A2	A3
Density	1.03g/ml	1.22g/ml	2.18g/ml
Specific gravity	0.654	0.895	1.23
Viscosity	0.73Cp	0.89Cp	0.79Cp
PH determination (a) PH paper	Acidic	Neutral	Neutral
PH determination (b) PH meter	5-6	6-7	6-7
Organoleptic Char. 1. Colour	Yellow	Pale Yellow	Pale Yellow
Organoleptic Char. 2. Odour	Aromatic	Aromatic	Aromatic
Organoleptic Char. 3. Taste	Sweet	Sweet	Sweet
Organoleptic Char. 4. Appearance	Clean	Clean	Clean

From the above table, the result showed that the developed syrup was transparent in colour, And showed good homogeneity with absence of lumps. Formulation A2 had good viscosity, gravity, pH, drug content and viscosity. therefore Formulation (A2) was selected as final formulation.

DISCUSSION:

Herbal products are a sign of safety in the modern world, while synthetic drugs are thought to be harmful to both humans



and the environment. Nonetheless, for centuries, herbs were valued for their flavoring, medicinal, and aromatic properties. Now is the time to take them global. The present study was formulated and evaluate Syrup for PCOD treatment In this study syrup Formulations were prepared and evaluated by using Various parameters. The formulation A2 was stable formulation and it has antihealing and balancing hormone property.

CONCLUSION:

Ashwagandha, Shatavari, Licorice, Cinnamon, known for their beneficial effects on hormonal balance, menstrual regularity, and insulin sensitivity .This study aimed to develop a polyherbal syrup for the management of PCOS and evaluate its efficacy in improving hormonal balance and menstrual regularity. The prepared pcod syrup formulations were evaluated for physical characteristics like density, viscosity, color, odour, appearance, taste and pH activity of Pcod syrup. From the above data it was concluded that A2 formulation was found to be within targeted limits.

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