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Review Article

Herbal Medicine in Gynecological and Obstetric Care: A Comprehensive Review of Clinical Trials

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ABSTRACT

This review comprehensively evaluates clinical trials assessing the efficacy and safety of herbal medicines and natural products in managing gynecological and obstetric conditions. With increasing interest in complementary and alternative medicine, herbal treatments for premenstrual syndrome, dysmenorrhea, menopause, postpartum recovery, and infertility were examined. Key herbs include *Vitex agnus-castus* for PMS, *Zingiber officinale* for dysmenorrhea, *Hypericum perforatum* for postpartum depression, and *Crocus sativus* for mood regulation. Herbal preparations were also assessed for their role in enhancing lactation, preventing postpartum hemorrhage, and improving fertility. Safety, potential side effects, and interactions were critically analyzed. A methodological appraisal of clinical trials highlights challenges and future research directions. This review provides evidence-based insights for healthcare professionals, researchers, and policymakers, supporting the integration of herbal medicine into women's healthcare.

Keywords: Clinical Trials, Gynecological Ailments, Herbal Medicine, Natural Products, Obstetric Health.

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INTRODUCTION

Herbal medicine has played a significant role in women's health for centuries, and many cultures utilize natural products to manage gynecological and obstetric conditions.[1-3] For centuries Herbal plants remedies have become the go-to medicine to treat irritations during pregnancies, irregularities during menstrual cycles and complications in childbirth.[4-6] With the side effects associated with synthetic medications and dry spells in treating women over the years, the demand for natural remedies has grown significantly, possibly because of this fact.[7-10]

In the modern age, scientific research has increasingly focused on validating the safety and efficacy of herbal remedies in gynecology and obstetrics.[11-13] Several studies have focused on the pharmacological features of these products, such as hormonal regulation,[6,14] anti-inflammatory effects, and uterotonic effects.[15] Certain herbal products, such as *Vitex agnus-castus* (chasteberry), have been known to influence prolactin levels, which makes them useful for premenstrual syndrome and infertility.[16,17] Similarly, soy and red clover phytoestrogens-containing herbs have also been studied for their benefits in menopausal symptoms.[18]

Although interest in herbal medicine has increased over the years, several challenges remain to be addressed.[19] Some of the challenges to the general use of herbal medicines are the standardization of plant extracts, variations in bioactive substance concentrations, and herb-drug interactions.[20] Moreover, the lack of large antigenic randomized controlled trials indicates that these medicines are yet to be shown as effective and safe on a broader scale.[21]

Since there has been increasing interest towards integrative medicine worldwide, this review seeks to systematically assess herbal medicines and natural products used for the treatment of gynecological and obstetric ailments.[22-24] Common conditions likely to be treated with herbalism, its mechanisms of action, clinical evidence supporting its use, and the safety of these interventions will be covered. Finally, this review will explore the gaps that exist in research and future prospects within this sphere and provide guidance for health practitioners and researchers in the area.

METHODOLOGY

This systematic and narrative review was conducted to evaluate clinical trials investigating herbal medicine and natural products in gynecological and obstetric care. We systematically searched PubMed, Scopus, and Web of Science databases from January 2000 to October 2025 using combinations of keywords such as "herbal medicine," "natural products," "clinical trial," "gynecology," "obstetrics," "infertility," "menstrual disorders," "postpartum," and "menopause." The search strategy is shown in Figure 1.

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Inclusion criteria were peer-reviewed clinical trials involving human participants, with a minimum sample size of 25, and published in English. We excluded *in vitro* studies, animal studies, and non-clinical reviews. Titles and abstracts were screened, followed by full-text assessments.

Although a meta-analysis was not conducted due to the heterogeneity in interventions and outcome measures, we performed a qualitative synthesis and assessed study quality based on key methodological parameters such as randomization, blinding, and outcome reporting. A PRISMA flowchart (Figure 1) illustrating the screening process is provided.

No new human participants were involved; thus, ethical approval and informed consent were not applicable. Safety outcomes, adverse events, contraindications, and potential herb-drug interactions were also extracted and analyzed where reported.

Polycystic Ovarian Syndrome

Polycystic Ovarian Syndrome (PCOS) is a widespread gynecological condition affecting women aged 15-49 years in their reproductive years.[25] The cause of this condition remains unidentified; however, it has been attributed to hyperandrogenism and ovulatory failure. The incidence of this diverse endocrine condition is approximately 6-20%, equating to approximately one in almost 15 premenopausal women globally.[26] A recent study indicated that 8.2%-22.5% of women in India are diagnosed with PCOS.[27] The prevalence is contingent upon an individual's geography (rural or urban) and lifestyle (physical activity and dietary choices). Adolescents with PCOS exhibit hyperandrogenism and insulin resistance, resulting in hirsutism, acne, and menstrual irregularities such as oligomenorrhea or amenorrhea, anovulation, ovarian enlargement, endometrial malignancy, infertility, type II diabetes, and other cardiovascular diseases.[1,9,25,28] Approximately 50 percent of PCOS patients are obese and have abdominal obesity, suggesting that elevated androgen levels may augment fat tissue in the abdominal area. PCOS can lead to anovulatory infertility and diminished egg or embryo quality owing to irregular follicular development. According to the 2003 ESHRE/ASRM (Rotterdam) criteria, an individual exhibiting two of the following three characteristics may be diagnosed with PCOS: (1) oligo-ovulation/anovulation, (2) hyperandrogenism, and (3) polycystic ovaries.[1,29,30] The Rotterdam 2003 criteria have been presented as a primary diagnostic standard for the clinical and biochemical assessment of PCOS. Hereditary and environmental variables of an individual are intricately linked to the manifestation of PCOS. Genetic variables include a family history of PCOS in first-degree relatives, early sexual maturation, and preterm fetal development.[9,31-33] Environmental variables include physical inactivity, consumption of unhealthy foods rich in fat, salt, sugar, Advanced Glycation end Products (AGEs), and obesity.[34]

PCOS Herbal Clinical Trials

Table 1 presented a comprehensive summary of 24 clinical trials investigating various herbal interventions for PCOS, highlighting their effects on hormonal regulation, metabolic function, menstrual regularity, and reproductive outcomes. Several studies, such as those by Akdoğan *et al*., (2007) and Grant (2010), have explored spearmint tea and demonstrated significant reductions in free and total testosterone levels, although the clinical effects on hirsutism require longer assessment periods.[25,35] Cinnamon supplementation, as examined by Kort and Lobo (2014), was found to improve menstrual cyclicity, making it a potential natural regulator of ovulation.[36] Fenugreek seed extract, tested by Swaroop *et al*., (2015), significantly reduced ovarian cyst size, increased ovulation rates, and restored menstrual regularity, with 71% of the participants regaining normal cycles.[29] Meanwhile, curcumin, investigated by Heshmati *et al*., (2021), improves insulin sensitivity and lowers fasting glucose and androgen levels, offering benefits for PCOS-related metabolic dysfunction.[28] Traditional Chinese Medicine (TCM) formulations, such as Tian Gui Capsule[37] and Modified Yougui Pill,[38] have shown enhanced ovulation and pregnancy rates, reinforcing the efficacy of herbal combinations in addressing reproductive challenges in PCOS. In addition, myo-inositol in the study conducted by Pkhaladze *et al*., 2021 was found to have a very good effect on lean PCOS adolescents,[39] ameliorating metabolic and hormonal parameters Femitex-SP4, on the other hand, helped in menstrual regulation and decreased free testosterones to some extent.[5] From these different Ayurvedic studies, herbal medicine has shown great promise in treating the major features of PCOS, such as hyperandrogenism, insulin resistance, menstrual chiasm, and even infertility, which means that these natural treatments can be used as alternative or adjunctive therapies to the current treatments.

Menstrual Disorders

Monthly disorders denote anomalies in menstruation, encompassing irregular monthly cycles, menorrhagia, oligomenorrhea, polymenorrhea, intermenstrual bleeding, amenorrhea, dysmenorrhea, and premenstrual syndrome. Menstrual problems affect 75% of young women and are the main reason for gynecological appointments.[48] Dysmenorrhea was identified as the most prevalent menstrual condition for which teenagers and their parents sought medical consultation[49] and as a primary contributor to prolonged school absence[50] in the USA. Research in the USA has indicated a 90% prevalence of dysmenorrhea, rendering it a public health problem. Reports indicate that 10% of women with dysmenorrhea experience severe symptoms that incapacitate them for 1-3 days throughout each menstrual cycle, adversely affecting their quality of life, personal health, and contributing to a worldwide economic effect.[51] Moreover, several females are oblivious to the fact that their

bleeding patterns are irregular and may result in considerable long-term health repercussions.[51,52]

Clinical Trials on Herbal Medicine for the Treatment of Menstrual Disorders

Numerous clinical trials have explored the efficacy of herbal medicines in addressing menstrual-related concerns, highlighting the therapeutic potential of various plant-based remedies (Table 2). Saffron (*Crocus sativus* L.), studied by Agha-Hosseini *et al*., (2008), effectively reduced PMS symptoms and depression scores.[53] *Fructus agni casti*, examined by Aksoy *et al*., (2014), was as effective as hormonal treatments in alleviating dysmenorrhea pain.[54] Eryngo (*Eryngium caucasicum*), evaluated by Behmanesh *et al*., (2019), and *Psidii guajavae* folium extract, tested by Doubova *et al*., (2007), demonstrated pain relief comparable to that of ibuprofen in dysmenorrhea cases.[55,56] Hesami *et al*., (2021) found that turmeric, in combination with mefenamic acid, significantly reduced menstrual pain, while cinnamon (Jahangirifar *et al*., 2018) and ginger (Jenabi *et al*., 2013; Kashefi *et al*., 2015) alleviated dysmenorrhea and reduced heavy menstrual bleeding.[57-60] *Foeniculum vulgare* herbal tea, investigated by Falahat *et al*., (2020), effectively induced menstrual bleeding and regulated cycles, whereas Yaoliuan capsules, tested by Jin and Huang (2005), improved post-abortion bleeding and menstrual cycle recovery.[14,61] Curcumin, evaluated by Khayat *et al*., (2015) and Talebpour *et al*., (2023), significantly attenuated PMS symptoms and reduced inflammatory markers.[62,63] Aromatherapy-based treatments also showed positive effects, with lavender oil[64] and *Rosa damascena* essential oil[65] improving PMS symptoms, while Citrus aurantium blossom oil[66] alleviated psychological distress. In a study by Saghafi *et al*., (2018), chamomile extract effectively controlled cyclic mastalgia pain.[67] French maritime pine bark extract (pycnogenol), examined by Kohama *et al*., (2004), reduced menstrual pain, and Chiljehyangbuhwan, tested by Jang *et al*., (2009), provided effective relief from dysmenorrhea.[19,68] *Pueraria mirifica*, In a study by Jaroenporn *et al*., (2014), *Pueraria mirifica* improved vaginal atrophy without systemic side effects, whereas soy extract phytoestrogens, evaluated by Ferrari (2009), significantly reduced menopausal hot flushes.[69,70] *Echium amoenum* and PREMEN-CALM® improve PMS symptoms, with the latter also enhancing antioxidant levels and mood profiles.[71,72] Fennel[73] was effective in reducing menstrual pain and duration, whereas Gyejibongneyong-Hwan (GBH) and Dangguijagyag-San (DJS)[74] improved dysmenorrhea and associated acne. *Aristolochia rotunda* and *Saussurea lappa* significantly improve dysmenorrhea symptoms.[23] Furthermore, Persian herbal syrup reduces the symptoms of irritable bowel syndrome, including menstrual discomfort.[75] Ginger and zinc sulfate[76] demonstrated similar positive effects in alleviating primary dysmenorrhea, and *Matricaria chamomilla* (Chamomile) provided effective relief from cyclic mastalgia.[6] The yuzu fragrance, tested by Matsumoto *et al*., (2017), reduced premenstrual emotional symptoms, and *Bushui Roumu* Recipe with Medroxyprogesterone Acetate, investigated by Hua *et al*., (2012), improved menstrual symptoms and reproductive hormone balance.[77,78] Collectively, these studies affirm the therapeutic potential of herbal medicine as a natural and effective alternative for managing various menstruation-related conditions.

Postpartum-Related Conditions: Challenges and Management Strategies

The postpartum period, also known as the puerperium, is a critical phase that extends from birth to approximately six weeks after delivery. During this period, women undergo significant physiological, emotional, and psychological changes that can lead to various postpartum-related conditions. Maintaining maternal well-being and avoiding problems depend on proper postpartum treatment.[103]

Postpartum Hemorrhage (PPH)

Postpartum hemorrhage remains a significant cause of childbirth-related illness and death worldwide. It refers to the excessive loss of blood (≥500 mL for normal delivery and ≥1000 mL for CS) during the first twenty - 4 hr following delivery. The causes of PPH include, but are not limited to, uterine atony, placental retention, trauma, and clotting disorders. Doctors administer uterotonic agents (e.g., oxytocin, misoprostol, or ergometrine), perform trampolining with a uterine balloon, uterine artery embolization, or even hysterectomy to treat difficult cases of PPH. Preventive measures include active management of the third stage of labor, which has been shown to significantly reduce the risk of this condition.[15,104,105]

Postpartum Depression (PPD)

Approximately 10-15% of postpartum women experience a major psychological disorder called Postpartum Depression (PPD), which results in persistent anxiety, fatigue, and sadness, preventing them from bonding with the child. Markers that increase the likelihood of developing PPD may have a history of depression, hormonal fluctuations, insufficient social support, and stress. Early screening using instruments such as the Edinburgh Postnatal Depression Scale (EPDS) can enable timely intervention, thus preventing chronic issues in the mother and child. Some treatment options for PPD are Cognitive Behavioral Therapy (CBT), Interpersonal Therapy (IPT), and Selective Serotonin Reuptake Inhibitors (SSRIs).[8,22,106]

Wound Healing and Perineal Trauma

Perineal lacerations sustained during vaginal birth or episiotomies may contribute to delayed healing, infection, and pain. This also applies to the monitoring and assessment of surgical sites after cesarean section, as there is a significant risk for wound dehiscence, infection, and hypertrophic scarring. Adequate wound care after birth comprises treatment for hygiene, topical

Table 1: PCOS Herbal Clinical Trials.

Study	Herbal Treatment	Study Type	Sample Size	Key Findings
Akdoğan *et al.*, 2007	Spearmint tea	Controlled trial	21	Decrease in free testosterone, increase in LH and estradiol[35]
Arentz *et al.*, 2017	Lifestyle + Herbal medicine	Randomized controlled trial	122	Improved oligomenorrhea, BMI, insulin levels, pregnancy rates[1]
Chen & Zhou, 2005	Diane-35 + Yougui Pill	Randomized controlled trial	63	Sustained improvement in menstrual regulation and pregnancy rate[38]
Esmaeilinezhad *et al.*, 2019	Synbiotic pomegranate juice	Triple-blinded trial	92	Improved insulin resistance, BMI, testosterone reduction[33]
Grant, 2010	Spearmint tea	Randomized controlled trial	42	Reduced free and total testosterone but no clinical improvement in hirsutism[25]
Heshmati *et al.*, 2020	Curcumin	Double-blind trial	72	Improved oxidative stress markers[31]
Heshmati *et al.*, 2021	Curcumin	Double-blind trial	72	Reduced fasting plasma glucose, androgen levels[28]
Hua *et al.*, 2003	Yishen Jianpi Yangxue Tongli Therapy	Randomized controlled trial	107	Higher pregnancy rates, improved clinical symptoms[40]
Ishaq *et al.*, 2021	Femitex-SP4	Randomized clinical trial	150	Significant menstrual cycle normalization[5]
Jalilian *et al.*, 2013	Wood betony	Randomized clinical trial	66	Reduced abnormal uterine bleeding[41]
Kort & Lobo, 2014	Cinnamon	Randomized controlled trial	45	Improved menstrual cyclicity[36]
Kuek *et al.*, 2011	Tian Gui Capsule	Randomized controlled trial	47	Improved androgen levels, ovarian function[37]
Lai *et al.*, 2017	Chinese Herbal Medicine	Pilot study	40	Increased menstrual rates, safety profile improved[9]
Li *et al.*, 2011	Modified Zigui Decoction	Randomized controlled trial	66	Better sustained menstrual and ovulation rates[42]
Liu & Mao, 2013	Danzhi Xiaoyao Pill	Randomized controlled trial	60	Higher ovulation and pregnancy rate[43]
Mokaberinejad *et al.*, 2019	Fennel + Dry Cupping	Randomized clinical trial	61	Improved menstrual cycle, reduced oligomenorrhea[32]
Pkhaladze *et al.*, 2021	Myo-Inositol + OCP	Follow-up comparison	Lean PCOS teenagers	Improved metabolic and hormonal parameters[39]
Shahin & Mohammed, 2014	Cimicifugae Racemosae + Clomiphene	Randomized trial	98	Higher pregnancy and ovulation rate[30]
Shao *et al.*, 2004	Clomiphene + Chinese Herbal Medicine	Randomized controlled trial	62	Better ovulation and pregnancy outcomes[44]
Shi *et al.*, 2009	Acupuncture + Chinese Herbs	Randomized controlled trial	63	Improved hormonal balance and ovulation[45]
Swaroop *et al.*, 2015	Fenugreek Seed Extract	Open-label trial	50	Reduced ovarian cyst size, improved ovulation rate[29]
Tao *et al.*, 2006	Longdan Xiegan Decoction	Randomized controlled trial	48	Reduction in hyperandrogenism, improved ovulation[46]
Yang & Zhang, 2005	Ganshao Capsule	Randomized controlled trial	27	Better ovulation induction and ovarian morphology[47]

antiseptics, analgesics, and sometimes systemic antibiotics. The condition of a perineal wound after birth can be evaluated using REEDA terminology, which denotes Redness, Edema, Ecchymosis, Discharge, and Approximation. It is recommended that women recovering from childbirth engage in pelvic floor exercises to assist with rehabilitation and minimize risks, such as urinary incontinence.[107,108]

Lactation and Breastfeeding Challenges

Postpartum women encounter challenges such as insufficient milk production, mastitis, and inadequate breastfeeding. A variety of stressors, dietary habits, and medical factors influence a mother's ability to produce milk. Essential components include skin-to-skin contact soon after birth, appropriate position and latch, and the services of a certified lactation consultant at the appropriate times. Breast engorgement and mastitis are common concerns that can be managed with warm compresses, massage, frequent breastfeeding, and if necessary, antibiotic therapy for bacterial infections.[109,110]

Postpartum Hypertension and Kidney Function

Hypertensive disorders of pregnancy, including preeclampsia, can persist or worsen postpartum, leading to complications, such as proteinuria, kidney dysfunction, and cardiovascular risks. Management strategies include blood pressure monitoring, antihypertensive medication use, and lifestyle modifications. Postpartum women with severe preeclampsia should undergo regular follow-up to assess their renal function and cardiovascular health. Early intervention can prevent complications, such as postpartum stroke and long-term kidney disease.[111,112]

Postpartum Recovery and Physical Well-Being

Physical recovery after childbirth involves involution of the uterus, hormonal adjustments, and the return of normal

Table 2: Clinical Trials on Herbal Medicine for the Treatment of Menstrual Disorders.

Study	Herbal Treatment	Study Type	Sample Size	Key Findings
Agha-Hosseini *et al.*, 2008	Saffron (*Crocus sativus* L.)	Double-blind, placebo-controlled trial	50	Saffron significantly reduced PMS symptoms and depression scores.[53]
Aksoy *et al.*, 2014	Fructus agni casti	Prospective comparative Doppler study	60	Fructus agni casti was as effective as hormonal treatment in reducing dysmenorrhea pain.[54]
Ayesh *et al.*, 1999	Phytosterol ester-enriched margarine	Randomized, placebo-controlled study	24	Phytosterol esters reduced LDL cholesterol but had no significant effect on female hormones.[79]
Behmanesh *et al.* (2019)	Eryngo (Eryngium caucasicum)	Randomized, double-blind, placebo-controlled	169	Eryngo relieved dysmenorrhea as effectively as Ibuprofen.[55]
Bergmann *et al.*, 2000	Phyto-Hypophyson L (Agnus castus-containing preparation)	Randomized, placebo-controlled, double-blind study	67	Agnus castus-containing preparation improved ovulation and progesterone levels.[80]
Bitto *et al.*, 2010	Genistein aglycone	Randomized, placebo-controlled clinical trial	56	Genistein aglycone reduced endometrial hyperplasia symptoms.[2]
Blakesmith *et al.*, 2003	Red clover (Trifolium pratense)	Double-blind, randomized, parallel study	25	Red clover had no significant effect on cholesterol or insulin resistance[18]
Burke *et al.*, 2002	Phytoestrogen combination (Soy isoflavones, Dong Quai, Black Cohosh)	Randomized controlled trial	49	Phytoestrogen combination reduced frequency of menstrual migraines.[81]
Canning *et al.*, 2010	St. John's Wort (Hypericum perforatum)	Randomized, double-blind, placebo-controlled trial	36	St. John's Wort improved physical and behavioral symptoms of PMS.[52]
Chou *et al.*, 2008	Chinese Herbal Medicine	Controlled trial	61	Chinese herbal medicine reduced PMS-related anxiety and depression[3]
Christie *et al.*, 2004	Flavonoid Extracts	Double-blind, placebo-controlled study	30	Flavonoid extracts improved leg health and reduced fluid retention in premenstrual women.[82]

Study	Herbal Treatment	Study Type	Sample Size	Key Findings
Cui *et al.*, 2013	Warming Shen, Enhancing Yang, Invigorating Qi, Nourishing Blood method	Randomized controlled trial	96	TCM approach improved serum hormone levels and menstrual symptoms in premature ovarian failure.[83]
Ding *et al.*, 2021	Brazilian Green Propolis	Single-blind, placebo-controlled study	133	Brazilian green propolis elevated blood artepillin C levels[84]
Doubova *et al.*, 2007	Psidii guajavae folium extract	Double-blind, randomized clinical trial	197	Psidii guajavae folium extract significantly reduced menstrual pain compared to ibuprofen.[56]
Falahat *et al.*, 2020	Foeniculum vulgare herbal tea	Randomized controlled trial	40	Foeniculum vulgare herbal tea effectively induced menstrual bleeding and regulated cycle.[14]
Fang *et al.*, 2013	Erzhi Tiangui Granule (ETG)	Double-blind, placebo-controlled clinical trial	66	ETG enhanced endometrial receptivity and improved pregnancy rates in women undergoing IVF.[85]
Farahmand *et al.* (2020)	Echium amoenum	Randomized double-blind controlled clinical trial	84	Echium amoenum significantly reduced premenstrual symptoms.[71]
Ferrari, A. (2009)	Soy extract phytoestrogens	Randomized controlled trial	180	Isoflavones significantly reduced hot flushes in postmenopausal women.[69]
Flower, A., *et al.* (2011)	Chinese herbal medicine	Double-blind, randomized controlled trial	40	CHM decoctions showed positive effects on menstrual pain and quality of life.[86]
Frische, E. J., *et al.* (2003)	Flaxseed and wheat bran	Randomized crossover study	16	Flaxseed increased lignan excretion but did not alter serum hormone levels.[87]
Fukui, H., *et al.* (2011)	Saffron odor	Randomized controlled trial	35	Saffron odor reduced cortisol and anxiety levels, indicating its potential for menstrual distress treatment.[48]
Gerhardsen, G., *et al.* (2008)	Femal (pollen-based herbal medicine)	Randomized, double-blind, placebo-controlled	50	Femal significantly reduced premenstrual sleep disturbances.[88]
Ghodsi, Z. and M. Asltoghiri (2014)	Fennel capsules	Randomized clinical trial	80	Fennel significantly reduced menstrual pain intensity and menstrual duration.[73]
Goyal, A. and R. E. Mansel (2005)	Gamolenic acid (Efamast)	Randomized, multicenter, placebo-controlled	555	Gamolenic acid showed no significant difference from placebo in treating mastalgia.[89]
Green, J., *et al.* (2007)	Herbal medicine for menopause	Randomized controlled trial	45	Herbal therapy improved menopausal symptoms, especially vasomotor and libido-related complaints.[90]
Greenlee, H., *et al.* (2007)	Naturopathic botanical and dietary interventions	Pilot and feasibility study	40	Botanical supplements reduced early follicular phase androgens.[91]
Gürler, M., *et al.* (2020)	Aromatherapy with lavender	Non-randomized, placebo-controlled	57	Aromatherapy improved sleep quality and quality of life in menopausal women.[92]
Halder, A. (2012)	Ginger powder	Randomized clinical trial	75	Ginger powder was found to be superior to progressive muscle relaxation for dysmenorrhea.[93]

Study	Herbal Treatment	Study Type	Sample Size	Key Findings
Han, S. H., *et al.* (2006)	Aromatherapy with lavender, clary sage, and rose	Randomized controlled trial	67	Aromatherapy using lavender, clary sage, and rose reduced menstrual cramps.[94]
Herrera, A., *et al.* (2024)	PREMEN-CALM® (herbal supplement)	Randomized, double-blind, placebo-controlled	42	PREMEN-CALM® improved antioxidant status and mood state profile in PMS patients.[72]
Hesami, S., *et al.* (2021)	Turmeric and mefenamic acid	Randomized controlled trial	128	Turmeric and mefenamic acid combination effectively alleviated menstrual pain[57]
Heydari *et al.* (2018)	Rosa damascena oil	Triple-blind randomized clinical trial	64	Rosa damascena aromatherapy significantly improved PMS symptoms.[65]
Heydari *et al.* (2018)	Citrus aurantium blossom oil	Double-blind clinical trial	62	Citrus aurantium blossom oil alleviated psychological symptoms of PMS.[66]
Hicks *et al.*, 2004	St. John's Wort	Randomized, Double-Blind, Placebo-Controlled Trial	169	Trend for SJW to be superior to placebo for PMS, but not statistically significant.[95]
Hua *et al.*, 2012	Bushui Roumu Recipe + Medroxyprogesterone Acetate	Randomized Controlled Trial	90	Combination of BRR and MAT improved menstrual symptoms and reproductive hormones.[77]
Jahangirifar *et al.* (2018)	Cinnamon	Randomized, double-blind clinical trial	70	Cinnamon reduced the severity of primary dysmenorrhea.[58]
Jang *et al.*, 2009	Chiljehyangbuhwan	Randomized, Double-Blind, Placebo-Controlled Study	100	Chiljehyangbuhwan effectively reduced dysmenorrhea symptoms.[19]
Jaroenporn *et al.*, 2014	Pueraria mirifica	Experimental Study in Macaques	12	Topical application improved vaginal atrophy without systemic side effects.[70]
Javidnia *et al.*, 2003	Fennel extract	Double-Blind Placebo-Controlled Study	38	Fennel extract reduced hair diameter in idiopathic hirsutism.[96]
Jenabi & Fereidoony, 2015	Achillea Millefolium	Double-Blind Randomized Clinical Trial	Unknown	Achillea Millefolium reduced pain severity in dysmenorrhea.[97]
Jenabi *et al.*, 2013	Ginger	Clinical Trial	70	Ginger significantly reduced primary dysmenorrhea pain.[59]
Jiang *et al.* (2017)	Chinese external therapy (CET)	Double-blinded randomized controlled trial	168	Chinese external therapy (CET) controlled disease activity and improved symptoms.[98]
Jiang *et al.*, 2006	Bushen Huoxue Decoction	Randomized Controlled Trial	Unknown	Bushen Huoxue Decoction enhanced follicular development and endometrial thickness.[99]
Jiang *et al.*, 2017	Compound Tripterygium wilfordii Hook F Gel	Double-Blinded, Randomized, Placebo-Controlled Clinical Trial	168	TwHF gel improved arthritis symptoms with no menstrual effects.[98]

Study	Herbal Treatment	Study Type	Sample Size	Key Findings
Jiao & Jiang, 2012	Compound Tripterygium wilfordii	Randomized Controlled Clinical Trial	67	CTW reduced RA symptoms with good safety.[100]
Jiao *et al.*, 2016	Compound Tripterygium wilfordii Hook F.	Double-Blinded, Randomized Multicenter Trial	174	TwHF gel relieved joint pain with no menstrual effects.[101]
Jin & Huang, 2005	Yaoliuan Capsule	Randomized Controlled Trial	323	Yaoliuan capsule improved post-abortion bleeding and menstrual recovery.[61]
Jung *et al.*, 2016	Gyejibongneyong-hwan (GBH)	Randomized Controlled Trial	38	GBH reduced dysmenorrhea symptoms in fibroid patients.[102]
Kashefi *et al.*, 2014	Ginger & Zinc Sulfate	Placebo-Controlled, Randomized Trial	150	Ginger and Zinc Sulfate reduced primary dysmenorrhea pain.[76]
Kashefi *et al.*, 2015	Ginger	Placebo-Controlled, Randomized Clinical Trial	92	Ginger significantly reduced heavy menstrual bleeding.
Khayat *et al.*, 2015	Curcumin	Randomized, Double-Blind, Placebo-Controlled Trial	70	Curcumin significantly attenuated PMS symptoms.[60]
Kim *et al.* (2017)	Gyejibokryung-hwan & Dangguijagyag-san	Randomized, double-blind, placebo-controlled	116	Gyejibokryung-hwan & Dangguijagyag-san improved dysmenorrhea and associated acne.[74]
Kim *et al.* (2017)	Korean herbal medicine	Multicenter, prospective, observational	Multicenter trial	Korean herbal medicine showed benefits in treating unexplained infertility.[10]
Kohama *et al.*, 2004	French Maritime Pine Bark Extract (Pycnogenol)	Open Clinical Trial	47	Pycnogenol significantly reduced menstrual pain.[68]
Matsumoto *et al.* (2017)	Yuzu fragrance	Single-blind randomized crossover	17	Yuzu fragrance reduced premenstrual emotional symptoms similar to lavender.[78]
Pazhouh *et al.* (2020)	Persian herbal syrup	Randomized, placebo-controlled	70	Persian herbal syrup effectively reduced IBS symptoms, including menstrual discomfort.[75]
Refaei *et al.* (2024)	Cinnamon	Triple-blind parallel clinical trial	60	Cinnamon significantly reduced menopause symptoms, particularly psychological effects.[24]
Saghafi *et al.* (2018)	Chamomile	Double-blind randomized controlled	60	Chamomile provided effective relief for cyclic mastalgia.[6]
Sumaiya *et al.* (2024)	Aristolochia rotunda & Saussurea lappa	Single-blind randomized clinical study	100	Aristolochia rotunda & Saussurea lappa improved primary dysmenorrhea symptoms.[23]
Talebpour *et al.* (2023)	Curcumin	Randomized controlled trial	76	Curcumin reduced inflammatory markers and improved PMS symptoms.[63]
Uzunçakmak *et al.* (2018)	Lavender oil (Aromatherapy)	Randomized controlled trial	77	Aromatherapy with lavender oil was effective in coping with PMS.[64]

physiological functions. Uterine contractions help expel lochia, a vaginal discharge that consists of blood, mucus, and uterine tissue. Appropriate nutrition, hydration, and rest are essential for postpartum recovery. Iron supplementation may be required in women who experience significant blood loss during delivery. Regular physical activity, such as pelvic floor exercises and mild stretching, can aid in overall recovery and reduce postpartum fatigue.[113]

Psychosocial and Family Dynamics

The mental health of postpartum women may be affected by different social and economic factors, such as the baby's father, family, and even the mother's social setting. Many mothers go through baby blues, which is defined as a phase of emotional coping characterized by uncontrollable crying, irritability, and mood changes. However, if they are still experiencing such symptoms two weeks after delivery, they may be diagnosed with postpartum depression or anxiety. The remaining support systems are also important; for example, the spouse's participation as well as the area's socio-community activities are fundamental for the mother's mental health, so she does not feel ostracized.[114]

Postpartum-related conditions involve a wide range of physical and psychological challenges that require comprehensive management. Early intervention, adequate medical care, and strong support systems are essential to ensuring maternal recovery and well-being. Healthcare providers should emphasize postpartum education, mental health screening, and accessible maternal healthcare services to address complications and improve postpartum outcomes.

Clinical Trials for Postpartum-Related Conditions

Clinical trials investigating the use of herbal medicines in postpartum-related conditions have demonstrated a variety of effective interventions for improving maternal health outcomes (Table 3). Several studies have explored herbal treatments for postpartum hemorrhage, such as Lianhuang Decoction,[115] *Capsella Bursa Pastoris*,[116] Motherwort Injection,[117] Shenkangbao,[118] and Zhi Byed,[11,15] with notable reductions in blood loss and improved

Table 3: Clinical trials investigating the use of herbal medicine in postpartum-related conditions.

Study	Herbal Treatment	Study Type	Sample Size	Key Findings
Cai *et al*., 2009	Lianhuang Decoction	Randomized Controlled Trial	60	Lianhuang Decoction effectively reduced antibody titer and prevented postpartum hemolytic disease.[115]
Chang & Chen, 2016	Chamomile Tea	Randomized Controlled Trial	80	Chamomile tea improved sleep quality and reduced postpartum depression symptoms.[129]
Conrad & Adams, 2012	Rose Otto & Lavandula Angustifolia	Observational Pilot Study	28	Aromatherapy significantly improved anxiety and depression in postpartum women.[130]
Effati-Daryani *et al*., 2018	Lavender Cream & Footbath	Randomized Controlled Trial	141	Lavender cream and footbath improved sleep quality and reduced fatigue in postpartum women.[121]
Eyi *et al*., 2013	Ankaferd Blood Stopper	Randomized Controlled Trial	40	Ankaferd Blood Stopper reduced postpartum blood loss in episiotomy repair.[131]
Finny *et al*., 2015	Jasmine Flower Extract	Randomized, Double-Blind, Crossover Clinical Trial	35	Jasmine Flower Extract lowered prolactin levels in postpartum women.[132]
Gennaro *et al*., 2001	Health Education Intervention	Educational Intervention	187	Health education intervention improved postpartum and prenatal care behaviors.[133]
Ghalandari *et al*., 2017	Capsella Bursa Pastoris	Randomized Clinical Trial	100	Capsella Bursa Pastoris significantly reduced postpartum hemorrhage.[116]
Hajhashemi *et al*., 2018	Achillea Millefolium & Hypericum Perforatum	Double-Blind Clinical Trial	140	Achillea Millefolium & Hypericum Perforatum ointments improved episiotomy wound healing.[124]
Hur *et al*., 2005	Essential Oils	Nonequivalent Control Group Pretest-Posttest Design	48	Essential oils reduced labor stress response but did not significantly affect anxiety.[120]
Hur & Han, 2004	Aromatherapy (Lavender, Myrrh, etc.)	Clinical Trial	60	Aromatherapy significantly improved perineal healing in postpartum women.[134]
Imura *et al*., 2006	Aromatherapy Massage	Quasi-Experimental Between-Groups Design	36	Aromatherapy massage reduced maternity blues and improved mood states in postpartum women.[135]

Study	Herbal Treatment	Study Type	Sample Size	Key Findings
Jia *et al*., 2007	Xiaobai Decoction	Randomized Controlled Trial	85	Xiaobai Decoction reduced albuminuria and improved postpartum kidney function.[128]
Kashani *et al*., 2017	Saffron	Double-Blind, Randomized Clinical Trial	65	Saffron was as effective as fluoxetine in treating postpartum depression.[106]
Lin *et al*., 2009	Motherwort Injection	Randomized, Single-Blind, Multi-Center Study	440	Motherwort injection effectively prevented postpartum hemorrhage following cesarean section.[117]
Liu *et al*. (2009)	Shenkangbao (TCM formula)	Randomized controlled trial	72	Shenkangbao significantly reduced albuminuria, improved plasma protein levels, and increased urinary albumin negative inversion rate compared to control. Blood pressure improved equally in both groups.[136]
Malekuti *et al*. (2019)	Myrtus communis herbal ointment	Triple-blinded RCT	134	Reduced anal itching and higher treatment satisfaction compared to anti-hemorrhoid ointment. No significant difference in overall hemorrhoid symptoms or quality of life.[126]
Marzouk *et al*. (2015)	Lavender-thymol topical aromatherapy	Single-blinded RCT	60	Improved episiotomy healing (lower REEDA score), reduced dyspareunia, and decreased pain compared to placebo [119].
Miettinen *et al*. (2014)	Not applicable (observational study)	Observational study	52	Elevated serum squalene in obese women with GDM correlated with increased neonatal birth weight. No herbal intervention tested.[137]
Miller *et al*. (2009)	Zhi Byed 11 (Tibetan medicine)	Double-blind RCT	967	Misoprostol outperformed ZB11 in reducing postpartum hemorrhage (PPH) incidence. Fever was more common with misoprostol.[15]
Oberbaum *et al*. (2005)	Arnica montana and Bellis perennis	Double-blind RCT	40	Reduced postpartum blood loss (stable hemoglobin levels) compared to placebo.[105]
Rees *et al*. (2008)	Omega-3 fatty acids (fish oil)	Double-blind RCT	26	No significant benefit over placebo for perinatal depression. Study underpowered.[138]
Samadi *et al*. (2010)	Hypericum perforatum (St. John's Wort)	Double-blind RCT	144	Improved cesarean wound healing, reduced scar formation, and decreased pain/pruritus compared to placebo and control groups.[122]
Tabeshpour *et al*. (2017)	Saffron (*Crocus sativus*)	Double-blind RCT	60	Significant reduction in postpartum depression symptoms (BDI-II scores) and higher remission rates (96% vs. 43% in placebo).[8]
Ushiroyama *et al*. (2003)	Kyuki-chouketsu-in (Japanese herbal)	Randomized controlled trial	171	Improved postpartum recovery: lower uterine fundus height, increased hemoglobin, reduced CRP, and higher serum protein levels compared to ergometrine.[127]
Vakilian *et al*. (2011)	Lavender essential oil	Randomized control trial	120	Reduced episiotomy wound redness and pain compared to povidone-iodine. No significant difference in overall complications.[125]
Wang *et al*. (2024)	Sweet orange aromatherapy + TCM therapy	Randomized controlled trial	160	Combined therapy reduced anxiety/depression (GAD-7, EPDS), stress (PCL), and mania (HCL-32), while improving neurotransmitters (5-HT, DA) and family intimacy adaptability vs. control or single interventions.[22]

uterine recovery. Additionally, Saffron[8,106] showed promising results in alleviating postpartum depression and rivaling pharmaceutical options such as fluoxetine. Aromatherapy-based interventions, including Lavender-thymol,[119] Sweet Orange Aromatherapy + TCM,[22] Essential Oils,[120] and Lavender Cream & Footbath,[121] were effective in reducing stress, anxiety, and depression, while improving sleep quality and overall well-being. Treatments aimed at episiotomy healing and postpartum wound care, such as *Hypericum perforatum*,[122] Mastic Oleoresin,[123] Achillea Millefolium & *Hypericum Perforatum* Ointments,[124] and Lavender Essential Oil,[125] accelerated wound healing and reduced pain. Furthermore, studies on hemorrhoid treatment[126] and lactation suppression (Jasmine Flower Extract - Finny *et al*., 2015) have shown herbal alternatives for postpartum discomfort. Homeopathic remedies such as *Arnica montana* and *Bellis perennis* [105] successfully minimized postpartum blood loss. Finally, traditional Asian herbal formulations such as Kyuki-chouketsu-in[127] and Xiaobai Decoction[128] have demonstrated beneficial effects on postpartum recovery and renal function. Collectively, these trials indicate that herbal medicine can provide effective, safe, and natural alternatives for postpartum care, potentially reducing the reliance on synthetic pharmaceuticals.

Infertility

Infertility is a condition characterized by failure to achieve a successful pregnancy after 12 months of regular intercourse. Approximately 9%-18 percent of typical couples experience infertility. The incidence of pregnancies among the elderly has increased in recent years, owing to evolving socioeconomic norms. Furthermore, the incidence of infertility among females is rising owing to stress, obesity, sedentary lifestyles, and environmental contamination. Female infertility is categorized into ovulatory, tubal and peritoneal, cervical, uterine, immunological, infectious, and unexplained factors. Unexplained infertility is believed to affect approximately 15% of the population.[28,139,140]

Clinical trials for infertility

Recent clinical studies have demonstrated the efficacy of various herbal treatments across a spectrum of women's health issues, notably infertility and other related conditions (Table 4). For instance, a study by Askari, S. F., *et al*., (2020) found that Myrtle and Oak Gall Suppository (MOGS) was more effective than metronidazole in treating vaginitis, particularly trichomoniasis and mixed types.[141] Chang *et al*., (2011) reported that the *Bushen Tiaojing* Recipe significantly increased GDF-9 levels in follicular fluid and granulosa cells, which improved oocyte and embryo quality, thereby enhancing pregnancy rates.[142] In another study, Ghamari *et al*., (2020) observed that supplementation with Vitamin E and Ginseng improved sexual desire and satisfaction more than placebo, although it did not significantly enhance overall sexual function.[139] An integrated method combining operation, Chinese medicine, Dexamethasone, and Vitamin E examined by Guo *et al*., (2006) notably boosted sperm density, motility, and overall fertility outcomes.[143] Similarly, Huang *et al*., (2005) found that the external application of Chinese drugs on the Shenque acupoint combined with salpingostomy improved treatment outcomes for fallopian tube obstruction better than salpingostomy alone.[144] Huang, Y., *et al*., (2007) documented that Lin'erlai Prescription (LEL) significantly improved ovulation and pregnancy rates in women with anovulatory infertility.[145] Jafari-Dehkordi *et al*., (2017) highlighted that quince syrup was more effective than vitamin B6 in reducing nausea and vomiting in pregnant women, suggesting a promising herbal alternative for managing pregnancy-induced nausea.[146] Collectively, these findings suggest that herbal treatments can offer significant benefits in managing and treating various women's health issues, particularly when conventional medicine may fall short. These treatments not only provide effective alternatives, but also open avenues for integrating traditional herbal remedies with modern medical practices to enhance therapeutic outcomes. The documented success of these interventions across diverse studies underscores the potential of herbal medicine as a complementary or alternative to standard treatments, providing hope and improved outcomes for patients facing these health challenges.

DISCUSSION

This review highlights the emerging role of herbal medicine in managing gynecological and obstetric conditions, revealing consistent therapeutic signals across a range of clinical trials despite variability in formulations and designs. For polycystic ovary syndrome (PCOS), herbal interventions demonstrated multifaceted benefits, notably in hormonal modulation, metabolic improvement, and ovulation support. Integrative regimens combining herbal remedies with standard therapies-such as Clomiphene citrate-often yielded superior outcomes, pointing to synergistic effects worth further exploration.

In menstrual disorders, herbs like *Vitex agnus-castus, Cinnamomum zeylanicum*, and *Zingiber officinale* were associated with symptom relief and hormonal regulation, offering viable alternatives or adjuncts to hormonal therapies. Premenstrual Syndrome (PMS) and dysmenorrhea trials suggested promising effects on serotonergic and inflammatory pathways, respectively. However, variation in outcomes and small sample sizes call for more rigorously controlled studies with standardized dosing and longer follow-up.

Infertility trials also demonstrated improvements in ovulation, endometrial receptivity, and sperm quality using preparations like Erzhi Tiangui Granule and Compound Xuanju Capsule. Notably, traditional formulations enhanced markers such as GDF-9 and LIF, suggesting mechanistic plausibility for reproductive benefits. However, most studies lacked mechanistic depth, limiting translational insights.

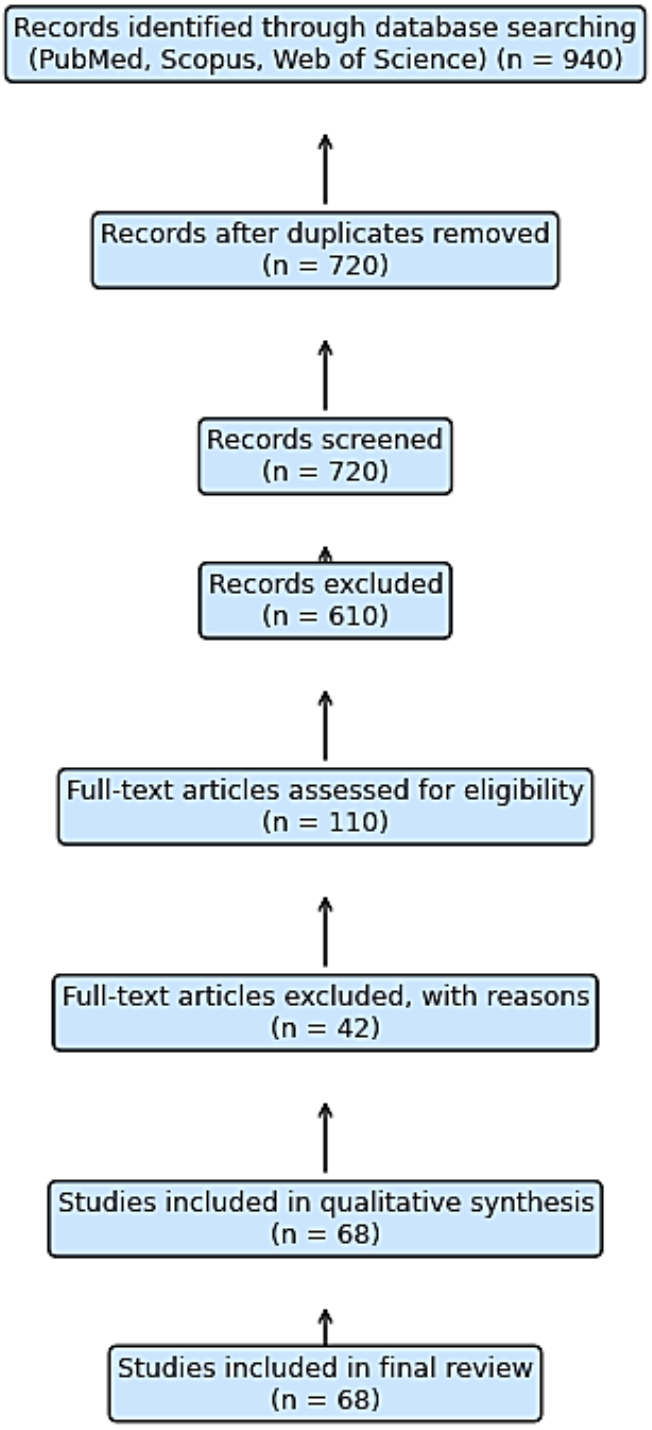

Figure 1: PRISMA Flow Diagram of Study Selection Process. This diagram illustrates the systematic selection of clinical trials included in the review. A total of 940 records were initially identified through database searches (PubMed, Scopus, Web of Science). After removing duplicates, 720 records were screened, of which 610 were excluded based on titles and abstracts. The remaining 110 full-text articles were assessed for eligibility, with 42 excluded for not meeting inclusion criteria. Ultimately, 68 clinical trials were included in the qualitative synthesis and final review.

Across all conditions, safety reporting was inconsistent, with limited analysis of herb-drug interactions or adverse events. While clinical benefits were evident, heterogeneity in herbal preparation, diagnostic criteria, and outcome measures hampers meta-synthesis. Few studies conducted head-to-head comparisons with pharmacological treatments, underscoring a major research gap.

Moving forward, greater emphasis on biomarker profiling, individualized treatment based on hormonal phenotypes, and mechanistic studies is critical. Integrative models combining herbal and biomedical approaches may offer a patient-centered path forward, especially for populations seeking less invasive or more natural options. Standardization, quality control, and post-marketing surveillance will be essential for safe clinical adoption. This synthesis supports herbal medicine as a complementary tool in reproductive healthcare, but stronger evidence is required to transition from potential to protocol.

Safety, Side Effects, Contraindications, and Herb-Drug Interactions

The safety of herbal interventions in gynecological and obstetric care remains a critical consideration. Documented adverse events across the reviewed clinical trials were generally mild and transient, including gastrointestinal discomfort, headache, or skin irritation. However, serious adverse reactions were rarely reported, possibly due to short follow-up periods or underreporting. Some herbs-such as *Cimicifuga racemosa, Vitex agnus-castus*, and *Hypericum perforatum*-may pose risks in specific populations, particularly pregnant or lactating women, and are contraindicated due to potential uterine stimulation or hormonal effects.[163] Known herb-drug interactions were also noted, such as St. John's Wort reducing the efficacy of oral contraceptives, anticoagulants, and SSRIs.[164] Clinicians must exercise caution, especially when patients are concurrently using conventional therapies, to avoid synergistic toxicity or reduced drug efficacy.[165] Therefore, integrating herbal medicine into standard care requires careful assessment of safety profiles, individualized risk-benefit evaluation, and patient education on possible interactions.

This review is limited by the heterogeneity of clinical trial designs, herbal preparations, and outcome measures, which hinder direct comparison and synthesis. The absence of meta-analysis restricts quantitative evaluation. Language bias may exist, as only English-language studies were included. Additionally, many included trials had small sample sizes, short durations, or lacked standardized formulations. Safety data and adverse event reporting were inconsistently provided, limiting comprehensive risk assessment. These factors underscore the need for more rigorous, standardized, and large-scale future studies.

Table 4 :Clinical trials for infertility.

Study	Herbal Treatment	Study Type	Sample Size	Key Findings
Askari, S. F., *et al.* (2020)	Myrtle and Oak Gall Suppository (MOGS)	Randomized Clinical Trial	120	MOGS outperformed metronidazole in treating vaginitis, especially trichomoniasis and mixed types.[141]
Chang, X. F., *et al.* (2011)	Bushen Tiaojing Recipe	Randomized Clinical Trial	58	Increased GDF-9 enhanced oocyte and embryo quality, boosting pregnancy rates.[142]
Ghamari, K., *et al.* (2020)	Vitamin E and Ginseng Supplement	Double-blind, Placebo-Controlled Trial	62 (31 completed)	Supplement improved sexual desire and satisfaction over placebo.[139]
Guo, Y. J., *et al.* (2006)	Integrated method: Operation + Chinese Medicine + Dexamethasone + Vitamin E	Clinical Study	96	Integrated method significantly boosted sperm quality and fertility outcomes.[143]
Huang, J. (2005)	Chinese drugs on acupoint Shenque with salpingostomy	Clinical Report	75	Chinese drugs with salpingostomy improved fallopian tube obstruction treatment.[144]
Huang, Y., *et al.* (2007)	Lin'erlai Prescription (LEL)	Randomized Clinical Trial	60	LEL significantly enhanced ovulation and pregnancy rates in anovulatory infertility.[145]
Jafari-Dehkordi, E., *et al.* (2017)	Quince (Cydonia oblonga)	Randomized Clinical Trial	76	Quince syrup more effectively reduced nausea and vomiting than vitamin B6.[146]
Jinno, M., *et al.* (2021)	Trapa bispinosa Roxb. extract	Randomized Controlled Trial	64	Higher live birth rates with Hishi extract in older ART patients; reduced AGEs and enhanced oocyte development.[4]
Kang, J. L., *et al.* (2001)	Integrative traditional Chinese and Western medicine	Randomized Controlled Trial	120	Superior fallopian tube patency and pregnancy rates with combined TCM and Western medicine; reduced CRP and IL-1β.[147]
Kashani, L., *et al.* (2018)	*Crocus sativus* (saffron)	Double-blind Randomized Controlled Trial	60	Saffron reduced depressive symptoms and hot flashes in post-menopausal women, offering a non-hormonal alternative.[7]
Lian, F. and X. N. Li (2013)	Dan'e Fukang Soft Extract	Experimental Study	70	Improved oocyte and embryo qualities in endometriosis patients; linked to increased GDF-9 mRNA.[148]
Lian, F., *et al.* (2002)	Zhenqi Zhuanyin Decoction combined with intrauterine insemination	Randomized Controlled Trial	103	Higher pregnancy and AsAb negative conversion rates with combined therapy; improved TCM Syndrome and T-lymphocyte subsets.[149]
Lian, F., *et al.* (2006)	Erzhi Tiangui Recipe	Randomized Controlled Trial	66	Enhanced ovarian reactivity in elderly sterile women; reduced FSH dosage and improved fertility outcomes.[150]
Lian, F., *et al.* (2007)	Erzhi Tiangui Granule	Randomized Controlled Trial	80	Increased LIF in follicular fluid raised oocyte/embryo quality and pregnancy rates.[151]
Lian, F., *et al.* (2010)	Er'zhi Tiangui Granule	Randomized Controlled Trial	57	ETG enhanced metabonomics and calcium in follicle fluid, improving oocyte quality and pregnancy rates.[152]
Liu, X. H., *et al.* (2005)	Integrative Chinese and Western medicine	Clinical Study	N/A	Integrative medicine treated immunologic infertility; details not provided.[153]

Study	Herbal Treatment	Study Type	Sample Size	Key Findings
Lu, X. N., *et al.* (2007)	Kangyi Zhongyu Decoction combined with GnRH-a	Randomized Controlled Trial	75	Combined treatment improved pregnancy rates and reduced dyspareunia and adverse reactions; lowered CA125 and EMAb levels.[154]
Ma, K., *et al.* (2012)	Compound Xuanju Capsule + Clomiphene Citrate	Randomized Controlled Trial	87	Improved SYDS symptoms, cervical mucus, endometrial thickness, and pregnancy rates. No significant difference in ovulation rates[155]
Ma, S. X., *et al.* (2005)	Yijing Huoxue Cuyun Decoction + Clomiphene	Randomized Controlled Trial	118	Enhanced cervical mucus, endometrial thickness, and pregnancy rates.[156]
Mirhosseini, S., *et al.* (2021)	Aromatherapy Massage with Orange Essential Oil	Randomized Clinical Trial	80	Reduced post-cesarean anxiety with orange essential oil massage.[157]
Qi, Y. H. and F. Lian (2011)	Quyu Jiedu Recipe + Laparoscopic Surgery	Randomized Controlled Trial	130	Enhanced clinical symptoms, EMAb conversion, lowered CA125, and increased pregnancy rates post-surgery.[158]
Shahin, A. Y., *et al.* (2008)	Phytoestrogens + Clomiphene Citrate	Randomized Controlled Trial	119	Higher pregnancy rates and improved endometrial thickness and cycle outcomes.[140]
Shang, X. J., *et al.* (2011)	Qilin Pills	Multi-centered Clinical Trial	310	Improved seminal quality in oligoasthenospermia patients without adverse events.[159]
Shen, S. L., *et al.* (2010)	Yangjing Decoction	Randomized Controlled Trial	62	Increased sperm vitality and effectiveness, leading to more pregnancies.[160]
Sun, J., *et al.* (2006)	Qingre Yulin Decoction	Randomized Controlled Trial	60	Enhanced sperm quality and increased pregnancy rates in AGI patients.[161]
Ushiroyama, T., *et al.* (2012)	Macrophage-activating Chinese Mixed Herbs (MACH)	Prospective Cohort Study	30	Significantly improved blastocyst quality, reduced FSH levels, and enhanced embryo quality in long-term infertility.[162]

CONCLUSION

This article covers a wide range of clinical studies that evaluate the effectiveness and safety of herbal treatment options for various gynecological health issues, such as infertility, postpartum conditions, menstrual cycles, and pregnancy-related problems. The results indicate that several herbal remedies, such as saffron, lavender, motherwort, and phytoestrogens, have the potential to improve the reproductive system, alleviate symptoms of gynecological conditions, and assist with postpartum recovery. Nevertheless, a wide research gap still exists that includes more well-designed randomized control trials with adequate sample sizes, adequate duration of follow-up, set dosages, and stricter safety measures. Additionally, several herbal treatments are known to be beneficial; however, their specific mechanisms of action are not fully understood and require further research at the pharmacological and molecular levels. It is equally essential that further research is conducted on the interactions between conventional treatments and herbal remedies to enable the safe utilization of these alternative treatments in practice. The results of the above research pave the way toward the acceptance of herbal medicine in women's health problems; however, the application of this utilization in clinical practice requires evidence-based guidelines. Adoption recommends multidisciplinary teamwork of herbalists, clinicians, and researchers in the development of protocol plans, carrying out meta-analyses of trials performed, and teaching other healthcare providers about the effectiveness and loading of herbal treatments in the fields of gynecology and obstetrics.

ABBREVIATIONS

PMS: Premenstrual Syndrome; **RCT:** Randomized Controlled Trial; **CAM:** Complementary and Alternative Medicine; **PPD:** Postpartum Depression; **FSH:** Follicle-Stimulating Hormone; **LH:** Luteinizing Hormone; **TCM:** Traditional Chinese Medicine; **ETG:** Erzhi Tiangui Granule; **GnRH-a:** Gonadotropin-Releasing Hormone Agonist; **IVF:** *In vitro* Fertilization; **AGEs:** Advanced Glycation End-products; **LIF:** Leukemia Inhibitory Factor; **PCOS:** Polycystic Ovary Syndrome; **BMI:** Body Mass Index; **SJW**: St. John's Wort; **EPDS:** Edinburgh Postnatal Depression Scale; **GAD-7:** Generalized Anxiety Disorder-7; **HCL-32:** Hypomania

Checklist-32; **CRP:** C-Reactive Protein; **EMAb:** Endometrial Antibody; **SYDS:** Spleen and Kidney Deficiency Syndrome.

CONFLICT OF INTEREST

The author declares that there is no conflict of interest.

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