NATURAL PRODUCTS: HEALTHY AND SAFE ALTERNATIVES TO HORMONE REPLACEMENT THERAPY

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ABSTRACT

A major concern for many aging women is menopause and how to deal with bodily changes associate with this phase of life. Menopause, most commonly occurring in women between the ages of 48 and 55, is the end of menstruation. Imbalances in both estrogen and progesterone often cause women to endure discomforts such as mood swings, hot flashes, depression and sleeping disorders. In order to remedy menopause, women in the past would have the choice of undergoing Hormone Replacement Therapy (HRT), which consists of taking doses of synthetic hormones. This treatment, however, has been shown to be linked to health problems such as an increased risk of heart disease, stroke, and breast cancer. In fact, the number of health professionals completely disapproving this treatment is ever-increasing. To alleviate the anxiety of HRT many sought out natural alternatives. Many countries in Asia are known to have lower rates of problems related to menopause due to use of natural products as alternatives to HRT. One notable herb that has attracted a great deal of attention is black cohosh. Other important natural products are isoflavonoids from soybeans, as well as chasteberry, red clover, St. John’s wort, vitamin E, and wild yam. The effectiveness of each of these natural products has been assessed in various studies.

**Key words:** Black cohosh, Hormone Replacement Therapy (HRT), menopause, red clover, soybean isoflavones, St. John’s wort

MENOPAUSE

Menopause is medically defined as the one year period after total cessation of menstruation cycles. It is a change from one phase of life to another and a confirmation of the end of childbearing years. Due to declining estrogen levels it can be considered a hormonal deficiency.

When nearing her mid-30’s, the average woman’s ovaries begin to alter the amount of estrogen [Fig. 1] and progesterone [Fig. 2] produced. Androgen precursors that are predominately secreted by the ovaries form the natural steroid known as estrogen. Progesterone (C₂₁H₃₀O₂), also a sex steroid, is
released by the corpus luteum to prepare the endometrium for pregnancy and is also formed during pregnancy to avert rejecting the developing fetus. These two female hormones are essential for successful pregnancies and normal menstrual cycles, and affect other aspects of the human body as well. Estrogen, for instance, is well known to maintain healthy bones as well as to affect blood cholesterol levels. It also promotes healthy skin and arteries, and may be linked to good memory.

Menopause begins with a major decrease in hormone production triggered by the end of ovulation. This occurs between the ages of 48 and 55, but may occur as early as a woman’s 40’s or as late as a woman’s 50’s. The idea that this is a disorder or sickness is a misconception; it is simply a phase of life’s natural succession for a woman. Menopause has many symptoms, some of which may occur less in some women or not at all. The symptoms include: hot flashes, burning upon urination, vaginal dryness and possible vaginal discharge, thinning of skin, possible change in shape of breasts, night sweats, weight gain, increase in cholesterol level, increased risk of heart disease, possible mood swings and moodiness, depression, and a marked decrease in bone density, which may lead to osteoporosis. Of the symptoms, hot flashes are the most common with 75% of perimenopausal women experiencing hot flashes. Hot flashes usually begin with the onset of either a headache or nausea. This is followed by an increase in heart rate and a sensation of heat coupled with flushed skin. Insomnia may also result.

**Hormone Replacement Therapy (HRT)**

Western medicine seemed to have given a choice to women facing menopause with Hormone Replacement Therapy. However, what was once believed to be the solution to menopausal symptoms has been rebutted in numerous studies over the past decade or so. Among the many problems with HRT, studies have shown it to make women more susceptible to heart disease (Low *et al.*, 2002), stroke (Li *et al.*, 2006), and breast cancer (Hall *et al.*, 2006).

HRT uses either estrogen or both estrogen and synthetic progesterone, called progestin. These are considered exogenous hormones because they are made outside of the human body and are used to restore the hormones lost during menopause. Premarin is among the most widely produced estrogens by pharmaceutical companies. The hormone is a derivative of 17 different kinds of estrogens, coming from pregnant mare (horse) urine. These estrogens are different from the ones created by humans and are collected in factories where the mares are held in stalls just large enough
for them to stand. These mares have fluid intakes that are purposely restricted, to promote undiluted urine. The Women’s Health Initiative (WHI) has shown HRT to both increase, as well as decrease, diseases in women (Table 1).

Table 1: Risk increase and decrease of diseases with women taking Prempro as found by the Women’s Health Initiative (WHI) in a five year study. From JAMA, 2002, 288; 321-333

<table>
<thead>
<tr>
<th>Disease</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood clots in the lungs</td>
<td>113% (increase)</td>
</tr>
<tr>
<td>Blood clots in the veins</td>
<td>107% (increase)</td>
</tr>
<tr>
<td>Stroke</td>
<td>41% (increase)</td>
</tr>
<tr>
<td>Heart disease</td>
<td>29% (increase)</td>
</tr>
<tr>
<td>Invasive breast cancer</td>
<td>26% (increase)</td>
</tr>
<tr>
<td>Colorectal cancer</td>
<td>37% (decrease)</td>
</tr>
<tr>
<td>Hip fractures</td>
<td>34% (decrease)</td>
</tr>
<tr>
<td>Spinal fractures</td>
<td>34% (decrease)</td>
</tr>
</tbody>
</table>

Whereas women in the western world have struggled with the problems of HRT, others in Asia have significantly lower rates of problems with menopause. There are several explanations for this. For one, women in Asia have a tendency to have lower amounts of estrogen due to overall lower average Body Mass Indexes (BMIs). Studies also show that this difference can be largely attributed to the use of a number of natural products. These herbs have been used by Chinese and Ayurvedic doctors for 3,000 years. In fact, these herbs were often used in Western medicine before the development of HRT. Present-day medicine is now incorporating these natural alternatives to HRT into the common prescription for menopause.

**Black Cohosh**

Black cohosh (*Cimicifuga racemosa*), sometimes referred to as black snakeroot, is a perennial herb, typically 3-8 feet tall, with long arrays of small white flowers and compound leaves. This herb is found in Canada as well as regions of the northwestern United States and is a mild sedative. It is used for menstrual disorders, specifically neurovegetative illness, as well as in cough mixtures, and to help rheumatism and neuralgia because of its anti-inflammatory properties. The dosage for this herb is typically 0.5-1 g taken 3 times a day.

The estrogen-like effects of black cohosh can be attributed to its cycloartenol-type triterpenoids [Fig. 3] and isoflavonoids. It seems to suppress the luteinizing hormone’s activity and work as a modulator for selective estrogen-receptors. The active ingredients in black cohosh are actaein and cimicifugoside (tetracyclic triterpenoid glycosides), as well as cimigenol [Fig. 4] and acetylacteol (aglycones). In addition the plant has an isoflavonoid, formononetin [Fig. 5]. The other compounds that are present are gallotannins [Fig. 6], isoferulic acid, salicylic acid [Fig. 7], and possibly quinolizidine alkaloids such as cytisine [Fig. 8].

There have been various studies validating the use of black cohosh as a natural alternative to HRT. One such study used 80 women with symptoms of menopause. This study lasted 12 weeks and was double-blind with the women taking either 40 mg of extract from black cohosh, placebos, or 0.625 conjugated estrogen. The study then administered the Hamilton Anxiety Scale and the Kuperman Menopause Index, standard tests for determining the level of menopausal symptoms. The results showed statistically significant difference in the reduction of symptoms for the subjects taking black cohosh extract in comparison to those taking placebos or estrogen (Stoll, 1987).

A second study conducted over the course of six months included 50 women with severe symptoms of menopause. 40 mg of black cohosh extract was used to supplement the women’s estrogen therapy. The women with complaints of heightened problems with symptoms were
given hormone injections. The differences were evaluated using the Kupperman Menopause Index. Of the participants, 82 percent noted beneficial or very beneficial results. As opposed to the 18 percent not needing hormone injections, 56 percent did not require further injections. Additionally, average Kupperman Menopause Index scores decreased from 17.6 to 9.2 (Petho, 1987).

Another study conducted chose 152 women, ranging from 43 to 60, as subjects in a 12 week double-blind experiment. These women had complaints of symptoms such as perspiration or hot flashes and were given either 40 mg or 20 mg doses of extract from black cohosh daily. This study used the Kupperman Menopause Index as well as a Self-Assessment Depression Scale in addition to others. Both dosages gave significant decreases in Kupperman Menopause Index and Self-Assessment Depression Scale scores. Additionally, 80 percent of both physicians and subjects evaluated the change as either good or very good (McKeena et al., 2001).

A study using 629 women with symptoms of the physical and psychological variety (such as hot flashes, apprehension, irritability, depression, and perspiration) as participants, yielded important results. This study was set up in several medical centers with subjects given liquid black cohosh extracts twice daily in doses of 40 drops and lasting for about six to eight weeks. About one third of the subjects involved in the study had previous hormone treatment or other treatment. The menopausal symptoms were alleviated in approximately half of the subjects, and one third of the other subjects documented an improvement (Foster, 1999).
Red Clover

Red clover (*Trifolium pretense*) is a perennial herb that grows wild in European and Asian meadows, and is now grown in North America as well. The stems of this herb branch out and have red flowers, which are often dried and used medicinally. The dosage varies by individual but can be taken with general guidelines as a tea, tincture, topical treatment, fluid extract or in capsules. In addition to having isoflavones present, Red clover is rich in calcium, chromium, magnesium, niacin, phosphorus, potassium, thiamine, and vitamin C. This herb can be used to treat a variety of health problems such as asthma, bronchitis, cancer, jaundice, joint disorders, mastitis (inflammation of the breast), skin irritations (like eczema and psoriasis), and irregular coughing.

Similar to garlic, red clover has long been used in alternative cancer therapy. It is accepted to be one of the world’s oldest and most common natural cancer remedies (Leung *et al*., 1996). Although its anticancer compounds (isoflavones like genistein [Fig. 9]) may make it an effective anticancer food (Cassady *et al*., 1988, Yanagihara *et al*., 1993) scientific study on red clover has not been elaborate and further research will be needed to fully clarify its possible role and action mechanism in cancer treatment.

Red clover has also long been used to treat cancer and acoustic tumors. The use of red clover as an anticancer agent can be traced back to the 1940s when herbalist Harry Hoxey was promoting the herb as an alternative to surgery and radiation therapy (Yanagihara *et al*., 1993, Leung *et al*., 1996, Stephens 1997) Red clover contains high amounts of isoflavone compounds such as genistein, biochanin A [Fig. 10], formononetin [Fig. 5] (Leung *et al*., 1996). Several researchers have shown that these isoflavones may help to prevent cancer (Cassady *et al*., 1988). Studies have verified isoflavone derivatives to inhibit the cell growth of stomach cancer lines *in vitro* (Cassady *et al*., 1988) and proposed that this may occur through activation of a signal transduction pathway for apoptosis. Biochanin A, one of the isoflavones in red clover was found to inhibit carcinogen activation of cells in culture medium. However, the precise mechanism of action and responsible constituents for the proposed benefits of red clover in the cancer process is not known.

A study including 30 women enduring hot flashes and who had stopped menstruating at least 12 months prior showed the effect of red clovers on hot flashes. This was a double-blind study with use of placebos for control, and the women were between the ages 49 and 65 and were not allowed to be taking foods rich in isoflavone. All the participants were given placebos for four weeks, and then either continued to take placebos or took 80 mg of red clover extracts daily. The frequency of hot flashes was then assessed using the Greene Climacteric Scale Score for 12 symptoms of menopause. The placebos caused a decrease in the incidence of hot flashes by 16 percent and the red clover isoflavones caused a 44 percent reduction, in comparison to the placebo. Moreover, whereas the Greene Scale showed an overall increase in menopausal symptoms for the placebo group, the red clover group showed an overall decreasing trend for symptoms (Van de Weijer *et al*., 2002)

Another study on red clovers has shown it to be absorbed in a way similar to that of isoflavones. This placebo-controlled study included five women as well as nine men as subjects. These ages of these subjects ranged from 50 to 66 years. They were given breakfast cereals enhanced with either 30 mg of red clover isoflavones or 30 mg of soy isoflavones daily for a two week period. Following a washout period of two weeks, the subjects then switched to the other cereal for two weeks. The absorption was then evaluated from excretion, a well accepted and common method. The
amount of excretion of both soy and red clover isoflavones, although differing from individual to individual, was fairly consistent. This was used as a direct measure of the absorption of isoflavones. Because the amount of isoflavones absorbed from both soy and red clover was similar, the body is probably affected similarly (Tsunoda et al., 2002)

**Soy Isoflavones**

Soy isoflavones have been shown to alleviate symptoms related to menopause, especially hot flashes. What gives soybeans this property are their rich phytoestrogen makeup, which includes the isoflavones daidzein [Fig. 11], genistein, and glucitriene [Fig. 12]. Furthermore, genistein and daidzein are said to safeguard against certain hormone-related disorders such as endometriosis and breast cancer. During menopause estrogen levels drop and soy isoflavones may bind to cell receptor sites that would normally attract estrogen. They deter breast cancer and endometriosis by competing with the estrogen for those receptor sites, lowering the risk of developing a disorder related to excess estrogen. The typical dosage for use in remedying menopause is 50-100 mg once or twice a day. This dosage differs if used for other purposes. For centuries, people have consumed soy products, as there is much evidence pointing to its healthful benefits. People not advocating the use of soy products often point to problems linked to over consumption. Soy also contains phytic acid [Fig. 13], which may impede upon mineral absorption. Physicians, however, will seldom advise against soy isoflavones unless patient is allergic or if taken in excess.

Genistein is the most widely studied isoflavone and is found in high concentrations in soy products. These products may help to fight cancer in several ways such as by preventing development of cancer through induction of apoptosis. Genistein is also a tyrosine inhibitor. Tyrosine kinase is an enzyme which helps platelets to cluster (aggregate), an essential step to stopping bleeding. However, excessive platelet aggregation can lead to blood clot formation, which may lead to heart attacks. Using genistein to inhibit excessive platelet aggregation may help prevent heart attacks. Genistein inhibits an enzyme known as DNA topoisomerase II, which in turn slows down the synthesis of DNA and cell division. The result is an inhibition of the growth of cancer with cells proliferating too quickly. Genistein (and other isoflavone) can also inhibit angiogenesis, which is necessary for cancer growth (Schachter, 1995). Isoflavones appear to induce differentiation of cancer cells, which can help to cancer cells become nonmalignant. Isoflavones may play an important role in preventing cancer (Goldberg, 1997).

![Figure 9: Genistein](image1)

![Figure 10: Biochanin A](image2)
Recent studies are continuing to further support to the benefits of isoflavones. One such study used 80 women enduring menopausal symptoms for at least 12 months and without hormone replacement therapy for at least a year. These subjects were ranging in ages from 45-55 years old. This double-blind study used placebo controlled trials and used the Kupperman Menopause Index for 11 symptoms. For four months, either placebos or 100 mg of isoflavone supplements were taken three times daily with 6.2 mg of daidzein, 23.3 mg of genistein, and 3.8 mg of glucitiein. The results showed significant improvement for symptoms of women taking the isoflavone supplements over those taking the placebos, which exhibited no change in symptoms. Subjects taking isoflavone supplements also experienced significant reductions in the adverse forms of low-density lipoprotein, as well as the total cholesterol (Han et al., 2002).

Another recent study has given some evidence to soy isoflavones improving occurrence and severity of hot flashes. This double blind, placebo controlled study used 104 post-menopausal participants, with ages ranging from 45 to 62 years, who experiencing no less than seven hot flashes a day, which included night sweats. Of the 104 participants, 79 went on to complete the study. The study was conducted in several medical centers and used the Kupperman Menopause Index as well as the Wilcoxon test to gauge the menopausal symptoms and measure the number of hot flashes, respectively. Subjects were either given 60 grams of placebos, in the form of milk protein, or 60 grams of soy protein, which contained 76 mg of isoflavones, daily over the course of this 12 week study. The results showed that there was no effect on symptoms of the Kupperman Menopausal Index by soy isoflavones. Also, subjects consuming the protein with isoflavones had a 45 percent reduction in hot flashes while the subjects consuming placebos had a 30 percent reduction (Albertazzi et al., 1998).
St. John’s Wort

St. John’s wort (*Hypericum perforatum*) is an herbaceous perennial plant found mostly in England as well as Europe and Asia that is often used for treating depression and anxiety, symptoms of menopause. St. John’s wort contains hypericin [Fig. 14] which binds to monoamine oxidase (MAO) sites to inhibit neurotransmitter receptor sites. Blocking these sites allows for a buildup of monoamines, which are associated with depression when in low levels. This herb also acts as a serotonin reuptake inhibitor (SRI). These actions are similar to those taken by prescription drugs for depression. Besides hypericin, St. John’s wort contains over 50 active components including pseudohypericin, flavonoids, procyanidins and tannins. Tannins allow the herb to be used for treating physical injuries. Many attribute the effectiveness of St. John’s wort to the combination of these constituents as opposed to any one single ingredient.

The typical dosage for PMS related depression is 900 mg a day, either two doses of 450 mg pills or three doses of 300 mg pills. Although it has not been proven to be sufficient treatment for acute cases of depression, studies have shown it to be as effective as prescription antidepressant drugs with fewer side effects. The side effects of St. John’s wort include decreasing the concentration of other drugs in the bloodstream, due to it causing an increase in the liver’s detoxifying functions, and an occasional chance of photosensitivity.

A study on St. John’s wort has shown to improve menopausal symptoms which include anxiety and depression as well as insomnia, irritability, mood swings, headaches and general body aches, cravings for food, and tender breasts. This study did not have a control, nonetheless the results are compelling. The 19 women involved ranged in age from 18 to 50 and were given 300 mg twice daily for two complete menstrual cycles. They were evaluated with the Daily Syndrome Report as well as the Social Adjustment Scale Hospital Anxiety and Depression Scale. By the time the study was over, approximately two-thirds of the women involved underwent a 50 percent decline in the intensity of all symptoms. Symptoms with notably large decreases in severity were anxiety, depression, nervous tension and insomnia. As a pilot experiment, this allowed for preliminary information needed for placebo-controlled studies on St. John’s wort (Stevinson *et al.*, 2000).

Another study was conducted with 240 women and men showing St. John’s wort to be as effective as Fluoxetine in treating depression, but with fewer numbers of side effects. This double blind study was six weeks long and the average ages of the participants were 47 years for the Fluoxetine (Prozac) group and 46 years for the St. John’s wort group. These participants were given either 20 mg of Fluoxetine or 500 mg of St. John’s wort extract on a daily basis depending on their group. This was then analyzed using the Clinical Global Impression and the Hamilton Depression Scale. Although the depression scales declined by 12 percent for both groups, the Clinical Global Impression showed that St. John’s wort had approximately a third more of the subjects with decreases in depression than Fluoxetine, a significant difference. Additionally, about a fourth of the subjects in the Fluoxetine (Prozac) group gave complaints about side effects including dizziness, vomiting, gastrointestinal problems, agitation, as well as erectile dysfunction. The St. John’s group, on the other hand, only had fourteen percent reporting side effects, which were largely gastrointestinal agitation (Schrader, 2000).

St. John’s wort was also tested against Sertraline, another prevalent drug used to treat depression. A study based on a double-blind trial used 30 women and men with mild to moderate depression with an average age of 45. This study was seven
weeks long, with 50 mg of Sertraline given to one group for the first week followed by 75 mg for the following six weeks. The St. John’s wort was given 600 mg of extract for the first week followed by 900 mg for the remainder of the study. This study used the Clinical Global Impression and the Hamilton Depression Scale to assess changes in depression. After the first two weeks, the St. John’s wort group had large decreases in depression. After six weeks, subjects in the Sertraline (Zoloft) group experienced a decrease in 40 percent of depression symptoms, whereas there was a reduction of 47 percent in the St. John’s wort group (Brenner et al., 200).

St. John’s wort has also been studied in comparison to other antidepressants such as imipramine, which is a tricyclic antidepressant. An eight week study was conducted with 263 men and women 43 to 48 years of age experiencing moderate depression. This was a double blind study with a placebo-controlled trial. Groups were given either 100 mg of imipramine, 1050 mg of St. John’s wort, or placebos daily. The Clinical Global Impression and the Hamilton Depression Scale were used in addition to further clinical tests. Not surprisingly, St. John’s wort was more effective than the placebo in treating depression. Additionally, the negative side effects were similar to the placebo, which were both tested to be safer than imipramine. St. John’s wort was also as effective, or more effective, than imipramine (Philipp et al., 1999).

Another study on St. John’s wort showed it to be ineffective when treating severe depression. There were 360 men and women in this placebo-controlled study, which lasted 26 weeks. The participants were given either, placebo, 50-100 mg of, or 900-1500 mg of St. John’s extract. The data was assessed using the Hamilton Depression Scale in addition to further testing. The results showed the placebo to be more effective than Sertraline and St. John’s wort, where Sertraline was more effective than St. John’s wort. This shows that despite the specific medication, it is very difficult to treat severe depression (Hypericum Depression Study Group, 2002).

Since St. John’s Wort induces CIP-3A4, an isoform of citochrome P-450 which metabolizes many drugs used in the treatment of various illnesses the simultaneous use of St. John’s wort with other drugs may have the dangerous result of lessening the efficacy of the other drugs.

**Chasteberry**

The berries of (*Vitex agnus castus*) have been used to relieve menopausal symptoms and are of great importance in substituting HRT. Although they do not act like estrogen, the berries of the chaste tree contain other female hormones, progestins, which include progesterone. This hormone is used in balancing of female hormones level. Thus, these berries can be used to regulate length of menstrual cycles as well as relieving many problems such as premenstrual symptoms including moodiness, bloating, and cyclic mastalgia (breast tenderness). In addition, these chasteberry extracts can be used to relieve symptoms such as hot
flashes, as well as acne in women who have menstruation related acne. These berries can also be used in menopause because of the irregularity and instability of hormone levels related to this life period. The typical dosage of chasteberrries varies upon the reason for the supplement, however, capsules are typically available in 225 mg and 400 mg dosage forms. A physician should be consulted before taking chasteberry extracts.

Studies have shown the positive effects of chasteberrries in treating premenstrual symptoms. One such study included 170 women over 18 years of age in a double-blind placebo-controlled study lasting 3 menstrual cycles. Either placebos or 20 mg of chasteberry extract were given to these women depending on their group assignments. The changes were analyzed based on six key symptoms which included, anger, bloating, breast fullness, frequency and intensity of headaches, irritability, and mood changes. These women taking chasteberry extracts experienced improvements in all key symptoms but bloating. Of these women, 52 percent described a decline in over 50 percent of PMS symptoms (Schellenberg et al., 2001).

**Vitamin E**

Vitamin E – *(it is not any natural product)* [Fig. 15] has been used to alleviate menopausal symptoms for over 50 years. Vitamin E is a fat-soluble vitamin and an anti-oxidant, which means that it helps safeguard against free radicals caused by cells reacting with oxygen, causing cell membrane weakness. This can thus help against degenerative diseases in the body such as including, arthritis, high blood pressure, cancer, and heart disease. This is a natural blood thinner, which is significant in that it prevents blood clots that may cause stroke and heart attack. Additionally, Vitamin E increases the oxygen efficiency of muscle cells, causing possible increases in energy. Vitamin E has been used in reducing hot flashes as well as the risk of heart disease in menopausal women. This vitamin can be found in certain foods such as nuts, seeds, sweet potatoes, broccoli, asparagus and soy beans. Vitamin E can also be used externally to treat itching and drying associated with vaginal thinning as well as in capsule form. It is advised that the d-alpha tocopherol form as opposed to the synthetic form (Wharton 1995, Clark 1996, Barton *et al.*, 1998, Philip 2003).

A study on Vitamin E has shown it to reduce hot flashes. 105 women who were advised not to undergo HRT by their physician and had been treated previously for breast cancer were involved in this placebo-controlled study with a double-blind crossover trial. These participants were over 18 years of age and experiencing hot flashes at least 14 hot flashes a day for a minimum of four weeks. Women not in the control group were given 800 IU of vitamin E daily. Changes were assessed based on journals kept noting the number of hot flashes and intensity of each episode of hot flashes a day. The study was, unfortunately, only four weeks long, which may have impeded upon its potential results if lasting longer. Although, the vitamin E did, in fact, lead to a reduction of frequency and severity of hot flashes (Barton *et al.*, 1998).

A second study has shown vitamin E to lower the risk of heart disease in women. This study had 87,245 participants, all of which were female nurses ages 34 to 59. Their diets and health were recorded. There was a 41 percent decrease in risk of heart disease in the nurses taking supplements for over two years (Stampfer *et al.*, 1993).

Another study has linked vitamin E to a reduction in risk for heart disease. This study involved 2,002 men and women that had heart disease. The average age of the participants was 61 and the study was double-blind, with a placebo controlled trial. The study lasted 17 months on average
with participants taking either placebos, 400 IU, or 800 IU of vitamin E. This yielded
a reduction of 77 percent in nonfatal heart
attacks, as well as a minor increase in fa-
tal heart attacks due to participants who
chose not to take the supplements provided
(Stephens et al., 1996).

Wild Yam

Wild yam (Dioscorea villosa) is a perennial
vine indigenous to North America but is
grown worldwide. This herb is used for
menstrual cramps, as well as nausea,
dysmenorrhea. The effectiveness of this
herb in treating menopausal symptoms is
somewhat in question, but advocates of
wild yam for this purpose believe that it
may help alleviate problems associated with
estrogen withdrawal. Some researchers
have considered the possibility of a slight
estrogen-like effect due to yam sterols,
which are somewhat similar to estrogen
chemically, interacting with cell receptors.
This herb can be used in capsule form or
externally as a cream, as well as a tea. A
physician should be consulted before tak-
ing wild yam (Gruenwald et al., 1998).

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Figure 15: Vitamin E in its one of its tocopherol and tocotrienol structures.

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Natural products: Healthy and safe alternatives to hormone replacement therapy  


