Effects of Diet and Exercise on Menopause

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Menopause is a natural part of a woman’s life cycle. It is a time when the ovaries no longer release an egg every month and menstruation stops, due to decreased amounts of estrogen and progesterone being synthesized (Johnson, 2014). Although menopause is considered a normal stage in women’s lives, there can be numerous symptoms and changes that may significantly and often negatively impact health and feelings of well-being, during this time.

Common symptoms of menopause include hot flashes, night sweats, urinary incontinence, sexual discomfort, and weight gain (Barclift & Jones, 2012). These symptoms can lead to feelings of frustration, embarrassment, and depression for many women, often impacting relationships and quality of life. The loss of estrogen linked with menopause has been tied to a number of health problems such as osteoporosis, a poorly functioning bladder and bowel, decreased skin elasticity, muscle power, and tone (Johnson, 2014). Weight gain is common after menopause and can put women at risk for further health issues such as high blood pressure, heart disease and diabetes (Caldwell et al., 2012).

The use of hormone replacement therapy (HRT) in providing relief of menopausal symptoms, especially hot flashes, has been widely studied (Sturdee & Pines, 2011). Many women choose this treatment option with good results, however, further studies have shown there are increased risks of other health issues such as cancer, cardiovascular disease that may come with its use (Lipov, Lipov, & Stark, 2005). Alternatives to HRT and/or medication use are gaining the interest of women. Various studies seek to validate the role that diet and exercise can play in relieving menopausal symptoms, along with alternative options such as complimentary and plant based therapies. Complimentary therapies can include utilizing herbals, acupuncture, chiropractic, massage therapy and/or meditation (Johnson, 2014). Physical activity and dietary modifications can positively benefit many areas of life, including
mood, sleep, and heart health (Barclift & Jones, 2012). Regular physical activity can assist women in the management of symptomatic menopause and has been shown to be associated with decreasing physical and emotional issues, associated with menopause (Skrzypulec, Dabrowska, & Drosdzol, 2010). Activity such as such as yoga tai chi, aerobics, walking, and strength training may help reduce the severity of menopausal symptoms (Caldwell et al., 2012). Research reveals that women who engaged in dietary changes as part of comprehensive naturopathic care, experienced relief in menopausal symptoms (Cramer, Jones, Keenan, & Thompson, 2003).

A healthy diet with plenty of calcium and vitamin D may also help control symptoms and help to avoid extra pounds that sometimes come with menopause (Johnson, 2014). It is important as health professionals to educate clients on the varying options and resources regarding menopause and well-being. This review expands on existing research that supports alternative treatment options to HRT, and provides a summary of current research on the importance of diet and exercise for women during menopause.

**Problem Statement**

The purpose of this literature review is to examine the effect of exercise and diet on menopause.

**Literature Review**

**Common Symptoms of Menopause**

Mishra and Kuh (2012) examined symptoms commonly experienced by 695 women, ages 47-54, during menopause, in a longitudinal study. The most common symptoms were categorized into four groups; vasomotor that included hot flashes and night sweats, somatic comprised of headaches, urinary incontinence, palpitations, feeling of pins and needles in feet and/or hands, and muscle and/or joint pain, psychological to include sleep difficulty, anxiety, and
depression, and sexual discomfort which included vaginal dryness and difficulty with intercourse (Mishra & Kuh, 2012).

Utian (2005) revealed in a comprehensive review, that hot flushes with sweats are the primary symptoms of menopause, varying in frequency and severity. Symptoms can be associated with disruption in regards to sleep, mood, and cognitive function, negatively impacting quality of life and often causing social and work-related problems in women (Utian, 2005). Research supports a variety of options for decreasing symptoms of menopause, and the associated discomforts or health risks for women during this time, including the use of diet and exercise as part of a comprehensive plan for menopause management (Haines & Farrell, 2010).

**Hormone Therapy**

According to Brockie (2013), hot flushes and night sweats are the most common symptoms of menopause, and women who find them distressing will often seek treatment. Causes of these symptoms may result from the decline in estrogen levels that may lead to a disruption of the temperature-regulating mechanisms in the hypothalamus (Hunter & Chilcot, 2013). Symptoms of menopause may strongly impact a woman’s daily routine in life. Hunter and Chilcot (2013) reported that hot flushes and night sweat were problems for approximately 25% of the menopausal women in their study, with significant negative impacts on daily routines in physical discomforts and disruption of sleep. Women may choose to utilize hormone replacement therapy for treatment of menopause. Studies disclose that hormone therapy improved symptoms of hot flushes by about 87%, compared to placebo, and can improve vaginal dryness, sexual function, sleep patterns, joint pain, and fracture risk in women experiencing menopausal symptoms (Sturdee & Pines, 2011). It is discussed that treatment of hormone replacement therapy must be tailored to each individual, based on their preferences, needs, and
family history. Study results showed that hormone replacement therapy did not cause harm or increase risk of cardiovascular disease in women experiencing recent menopause, less than 60 years of age, and without a history of cardiac issues, but may be linked to an increased cardiovascular risk for women over 60, post menopause (Sturdee & Pines, 2011).

**Herbal Supplements**

For those who do not wish to utilize HRT, there are various options for potential relief of menopausal symptoms, which includes the use of herbal supplements containing phytoestrogens. Cramer et al. (2003) described phytoestrogens as naturally occurring sterols of plant origin exhibiting estrogenic and anti-estrogenic properties, such as soy, black cohosh, and red clover. Research has not shown significant results. Lethaby et al. (2013) evaluates whether phytoestrogen treatments reduce the number and severity of hot flushes. A number of trials in this review report slight reduction in hot flushes and night sweats with phytoestrogen-based treatment, however, evidence supports that phytoestrogen supplements were effective in the reduction of frequency or severity of hot flushes and night sweats (Lethaby et al., 2013). Lipov et al. (2005), communicated that herbals do not provide relief beyond what a placebo provided. In a retrospective study of 238 women with a diagnosis of menopause, the women who were treated with black cohosh in conjunction with a combination of naturopathic treatments, improved as frequently as those who were treated in a conventional manner, in the areas of anxiety, hot flashes and vaginal dryness (Cramer et al., 2003). One review evaluated whether phytoestrogen treatments would reduce the number and severity of hot flushes, however, no conclusive evidence showed that the supplements effectively reduced the frequency or severity of hot flushes and night sweats in perimenopausal or postmenopausal women (Lethaby et al., 2013).
Exercise

Healthy lifestyle practices can benefit many aspects of a woman’s life. Physical activity is a factor which strongly affects the course of menopause (Waszak, Cieslik, & Grabowska, 2007). Research by Waszak et al. (2007), which obtained measurements and provided questionnaires to 347 women, ages 39-75, experiencing menopausal symptoms over a two year period, reported that the most common symptoms of menopause by participants were hot flushes, extensive sweating, and mood swings. Results revealed statistical significance of the effect that physical activity had on symptoms in naturally occurring menopause and that the strongest correlation was for hot flashes, sweating, mood swings and sleep issues, which were reduced in those who were physically active (Waszak et al., 2007). Skrzypulec et al. (2010), examined the benefits of various levels of physical activity, including relief of menopausal symptoms in a study that included 336 women, between 45 and 55 years and of perimenopausal status. Results indicated that women who regularly exercised, felt better and had less symptoms of menopause, and also revealed that a higher level of activity was associated with less symptoms (Skrzypulec et al., 2010).

The reduction of estrogen during menopause, brings about changes in fat distribution that increase the risk for the metabolic syndrome, diabetes and cardiovascular disease during menopause (Karacan, 2010). An estimated one in every two postmenopausal women dies of a cardiovascular event and current approaches to menopause management include wider aspects of health recommendations (Haines & Farrell, 2010). Regular exercise reduces cardiovascular and total mortality (Sturdee & Pines, 2011). Further studies support benefits of exercise in menopause. Hunter and Chilcot (2013) assessed the physiologic measures of hot flashes and night sweats and discussed that exercise decreased the frequency of these symptoms. Nelson
examined effects of physical activity on women during menopause and found that physical activity was related to significantly lower levels of depressive symptoms as well as lower levels of perceived stress and anxiety (Nelson et al., 2008).

**Diet**

Dietary change is a lifestyle factor that may provide benefit to women during menopause. Dormire and Howharn (2007) examined effects of diet on hot flash frequency in women during menopause. Their experimental designed study explored hot flash frequency in fasted and fed states. Discussion revealed that one goal of the study was to further explore the Impaired Glucose Delivery Model of Hot Flashes, which is an emerging model that supports that altered blood glucose transport across the blood brain barrier may result in hot flashes in women (Dormire & Howharn, 2007). The research provided evidence that dietary intake can effect timing of hot flashes; frequency of hot flashes were suppressed after eating, up to 90 minutes without hot flashes after ingestion of food, frequency of hot flashes increased as length of time between meals increased, and hot flashes were more likely to occur in a fasted state, but suppressed when blood glucose levels were in an elevated normal range (Dormire & Howharn, 2007).

Hormonal changes during menopause can contribute to abdominal obesity, leading to unfavorable health outcomes including increased risk of diabetes, cardiovascular disease, some cancers, urinary incontinence, and musculoskeletal disorders (Davis, 2012). According to Sturdee and Pines (2011), cardiovascular disease is the principle cause of morbidity and mortality in postmenopausal women. Goals of the International Menopause recommendations include encouraging better care of women in midlife stages and major primary prevention measures included along with diet control and smoking cessation, are the recommendations of
weight loss, blood pressure reduction and diabetes control (Sturdee & Pines, 2011). Regular exercise, weight reduction, and avoiding dietary triggers, such as caffeine and spicy foods to hot flushes, also may help to minimize hot flushes or their impact. Weight loss support systems that include dietary education, may be helpful in providing women an understanding of potential impact on women during menopause. Huang et al. (2010) discussed a six-month, randomized controlled trial, of an intensive behavioral weight loss program versus a structured health education program, which included 338 women, experiencing hot flashes, were overweight or obese, and had urinary incontinence. Results revealed the intensive behavioral weight loss program was associated with greater improvement in bothersome flushes versus the structured health education program (Huang et al., 2010). It is important to approach menopause health with a more expansive and holistic view, especially as lifestyle and metabolic factors are modifiable, and lifestyle intervention plays a major role in reducing cardiovascular risk (Haines & Farrell, 2010).

**Conclusion**

Women in menopause can experience a variety of changes. For many, menopause is associated with symptoms that can lead to intense physiologic and psychosocial change, increased morbidity and socioeconomic burden, and decreased quality of life (Haines & Farrell, 2010). This review examines the role that diet and exercise can play in relieving symptoms of menopause. Physical activity is associated with less menopausal symptoms, in addition to reduction of stress and risk of cardiovascular disease (Skrzypulec et al., 2010). Recommendations for women in menopause, include regular exercise, for at least 30 min on at least five days of the week, while maintaining a healthy balanced diet (Dubnov-Raz, Pines, & Berry, 2007). Research supports that maintaining a stable blood glucose level may be effective
in the reduction of hot flashes a woman experiences during menopause (Dormire & Howharn, 2007). Management of menopause should be an overall strategy to include lifestyle recommendations regarding diet, exercise, smoking cessation and safe levels of alcohol consumption for maintaining the health of peri- and postmenopausal women (Sturdee & Pines, 2011).

**Clinical Implications**

The research in this review supports the efficacy of lifestyle interventions in the management of menopause. It is important for health professionals to understand the variation of menopausal symptoms and potential treatments and management strategies, to be able to provide a more tailored approach in advising women (Mishra & Kuh, 2012). A comprehensive systems approach, including lifestyle intervention, should also clearly discuss benefits and risks of HRT, allowing a woman and her provider to work together to ensure well-informed decisions regarding menopause management (Sturdee & Pines, 2011). Interventions of health practitioners should strive for maintaining stability in blood glucose levels which may be effective in reducing menopausal symptoms of hot flashes (Dormire & Howharn, 2007). Research indicates there is a great need for health education and primary prevention, as women feel unprepared for menopause and report a need for more information (Marnocha, Bergstrom, & Depmsey, 2011). Research supports that higher levels of education are related to higher general physical capacity (Waszak et al., 2007). Education can lead to improvement in the quality-of-life by decreasing the problems of the menopause stage and lowering intensity of symptoms (Forouhari et al., 2010).
Future Research

Reliable and safe options for women in the management of menopause is important. The NIH, State-of-the-Science conference panel noted overall shortage of well-designed research on alternative health practices for menopausal symptoms (Caldwell et al., 2012). Dormire and Howharn (2007) suggested that dietary strategies need to be further tested to focus on exercise and dietary interventions similar to that of patients with diabetes, in stabilizing blood sugar. Sturdee and Pines (2011) noted that high-quality studies of non-pharmacological and lifestyle interventions for vasomotor symptoms have been limited. Meditation, relaxation, controlled breathing and cognitive behavior therapy showed promise in managing hot flushes, but randomized trials are still needed (Sturdee & Pines, 2011). Before naturopathy can substitute for conventional treatment during menopause, further research is needed; a randomized trial of the two systems of care might is needed further characterize differences in treatment response, and the dose and duration of therapies used (Cramer et al., 2003). Hvas (2006) discusses the importance of health professionals to be able to focus on the positive aspects of menopause and growing older, supporting each individual women's agenda, as they try to cope with real-life problems during this stage of life.
References


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