

Casting a Wide Net in Women's Health

by Melissa Kvidahl, Contributing Editor

The supplement market for women's health is a broad one with countless ingredients available for women as they progress from young adulthood through menopause and beyond. Some ingredients target gender-specific needs (as in the case of pregnancy), and others target issues more common to women, but not experienced exclusively by them (weight gain and stress, for example). As such, the umbrella for women's health is incredibly expansive.

Women over the age of 55 still represent the largest segment of supplement buyers, according to the Council for Responsible Nutrition (CRN) 2013 Consumer Survey on Dietary Supplements, and women are nearly 10 percent more likely to shop the supplement aisle than men. Still, the women's health segment is growing as younger generations aren't far behind in supplement use: CRN reported 66 percent of adults aged 35 to 54, and 64 percent of adults aged 18 to 34 are also stocking up on supplements. Today, the robust women's health category offers ingredients that cater to issues at all stages of a woman's life.

Focusing on Young Women's Mental Health

Young women represent one of the most stressed segments of the American population,¹ and the newest research shows that this stress could be diminishing their chances of conception.² As concerns surrounding stress and anxiety grow, a formulation targeting the premenopause set might benefit from an anti-stress ingredient—whether it's targeted for fertility or not.

Magnolia (*Magnolia officinalis*) and Phellodendron (*Phellodendron amurense*) barks are medicinal plants commonly used as traditional remedies for reducing stress and anxiety. In a recent study published in *Nutrition Journal*,³ a proprietary blend of these extracts (as Relora from Next Pharmaceuticals) reduced temporary, transitory anxiety as measured by the Spielberger State anxiety questionnaire. This randomized, parallel, placebo-controlled study was conducted with healthy, overweight (with BMIs between 25 and 34.9), premenopausal female adults between the ages of 20 and 50. Subjects were supplemented with 250 mg Relora or placebo, six times daily for three weeks. They were screened at the beginning and end of the six weeks of treatment, and asked to rate their anxiety reduction on a scale of one to five, with one being the lowest possible difference. Those taking Relora averaged a score of four; the placebo group reported a change of just two. Yet another study of the same ingredient assessed salivary cortisol exposure and psychological mood state in 56 subjects for four weeks.⁴ At the conclusion of the study, researchers found overall stress had diminished by 11 percent, as had tension (13 percent), depression (20 percent), anger (42 percent), fatigue (31 percent) and confusion (27 percent).

Anyone who's reached for a gallon of ice cream after a particularly long work day knows that emotional eating is a surefire way to gain weight. When researchers discovered that magnolia and phellodendron were effective anxiety blockers, they turned their attention to weight management applications. A recent study enlisted 28 women who scored above the national mean on self-reported anxiety and also typically ate more in response to stressful situations.⁵ Researchers found when

supplemented with magnolia and phellodendron extract three times daily for six weeks, no significant weight gain occurred; a group receiving a placebo, on the other hand, experienced an average gain of 1.5 kg, what researchers considered significant gain. “The mechanism of action appears to be through reduction of cortisol levels and possibly perceived stress, thereby helping participants maintain body weight,” the researchers concluded.

Resveratrol, a polyphenol antioxidant commonly found in cosmeceuticals, is also being explored for its anti-stress properties, and was recently found to alleviate depressive-like symptoms induced by stress or other means in mice and rats.⁶ Researchers from Howard University College of Medicine found daily supplementation with resveratrol over the course of one week yielded a measurable decrease in indicators of helplessness among subjects when thrown into a stressful situation.

Anemia, typically a concern for new mothers with infants, is landing on the radars of young women as new research shows brain iron deficiency may even affect their cognitive and behavioral functioning.⁷ Researchers from Pennsylvania State University conducted a blinded, placebo-controlled, stratified intervention study in women aged 18 to 35 years with varying iron status, who were randomly assigned to receive iron supplements or a placebo. Cognition was assessed by using eight cognitive performance tasks (from Detterman's Cognitive Abilities Test) at baseline and after 16 weeks of treatment. At baseline, the iron-sufficient women performed better on cognitive tasks and completed them faster than the women with iron deficiency anemia. After treatment, a significant improvement in serum ferritin was associated with a five- to seven-fold improvement in cognitive performance, and a significant improvement in hemoglobin was related to improved speed in completing the cognitive tasks.

The authors concluded that iron status is a significant factor in cognitive performance in women of reproductive age, the severity of anemia primarily affects processing speed, and that severity of iron deficiency affects accuracy of cognitive function over a broad range of tasks.

Supplementing for Successful Fertility and Healthy Early Motherhood

About 10 percent of women (6.1 million) in the United States aged 15 to 44 have difficulty getting pregnant or staying pregnant, according to the Centers for Disease Control and Prevention (CDC), so any conversation about women's health during the childbearing years might naturally center around troubles with conceiving.

Insulin resistance is a prominent feature of polycystic ovary syndrome (PCOS), and insulin-sensitizing drugs are often used to induce ovulation. But a recent study found maitake mushroom extract improves this insulin resistance in tandem with or even in the absence of drug intervention.⁸ Researchers conducted an open trial with 80 patients with PCOS at three clinics. Patients were randomly assigned to receive either maitake extract or clomiphene citrate, a widely prescribed fertility drug, for 12 weeks. When the maitake group was evaluated for ovulation, 76.9 percent tested positive—trailing the clomiphene citrate by less than 20 percent. Seven out of the seven who failed to ovulate with maitake alone did ovulate with a combination of maitake and clomiphene, and six out of eight who failed to ovulate with clomiphene citrate alone also ovulated with the combination. “The present study suggests that maitake alone may induce ovulation in PCOS patients and may be useful as an adjunct therapy for patients who failed first-line clomiphene citrate treatment,” the authors concluded.

Once pregnancy is achieved, there are many ingredients of which women need to be mindful. A new study confirms previous research that daily supplementation with two grams L-carnitine (as Carnipure tartrate by Lonza) during pregnancy can significantly reduce the increase of plasma free fatty acid levels, which are thought to be the main cause of insulin resistance during pregnancy.⁹

Fenugreek has also proven to be a healthy addition to a new mother's supplement arsenal, as researchers recently confirmed that herbal tea supplemented with fenugreek is useful for enhancing breast milk production and facilitating infant birth weight regain in early postnatal days.¹⁰ Researchers assigned 66 mother/infant pairs to three groups: one receiving herbal tea supplemented with fenugreek every day; and the other two receiving placebo or controls, respectively. Maximum weight loss was significantly lower in infants in the fenugreek group compared to both the placebo and controlled groups; infants in the fenugreek group also regained their birth weight earlier than those in the other groups; and mothers who took the herbal tea produced a significantly higher volume of breast milk.

Managing Menopause

Entering perimenopause is marked by a hormonal shift that can cause weight gain around the abdomen, hips or thighs and, to much chagrin, is also the age when muscle mass noticeably diminishes and fat can increase. The Mayo Clinic even goes so far as to declare that, during this time, "if you continue to eat as you always have and don't increase your physical activity, you're likely to gain weight."

Weight gain, to a dangerous extent, is becoming more prominent in American women. Over 60 percent of adult women in the United States are overweight, and just over one-third of those women are obese, according to the U.S. Department of Health and Human Services' Office on Women's Health. Further, many conditions related to excessive weight gain exclusively or primarily affect women: obese women have a higher risk of osteoarthritis, cesarean sections, depression, high-risk obstetrical conditions (such as diabetes, hypertension, and neonatal mortality and malformations), and multiple cancers from cervical cancer to endometrial cancer, breast and ovarian cancers.¹¹

Bitter orange extract (as Advantra-Z from Nutratch) was put to the test when researchers supplemented 70 obese, but otherwise healthy subjects with the ingredient or placebo daily for eight weeks, in addition to a calorie restricted diet and exercise training.¹² Of the 45 subjects who completed the study, significant differences were observed in body weight (2 percent decrease vs. placebo at 0.5-percent decrease), fat mass (7.8 percent decrease vs. placebo at 2.8-percent decrease), lean mass (3.4 percent increase vs. placebo at 0.8-percent increase), and energy levels (29.3 percent increase vs. placebo at 5.1-percent increase).

As a woman enters menopause, she may find herself up against many symptoms from changes in mood to vaginal dryness. But perhaps the most notorious symptom is the dreaded hot flash.

Black cohosh has been a traditional favorite for the treatment of menopausal symptoms such as hot flashes, night sweats and vaginal dryness; however, according to the National Institutes of Health (NIH), the jury is still out on effectiveness since so many studies find conflicting results. Specifically, NIH maintains that at fault are short study durations of six months or less in addition to inconsistent dosage, ingredient sourcing and outcome measures by different researchers.

When tested specifically for hot sweats, early researchers found black cohosh to be effective.¹³ A randomized, double blind, placebo-controlled trial in 80 menopausal women compared 8 mg/d of a black cohosh extract (as two 2 mg tablets of Remifemin from Enzymatic Therapy twice daily) with placebo or conjugated estrogens (0.625 mg/d). While other menopausal symptoms were put to the test, this is one of the few studies in which hot flashes were scored separately from other symptoms. Findings revealed daily hot flashes decreased from 4.9 to 0.7 weekly in the black cohosh group, 5.2 to 3.2 in the estrogen group, and 5.1 to 3.1 in the placebo group after 12 weeks.

However, a recent survey seeking to evaluate the clinical effectiveness of the ingredient on menopausal symptoms examined 16 randomized, controlled studies (recruiting a total of 2,027 perimenopausal or postmenopausal women) in which women took a median daily dose of 40 mg black cohosh or placebo, hormone therapy, or another ingredient, and did not find a difference between black cohosh and placebo in the frequency of hot flashes; they did find, however, that hormone therapy significantly reduced the symptoms.¹⁴ Comparisons between black cohosh and other ingredients were inconclusive or not statistically significant. As such, researchers concluded that there is currently insufficient evidence to support the use of the ingredient for menopausal symptoms overall or even, specifically, hot flashes.

That said, the authors explained there is adequate justification for further research since the effect of black cohosh on other outcomes (quality of life, sexuality, bone health, night sweats, etc.) warranted further investigation.

Hot flashes were put to the test in a recent study examining the effects of 7-Hydroxymaitairesinol (7-HMR), a plant lignan (as HMRlignan from Linnea). Lignans are naturally occurring phytoestrogens commonly found in whole grains, seeds, nuts, legumes, fruits and vegetables. Researchers supplemented 22 postmenopausal women with either a low dose (36 mg/d) or high dose (72 mg/d) regimen for eight weeks.¹⁵ At the conclusion of the study, researchers found the mean number of weekly hot flashes decreased by 50 percent (from 28 per week to 14 per week).

Yet another study targeting hot flashes supplemented 70 women aged 40 to 50 with 50 mg of French maritime pine bark extract (as Pycnogenol from Horphag Research) twice daily, for eight weeks.¹⁶ The study found the ingredient substantially improved hot flashes and night sweats, in addition to mood swings, irregular periods, loss of libido and vaginal dryness by about 50 percent, as judged by the patients' scores.

While menopause remains a popular arena for researchers, ingredient suppliers and supplement manufacturers, a breadth of ingredients on the market answers the growing call from younger generations for supplemental support.

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