Mushrooms, Herbs & Women's Health

Women's health is one of the top conditions clients seek natural healthcare for. Curating treatment plans for multiple stages of women's lives can be rewarding and at times nuanced. In this newsletter, Lee Carroll, Chief Medical Herbalist shares some resources on how to incorporate functional mushrooms with herbal medicines to support women's health concerns. We will first review the role of hormones in women's bodies, how they can become unbalanced, and the resulting effects. Then, we will dive into the natural herbs and functional mushrooms that can help bring them back into balance.

Overview of Hormonal Imbalances

Narrowing down which hormones are "imbalanced" allows for individualized treatment programs. Growth hormone, thyroid hormones, and reproductive hormones play a role in our growth and development.

- Insulin and glucagon work together to regulate blood glucose levels.
- Thyroid hormones control the metabolic rate.
- Estrogen and progesterone regulate the menstrual cycle.
- Cortisol regulates stress responses, circadian clocks and immune system function.
- Leptin is involved in energy balance, satiety and inflammation.
- Melatonin impacts mitochondrial health and circadian rhythms.

Understanding Hormonal Imbalances

In females, the effects of hormonal imbalances manifest in various ways, influencing not only the reproductive system but also mental, emotional, and metabolic health. Common symptoms encompass absent, irregular or painful menstrual cycles, mood swings, fatigue, weight fluctuations, and sleep disruptions. Hormonal imbalances are not confined to a specific age group; they can occur at any stage, including puberty, pregnancy, the reproductive years, and menopause.

Some of the ways hormones can become imbalanced in women include:

- Cortisol and Chronic Stress
- Altered Partner Hormones and the Menstrual cycle
- Hypothalamus and Pituitary Gland
- Hormone Elimination
- Hormone Distribution
- Cell Receptors and Hormonal Messages

Causes of Hormonal Imbalances

Various factors contribute to hormonal disruptions, including, family history and genetics, early life history, age, lifestyle choices, environmental influences, underlying medical conditions, and medications.

Functional Mushrooms & Herbs for Hormone Balance

Women's history in virtually every culture is intimately linked to the use of herbs and the healing arts.

Mushrooms generally lack a strong tradition of supporting female hormonal health. If we look at the bulk of traditional evidence, it is firmly with herbs. However, that doesn't mean mushrooms don't play a role, it's just more of a supportive and indirect role as the gut microbiota has always been a key focus of traditional systems when supporting female health.

Mushrooms are rich in prebiotic fibers, particularly β-glucans (beta-glucans) and chitin. Emerging research suggests they feed important gut bacterial groups, improving their populations and increasing their production of metabolites that profoundly influence our health, particularly metabolically. Importantly, a healthy microbiota can produce phytoestrogenic metabolites from dietary fibers, flaxseeds, sesame seeds, whole grains, and soy that are effective modulators of healthy estrogen signaling.

Modern researchers speculate that one causative factor in hormonal dysregulation is diet. The modern diet is much lower in phytoestrogen precursors and/or the modern gut is lacking in the necessary bacteria to use them. Therefore, increasing any mushroom intake is an ideal option to support these issues, as they contain valuable gut-supporting molecules.

4 Key Herbs for Hormonal Balance

1. Chaste Tree (Vitex agnus-castus)

Chaste tree is one of the ideal herbs for hormone balance because it supports a number of functions:

- Balances hormonal levels including prolactin, progesterone and melatonin
- Encourages healthy menstrual cycling and eases symptoms associated with dysregulation
- Protects against menopausal symptoms
- Supports sleep
- Addresses non-cystic acne

2. Black Cohosh (Actaea racemosa)

Black Cohosh is native to North America and produces a rhizome traditionally used to address hormonal issues in women. These issues include painful menstruation, muscular aches, and headaches. **It is used today to benefit many gynecological conditions, particularly to ease symptoms of menopause. In fact, it is considered a non-estrogenic alternative to hormone replacement therapy**.

Beyond modulation of female hormones, it helps maintain bone density in menopausal women, and regulate blood sugar too.

3. White peony (Paeonia lactiflora)

White peony (Bai Shao) root is renowned in Traditional Chinese Medicine (TCM) for its ability to support women's general well-being and balance female hormones, support the functioning of the upper female reproductive tract and ease the temporary feelings of tension associated with the menstrual cycle. It is commonly combined with other herbs to support a wide range of female hormonal challenges such as androgenism. Bai Shao nourishes blood, harmonizes the liver and nourishes yin. Blood deficiency, liver patterns and yin deficiency are common tcm patterns in female hormonal imbalances.

4. Adaptogens

There are certain herbs for hormone balance that are classified as adaptogens. Examples of true adaptogen herbs include eleuthero (Eleutherococcus senticosus), rhodiola (Rhodiola rosea), schisandra (Schisandra chinensis), shatavari (Asparagus racemosus), and ashwagandha (Withania somnifera). Each has its own

special attributes, so the selection of an appropriate adaptogen for an individual can give more complete results.

4 Key Mushrooms for Hormonal Balance

1. Maitake (Grifola frondosa)

Little research has been done to date to support these traditional concepts. However, **maitake does have exciting research specific to female hormonal health**. Two clinical trials demonstrate solid **improvements to fertility** in anovulatory women due to polycystic ovarian syndrome (PCOS, a complex disorder involving reproductive hormone disturbances and insulin resistance).

The researchers of these two studies administered a maitake β-glucan extract (SX-fraction) known to excel at blood sugar regulation. The women who took the maitake extract showed an improved ratio of testosterone to estrogen, allowing ovulation. In the end, the researchers found that the maitake extract was more effective than a classic TCM combination (licorice and paeony), equally effective as conventional therapy, and further, increased its effectiveness. A pilot study initially indicated SX-fraction could regulate disturbed blood sugar metabolism.

The effectiveness of a β-glucan extract on metabolism suggests it likely works as a prebiotic. Maitake is claimed to have "high levels" of isoflavones (converted by the gut microbiota to phytoestrogens that could be assisting hormonal imbalances). However, as yet there are no studies to confirm this action.

Animal studies show that maitake also has the capacity to prevent bone loss, which it may do best in combination with shiitake.

2. Shiitake (Lentinula edodes)

A large part of shiitake's effects probably come via prebiotic activity in the gastro-intestinal tract (GIT). Researchers have identified that shiitake can shift colonic microbe populations toward a healthier balance within two months. The study in question may not have been designed to adequately see statistical changes in cholesterol levels of the population who had mildly raised cholesterol. However, the microbiota changes were correlated with improved cholesterol metabolism.

Shiitake's effects on metabolism are an important aspect for hormonal health. A recent clinical trial has shown some advantage for managing fat metabolism, supporting cardiometabolic health benefits. Preclinical work indicates shiitake can improve the health of the liver as well as fat and cholesterol metabolism. Fat and cholesterol metabolism are interrelated and are primarily regulated in the liver. Cholesterol is the building block of reproductive hormones, therefore regulation of its metabolism can assist with managing reproductive hormone levels.

Animal studies also indicate shiitake supports bone health/density. Shiitake is unique in that it prevents bone loss and also promotes increased bone density.

3. Lion's Mane (Hericium erinaceus)

Lion's mane's most well-known effects today, however, involve protecting the brain, improving cognitive function/memory, mood, and possibly sleep quality. Poor cognition ("brain fog") and mood disturbances are common with hormonal imbalances which may be most apparent for women premenstrually or with the onset of menopause.

Researchers conducting clinical trials have identified that lion's mane can improve irritability and mood, as well as cognitive function. One study of women with menopausal symptoms found that lion's mane improved mood and concentration after four weeks. Though it failed to show sleep or menopausal symptom adjustments, this is likely related to the inadequacy of the timeframe.

Today we appreciate that mental health can be influenced by the GIT, as the brain and gut microbiota communicate with chemicals via the gut-brain axis. Lion's mane demonstrates significant positive effects on both brain and gut health, making it a particularly beneficial supplement for overall well-being. A small pilot study has recently examined lion's mane for gut health, and it found significant prebiotic activity, detectable within a matter of days to weeks.

4. Reishi (Ganoderma lucidum or G. lingzhi)

Importantly, however, reishi is primarily a tonic; it needs to be a lifestyle choice consumed regularly. Its benefits and protective effects build over time, likely measured in years not weeks or months. Acute effects do not seem to be its speciality. Much of its activity is likely driven indirectly, via protection against oxidative stress and prebiotically. Reishi stands out as a supportive tonic that is likely to help maintain hormonal harmony into older age, particularly.

Key health benefits of reishi that have clinical trial support:

- Metabolism balance (including blood sugar, fats, and cholesterol)
- Immune system function
- Cardiovascular health
- Liver function
- Sleep quality
- May improve mood over time

We hope you enjoyed this newsletter on women's health and pursue integrating some of this material into your health practice.