

# Botanical Approaches to Female Infertility



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# Introduction

For many women, having a baby happens easily and with little effort. For others, conception or carrying a baby to full term can be a struggle that wreaks havoc on their emotional and physiological well-being. In this report on female fertility, we will review the basic issues of conception, common etiologies contributing to infertility issues, multiple miscarriages, and the impact of environmental endocrine hormone blockers on the female reproductive system. Botanical therapeutic strategies can help women conceive and carry to full term. Botanical action, specific key herbs, and special consideration of contributing etiologies will be discussed in this paper, along with detailed botanical information that includes preparations, dosing, safety considerations and contraindications.

## Facts on fertility

When discussing fertility, it is important to understand its true definition. A couple is only considered infertile if conception has not occurred within one year of trying. Approximately 10 to 15% of couples are considered to be infertile. Often, women become concerned when they aren't able to conceive within a few months; however, it is not unusual for conception to be a far longer process. On average, 30% of women conceive within one month, 50% within four months, 70% within eight months and 90% within eighteen months.

## Identifying the cause

This is a crucial step in evaluating infertility. While this report focuses specifically on female infertility, male infertility can also play a role in a couple's inability to conceive. Approximately 45 to 60% of fertility issues fall within the female dynamic while 30 to 40% fall within the male dynamic, leaving about 10% of issues unexplained.

In about 20% of females, fertility issues have to do with disorders from ovulation, luteal phase defects, PCOD, premature failing ovaries, pituitary hyperactivity, hypothyroidism, improper body weight, or an under-active hypothalamus. For another 30%, fertility issues have to do with disorders of the fallopian tubes including polycystic ovarian syndrome, adhesions, or scarring. About 15% have fertility issues as the result of endometriosis and secondary scarring and adhesions. Improper levels of cervical mucus, viscosity, pH, and antibody issues serve as the cause for 10% of women who have trouble conceiving. About 5% of women have fertility issues because of fibroids, cervical scarring, vaginal or cervical infection, uterine adhesions, and retroverted uterus. Lastly, 20% of women have fertility issues for unexplained reasons.

# Factors leading to fertility problems

There are numerous factors that can lead to infertility. The most common cause is stress. Stress comes in many forms: from internal and physiological, to psychological and emotional. Determining the cause of stress can provide some insight into fertility issues. Environmental pollutants also play a big role in infertility. From heavy metals and chemicals, to radiation and xenoestrogen found in plastics and in agriculture, environmental pollutants can compromise the endocrine system, ultimately impacting the health of the ovary and the process of conception. Poor nutrition can also negatively impact fertility. Low levels of essential fatty acids and vitamin E can lead to an unhealthy reproductive system. Folic acid, vitamin C, and bioflavonoids are essential for tissue growth and normal ovulation. Minerals, particularly magnesium, iron, chromium, and zinc help promote a healthy reproductive system.

Women with dysfunctional immune systems who suffer from certain allergies, hypersensitivity, autoimmune thyroid disorders or antibodies to hormonal production/receptors can often have trouble conceiving or maintaining a pregnancy. Supporting immune system balance to try and alleviate stressors should be a primary focus for patients suffering from any of these issues.

Factors such as drugs, birth control medication, certain types of medications and recreational drugs can all contribute to issues with fertility. Age can also be an influencer, thus, women in their late 30s or early 40s who have decided to wait to start a family may find conception difficult. Hormonal dysfunctions, such as ovarian cysts, polycystic ovarian syndrome, fibroids, premenstrual syndrome, endometriosis, and other hormonal dysfunction-related conditions, can contribute to the viability of ovarian eggs.

STDs and chronic vaginosis can lead to fertility problems. Vaginal changes in pH can change the way mucus evolves in the vaginal and uterine area. This is an important factor since conception is far more difficult when the correct levels of mucus are not present. The reason for this is that during ovulation, fertile mucus acts as a “ladder” for the sperm to move up to meet the egg.

Lastly, scar tissue such as adhesions, pelvic inflammatory disease, cervical surgery performed for an abnormal pap, D&C, and termination can all lead to scarring in the cervical, pelvic or fallopian tube area. This can interrupt the movement of the egg in the uterine environment.

## Toxicity and fertility

The modern world is full of toxins. These toxins can greatly contribute to disruptions in the female endocrine system. These disruptions can impact the way in which a woman ovulates, or the way her eggs travel to the pelvic region. We face toxins from everyday items such as computers, small appliances, chloradane, tobacco, insecticides and fungicides, microwaves, medications, low-oxygen air, household cleaners, paints and adhesives, televisions, cell

phones and pagers, waterbeds, alcohol, travel, and cosmetics. All of these can lead to disruptions in the endocrine system.

## **Uterine fibroids**

There are three types of fibroids, but the submucosal form is the most threatening to fertility. This is because these fibroids interfere with uterine lining development and can block the fallopian tubes. Fibroids can also alter cervical and uterine position, and distort the shape of the uterus, disrupting implantation. Treatment of fibroids should be the first step in the fertility treatment process.

## **Multiple miscarriages**

There are many women who are able to conceive but who are unable to hold a pregnancy. Etiologies range from genetic abnormality, hormonal deficiency, uterine scarring, retroverted uterus, uterine vasculature, nutritional deficiency, electromagnetic devices toxic exposure, and hypothyroidism. Treatment should involve addressing these etiologies as well as tonifying and providing nutritional support for healthy egg, sperm, and embryo. Women who have multiple miscarriages should have their thyroid function evaluated. Position of the uterus should also be determined.

## **Botanical approaches for female infertility**

There are certain herbal groups that can positively affect fertility including anti-spasmodic and nervine herbs, uterine tonics, hormone normalizers, pelvic decongestants, general and local nerviness, and adaptogens.

### ***Anti-spasmodic and nervine herbs***

Included in this group of herbs are those plants that not only relax the muscular tissues, but also those that relax the whole body, bringing it to a generalized, relaxed state. These medicines can be important in the treatment of various gynecological conditions, ranging from dysmenorrhea to infertility.

Some common anti-spasmodic and nervine herbs include: *Artemisia vulgaris* (mugwort), *Avena sativa* (wild oats), *Actaea racemosa* (black cohosh), *Hypericum perforatum* (St. John's wort), *Piscidia erythrina* (Jamaican dogwood), *Verbena* spp (blue vervain), and *Viburnum opulus* (cramp bark).

It is important to remember that while some nervines may have positive effects for the immune system, not all of them are safe in pregnancy. For example, St. John's wort or other nervine herbs can be used to establish initial strengthening for a woman prior to conception, but they should not be used after conception.



### *Uterine tonics*

These plants feed and support the normal function of the reproductive organs. They act slowly and are usually administered over a period to produce long-lasting and regulating effects. Some of the plants work due to their nutrient content, others by increasing blood and lymph flow to and from the organs, and others due to secondary hormonal effects.

Some common uterine tonics include: *Alchemilla vulgaris* (lady's mantle), *Leonurus cardiaca* (motherwort), *Mitchella repens* (squaw vine), *Rubus idaeus* (red raspberry), and *Verbena* spp (blue vervain).

### *Hormone normalizers*

This group of plants serves to treat reproductive disorders, as they tend to normalize and optimize the function of endocrine glands. They can be used in combination with uterine tonics to produce numerous tonifying effects. They can also be used to treat menstrual irregularities, fibroids, fertility issues, hormonal imbalance and breast disorders.

Common hormone normalizers include: *Medicago sativa* (alfalfa), *Actaea racemosa* (black cohosh), *Salvia officinalis* (sage leaf), *Taraxacum officinalis* (dandelion), *Trifolium pratense* (red clover), *Verbena* spp (blue vervain), and *Vitex agnus-castus* (chaste tree).

It can be helpful to use a combination of herbs that support estrogen and progesterone over the entire menstrual cycle.



### ***Pelvic decongestants***

This group of herbs helps to decongest the pelvic area. Congestion of the pelvic region can lead to stagnation. This congestion can be caused by lymph fluids, blood, inflammation and even emotions, traumas, and energy. In this state, the normal movement of the pelvic region becomes compromised and lack of vitality sets in, leading to dysfunction and disease. Pelvic decongestants help to address these issues by decreasing congestion in the pelvic region, increasing circulation of fluids to and from the pelvic region, balancing tissue, muscle and vascular tension, and increasing vitality of the organs and tissues. This can ultimately impact conception.

These herbs are generally used to help treat fibroids, painful menses, heavy menses, prolapsed uterus, prolapsed vaginal walls, endometriosis, PMS, labial varicosities, painful intercourse, vaginal discharge, abdominal water retention, low back pain, infertility, irregular menses, bladder issues, and constipation.

Some common pelvic decongestions include: *Angelica sinensis* (Dong Quai), *Actaea racemosa* (black cohosh), *Leonurus cardiaca* (motherwort), *Mitchella repens* (squaw vine), *Taraxacum officinalis* (dandelion), *Trifolium pratense* (red clover), and *Viburnum opulus* (cramp bark).

Many of these pelvic decongestants can be combined with circulatory stimulants, such as ginger, and capsicum (cayenne pepper) or cinnamon. They can also be used with anti-spasmodic herbs, bringing more relaxation into tissues.

### ***General and local nervines***

People tend to hold tension in the muscular layers of their bodies. Since the uterus is a big muscle with a lot of ligaments surrounding it, building tension here can disrupt conception. General and local nervines can be used locally to relieve tension in muscles and organs. There are several herbs that have general calming actions, while also having a more specific calming

action on the reproductive system. Some of these herbs include: blue vervain, lemon balm, and lavender.

### ***Botanical adaptogens***

Adaptogens increase resistance to stress, be it physical, chemical, or biological. They help normalize physiological functions, regardless of whether the abnormal state is due to hyper or hypo function. They are non-toxic and have virtually no side effects. They play a key role in regulating metabolic processes and counter catabolic processes associated with any form of stress on the body. Adaptogens also increase oxygen consumptive capacity to decrease metabolic markers associated with anaerobic metabolism, such as lactic acid.

Some common adaptogens include: *Asparagus racemosus* (Shatavari) *Eleutherococcus senticosus* (eleuthero root), medicinal mushroom species (Reishi, Shiitake, Maitake), *Ocimum sanctum* (holy basil), *Rhodiola rosea* (rhodiola), and *Withania somnifera* (ashwagandha).



## **Case study 1: 34 year old woman, infertility**

In this first case, a 34-year-old woman has been trying to get pregnant for the last three years with no success. She is a hairdresser and works with a lot of different chemicals in the salon, many of which are not friendly to the female reproductive system.

She used oral birth control from age 19 to 27 and had a history of pregnancy at 19, with a termination of pregnancy. She has not used birth control for three years. Her last cycle was 32 days. During this time she had heavy flow, PMS and fibrocystic breast disease, suggesting there is likely some type of hormonal disruption.

She is suffering from worry, apprehension, and insomnia. Terminating her pregnancy at 19 has caused her guilt and she is worried she may have lost her chance to conceive. She runs her own business and has several employees, which adds to the stress she feels from not being

able to conceive. She moved to a new house two years ago and was married three years ago, events that have made her happy but have also caused her stress.

Her work environment has led her to have an irregular schedule for meals. She eats mostly whole foods, no red meat, and drinks decaffeinated tea or herbal teas; additionally, she eats chocolate, drinks juice, and eats dried fruit and popcorn. She takes multivitamins.

She has constipation and abdominal bloating, suggesting congestion of the pelvic area. She is also suffering from low-energy in the morning, but is wired at night and has a family history of autoimmune thyroid disease, hayfever, and allergies.

She saw a fertility specialist nine months ago, but did not desire fertility drugs; she has chosen to explore integrative approaches to fertility treatment. The patient notes her specialist showed she has mild iron deficiency anemia. Her serum thyroid and ovarian hormones were normal. Ideal basal temperature is 97.6 to 98.2, but hers is 97.2. No variation in the temperature is shown, suggesting a lack of vitality. Her blood pressure is 100/60, with a pulse of 76.

### *Treatment plan*

The first step in treating this patient involved looking at gut support using enzymes, fiber, and proflora to establish better gut function. Her constipation needed to be addressed since that could be leading to pelvic congestion. Next, her diet needed to be looked at. Juice and dried fruit were eliminated since these are two very concentrated forms of sugar. Dairy was removed and more fresh fruit was added. Her meal frequency was also addressed and she was told to eat oats for breakfast and salad with protein at lunch.

The next thing that needed to be addressed was her lifestyle. She was told not to give any perms for a few days because of the harsh chemicals used in the salon for these treatments. She worked only day shifts, began doing yoga twice a week and took a 15-minute walk at lunch. She was given a combination of herbal medicines including: Astragalus membranaceus, Bupleurum falcatum and Eleutherococcus senticosus. She had ¼ tsp solid extract Glycyrrhiza glabra in hot water in the mornings and 400mg of Rhodiola rosea in the evenings.

### *Outcomes*

Treatment lasted for 11 months. During this time, she had normal regular menstrual cycles, normal bowel habits, no bloating, and a regular sleep cycle. After another six months, she conceived, and she had a healthy baby girl.

## Case study 2: 36-year-old woman with multiple miscarriages

This patient has had four previous miscarriages, two of which occurred in the last year. Despite wanting to have a baby, she is emotionally distraught and afraid to get pregnant again. She is a librarian and the main money earner for the family. She is generally healthy, but had seasonal allergies. She often has constipation and colds. Her menstrual history is normal, typically lasting 26 days with heavy flow for the first day accompanied by cramps. She is hypotensive and typically has low blood pressure during her menses. Dizziness is often experienced during her menses and she has mid-cycle discomfort at ovulation.

Her health history shows that she had no issues conceiving and her typical miscarriages have occurred at 10 to 14 weeks. She has low progesterone, both in serum and saliva, and was using 50mg of a bioidentical progesterone.

CBC ESR, ferritin, metabolic panel, and vitamin D were looked at in lab results. The results did not suggest antiphospholipid syndrome, an autoimmune syndrome that can lead to multiple miscarriages in women. A functional lab test was performed for IGG food allergies. She gauged her basal body temperature for one month and took iodine tests. She had previously had a TAP test which showed normal TSH.

It was discovered that she had a retroverted uterus, so a pelvic uterine massage was performed. She was encouraged to use yoga poses to help correct the position of her uterus. Her lab outcomes showed low levels of ferritin and vitamin D. Her iodine was low, and she poorly saturated her tissues with iodine. Basal temperature was 97.6 with some variation.

### *Treatment plan*

Food allergies showed positive for almonds, dairy and egg whites, so these foods were removed from her diet. GI problems were addressed and thyroid function was improved. Her blood sugar was improved, reducing inflammation.

For the first four months, she was not given herbs and was instructed not to get pregnant during this time. After this time she was given the following botanicals:

- Vitex, Rhodiola and Shatavari blend—5mls bid
- Ashwagandha capsules—1cap bid
- Holy basil tea—1-2 cups daily
- Turmeric, Licorice and Ginger blend
- Cramp bark and Blue vervain blend used during menses for cramps

After four months, her iodine was normal and her progesterone improved in the luteal phase. Her digestion was better, with improved bowel habits. She had some weight loss. Her basal body temperature during this time was 98.2. She was taken off of iodine, anti-inflammatory

herbs and enzymes and was told to try and conceive. Her botanical treatment plan was changed slightly and she was switched to Rhodiola and Ashwagandha phyto-caps.

After two months, she was still not pregnant. During this time she had a severe cold and became dizzy and feverish. She continued her conception plan, and switched her progesterone to a vaginal suppository that she used only in the latter half of her cycle.

She was given visit support for the next four months, not to adjust treatment but more for emotional support. After the fifth month, she became pregnant. Her early progesterone and HCG levels were good, and they had increased one week later. She continued taking progesterone, Rhodiola, and Ashwagandha for the first 10 to 12 weeks of pregnancy in order to move past the time of typical miscarriage since she would be experiencing worry and stress during this time. She gave birth to a baby girl at 40 weeks.

## Conclusion

When it comes to conception, there are many factors that can influence a woman's ability to become pregnant. From diet, to family history, to lifestyle, there are often many facets to this issue. Adjusting a patient's lifestyle choices and diet, as well as providing support, both in herbal treatment and in emotional support, can often be the winning combination to fertility. But perhaps most important is patience; explaining to a patient that conception can take time and preventing the patient from becoming discouraged can be a huge factor in helping a woman conceive.

## Contributor

Dr. Mary Bove obtained her doctorate of naturopathic medicine and midwifery certification from Bastyr College of Natural Health Sciences in Seattle, WA and received her diploma of phytotherapy/herbal medicine at the School of Phytotherapy in Great Britain. Dr. Bove continues to practice naturopathic family medicine at the Brattleboro Naturopathic Clinic, Brattleboro, VT. While a full-time faculty member at Bastyr University, Dr. Bove chaired the departments of Botanical Medicine and Naturopathic Midwifery. She served as adjunct faculty for the Massachusetts School of Pharmacy and Scottish School of Herbal Medicine Masters level course. Dr. Bove is a member of the *Gaia Herbs Professional Solutions* Scientific Advisory Board.

Dr. Bove is the author of the *Encyclopedia of Natural Healing for Children and Infants* considered an authoritative reference on natural pediatric medicine. Mary co-authored *Herbs for Women's Health* and has been published in many magazines, journals and collaborative books on botanical and natural medicine. She lectures and teaches internationally on the topics of naturopathic medicine, botanical medicine, pediatrics, natural pregnancy, childbirth, traditional food medicine and mind-body healing. Dr. Bove has recently produced an App for the iPhone, *Momma Nature's Food Pharm Guide*, a fun and informative guide to the use of common foods and herbs for health, prevention, and kitchen first aid.