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Review Article

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Synergistic Effects of Traditional Chinese Medicine and Modern Gynecologic Interventions: A Content Literature Review

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ABSTRACT

This review provides limited content and insights on Traditional Chinese Medicine (TCM) and its integration in conventional / western medical systems, and the synergy between the two systems. It is useful to know and appreciate the strengths and weaknesses of each system. There is a global effort, encouraged by the World Health Organization (WHO), to integrate TCM and other traditional medicines with the western medicine to create Complimentary Integrated Medicine (CIM). This requires evidence-base, regulatory mechanisms, careful selection of safe and effective interventions, and empowering communities through communication and engagement.

TCM is a holistic, energy-based framework that views the body, mind, and spirit as an inseparable whole and connected to the environment. Treatment aims to restore internal balance and enhance the body's self-healing capabilities through practices like acupuncture, herbal medicine, dietary therapy, and meditation. In gynecology, TCM has been used to treat various conditions, such as menstrual disorders, infertility, and menopausal symptoms.

Modern gynecological interventions, grounded in evidence-based medicine, operate on a reductionist, technology-based system. This is the western medicine system which identifies specific physical, cellular, and molecular causes of disease and uses targeted interventions like pharmaceuticals and surgery to eliminate or control them.

The review shows that TCM modalities in gynecological interventions include acupuncture, herbal medicine, and moxibustion, which all aim to restore balance and promote health. The most common gynecologic conditions in which TCM are applied are infertility, endometriosis, dysmenorrhea, PCOS and uterine fibroids. Synergistic integration mechanisms included referral between the two systems, co-location and working closely together, and integrated treatment plans (involving the two systems). There is caution about herb-drug interaction, which can enhance their combined therapeutic effect or can lead to severe adverse effects. It has been proposed that certain TCM interventions can easily be integrated with modern medicine. These include weight loss measures, exercises, specified diets, supplements and botanicals, mind-emotion management and meditation.

Keywords: Complimentary Medicine, Gynecological Interventions, Integrated Medicine, Synergistic Effects, Traditional Chinese Medicine, Western Medicine

Introduction

The integration of Traditional Chinese Medicine (TCM) with modern gynecological interventions has gained significant attention in recent years, offering a promising approach to women's health. This review paper provides a comparative analysis of TCM and modern gynecological interventions, highlighting their synergistic effects, differences, and potential benefits [1]. TCM, with its 3,000-year history, is rooted in the concept of balancing the body's energy, or "qi." TCM modalities, including acupuncture, herbal medicine, and moxibustion, aim to restore balance and promote health. In gynecology, TCM has been used to treat various conditions, such as menstrual disorders, infertility, and menopausal symptoms.

TCM embraces a holistic, energy-based framework (Qi, Yin-Yang and Five Elements) that views the body, mind, and spirit as an inseparable whole and connected to the environment. Treatment aims to restore internal balance and enhance the body's self-healing capabilities through practices like acupuncture, herbal medicine, dietary therapy, and Qigong. It often excels in managing chronic conditions and improving overall well-being.

Modern gynecological interventions, grounded in evidence-based medicine, have revolutionized women's healthcare [2].

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Western medicine (biomedicine) focuses on a reductionist, technology-based system. It identifies specific physical, cellular, and molecular causes of disease and uses targeted interventions like pharmaceuticals and surgery to eliminate or control them (such as antibiotics to kill bacteria, chemotherapy to destroy cancer cells). It excels in acute and life-threatening conditions [2]. Advances in surgical techniques, pharmaceuticals, and diagnostic tools have improved treatment outcomes.

This review was intended to provide context and insights on the subject of Traditional Chinese Medicine (TCM), integration of TCM and conventional / western medical systems, and to identify synergy between the two systems. The review provides an overview of the current state of knowledge on the topic, highlighting key findings, trends, and gaps. It summarizes, analyses and synthesizes existing knowledge and practice.

Methodology

This was a content review, consisting of descriptive summaries of literature and comparative analysis. The review was intended to provide context and insights on the subject of TCM, integration of TCM and conventional / western medical systems, and the synergy between the two systems. While the literature review was not exhaustive, it provided the basis for key insights, comparison and analysis of TCM and western medicine.

We made web searches in PubMed, Scopus, and other social science databases using these keywords:

"Traditional Chinese Medicine" AND "Integrated medicine"
"Traditional Chinese Medicine" AND "Complimentary medicine"
"Traditional Chinese Medicine" AND "Synergistic effects"
"Traditional Chinese Medicine" AND "Gynecological interventions"
"Traditional Chinese Medicine" AND "Western medicine"

We obtained 23 papers published between 2015 and 2025. We restricted the search to a period of 10 years. Data from each paper was reviewed and synthesized to the format. We sought to answer the following questions:

What is TCM?
How widespread and important in TCM?
How does TCM work in general?
How is TCM applied in Gynecology?
How does TCM integrate with Western medicine?
How does TCM fit in with other traditional medicines?
How does TCM fit in the global health sector strategic plans?

Findings

Traditional Chinese Medicine

Traditional Chinese Medicine (TCM) encompasses a wide range of natural substances such as plants, animals, minerals, and their processed forms. TCM products include extracts, crude drug, herbal pieces, TCM preparations, health foods, and cosmetics [1]. The efficacy of TCM has been observed in preventing and treating various ailments such as autoimmune disorders cardiovascular diseases cancers and gynecologic conditions [3-7]. TCM has spread all round the world. From the 2nd century BCE to the 14th century CE, China disseminated numerous medicinal herbs along the Silk Road to Central Asia, West Asia, Europe, and other regions. Tea, ginseng, ephedra, and goji berries became significant commodities along the Silk Road. Through this route, East Asian TCM culture began to interact and exchange with Western medical knowledge. From the 7th to the 13th century, during the Tang and Song dynasties, TCM spread to Japan, Korea, and Southeast Asia, where it had a profound impact on local medical practices.

Advancement of TCM

Between the 14th and 19th centuries, during the Ming and Qing dynasties, China expanded its trade of medicinal herbs such as ginseng, astragalus, and salvia through maritime routes, exporting them to Asia, the Americas, and Europe. Today, TCM has become a significant alternative or complementary treatment to Western medicine, with increasing international recognition and application. The recognition of Tu Youyou's work and her Nobel Prize win in 2015 brought significant attention to the rich pharmacological effects of TCM on the global stage. Tu Youyou discovered artemisinin, derived from the plant Artemisia annua, which revolutionized malaria treatment [8]. Artemisinin's discovery highlighted the potential of TCM in modern medicine and fueled growing global interest in complementary and alternative medicine.

Global use of TCM

While its primary use is in China, TCM is also widely used in East Asia (e.g., Japan, Korea) and Southeast Asia (e.g., Vietnam, Thailand). Some European countries, such as Germany, France, and the United Kingdom, have incorporated aspects of Chinese medicine into their healthcare systems [7-8]. In Germany, for example, Chinese medicine practices such as acupuncture and herbal medicine are recognized and practiced alongside conventional medicine [9-10]. China boasts nearly 13,000 varieties of wild medicinal resources, with 163 new species discovered during the 4th National Survey of TCM resources [11].

TCM as an Economic Resource

As a unique health and economic resource in China, TCM holds significant importance for the nation's overall economic and social development and has received considerable attention from the government [12]. In October 2016, the State Council issued the "Healthy China 2030" Plan, which comprehensively integrated TCM into the national health strategy. Subsequently, in February 2021, the State Council released a notice outlining several policy measures aimed at accelerating the trade of TCM. These measures include drafting the "14th Five-Year Plan" for TCM under the "Belt and Road" initiative and promoting the "Internet plus TCM".

Gynecological Conditions

Gynecological conditions refer to disorders or diseases affecting the female reproductive system [2]. They include:

- **Menstrual Disorders**

Dysmenorrhea: painful menstrual cramps
Amenorrhea: absence of menstruation
Menorrhagia: heavy or prolonged menstrual bleeding
Polymenorrhea: frequent menstrual periods

- **Infections**

Vaginitis: inflammation of the vagina (yeast infections, bacterial vaginosis)
Cervicitis: inflammation of the cervix
Pelvic Inflammatory Disease (PID): infection of the uterus, fallopian tubes, or ovaries

- **Structural Abnormalities**

Endometriosis: growth of endometrial tissue outside the uterus
Uterine Fibroids: benign tumors in the uterus
Ovarian Cysts: fluid-filled sacs on the ovaries
Polycystic Ovary Syndrome (PCOS): hormonal disorder affecting ovulation and menstruation

- **Cancers**

Cervical Cancer: cancer of the cervix
Ovarian Cancer: cancer of the ovaries
Uterine Cancer: cancer of the uterus
Vulvar Cancer: cancer of the vulva

- **Other Conditions**

Infertility: inability to conceive or carry a pregnancy
Premenstrual Syndrome (PMS): physical and emotional symptoms before menstruation
Vulvodynia: chronic pain in the vulva

For comparative analysis, we reviewed the most common gynecologic conditions in which TCM is applied. These were infertility, endometriosis, dysmenorrhea, PCOS and uterine fibroids.

Female Infertility

Infertility is defined as the failure for pregnancy to occur after 12 months of unprotected sexual intercourse. The conventional methods for the treatment of female infertility are in vitro fertilization, artificial insemination, and drug therapy (e.g. clomiphene and gonadotropin-releasing hormone analogs) [13]. Assisted reproductive technology (ART) is also used for the treatment of infertility due to PCOS, endometriosis and male infertility. However, ART has several adverse effects, including: ante-partum hemorrhage, congenital abnormalities, hypertensive disorders of pregnancy, preterm rapture of membranes, caesarian sections, low birthweight, perinatal mortality, gestational diabetes and preterm delivery.

Infertile couples are increasingly preferring complimentary therapies due to these adverse effects. This is noted in countries such as South Korea, New Zealand, Australia and United Kingdom. The main complimentary methods used are acupuncture and herbal medicine, with or without conventional medicine. Herbal medicine can be used for invitro fertilization (IVF), to enhance human chronotropic gonadotropin (HCG), to increase clinical pregnancy rate (CPR) in PCOS, and to treat anovulation. However, herbal medicine has some adverse effects. These include ovarian hyperstimulation, luteinized unruptured follicles, and multiple pregnancies. In addition, herbal medicine causes nausea, chest-pain, fainting, dizziness, and tiredness, among other effects.

Acupuncture has been used in treatment of infertility but with no clear evidence of success in terms of CPR, ongoing pregnancy rate (OPR) and live birth rate (LBR). Combined herbal medicine and conventional medicine have a higher effect in terms of CPR, OPR and LBR.

Research questions for synergistic and complimentary TCM and conventional medicine for the treatment of female infertility are: 1) what type of infertility should be targeted? 2) what type of interventions of herbal medicine and acupuncture should be used? 3)what are the outcomes of each intervention or combination of interventions in terms of CPR, OPR and LBR? 4) what are the adverse and secondary effects (such as anxiety and pain)?

Dysmenorrhea

Dysmenorrhea is painful menstrual cramps. Menstrual disorders are often surrounded socio-cultural barriers and affected by environmental conditions such as extreme high temperatures. These factors affect the treatment, access and impact of treatment on the overall wellbeing of the individual. Globally, 50-9% of adolescent girls and young women seek gyn care due to dysmenorrhea [14]. The main issue with dysmenorrhea is pain without any pelvic pathology. The pan arises from contraction of the uterus de to the release of prostaglandins. Dysmenorrhea is a major cause of absenteeism from school and work, especially in Middle East and Africa. About 70% - 96% of absenteeism from school and work of girls and young women is due to dysmenorrhea in countries such as Jordan, Ethiopia, Iraq, Iran, Cameroon, Lebanon and Ghana. However, the rates of occurrence of the condition vary due to the lack of a uniform definition of dysmenorrhea.

Common treatment for dysmenorrhea is non-steroidal anti-inflammatory drugs (NSAIDs), which is often misused. Non-pharmacological treatments are often encouraged. These include heat application, exercise and herbal medicine. In addition, it is often essential to manage the stigma and misconceptions around menstruation. Treatment includes patient education, reassurance, supportive therapy plus pharmaceutical and non-pharmaceutical treatment with analgesics, inhibitors of prostaglandins, and reduction of uterine contraction. Non-pharmaceutical treatments include heat application and exercises. The exercises include isometrics, aerobics, strengthening, stretching, yoga, and jogging.

Diet and herbal treatments are used as well. Common diets for the treatment of dysmenorrhea are: fruits, vegetables, fish, dairy products, Indian herbs. In South Africa, there are at least 30 species of herbs used for dysmenorrhea. In the Middle East cinnamon, ginger and fennel are used. All the herbs have anti-inflammatory and pain-relieving effects.

Acupuncture with skin electric stimulation is effective for the treatment of dysmenorrhea. Hormonal contraceptives (combination oral contraceptives or COCs) are used to reduce prostaglandins and leukotrienes which are involved in inflammation. COCs are very effective but have adverse effects, and their long-term effects are not known. Progesterone only contraceptives are effective for dysmenorrhea due to endometriosis. Gonadotropin-releasing hormone (GnRH) agonists and antagonists, aromatese inhibitors, calcium channel blockers (eg Nifedipine), oxytocin receptor agonists (eg

vasopressin), magnesium, paracetamol and anti-spasmodic drugs (eg Hyoscine butyl bromide) are also used for the treatment of dysmenorrhea [14].

Above all, dysmenorrhea management requires dismantling of socio-cultural stigma, awareness creation, open discussion, and collaboration between providers, educators, and regulatory bodies. Future research should focus on policy development and advocacy, multicenter empirical studies, field studies on NSAID stability, usefulness and limits of mobile-Health, and behavior change training.

Endometriosis

Endometriosis is a condition whereby a tissue resembling estrogen-sensitive endometrium is found outside the uterus in such locations as the ovaries, ligaments, peritoneum, intestines, bladder, lymph nodes, lungs, diaphragm, and pericardium [15]. About 15% of women in reproductive age experience endometriosis. Affected women suffer severe pain and decrease or loss of quality of life. The symptoms include painful menstruation, inter-menstrual bleeding, infertility, painful coitus, abdominal pain, and generalized pain.

The pain of endometriosis is the result of a complex interplay between peripheral nerve conduction, peritoneum and central nervous system. Increased presence of unmyelinated nerve fibers and neurotrophic factors near the endometriotic lesions increase pain. Nerves become hypersensitive in an inflammatory environment. It affects body posture which leads to pelvic floor hyperactivity.

The main focus of non-medical treatment is to relieve pain and improve pelvic floor function. Physical activities in the treatment of endometriosis include breathing exercise, yoga, muscle relaxation, aerobics, yoga and meditation [15].

Manual therapy includes spinal and sacroiliac manipulations, mobilization of abdominal and broad ligaments, pelvic floor release from high muscle tone and adhesions, and induce pelvic floor relaxation. This involves ultrasound, stretching and acupuncture of the pelvic floor. Osteopathic Manipulative Therapy (OMT) for 1 hour at a time is used to mobilize the uterus, colon and peritoneum around L1-L2. Electrophysical Agents (EPAs) are also used to treat endometriosis. These agents contain cold, heat and electrical stimulations.

Electrotherapy consists of neuromuscular stimulation, transcutaneous electric nerve stimulation, and high pulse laser therapy. These EPAs may be combined with hormonal treatment to reduce pain and improve the quality of life. Acupuncture is regarded as controversial but is effective in the treatment of menstrual pain. Diet therapy consists of mediterranean diet, Vitamin D supplementation, and low carbohydrate diet to reduce bloating. Cognitive Behavioral Therapy (CBT) consists of Tai Chi training to reduce anxiety and stress, and to improve the quality of life [15].

The impact of endometriosis is profound. There are sleep disturbances, fatigue, depression, anxiety, infertility, diminished productivity, and sexual dysfunction. Physical activity, manual therapy, electrophysical agents, acupuncture, diet and cognitive behavior therapy all have no or minimal side effects, but are effective in reducing stress and improving the quality of life.

Polycystic Ovarian Syndrome (PCOS)

Definition and Diagnosis

A woman with PCOS presents with amenorrhea or oligomenorrhea, hirsutism, acne, male-pattern hair growth, weight gain, difficult fertility. She has an increased risk of diabetes mellitus and cardiovascular disease [16]. The differential diagnoses of PCOS include thyroid disease, hyperprolactinemia, androgen-secreting tumors, adrenal hyperplasia, and Cushing's disease. Diagnosis is made from several tests which include: pregnancy test, thyroid stimulating hormone (TSH), prolactin, testosterone levels, urine cortisol, and transvaginal ultra sound associated with PCO.

There are specific diagnostic criteria developed by some organizations [16]. These are in table 1 below:

Table 1: PCOS Diagnostic Criteria by Different Organizations

	Organization (year when diagnostic criteria were formulated)	PCOS diagnostic criteria	Number of criteria to arrive at PCOS diagnosis
1	National Institutes of Health (1990)	Oligo-ovulation/ ovarian dysfunction Hyperandrogenism	2 criteria
2	Rotterdam Group (2003)	Ovarian dysfunction Ovarian morphology cysts/ follicles Hyperandrogenism	3 criteria
3	Androgen Excess Society (2006)	Hyperandrogenism Oligo-ovulation Or Polycystic ovaries	2 criteria

Pathophysiology

The pathophysiology of PCOS involves various endocrine and metabolic abnormalities. These include hypothalamic-pituitary dysfunction, abnormal ovarian hormone production, and hyperinsulinemia. These abnormalities perpetuate increased testosterone, abnormal estrogen/progesterone ratio, insulin resistance, and dysfunction of the hypothalamic-pituitary feedback.

Conventional Treatment

The treatment aims to reduce insulin resistance and hyperandrogenism, and manage diabetes and cardiovascular disease. The emphasis is on lifestyle change including aiming to loose weight. Use of oral contraceptives with progesterone is to protect the endometrium.

Acupuncture

Acupuncture has evolved greatly and now includes electropuncture, warm acupuncture, acupoint embedding, auricular points acupuncture. Several acupuncture approaches are used in the treatment of PCOS [16]:

1. **Acupuncture:** Here a needle is inserted in a specific part of the body at an angle and manipulated by twisting, lifting and thrusting. It reduces follicles in PCOS and body weight, promotes ovulation and increases pregnancy rate.
2. **Electroacupuncture:** This method is now commonly used in many western countries alongside conventional therapy. Here electric current is combined with acupuncture to strengthen stimulation. It can correct hormonal imbalance in PCOS although the overall effect of electroacupuncture has to been fully clarified.
3. **Acupoint catgut embedding:** Here needles and absorbable catgut are used to stimulate meridians and balance yin and yang, reconcile qui and blood so as to cure disease. It has few side effects.
4. **Other acupuncture therapies:** these include warming acupuncture and auricular points acupuncture.

Chinese Herbal Medicine

Chinese Herbal Medicine (CHM) has evolved from ancient times into a major system in China and around the world. The efficacy of CHM is remarkable in dysmenorrhea, infertility and PCOS. The following herbs are particularly useful:

- Berberine is an alkaloid from Berberis vulgaris or Barbery. It reduces blood glucose and improves glucose and lipid metabolism. It can regenerate ovarian tissue and morphology. It improves gene level expression of some ovarian and uterine immunity from disease.
- Cryptotanshinone is a potent compound from a Chinese herb Salvia miltiorrhiza (Danshen) with promising anti-cancer, anti-inflammatory, neuroprotective, and anti-fibrotic effects. It improves abnormal glucose and lipid metabolism and reduces hyperandrogenism.
- Licorice is a Chinese medicine that is used for treating PCOS due to its anti-inflammatory and analgesic properties. It also acts on the gene that reduces androgen secretion and acts on insulin resistance granule cells.

However, CHM still lacks high quality research to prove its efficacy in the treatment of PCOS. Mechanisms of its efficacy on PCOS is not fully explained and lacks unified evidence. Controlled studies need to be done.

Dietary Supplements

Dietary supplements for PCOS treatment are Vitamin A, B (B6, B12), C, D and E. Vitamin D is for glucose homeostasis and Vitamin E reverses oxidative stress associated with PCOS.

Tai, Chi, Yoga and Qigong

Tai Chi is a unique Chinese physical and breathing exercise. It involves slow movements and focused concentration. It is particularly well suited for the elderly. It is effective in obesity, cardiovascular disease, diabetes and PCOS. Yoga is a holistic mid-body medicine that has been developed over thousands of years. It is a low impact exercise to balance physical, psychological, mental, sentimental and spiritual aspects of life. It is used for the treatment of asthma, low back pain, arthritis and stress. Qigong reduces blood glucose, cholesterol, body weight and diabetes type B. Its effect on PCOS is not clear.

Meditation Stress Reduction

PCOS patients are troubled by obesity, hirsutism, acne, irregular menstruation and infertility. These conditions affect their psychological and physical health and their quality of life (QOL). Emotional depression activates the neuroendocrine stress system and alters the immune function and brain structure. Meditative Breathing Stress Reduction (MBSR) helps patients reduce emotional symptoms (anxiety, depression and stress) and improve symptoms (eg pain). MBSR reduces hypertension, high blood glucose and inflammation. However, meditation treatments of PCOS are currently only on small scale. Randomized Controlled Trials (RCTs) are needed to prove its efficacy.

Integrative Approaches

Table 2 below shows approaches that can be used alongside conventional treatment.

Table 2: Integrative Approaches

	Type of TCM intervention highly feasible for integration	Actions
1	Weight loss	Targeting at least 5% loss of body weight. It has significant improvement in metabolic and hormonal balance
2	Moving the body	Regular, moderate physical activity. This helps in weight loss, ovulation and reduction of insulin resistance
3	Nutrition	Eating low carbohydrate diet. This reduces glycemic index. Eating high fiber diet
4	Estrogen dominance	Eating cruciferous vegetables Avoiding xenoestrogens Promoting healthy intestinal microbiome
5	Supplements and botanicals	Taking vitamin D Taking inositol which mediates insulin Taking N-acetylcysteine (NAC), a precursor to glutathione, a powerful antioxidant, which improves insulin sensitivity Taking cinnamon to improve insulin sensitivity Taking licorice as an anti-androgenic Eating chest-tree berry (vitex agnus castus) to regulate menstrual cycle
6	Mind and emotions	Stress management exercises Relaxation exercises Breathing exercises

Uterine Fibroids

Uterine fibroids occur in 50% and 80% of white and black women respectively in their reproductive age. The causative factors are high intake of red meat, alcohol, dairy products, low fruits, atherosclerosis, hypertension, obesity, and intake of adipokines.

Dietary Therapy

Avoid red meat, energy-dense foods, alcohol, and sugary juices. Increase intake of flavonoids, oily fish, green vegetables, citrus, soya, broad beans and fruits. Also take green tea, vegetable juice, pure fruit juice and milk. Supplements include omega 3 and 6, Vitamin 5 and 6, D, A, C, E, and iron. Make lifestyle changes of mindfulness meditation, Yoga, Tai Chi, regular exercises, breathing exercises and dietary support.

Herbal Medicine

Gui Zhi Fu Ling (GFLT) in combination with mifepristone reduces dysmenorrhea. Danshe Gegen Decoction (DGD) is an anti-atherosclerotic, atherosclerosis one the causative factors of uterine fibroids. Genistein (*isoflavone genistein*) is anti-inflammatory, moderates vascular inflammation and reduces uterine fibroids. Tanshinoes (*flavonoid tanshinone*) is a herb for the treatment of hypertension, cardiovascular disease, cancer and liver damage. It improves micro-circulation of coronary arterioles. Green tea (Camella sinensis) has flavonoids and catechins, which reduce the size of fibroids.

Acupuncture

Acupuncture acts to move blood, invigorate blood and nourish blood. It is applied in acute cases of uterine fibroids.

In summary, herbs are used to reduce fibroid volume while acupuncture is for blood-related acute conditions. The idea is to treat what a patient presents with.

Complimentary Integrative Gynecology

Complimentary Integrative Gynecology (CIG) combines conventional Western medicine with evidence-based complementary therapies to provide holistic, patient-centered care for women's health. This approach considers physical, emotional, and spiritual aspects of health. Key aspects of CIG are: 1) Holistic approach, addresses the whole person, not just symptoms. 2) Multidisciplinary collaboration, whereby conventional and alternative practitioners work together. 3) Evidence-based therapies, which include acupuncture, herbal medicine, mind-body therapies, and lifestyle modifications. 4) Personalized care with tailored treatment plans. And 5) Focus on prevention, emphasizing wellness and prevention [18]. The benefits include more comprehensive care, improved patient satisfaction, enhanced treatment outcomes, and reduced reliance on pharmaceuticals or surgery.

TCM Gynecology

TCM gynecology uses fundamental frameworks like Yin-Yang theory, the Five Elements, and the concepts of Qi, Blood, and Essence to understand and treat women's health conditions. These theories are applied through a diagnostic process called syndrome differentiation, which tailor treatment to the individual's specific pattern of disharmony.

Core Frameworks in TCM Gynecology

"Yin and Yang" is the central theory that describes opposing, yet interconnected, qualities present in the body and nature. Yi represents substance, stillness, and coolness (e.g., the uterine lining and fluids). Yang represents energy, activity, and warmth (e.g., the moment of ovulation). Optimal health depends on maintaining harmony and balance between these forces, which are mutually transformative; for example, the follicular phase (yin) transforms into the ovulatory phase (yang).

The Five Elements (Wood, Fire, Earth, Metal, Water)

This framework links the body's internal organs and physiological processes to natural phenomena and seasons. In gynecology, it is essential for menstrual regularity and fertility. Water (Kidney) is fundamental to gynecological health, governing growth, reproduction, hormonal balance, and deepest energy reserves. Wood (Liver): Influences menstruation and reproductive health, ensuring the smooth flow of Qi and Blood. Imbalances can lead to PMS, irregular periods, and cramping. Fire (Heart) governs emotions and plays a crucial role in ovulation and emotional well-being. Earth (Spleen) is involved in the production of Qi and Blood, which are vital for a healthy menstrual cycle and pregnancy. Metal (Lung) is related to the process of "letting go," important during the luteal phase when the uterus prepares to shed its lining.

Vital Substances (Qi, Blood, Essence, Body Fluids)

The proper quantity and cyclic movement of these substances are essential for women's physiology. Qi is the vital energy that moves, warms, and transforms substances in the body. Blood is the substantial nourishment for the body and mind, crucial for menstruation. Essence (Jing) is a highly refined substance stored in the kidneys that governs growth and reproduction and declines with age. Meridians is the energy pathways that traverse the body, with specific channels like the Chong, Ren, and Dai influencing reproductive health.

TCM Clinical Diagnosis and Application

TCM diagnosis in gynecology relies on four main methods: inspection (looking at the tongue and overall appearance), auscultation and olfaction (listening and smelling), inquiry (asking detailed questions about the menstrual cycle, pain, sleep, digestion, etc.), and palpation (feeling the pulse). Treatment is determined by identifying the underlying pattern of disharmony rather than just the Western medical disease name. For instance, dysmenorrhea (painful periods) could be caused by blood stasis, cold patterns, or qi stagnation, each requiring a specific, individualized treatment plan. Therapeutic modalities often include Chinese Herbal Medicine (CHM), acupuncture, and lifestyle/dietary recommendations, often integrated with conventional Western medicine.

TCM and Western Medicine

Traditional Chinese Medicine (TCM) and Western (biomedical) medicine can be used as complementary frameworks to offer a comprehensive, patient-centered approach to healthcare, often referred to as "integrative medicine". The integration leverages the different philosophical approaches and strengths of each system to treat both symptoms and underlying causes of illness [17-19].

Key Philosophical Differences

The primary difference lies in their fundamental philosophical approaches to health and illness [20]. Western Medicine (Biomedicine) focuses on a reductionist, technology-based system. It identifies specific physical, cellular, and molecular causes of disease and uses targeted interventions like pharmaceuticals and surgery to eliminate or control them (e.g., antibiotics to kill bacteria, chemotherapy to destroy cancer cells). It excels in acute and life-threatening conditions.

Traditional Chinese Medicine (TCM) embraces a holistic, energy-based framework (Qi, Yin-Yang, Five Elements) that views the body, mind, and spirit as an inseparable whole and connected to the environment. Treatment aims to restore internal balance and enhance the body's self-healing capabilities through practices like acupuncture, herbal medicine, dietary therapy, and Qigong. It often excels in managing chronic conditions and improving overall well-being.

Complementary Integration

The philosophical and practical frameworks of the two medical systems can be integrated to achieve synergy. Western medicine addresses different aspects of health, often acting on the body's "hardware" (physical systems), while TCM focuses on the "software" (energy and regulatory systems) [21]. Combining the two approaches can enhanced treatment effectiveness and greatly improve outcomes. For example, acupuncture can be used alongside conventional cancer treatments to alleviate side effects like chemotherapy-induced nausea or chronic pain. Integrative medicine considers the whole person-body, mind, and spirit-leading to a more comprehensive and patient-satisfying experience, particularly for chronic or complex conditions where conventional medicine may not fully address all needs. TCM's emphasis on lifestyle, diet, and balance supports long-term wellness through prevention and self-healing, complementing Western medicine's focus on acute intervention.

Methods of collaboration include: a) referral systems, whereby practitioners from both systems remain autonomous but refer patients to each other to combine expertise; b) Co-located clinics where both conventional and TCM practitioners work within the same facility, allowing for seamless communication and coordinated care plans; c) Integrated treatment plans whereby a patient might receive a Western diagnosis and surgical treatment, while simultaneously using TCM methods (like herbal medicine or acupuncture) to support recovery, enhance immune function, and manage side effects. When combining TCM herbal medicine with Western pharmaceuticals, it is crucial to manage potential drug interactions. Patients are often advised to take medicines several hours apart and to discuss all treatments with their conventional doctors and TCM practitioners to ensure safety.

Herb-drug Interactions in Herbal Drug Technology

Herb-drug interactions in herbal drug technology occur when herbal products alter the efficacy and safety of conventional drugs by affecting pharmacokinetics (absorption, distribution, metabolism, and excretion) or pharmacodynamics (mechanism of action) [22]. In herbal drug technology, it's crucial to understand these interactions to predict and prevent adverse effects, such as therapeutic failure or toxicity, which can range from mild to severe and even fatal. Examples include St. *John's wort* affecting drug levels through enzyme induction, and herbs like *ginkgo* or *garlic* increasing bleeding risk with anticoagulants like *warfarin*.

Pharmacokinetic Interactions

These occur when an herb alters the concentration of a drug in the body. This may be due to a) the effect of certain herbs which decrease drug absorption of other substances. For example, *psyllium* and *senna* can reduce the absorption of other drugs; b) Some herbs can compete for protein binding sites, which may alter the distribution of a drug, especially those with a narrow therapeutic window like *warfarin*; and c) Through metabolic interaction certain herbs can inhibit or induce liver enzymes, most notably the cytochrome P450 (CYP) system, which can significantly alter the metabolism of many drugs. An example is St. John's wort can induce liver enzymes, leading to lower blood levels of drugs like *cyclosporine* and *prednisolone*; d) Herbs can interfere with the kidneys' ability to filter drugs by affecting tubular secretion or reabsorption. For example, some diuretic herbs can alter the renal elimination of other drugs.

Pharmacodynamic Interactions

These interactions occur at the level of the drug's mechanism of action. They include: a) Synergistic (additive) combined effect of the herb and drug, which is greater than the sum of their individual effects. An example is combining herbs with blood-thinning properties like ginkgo, garlic, or dong quai with the anticoagulant warfarin can increase the risk of bleeding; b) Antagonistic, in which the herb opposes the effect of the drug. An example is herbs that reduce effectiveness of certain medications, leading to therapeutic failure; and c) trigger of new side effects that wouldn't normally occur. For example the combination of St. John's wort with serotonin-reuptake inhibitors (SSRIs) can lead to a mild form of serotonin syndrome.

Importance of Interactions in Herbal Drug Technology

Understanding these potential interactions is critical for risk assessment and for the safe development and use of herbal products, especially when creating combination products or when patients are taking multiple medications. Because herbal products are often regulated differently than conventional drugs, many potential interactions are not identified until after a product is marketed. This is an acknowledged regulatory challenges risk. Research is ongoing to develop better systems for predicting and managing these interactions, as some interactions could potentially be used to develop new therapeutic strategies.

Difficulty with TCM and TM in General

TCM and TM lack data, research and research financing, monitoring and evaluation mechanisms and expertise in national health authorities. TCM and TM also lack mechanisms for sharing information, mechanisms for monitor drug safety and mechanisms for regulating advertising.

Comparative Analysis

The two systems TCM and conventional medicine are quite different. However, a good number of their elements can be integrated. TCM's philosophy and approach are holistic while those of conventional medicine are deductive and localized. TCM has no standards as each treatment is personalized and tailored. Conventional medicine is highly standardized and regulated. Adverse effects can and does occur in both systems, especially with drugs and herbs. TCM aims to improve long term wellness but conventional medicine deals with acute and immediate problems. Table 3 highlights the key features of the two medical systems.

Table 3: Comparative Analysis of TCM and Conventional Medicine

	Features	TCM	Conventional medicine
1	Philosophy	Holistic: body, mental, spiritual Deals with "software"	Symptom-based "Hardware", physical
2	Evidence for diagnosis	Practice, tradition based	Deductive research evidence
3	Methods of diagnosis	Inspection Listening Smelling Inquiry (asking detailed questions) Palpation (feeling the pulse)	History taking/inquiry Examination Laboratory tests Radiological tests

4	Approach in treatment	Holistic approach, starting with what patient presents with. Tailored to individual patient	Symptom-based, finding and treating symptoms and causes of symptoms Standardized treatment
5	Benefits	Whole person improvement	Localized benefit, may extend to the whole person
6	Standards of practice	No national or global standards	Standard based
7	Regulation	No regulation	Regulated and controlled
8	Interventions	Herbal medicine Acupuncture Dietary measures Exercises Meditation	Reassurance/ Psychological Drug-based treatment Surgery Physiotherapy Preventive measures e.g vaccination
9	Adverse effects	In some herbs and acupuncture	Occurs with some drugs and surgeries
10	Short-term / long term focus	Emphasizes lifestyle, diet and balance Supports prevention and self-healing	Focuses on acute intervention

Discussion

TCM embraces a holistic, energy-based framework that views the body, mind, and spirit as an inseparable whole and connected to the environment. Treatment aims to restore internal balance and enhance the body's self-healing capabilities through practices like acupuncture, herbal medicine, dietary therapy, and Qigong. It often excels in managing chronic conditions and improving overall well-being.

Modern gynecological interventions, grounded in evidence-based medicine, have revolutionized women's healthcare. Western medicine (biomedicine) focuses on a reductionist, and technology-based system. It identifies specific physical, cellular, and molecular causes of disease and uses targeted interventions like pharmaceuticals and surgery to eliminate or control them (such as antibiotics to kill bacteria, chemotherapy to destroy cancer cells). It excels in acute and life-threatening conditions. Advances in surgical techniques, pharmaceuticals, and diagnostic tools have improved treatment outcomes. These interventions often focus on symptom management, overlooking the holistic nature of women's health.

The World Health Organization (WHO) recognizes TM as a strategy of achieving universal health coverage (UHC). The purpose of the strategy is to "explore ways of integrating safe and effective TM within national and local health care systems". This has led to the formulation of the Global Traditional Medicine Strategy (GTMS) 2025-2034. About 88% of 170 WHO member-countries use TM and complimentary medicine. Some have the supporting policies and laws. This strategy is WHO's formal global strategy for including TM to create complimentary integrative medicine (CIM).

WHO has therefore defined complimentary medicine as "additional medical system to a mainstream medical system in a country based on evidence and potential to enhance health". Integrative medicine has been defined as "interdisciplinary and evidence-based approach to health and wellbeing using biomedical, traditional and complimentary medical knowledge, skills and practices".

The vision is to have traditional and complimentary integrated medicine (TCIM) which is safe, effective, people-centered and accessible to all. The goal is to contribute through evidence based TCIM the attainment of the highest possible standard of health. The objectives are 1) to strengthen evidence-base of TCIM, 2) support appropriate regulatory mechanism, 3) integrate safe and effective TCIM into the health system, 4) optimize cross-sector value of TCIM and empower communities.

There are 8 guiding principles. These are: 1) evidence based, 2) holistic and improves health and wellbeing, 3) supports sustainability and biodiversity, 4) protects indigenous peoples rights, 5) promotes culture and health, 6) people-centered through communication and engagement, 7) integrate into and with health services, and 8) promotes health equity.

Conclusion

TCM and modern gynecological interventions differ in their approaches, yet share common goals. TCM's holistic approach and modern medicine's targeted interventions can complement each other, producing synergistic effects. The convergence of TCM and modern gynecological interventions offers a unique opportunity for improving women's health. By embracing the strengths of both approaches, healthcare providers can provide more comprehensive, patient-centered care. As research evolves through concerted global efforts, the synergistic effects of TCM and modern medicine will likely play an increasingly important role in shaping the future of gynecological care.

Declaration

Ethics approval

Ethical approval was not required as this was secondary data. No participants or clinical subjects were involved in the study.

Consent to Publication

Submission of the manuscript implies that the author has read and agreed to the terms outlined in the journal's author agreement, including consent for publication.

Competing Interest

The author declares that there are no conflicts of interest related to this review study. No funding sources influenced this research.

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Author Contribution

SAO designed and executed the study, conducted data analysis and manuscript development. The author read and approved the final version of the manuscript.

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