The Use of Traditional Chinese Medicine for Treating Female Infertility

by

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THE USE OF TRADITIONAL CHINESE MEDICINE FOR TREATING FEMALE INFERTILITY

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Abstract

Infertility affects more than 3 million married couples in the United States. This study explored the use of Traditional Chinese Medicine (TCM) for treating female infertility. Surveys queried allopathic practitioners and TCM practitioners regarding their perceived knowledge and use of TCM. The vast majority of allopathic practitioners referred patients to acupuncturists and believed that acupuncture helped patients. The majority of respondents identified a trend for treating female infertility with TCM and Western medical procedures. The majority of respondents supported the concurrent use of allopathic protocols and TCM but did not support the concurrent use of TCM and Chinese Herbal Medicine (CHM). More than 62% of respondents expressed familiarity with clinical studies that used TCM for treating stress, depression, and irregular menstrual cycles. Positive results from evidence-based studies would likely encourage allopathic practitioners to use TCM and adopt a more holistic, collaborative approach for treating female infertility.

TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ASRM	American Society of Reproductive Medicine
ART	Assisted reproductive technology
CDC	Centers for Disease Control
CHM	Chinese Herbal Medicine
ET	embryo transfer
E2	estradiol
FSH	follicle stimulating hormone
GIFT	gamete intrafallopian transfer
HPO	hypothalamus-ovarian axis
GnRH	gonadotropin with releasing hormone
ICSI	intracytoplasmic sperm injection
IUI	intrauterine insemination
IVF	in vitro fertilization
OHSS	ovarian hyperstimulation syndrome
PGD	pre genetic diagnosis
PR	pregnancy rate
PI	pulsatility index
PRL	prolactin
RPL	recurrent pregnancy loss
SART	Society for Assisted Reproductive Technology
TCM	Traditional Chinese Medicine
ZIFT	zygote intrafallopian transfer

CHAPTER I: INTRODUCTION

Traditional medical practitioners and practitioners of alternative healing techniques in developed countries have sought solutions for female infertility, a condition that affects 20% of couples in the United States (Whitman-Elia & Baxley, 2001; Berkow, 1992). Treatment for infertility using traditional Chinese medicine (TCM) has commonly included acupuncture and Chinese herbalism medicine [CHM] (Maciocia, 1989). To date, however, research has not established the efficacy of TCM for treating female infertility, although isolated studies have identified benefits from using TCM concurrently with traditional infertility therapies (Paulus, Zhang, Strehler, El Denasouri, & Sterzik, 2002).

Interest in TCM to enhance traditional medical treatments has increased among traditional medical practitioners who recognize its potential benefit (Rotchford, 2003). The successful use of TCM for treating female infertility may result in the adoption of TCM as a primary therapy for treating female infertility.

This study reviewed and assessed existing data regarding the use of TCM for treating female infertility. The researcher completed the following steps:

- Reviewed and evaluated the professional literature related to TCM and Western infertility trends.
- Categorized the results according to infertility sources and associated health problems.
- Reviewed effective TCM protocols.
- Surveyed allopathic and TCM practitioners to determine their perceptions, knowledge, and use of TCM for treating female infertility.

- Suggested topics for future theoretical and clinical investigation.

Statement of the Problem

Sher, Davis, and Stoess (2005) reported that infertility affects approximately 3.3 million married couples in the United States. Approximately 15% of married females in the United States of childbearing age have received allopathic infertility treatment. According to the Centers for Disease Control [CDC] (2004), during 2003, approximately 2% (1.2 million) of married females received infertility treatment, and 13% of the nation's females received treatment at some time in their lives. Infertility services include medical tests to diagnose infertility, medical advice, treatment to achieve pregnancy or prevent miscarriage, and prenatal care. The CDC (2004) reported that among couples within which females could potentially conceive, 7% failed to achieve pregnancy, although these couples did not use contraception during the previous 12 months. Based on trend analysis, Stephen and Chandra (1998) estimated that by 2025, 5.4–7.7 million females in the United States aged 15–44 years would be diagnosed with some form of infertility.

Cultural and social factors likely contribute to the increased demand for treatment to overcome female infertility. Females can select among several options for achieving conception:

- Delay pregnancy until the later childbearing years.
- Concurrently share personal, physical, emotional, and spiritual resources to achieve career, educational, and family goals.
- Subject their bodies to poor nutritional choices and to toxic environments, medications, and stress.

- Use assisted reproductive technology (ART).
- Use surrogate mothers, donor eggs, or share eggs.
- Combine allopathic and TCM treatment.

According to Bader (2002), the National Infertility Association (RESOLVE) estimated that 25% of the U.S. health-care budget provided infertility treatment, and that in 1996, more than 6 million Americans spent approximately $2.6 billion for infertility treatment. Kenney (2004) reported that in 2003, the National Institutes of Health (NIH) allocated $28 billion for biomedical research in the United States, although the National Institute of Child Health and Human Development, which studies human reproduction, received less than 1%, or $162.7 million.

The use of ART has become a $2 billion annual industry within Western countries, funded principally by pharmaceutical companies to conduct reproductive studies; to research, manufacture, and market products; and to sell a broad scope of drugs for regulating female reproductive hormones during ART cycles. The same reproductive endocrinologists who endorse and receive financial support from drug manufacturers often conduct the research and clinical studies.

ART has been widely used since 1985. Louise Brown, the first “test tube baby,” was born in England in 1978 (BBC News, 2002). Szabo (2004) reported, “There are currently more than 1 million IVF [in vitro fertilization] children alive today and it is no longer considered a medical marvel” (p. 8). First used in the United States in 1981, ART includes in vitro fertilization (IVF), intracytoplasmic sperm injection (ICSI), gamete intrafallopian transfer (GIFT), zygote intrafallopian transfer (ZIFT), and intrauterine insemination (IUI). The Society for Assisted Reproductive Technology (SART), a private

organization consisting of ART providers and affiliated with the American Society for Reproductive Medicine (ASRM), began collecting data on the efficacy of ART in 1989. Congress passed the Fertility Clinic Success Rate and Certification Act in 1992, which has required the CDC to publish pregnancy rates for ART fertility clinics. Since 1995, SART and ASRM have cooperated with the CDC to collect and publish these data. The CDC (2004) reported that during 2002, ART was used in the conception of approximately 1% of the infants born in the United States.

Female infertility increases with age. ASRM (2002) reported that infertility was 6% among females aged 20–24 years, 9% among females aged 25–29 years, and 15% among females aged 30–34 years. Among females aged 35–39 years, however, the infertility rate was 30%. Twenty-nine percent of the age group 40–44 years was assumed infertile because of changes in reproductive hormones and the decrease in the ovarian egg reserve. According to Bader (2002), age-related factors affect infertility the most among females who pursued professional careers. Approximately 69% of females who used ART were aged 30–39 years (CDC, 2004).

IVF usually has produced a successful live birth rate of 5–30% per treatment cycle (ASRM, 2002). The singleton live birth rate during 2002 was 22.5% (CDC, 2004). The CDC National Summary and Fertility Clinic Reports (CDC, 2004) found that approximately 65% of IVF cycles did not produce a pregnancy and that 45% of infertile females completed one or more cycles.

American females received 115,392 fertility treatment cycles during 2002, an increase of 78% from the 64,681 treatment cycles conducted during 1996 (CDC, 2004). In 2002, these treatments resulted in 33,141 live births compared with 14,507 deliveries

in 1996, a 128% increase. The 45,751 ART-assisted babies delivered during 2002 represented a 120% increase from the 20,840 infants born in 1996. The total number of live babies born exceeded the number of live births because more than one infant was usually born during a live-birth delivery (e.g., twins). The CDC (2004) reported that approximately 16% of ART-assisted pregnancies resulted in adverse outcomes (e.g., miscarriage, still birth, or induced abortion). The widespread increase in the use of ART among Western practitioners, combined with an increased awareness of TCM in the Western world, has established the importance of studying the relationship between ART and TCM.

Effects of Female Infertility

Female infertility has often been associated with one or more of the following conditions or feelings (Ryan-Sheridan, 1994):

- Anxiety or depression.
- Isolation from family members, friends, or partners.
- Purposeless or worthlessness.
- Social failure.

Domar, Broome, Zuttermeister, Seibel, and Friedman (1992) found that the incidence of depression among infertile females was approximately double the incidence of depression among fertile females. Schnyer, Manber, and Fitzcharles (2003), investigating severe depression among pregnant women, discovered that psychological distress and elevated depression contributed to the failure to conceive.

Effects on Female Careers and Employment

Facchinetti, Matteo, Artini, Volpe, and Genazzani (1997) reported that poor results after IVF treatment resulted in a cardiovascular vulnerability to stress and affected employment outside the home. Seeking solutions to infertility, females often resigned from lucrative professional careers to undergo intensive Western fertility treatments. Daily or weekly blood tests, injections, drugs, ultrasound tests, examinations, and consultations consumed their lives.

According to Klonoff-Cohen and Natarajan (2004), females with expressed concerns or stress regarding the medical aspects of IVF retrieved fewer eggs and fertilized fewer eggs than females without expressed concerns or stress. The eggs of females concerned about absence from work were fertilized 30% less frequently than the eggs of females without expressed concerns. According to Remennick (2005), the loss of employment or the postponement of educational plans could sidetrack a female's professional future, thwarting an upwardly mobile career. Stress frequently results after conception, but it also occurs whenever treatment fails. Females often create excuses to account for excessive time away from work to receive fertility-related treatment.

Western Diagnoses and Sources of Infertility

Western medicine recognizes the following factors as potential sources of female infertility: endometriosis, irregular menses or ovulation disorders, uterine pathology, endocrine disorders, age, sexually transmitted diseases (STD), pelvic inflammatory disease (PID), negative health history, improper diet, poor or unwholesome nutrition, unhealthy lifestyle, or drug use (e.g., prescribed medications, alcohol, recreational drugs, stress, obesity, and environmental factors).

After studying effects of diet and endometriosis, Aphrodite Women's Health (2004) reported that the incidence of endometriosis as 40% less among females who consumed more fresh fruit and green vegetables. Females with a high intake of beef, ham, or other red meat, increased their risk of endometriosis by 80–100%.

ASRM (2004) reported that female smokers who used IVF regularly required twice as many IVF cycles than nonsmokers. A comparison of smokers and nonsmokers found that female smokers reported lower peaks of estradiol and higher doses of gonadotropins, fewer oocytes retrieved, more cancelled cycles, lower pregnancy rates, and higher miscarriage rates. The Practice Committee of the American Society for Reproductive Medicine (2004) attributed as much as 13% of female infertility to cigarette smoking.

The use of pesticides, fungicides, industrial pollutants, and heavy metals potentially affects female infertility. Many toxins, which persist in the body for many years after their use, may affect follicular fluid, oocyte quality, quantity, and normality. Giudice (2004) noted that the frequency of inhaled or ingested toxins and their cumulative effects has been established in animal studies. Exposure to environment toxins in the workplace results in increasing the incidence of infertility among females, toxins found in dry cleaners and textile mills and in products used by anesthetists, cosmetologists, nurses, and dental assistants (Matthews, 2005). Research has linked Bisphenol-A, or BPA, a chemical used for dental sealants and in food packaging to females who have miscarried (Adam, 2005). Public awareness about environmental toxins has increased, but other sources of infertility have received scant attention (e.g., unwholesome nutrition, improper diet or lifestyle, lack of rest, and stress).

Table 1 depicts the categories the CDC uses by for diagnosing and tracking female infertility. The percentages represent data from couples treated with ART using fresh nondonor eggs and embryos (CDC, 2004).

Table 1

Categories Used for Diagnosing and Tracking Female Infertility

Factor	Description of Source	Percent of Cases
Tubal factor	Fallopian tubes are blocked or damaged; fertilization difficult; limited embryo movement within uterus.	13.6
Ovulatory dysfunction	Ovaries do not produce normal eggs. Dysfunctions include polycystic ovary syndrome (PCOS) and multiple ovarian cysts.	6.0
Diminished ovarian reserve	Decreased ability for ovary to produce eggs. Reasons include advanced age or congenital, medical, or surgical sources.	5.7
Endometriosis	Presence of tissue similar to the uterine lining in abnormal locations. Fertilization of egg and embryo implantation affected.	6.7
Uterine	Structural or functional disorder of the uterus.	1.4
Male	Low sperm count or problems with sperm function block fertilizing egg.	18.8
Other	Immunological problems, chromosomal abnormalities, cancer chemotherapy, or serious illnesses.	5.6
Unexplained	No identifiable basis for infertility was found in the female or male.	11.1
Multiple in female	More than one female source.	12.7
Multiple, female and male	One of more female sources, at least one male source.	18.5

Note: From CDC (2004), p. 27.

Based upon selected sources of female infertility, Figure 1 presents the success rate of live births per ART cycle in 2002 among couples receiving ART in the United States. The national success rate for live births was approximately 28%, although the criteria used varied for diagnosing sources and the success rate from clinic to clinic.

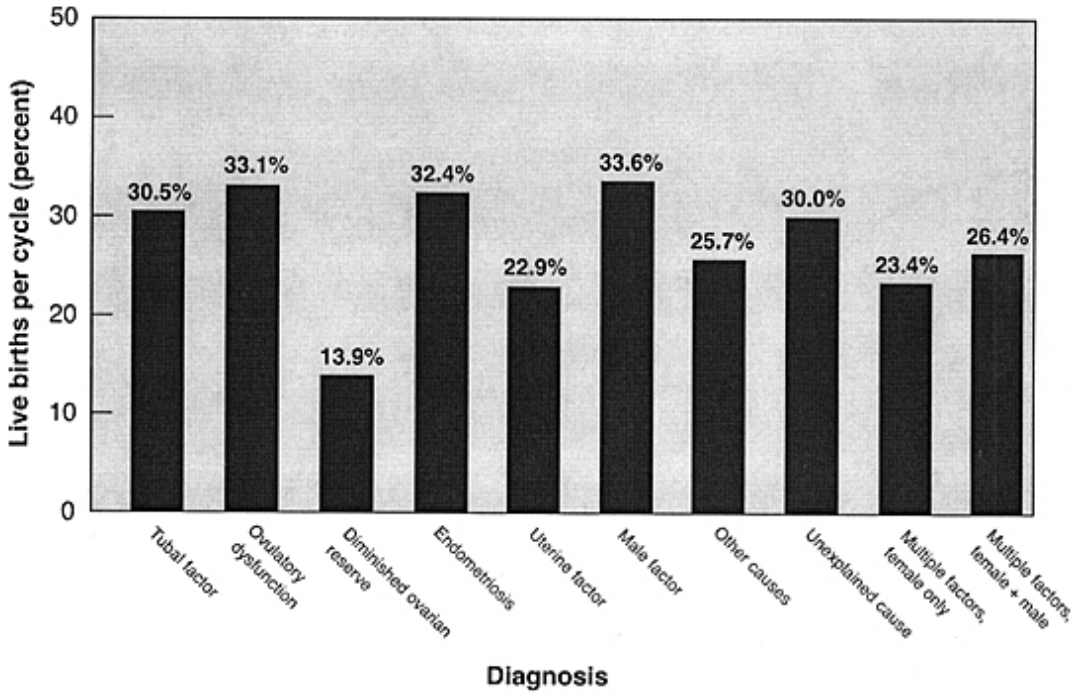

Figure 1

Live birth rates among women who had art cycles using fresh nondonor eggs or embryos.

Note: From CDC (2004), p. 27.

According to the CDC (2004):

> In general, couples diagnosed with tubal factor, ovulatory dysfunction, endometriosis, male factor, or unexplained infertility had above-average success rates. The lowest success rate was observed for those with diminished ovarian