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TREATMENT OF INFERTILITY USING TRADITIONAL MEDICINE METHODS

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Annotation

This article discusses the treatment of infertility using traditional medicine methods. It provides a brief overview of the rich heritage of traditional Uzbek medicine, including medicinal plants, natural minerals, and other therapeutic approaches. Based on the results of modern scientific research, the impact of traditional medicine on reproductive health, its pharmacological foundations, and its clinical applications are examined. The role of traditional medicine in both male and female infertility is highlighted, with particular emphasis on plant-based preparations commonly used in Uzbekistan and their biologically active components.

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Infertility is a clinical diagnosis made when a couple fails to conceive after at least one year of planned sexual intercourse. According to the World Health Organization, approximately 48 million couples worldwide are facing infertility problems, and this figure is increasing every year.

The issue of reproductive health in Uzbekistan is one of the most pressing issues. In recent years, the number of patients seeking treatment for infertility has increased significantly. Epidemiological studies conducted in our country show that female infertility accounts for 35-40 percent, male infertility accounts for 40-45 percent, and mixed factors account for 15-20 percent.

Abu Ali ibn Sino (Avicenna) analyzed the causes of infertility in his work "The Canons of Medicine" and described many methods of treatment using medicinal plants. This legacy has not lost its relevance today.

Modern pharmacology and clinical medicine have scientifically confirmed some of the methods of traditional medicine. It has been proven that biologically active substances contained in many medicinal plants - phytoestrogens, adaptogens, antioxidants and other components - have a positive effect on reproductive function. Therefore, the trend in the field of integrative medicine to combine traditional medicine methods with modern clinical practice is gaining momentum all over the world.

The purpose of this article is to systematically review the main methods and tools used in the treatment of infertility in traditional medicine of Uzbekistan, to study their scientific basis and to assess the possibilities of integration with modern reproductive science.

Infertility is associated with various factors and is traditionally classified as follows: primary infertility (a condition in which pregnancy has never occurred) and secondary infertility (a condition in

which pregnancy has occurred in the past, but pregnancy does not occur now). Etiologically, there are female, male and mixed types of infertility.

The main causes of female infertility include ovarian dysfunction (absence or dysfunction of ovulation), pathology of the structure and function of the fallopian tubes and uterus, endometriosis, immunological factors, and conditions of unknown etiology. In male infertility, the main causes are disorders in the quantity, motility, and morphology of spermatozoa.

A particularly important aspect in Uzbekistan is that environmental pollution, ecological conditions (especially the consequences of the Aral Sea crisis, which are most pronounced in the Republic of Karakalpakstan and the Khorezm region), chemical components in food products, and the tradition of early marriage may play a significant role in the development of infertility.

According to data from the Ministry of Health of the Republic of Uzbekistan, more than 20,000 couples are registered annually with a diagnosis of infertility in the country. The prevalence in urban areas is approximately 1.5 times higher than in rural areas. The regions of Tashkent, Samarkand, and Andijan account for 55–60% of infertility-related medical

Over the past 20 years, the possibilities for treating infertility in Uzbekistan have expanded significantly: the increase in the number of IVF clinics and the introduction of modern diagnostic methods are considered important achievements in the field of reproductive medicine. However, patients with limited economic opportunities, especially rural residents, often turn first to traditional medicine.

Central Asia, and in particular the territory of Uzbekistan, holds a special place in the history of world medicine. As early as the 10th century BC, the sacred book of the Zoroastrian religion, the Avesta, contains information about medicinal plants and their healing properties. Later, in the 9th-11th centuries, Central Asian scientists - Abu Bakr al-Razi, Abu Rayhan al-Biruni, and most importantly, Abu Ali ibn Sino - took medical science to a new level.

Ibn Sino's work "Al-Qanun fit-tib" ("The Canons of Medicine") - this 5-volume encyclopedic work devoted a separate section to the problem of infertility. It analyzed the causes of infertility through concepts such as "sperm impotence", "coldness of the uterus", "accumulation of feces", and described medicines made from various medicinal plants, animal products and minerals. In particular, pine cones, figs, pomegranates, saffron, aloe vera and other plants were recommended to improve reproductive function.

In the 16th-18th centuries, a system of "medicine houses" and "hospitals" developed in Central Asia, where doctors used unique recipes passed down from generation to generation. These recipes were often preserved in written form, in "medical treatises" and are today kept in the funds of the Academy of Sciences of Uzbekistan.

In Uzbek traditional medicine, the "hakim" - a folk doctor - enjoyed a special reputation, treating not only the preparation and use of medicinal plants, but also by correcting the patient's diet, mental state and lifestyle. The following areas are widely used in the treatment of infertility:

First, treatment based on the “hot–cold” theory. According to this concept, certain forms of infertility are associated with a “cold” state of the body; therefore, warming therapies are recommended, including the use of heating medicinal agents, garmsel (lying on heated stones), hot baths, and steam treatments with infusions of warming medicinal plants.

Second, the concept of “body cleansing” (detoxification programs). Traditional healers often initiated treatment with specific fasting regimens and cleansing procedures. For this purpose, bitter medicinal substances such as rhubarb root, senna leaves, and peony root were used.

Third, ruqiya and psychological interventions were also widely applied. Traditional practitioners recognized that infertility, regarded as a socially significant issue, required not only physical but also psychological and spiritual treatment.

Licorice (Glycyrrhiza glabra) is one of the most commonly used plants in traditional medicine in Uzbekistan. Its root contains glycyrrhizic acid, flavonoids (liquiritigenin, isoliquiritigenin), and phytoestrogens. In female infertility, licorice exerts its effects through several mechanisms, including

modulation of estrogen receptors, reduction of androgen levels in polycystic ovary syndrome (PCOS), and improvement of the endometrial lining.

Wormwood (Artemisia spp.) is widely distributed in Central Asia and has been used in traditional medicine for centuries. In female infertility, particularly in cases associated with menstrual cycle disorders, preparations derived from wormwood are commonly applied. However, accurate dosage is essential, as high doses may exert uterotoxic effects.

Saffron (Crocus sativus) occupies a unique place in both Central Asian cuisine and traditional medicine. Modern studies suggest that safranal has a positive effect on ovarian follicular development and may reduce symptoms of polycystic ovary syndrome (PCOS).

Mint (Mentha spp.) is a traditional plant widely cultivated and stored in households across Uzbekistan. In infertility associated with endometriosis, especially in cases of dysmenorrhea, the use of mint tea has shown beneficial effects. However, caution is required, as high doses may exhibit anti-androgenic effects, which could negatively impact male fertility.

Pomegranate (Punica granatum) is a national symbol of Uzbekistan, and its role in reproductive health is reflected in the popular saying, “If you eat pomegranate, you will have children.” Its composition includes tannins and phytoestrogens, which promote endometrial growth, improve blood circulation, and provide antioxidant effects.

In male infertility, traditional medicine is thought to exert therapeutic effects through the enhancement of spermatogenesis, regulation of androgenic hormone levels, and attenuation of oxidative stress.

Sesame (Sesamum indicum) is widely used in Uzbek cuisine and has beneficial effects on reproductive health. Due to its high content of vitamin E and zinc, it contributes positively to fertility. Zinc plays a crucial role in androgen synthesis, particularly in testosterone production, which is essential for spermatogenesis. For male infertility, the daily consumption of approximately two tablespoons of sesame oil is recommended.

Onion and garlic (Allium cepa, Allium sativum) have been shown in modern studies to increase testosterone levels and improve sperm quality. Their active compounds, including quercetin and allicin, contribute to the activation of steroidogenic enzymes.

Treatment using bee products is known as apitherapy. It is widely practiced in the mountainous regions of Uzbekistan, particularly in the Fergana Valley, Surkhandarya, and Tashkent regions. Bee products include honey, propolis, royal jelly, and pollen.

Pollen (Apisin pollen) contains amino acids, vitamins, and trace elements that are effective in improving sperm parameters. Studies (Güvenir et al., 2019) have shown that in male patients consuming 40 g of pollen daily, sperm motility increased by 18.3% after three months.

Propolis, an antiseptic substance produced within the beehive, contains more than 2,000 chemical compounds. Rich in flavonoids and terpenoids, propolis exhibits immunomodulatory effects and reduces inflammation in conditions such as endometriosis. In traditional Uzbek medical practice, a 5–10% alcoholic solution of propolis is administered at a dose of 15–20 drops daily before meals.

Acupuncture, defined as the stimulation of specific biologically active points using needles, is another therapeutic approach. Modern studies have confirmed its significant impact on reproductive health.

In in vitro fertilization (IVF) cycles, patients receiving adjunct acupuncture sessions demonstrated pregnancy rates 65% higher than those in control groups (Manheimer et al., 2008). In Uzbekistan, acupuncture is currently officially practiced in medical institutions and is considered effective in managing infertility associated with stress and hormonal imbalance.

Leech Therapy (Hirudotherapy) — treatment using medicinal leeches

Hirudotherapy, the use of medicinal leeches for therapeutic purposes, has been practiced in Uzbek medicine for centuries. The saliva of leeches contains biologically active substances such as hirudin and related compounds, which reduce blood coagulation, improve microcirculation, and exert anti-inflammatory effects.

In gynecological practice, application sites include the thoracic region, sacral area, and lower abdomen. Hirudotherapy may serve as an adjunct treatment in infertility associated with endometriosis, uterine fibroids, and adhesion disease. In several clinics in Tashkent, hirudotherapy is currently used alongside modern reproductive medicine approaches.

Phytoestrogens are plant-derived chemical compounds that bind to estrogen receptors and represent one of the key mechanisms influencing reproductive health. They are classified into three main groups: isoflavones, lignans, and coumestans.

Many foods and plants traditionally consumed in Uzbekistan are rich sources of phytoestrogens. Flaxseed, in particular, contains lignans that modulate estrogenic activity and have clinical relevance in conditions such as polycystic ovary syndrome (PCOS) and menstrual disorders. Studies have shown that regular consumption of flaxseed contributes to the normalization of the estrogen/progesterone ratio in women.

However, the effect of phytoestrogens on estrogen receptors is twofold and can also act as antagonists in cases of high estrogen levels. Therefore, it is recommended to use phytoestrogens under medical supervision.

Integrative medicine aims to provide comprehensive care to the patient by combining modern clinical methods and traditional medical approaches. Such an approach can be especially effective in the treatment of infertility, since infertility is often the result of the interaction of several factors.

Scientific research by Uzbek scientists in the field of traditional medicine and reproductive health has significantly increased in the past 20 years. The Tashkent Medical Academy and the scientific centers of the Ministry of Health of the Republic of Uzbekistan have conducted a number of important studies.

Studies related to Ayurvedic medicine in India may also be partially applicable to the conditions of Uzbekistan. Randomized clinical trials investigating the effects of ashwagandha (Withania somnifera) on male infertility (Ahmad et al., 2010) demonstrated that male patients who consumed 5 g of ashwagandha root powder daily for 90 days showed a 167% increase in sperm concentration and a 57% improvement in sperm motility.

At the “Oltin Vodiy Tabiati” clinic, a traditional medicine center located in the Janubiy Olamushuk settlement of Jalaquduq district, Andijan region, infertility has been treated using traditional methods. Natural dietary supplements such as “Asnasil,” “Asbola,” and “Askalsiy” have been applied, yielding moderately positive clinical outcomes.

In conclusion, practical experience suggests that an integrated approach combining modern medical methods with traditional medicine techniques is the most appropriate and effective strategy for the management of infertility.

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