Dietary Considerations for Postmenopausal Women

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Keywords

Menopause transition · Metabolism · Mental health · Bone density · Diet · Exercise

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Key Points

- Menopause is associated with declines in cardiometabolic, physical, and psychosocial health that extend well into the postmenopausal years.
- Weight gain is a common concern among perimenopausal and postmenopausal women, and its treatment requires a multidisciplinary team of physicians, register dietitians, and behavioral and social support professionals to adequately address weight gain concerns.
- Balanced, calorie-controlled diets, including a variety of fruits, vegetables, lean meats, whole grains, dairy, and unsaturated fats, can aid in healthy aging and menopause symptom management.
- Social stigmatism of menopause is a common barrier to receiving adequate treatment for their menopause-related concerns (e.g., vasomotor symptoms, psychosocial, mental health, etc.), which can lead to reduced quality of life if left untreated.
- Medical professionals should frequently screen for common menopause-related concerns, including vasomotor symptoms, sleep disturbances, mental health, and osteoporosis – even if not brought up by the patient – and refer the patient to the appropriate healthcare professional and resources if indicated.

Introduction

Women experience an array of health disturbances that arise as a consequence of menopause, including disrupted cardiometabolic health, physical and psychosocial symptoms, reductions in bone health, and changes in gastrointestinal health. Collectively, these disturbances can have detrimental effects on

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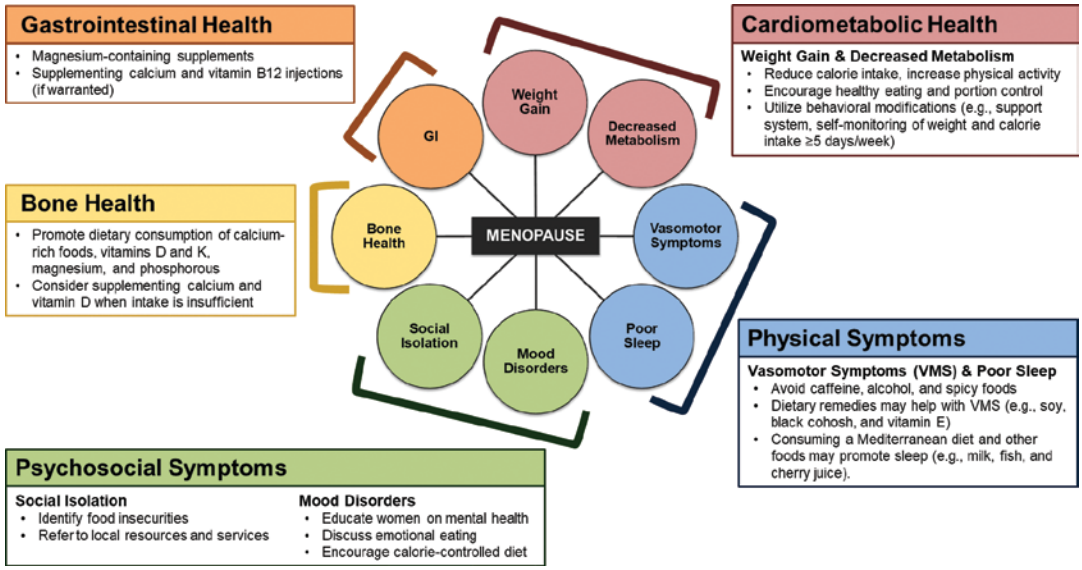

Fig. 8.1 Dietary strategies to minimize the consequent health outcomes of menopause. Women experience an array of health disturbances that arise as a consequence of menopause, including disrupted cardiometabolic health, physical and psychosocial symptoms, reductions in bone health, and changes in gastrointestinal health. Here, we provide a visual summary of various dietary strategies to help minimize these detrimental outcomes. Treatment strategies are the most successful when a multidisciplinary team of medical professionals is assembled to adequately address these health disturbances

a woman's overall quality of life. Importantly, changes in dietary patterns and food preferences often occur in parallel with menopause, which can amplify these health disturbances. Total energy intake, as well as consumption of protein, polyunsaturated fat, dietary fiber, and micronutrient-dense foods, have been reported to decline with menopausal progression and into the postmenopausal years [1]. In contrast, saturated fatty acid and cholesterol intake is reportedly higher in the postmenopausal years compared with menopause onset and tends to increase over time [1, 2]. It is critical that medical professionals understand the consequences of menopause and employ sufficient screening and treatment strategies to mitigate them. This chapter will provide a brief overview of menopause and its staging, as well as detail the health challenges that midlife women experience and nutritional strategies that medical professionals should consider when treating postmenopausal women (Fig. 8.1).

The Menopause Transition

Menopause is a naturally occurring biological process of reproduction when menstrual cycles permanently cease and estrogen levels decline as a result of progressive ovarian failure. *Natural menopause* typically begins in a woman's mid-to-late 40s and is diagnosed retroactively after 12 months of amenorrhea and an elevated follicle-stimulating hormone (FSH) level of 30 mIU/mL or higher. The median age of natural menopause is 51.4 years, yet its onset can vary widely from 40 to 58 years [3]. Approximately 5% of women experience *early menopause* if they have their final menstrual cycle between ages 40 and 45 years. A minority of women (1%) also go through *primary ovarian insufficiency* (*POI*) if they experience menopause before 40 years of age. Finally, a woman can undergo

premature menopause after having a bilateral oophorectomy surgery or iatrogenic ablation of ovarian function (e.g., chemotherapy, pelvic radiation). Given the inherent variability in menopause transition timelines, routine surveillance of cycles (i.e., flow, duration) and menopausal symptoms should be considered starting at 40 years of age or when symptoms begin to arise.

In the 4 to 5 years leading up to menopause – known as the menopause transition (or perimenopause) – women can be divided into early- or late-stage perimenopause [4]. "Early perimenopause" is marked by menstrual cycle length of 7 days or more and possible coincident vasomotor symptoms (i.e., hot flashes, night sweats). Intervals of amenorrhea for at least 60 days with increased prevalence of vasomotor symptoms characterize "late perimenopause." The Stages of Reproductive Aging Workshop (STRAW) +10 guidelines provide a comprehensive staging system to determine where a woman is at in her transition [4] and is provided here in an abbreviated form (Table 8.1).

Table 8.1 The Stages of Reproductive Aging Workshop +10 staging system for reproductive aging in women

	Menarche					FMP (0)				
Stage	-5	-4	-3b	-3a	-2	-1	+1a	+1b	+1c	+2
Terminology	REPRODUCTIVE				MENOPAUSAL TRANSITION		POSTMENOPAUSE			
	Early	Peak	Late		Early	Late	Early			Late
					Perimenopause					
Duration	*variable*				*variable*	1-3 years	2 years (1+1)		3-6 years	*Remaining lifespan*
PRINCIPAL CRITERIA										
Menstrual Cycle	Variable to regular	Regular	Regular	Subtle changes in Flow/ Length	*Variable Length:* Persistent ≥7-day difference in length of consecutive cycles	Interval of amenorrhea of ≥60 days				
SUPPORTIVE CRITERIA										
Endocrine FSH AMH Inhibin B			Low Low	Variable * Low Low	↑ Variable * Low Low	↑ >25 IU/L ** Low Low	↑ Variable* Low Low		Stabilizes Very Low Very Low	
Antral Follicle Count			Low	Low	Low	Low	Very Low		Very Low	
DESCRIPTIVE CHARACTERISTICS										
Symptoms						Vasomotor symptoms *Likely*	Vasomotor symptoms *Most Likely*			*Increasing* symptoms of urogenital atrophy

Abbreviations: *FMP* final menstrual period; *FSH* follicle-stimulating hormone; *AMH* anti-Müllerian hormone

†This table was adapted from the previously published STRAW+10 staging guidelines [4]

*Blood draws during early follicular phase (cycle days 2–5)

**Approximate expected level based on assays using current international pituitary standard

↑ = elevated

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Changes in Cardiometabolic, Physical, and Psychosocial Health

The website of the North American Menopause Society (NAMS) is an excellent menopause treatment resource for medical professionals and provides a great overview of recommendations for clinical care of midlife women [3]. These recommendations range from managing common body changes and disease risk to complementary and alternative medicine and prescription-based treatment approaches. Common consequences of menopause include changes in cardiometabolic, physical, and psychosocial health. Together, these changes can significantly and negatively affect a woman's health and life span. While changes in diet quality and eating patterns likely contribute to some of these changes, the relationship is often bidirectional and cyclical in nature. These relationships deserve consideration when evaluating nutrition recommendations and treatment strategies. Table 8.2 summarizes the nutritional recommendations for postmenopausal women relative to energy intake requirements, as well as macronutrient and micronutrient intake recommendations with suggested food sources.

Table 8.2 Nutrition recommendations for postmenopausal women

Nutrient	Dietary reference intake	Food sources
Energy	Estimated energy requirement (EER) = 354 – (6.91 × age [y]) + PA × (9.36 × weight [kg] + 726 × height [m] …where PA is the physical activity coefficient: – PA = 1.00 if *sedentary* (i.e., 1.0 ≤ PAL <1.4) – PA = 1.12 if *low activity* (i.e., 1.4 ≤ PAL <1.6) – PA = 1.27 if *active* (i.e., 1.6 ≤ PAL <1.9) – PA = 1.45 if *very active* (i.e., 1.9 ≤ PAL <2.5) If weight loss is indicated, consider individualized energy deficit prescription	
Carbohydrates	**Total carbohydrate:** AMDR: 45–65% of kcal (RDA: 130 g/day) **Added sugar AMDR:** <25% of kcal; dietary guidelines state that added sugar should account for <10% of kcal	Whole grains, fruit, legumes, and starchy vegetables
Fat	**Total fat:** AMDR 20–35% of kcal – **ALA:** ADMR 0.6–1.2% of kcal (AI: 1.1 g/day) – **DHA and EPA:** No DRI; approximately 10% of ALA ADMR – **Saturated fat:** No DRI; dietary guidelines state that saturated fat should account for <10% of kcal/day – **Trans fat:** No DRI; dietary guidelines state that consumption of trans fats should be limited as much as possible	**ALA:** Plant oils, flax and chia seeds, soybeans, and walnuts **DHA and EPA:** Cold-water fish, such as salmon, tuna, herring, sardines, and mackerel
Protein	RDA: 0.8 g/kg body weight per day AMDR: 10–35% of kcal	Eggs, nuts, soy, fish, chicken, pork, beef, cheese, milk, and yogurt
Fiber	AI: 14 g/1000 kcal/day (20 to 25 g/day)	Nuts, seeds, beans, whole grains, fruits, and vegetables
Vitamin E	RDA: 15 mg/day	Nuts, seeds, vegetable oils, vegetable greens, avocado, pumpkin, and butternut squash
Vitamin B12	RDA: 2.4 mcg/day	Beef, clams, fish, cow's milk and dairy, and fortified cereals
Iron	RDA: 8 mg/day	Fortified cereals, oysters, beef, spinach, tofu, beans, sardines, chickpeas, and cashews

Table 8.2 (continued)

Nutrient	Dietary reference intake	Food sources
Folate	RDA: 400 mcg/day DFE	Dark green leafy vegetables, fortified cereals and enriched grains, asparagus, and Brussels sprouts
Calcium	RDA: 1200 mg/day	Cow's milk dairy products, fortified soy, sardines, salmon, fortified cereals, kale, and turnip greens
Vitamin D	RDA: 600 IU/day (or 800 if 70+ years old)	Fatty fish, mushrooms, cow's milk and cheese, fortified soy and nut milks, and eggs
Magnesium	RDA: 320 mg/day	Nuts, green leafy vegetables, legumes, milk and yogurt, soy, fortified cereals, and oatmeal
Vitamin K	AI: 90 mcg/day	Green leafy vegetables, broccoli, soy, okra, vegetable juices, pine nuts, blueberries, and grapes
Phosphorus	RDA: 700 mg/day	Dairy, beef, poultry, fish, pork, eggs, nuts, legumes, and grains

Abbreviations: *AI* adequate intake (this is established when evidence is insufficient to develop an RDA; intake at this level is assumed to ensure nutritional adequacy in healthy individuals); *ALA* α-linolenic acid (e.g., *omega*-3 fatty acids); *AMDR* acceptable macronutrient distribution range (this was developed to express macronutrient distribution in the context of a complete diet); *DFE* dietary folate equivalent; *DHA* docosahexaenoic acid; *DRI* dietary reference intake; *EPA* eicosapentaenoic acid; *RDA* recommended dietary allowance (this is the average daily level of energy intake sufficient to meet the nutrient requirements of nearly all (97–98%) healthy individuals)

Cardiometabolic Health

Weight gain is one of the most common concerns among midlife women and the medical professionals that care for them. According to the 2017–2018 National Health and Nutrition Examination Survey, the prevalence of obesity among women ages 60 years and older in the United States was 43.3% [5]. Despite reports that women gain an average of 5 to 7 lb. (2 to 3 kg) during perimenopause [3, 6], it is not uncommon for midlife women to report weight gain in excess of 20 pounds, much of which is in the form of increased abdominal adiposity (i.e., subcutaneous and visceral) [1, 6]. The gain in abdominal adiposity is likely due to a complex interaction between existing body adiposity, reproductive hormones (particularly the decline in estradiol, or E2), race, and genetics [7–10], which collectively may accelerate the progression of midlife women to overweight, obesity, or even severe obesity. Moreover, abdominal adiposity predisposes postmenopausal women to increased cardiometabolic risks, including dyslipidemia, hyperinsulinemia, and insulin resistance [11].

Declines in energy expenditure, fat oxidation, and physical activity further contribute to menopause-induced weight and abdominal adiposity gains. Clinical models of menopause using gonadotropin-releasing hormone (GnRH) analog therapy and a landmark observational study across the menopause progression report decreases in the number of calories expended both at rest and over 24 hours in postmenopausal women [1, 12]. Furthermore, postmenopausal women had a 32% reduction in fat oxidation, which suggests that physiological and hormonal changes coincident with menopause reduce a woman's ability to burn fat [1]. Physical activity also declines, as evidenced by ovariectomy models in rodents [13], clinical models with GnRH analog therapy [14], and studies of natural menopause [1]. When E2 is given as an add-back treatment, physical activity is restored or maintained, which further supports the importance of E2 in regulating metabolism [14]. It is not clear from the clinical studies whether the origin of this decline in physical activity is behavioral or physiological.

Treatment Strategies To compensate for the declines in calories expended, physical activity, and the body's ability to burn fat, postmenopausal women should be encouraged to reduce their caloric (energy) intake with a focus on portion size and consuming a variety of nutrient-dense foods. MyPlate aids in portion control and adopting a healthy eating pattern by dividing a smaller dinner plate into quadrants. Specifically, the quadrants are filled with a serving of the following: (1) fruit; (2) non-starchy vegetable; (3) lean protein (e.g., fish, chicken breast, lean beef, pork); and (4) whole grains. In addition, women should consume approximately three servings of dairy (e.g., plant or animal milk, cheese, yogurt) per day. The estimated energy requirement (EER) for women 19 years and older is EER = 354 – (6.91 × age [y]) + PA × (9.36 × weight [kg] + 726 × height [m]), where PA is the estimated physical activity level ranging from 1 to 2.5 (sedentary to very active). Unfortunately, this equation and most other equations that estimate energy expenditure (e.g., Mifflin-St. Jeor, Harris-Benedict, FAO/WHO equations) do not consider differences in energy needs based on race or stage of menopause (peri- vs. postmenopause).

If weight loss is indicated (i.e., BMI ≥ 30 kg/m^2 or BMI ≥ 27 kg/m^2 with a comorbidity), a caloric deficit of 400 to 600 kcal/day alongside an intensive behavioral lifestyle intervention (≥14 in-person counseling sessions in 6 months) is recommended [3, 15]. Of course, the 400 to 600 kcal/day deficit is not a one-size-fits-all recommendation. Instead, caloric deficit targets will need to be individualized to each woman's weight loss goals and current health status. Adding in exercise or physical activity to any caloric-deficit plan is important so that muscle mass and bone mineral density (BMD) can be preserved as much as possible while losing fat mass [16]. In cases of severe obesity (i.e., BMI ≥ 40 kg/m^2) under medical supervision, a very-low-calorie-high-protein diet or surgical intervention can be used. Various pharmacotherapies are even recommended as adjuncts to caloric deficit and increased exercise, yet some women may not be ideal candidates for such therapies or prefer not to take medications altogether [3, 15]. Behavior modification strategies associated with successful weight management include: (1) self-monitoring of weight, physical activity, and food intake at least 5 days/week; (2) utilizing a support and accountability system; (3) high levels of physical activity; (4) consistent eating patterns; (5) mindful eating; and (6) stimulus control (e.g., keep healthier foods around, reduce snacking between meals).

Physical and Psychosocial Health

While concerns about cardiometabolic health often arise during clinic visits and are, therefore, more easily diagnosed and treated, the physical and psychosocial consequences of menopause are often overlooked. Here, we detail some of the physical and psychosocial health concerns of midlife women.

Vasomotor Symptoms

Vasomotor symptoms (VMS), which include hot flashes and night sweats, occur in approximately 70 to 80% of menopausal women and are most prevalent in late perimenopause and early postmenopause. Yet despite their prevalence, only 25% of midlife women seek help from medical professionals to manage VMS. Risks for VMS include premature or surgical menopause, Black race or Hispanic ethnicity, a high body mass index (BMI) or high level of adiposity, sedentary lifestyle, smoking, stress, anxiety, and depression [17]. VMS are also associated with decreased sleep quality, mood swings, reduced quality of life, and bone loss and are linked to an increased risk of cardiovascular disease and cognitive decline [17].

Treatment Strategies Hormone therapy remains the most efficacious treatment for VMS. However, not all menopausal women are good candidates for hormone therapy, and many women prefer to avoid hormone therapy. Non-pharmacotherapy treatments for VMS include lifestyle changes, such as

keeping body temperature low, maintaining a healthy weight, exercising regularly, practicing relaxing techniques, and refraining from smoking [3]. Dietary considerations include avoiding caffeine, alcohol, and spicy foods to help reduce the frequency and intensity of VMS and improve sleep quality. While nonprescription dietary remedies such as soy, isoflavone supplements, black cohosh, vitamin E, and omega-3 fatty acids may provide some VMS relief; the scientific data does not currently support their use as first-line treatments.

Sleep Disturbances

Sleep disruption is one of the primary reasons why midlife women seek medical care, with up to 60% of women reporting reduced sleep quality and increased sleep disturbances (i.e., trouble falling asleep, early morning waking, interrupted sleep) with menopause [18]. Women experiencing VMS also tend to report higher levels of sleep disturbances [17] and are at the greatest risk for clinical insomnia. While VMS and psychological symptoms are strongly associated with sleep disturbances, trouble sleeping can arise independently of VMS. Poor sleep is also linked to increased dietary intake, increased intake of high-fat and high-sugar foods, reduced physical activity, weight gain, and reduced quality of life [19].

Treatment Strategies Sleep habits and the presence of sleep disturbances should be routinely assessed by medical professionals during clinic visits since metabolic abnormalities (e.g., obesity, insulin resistance, and hyperglycemia) are associated with inadequate sleep. Indeed, intervening with hormone therapy may improve sleep quality and, therefore, increase the likelihood that women become less symptomatic and can continue with their daily lives with fewer disturbances. While women report improved sleep quality when they receive hormonal and nonhormonal treatment for VMS, cognitive behavior therapy for insomnia is also a potentially safe and efficacious treatment strategy [20]. Specific dietary recommendations to curb sleep disturbances somewhat mirror those recommendations to curb VMS, including avoidance of alcohol and caffeine. Following a Mediterranean diet, as described in greater detail by Bray and Champagne in Chap. 15, may also attenuate age-related declines in sleep duration and quality [21]. Certain foods, such as milk products, fatty fish, tart cherry juice, and kiwifruit, may have sleep-promoting effects as well, but more research is needed [22].

Mood Swings

Life events that induce psychological stress are also more common among menopausal women. These life events include children leaving the home, as well as caring for aging or sick parents or relatives. While many women may not have overt clinical depression, many adverse psychological symptoms arise (e.g., decreased mood, self-worth, sense of well-being) and present with increased anxiety with menopause progression [3]. These symptoms should be treated, as these types of mood disorders can lead to poor dietary habits, including increased intake of fats, sugars, and salty foods. Furthermore, menopause and related mental health challenges are often socially stigmatized, which results in fewer women discussing their physical and mental health concerns with their doctors. Menopause begins for many women while still in the workforce, yet the majority of women are not comfortable with admitting to mental health issues that arise from menopause with employers or colleagues. Fighting this mental health stigma means more midlife women will be comfortable with asking for help regarding their symptoms.

Treatment Strategies Medical professionals should routinely screen during midlife for psychological symptoms and treat these problems when indicated. Education is critical to help women cope with the challenges of menopause. Pairing education with psychotherapy or non-pharmacologic remedies can even further reduce menopause-related stress, such as counseling and stress-reducing techniques (e.g., meditation, yoga). While antidepressants are commonly used as a more aggressive method of

treating mood disorders, an unwanted side effect of taking some antidepressants is weight gain (see Chap. 9 on obesity). Stress and emotional eating also contribute to and are a result of depressive symptoms during menopause. Eating a calorie-controlled diet rich in fruits, vegetables, and omega-3 polyunsaturated fatty acids is recommended to improve mood. Adequate intake of omega-3 polyunsaturated fatty acids, vitamin B12, iron, calcium, and folate may contribute to improved cognition and mood as well.

Social Isolation and Loneliness

Social transitions may occur independently and concurrently with menopause and may be initiated when children leave home, with changes in partnerships (e.g., divorce, separation, sexual intimacy), retirement, and with aging and death of loved ones. Such changes may disrupt previous routines and social interactions and may result in food insecurity, decreased motivation to prepare and consume meals, loss of appetite, and decreased physical activity.

Treatment Strategies To combat social isolation and feelings of loneliness, government-subsidized medical and social services have been established to support optimal nutrition in older adults. In the United States, the Older Americans Act Nutrition Programs provides financial support for in-home and community-based programs that provide meals, as well as nutrition screening, assessment, education, and counseling for those who find themselves more alone. Clinicians can screen for food insecurity using screening tools such as the Hunger Vital Sign [23], become familiar with local resources, and refer patients to social work and services as needed.

Bone Health

Menopause is the major risk factor for bone loss and osteoporosis and is thought to be responsible for an average annual bone loss of 2 to 3% during the first few years and 0.5 to 1% thereafter (see Chap. 11 on bone health). While osteoporosis is thought to affect one out of three postmenopausal women, many postmenopausal women do not receive standard osteoporosis screening. Osteoporosis is diagnosed by measuring BMD with dual-energy X-ray absorptiometry (DXA) of the spine, hip, and/or forearm (i.e., a T score of −2.5 or lower indicates osteoporosis) or by the presence of a low-trauma or fragility fracture. Since osteoporosis increases risk of subsequent pathologic fractures, which leads to future morbidity, mortality, and poor quality of life, adequate screening and treatment for osteoporosis is incredibly important among postmenopausal women – especially if weight loss treatments are undertaken.

Treatment Strategies Current screening recommendations for osteoporosis include screening BMD for all women ages >65 years, as well as younger women with risk factors [24]. Specific micronutrients that are important for bone health should be considered during menopause to attenuate age-related BMD loss. The consumption of oral calcium supplements is associated with attenuation of BMD loss, but the reduction in fracture incidence with calcium supplementation is inconclusive. In addition, bone demineralization and remineralization are orchestrated events dependent of the balance of several micronutrients including (but not limited to) calcium, vitamin D, vitamin K, magnesium, and phosphorus. While calcium and vitamin D supplementation is supported by the National Osteoporosis Foundation and the American Society for Preventive Cardiology to address dietary gaps in intake, women are also encouraged to consume a variety of calcium-rich foods (e.g., milk, cheese, yogurt, green vegetables such as kale and broccoli, and calcium-fortified foods such as soy products, cereals, and fruit juices) throughout the day. These calcium-rich foods are often also high in vitamin D, magnesium, phosphorus, and other nutrients critical to bone health and carry less health risk than single-nutrient supplementation. The recommended dietary allowance for calcium from foods and

supplements for postmenopausal women is 1200 mg/day (consuming no more than 500 mg at one time). Supplementation of any nutrient should be specific to the individual and based on clinical signs and symptoms particularly circulating concentrations of the nutrient when possible. Supplementation in the presence of adequate intake and blood metabolite concentrations, however, can lead to adverse health effects. In addition, given whole foods may have more bioavailable nutrients and synergistic effects of multiple compounds not found in dietary supplements, a "food-first" approach is encouraged.

While the benefits of weight loss on cardiometabolic health often outweigh the risks among middle-aged adults with overweight and obesity, its benefits may be countered by the accelerated loss of bone strength and BMD [7, 25] even if muscle mass is preserved [25]. Thus, medical professionals should track BMD regularly if a postmenopausal woman decides to undertake a weight loss program. Medical professionals should also prescribe resistance training exercises (versus endurance only) alongside any diet program to limit reductions in BMD and bone strength [7, 16].

Gastrointestinal Health

Changes in estrogen and progesterone levels throughout menopause may be responsible for slower gut motility and constipation in women in midlife. In addition to lower gut motility, atrophic gastritis is common with aging and leads to loss of gastric glandular cell function. Loss in function can result in decreased stomach acid production, which can decrease the digestion and absorption of nutrients including calcium. Indeed, atrophic gastritis is associated with osteoporosis in postmenopausal women.

Treatment Strategies The American Cancer Society recommends women have colonoscopy screening every 10 years beginning at age 50 years. Furthermore, gradually increasing fiber and fluid intake or consuming prune or plum juice may help alleviate constipation. If dietary modifications are not enough, magnesium-containing supplements and medications such as milk of magnesia may be considered. In cases where stomach acid production is reduced, calcium supplementation in the form of calcium citrate may be recommended as it is less dependent on stomach acid for absorption than calcium carbonate. In addition, atrophic gastritis causes a decrease in the production of intrinsic factor, which aids in the absorption of vitamin B12. Vitamin B12 injections may be prescribed to prevent or treat vitamin B12 deficiency.

Clinical Care Suggestions Throughout Menopause and Beyond

A woman can spend 40% or more of her life in a postmenopausal state; therefore, it is crucial to identify and manage gaps in nutrition, changes in body weight, menopause symptoms, and other comorbid conditions. Management of postmenopausal women is complicated by high interpatient variability and, thus, consideration needs to be given for each individual person. The lack of prescription-based weight loss advice and difficultly understanding how all these cardiometabolic risk factors and symptoms interact cause much frustration among midlife women and leave many medical professionals defenseless. Furthermore, many women do not consult an OB-GYN or their primary care physician about menopause-related concerns, and, therefore, these concerns often go unaddressed. Indeed, one of the biggest problems with treating menopause-related health outcomes is navigating its social stigmatization and the discomfort that women have talking about their physical and psychosocial challenges. As a result, medical professionals should frequently screen for common menopause-related problems – even if not brought up by the patient – and refer the patient to the appropriate healthcare professional and resources if indicated.

As noted above, the treatment guidelines for adults with overweight and obesity recommend an intensive lifestyle intervention that includes ≥14 in-person counseling sessions over the course of 6 months as the first-line treatment. It is unrealistic that the OB-GYN has the nutritional and behavioral expertise and time to deliver such an intervention on her/his own. Instead, nutrition and weight management concerns are best handled through the ongoing, coordinated care of multidisciplinary teams that include physicians, registered dietitians, and behavioral and social support professionals. Nutrition care plans and treatment are often reimbursable by the Centers for Medicare and Medicaid Services and other health plans.

COVID-19 Addendum

Since this chapter on *Dietary Considerations for Postmenopausal Women* was completed, the novel coronavirus (designated as SARS-CoV-2 or COVID-19) emerged and quickly resulted in a worldwide pandemic. Beginning in March 2020 in the United States, many state and local governments issued strict shelter-in-place orders to slow the coronavirus transmission [26]. Businesses and places of work were forced to temporarily close, and, thus, the usual structure of daily life for Americans and people around the world was altered. As a result, daily physical activity declined and self-reported snacking and overeating increased [27]. A recent study revealed a 0.27 kg (or 0.60 pounds) increase in weight every 10 days from February through June 2020, translating to approximately 2 pounds of weight gain every month [28]. An online survey of 7700 adults averaging 51 years of age (80% women) confirmed these findings, but additionally reported that levels of anxiety substantially increased especially among individuals with obesity [29]. These survey findings are important because the age and sex of these adults are similar to that of perimenopausal and postmenopausal women.

As detailed in our chapter, perimenopausal and postmenopausal women already experience a decline in physical and psychosocial health which we hypothesize was (and still is being) exacerbated by the COVID-19 pandemic. Before the pandemic, weight gain was already a concern for perimenopausal and postmenopausal women. Major life events such as death of a loved one, disability after an injury, pregnancy, and now the COVID-19 pandemic are known to cause weight gain. While life events themselves are relatively short-term, the resulting weight gained (on average about 40 pounds) may be retained for years after and potentially contribute to progressive increases in body mass index over the lifetime [30]. Techniques to reduce weight gain (i.e., increase physical activity and reduced food intake) and a shift to focus on losing that gained weight should be employed. Moreover, the anxiety and stress that midlife women frequently experience during menopause also increased during the COVID-19 pandemic [29] which likely increased the prevalence of mood swings, vasomotor symptoms, and sleep disturbances among women. Thus, in addition to weight loss, techniques to curb the added anxiety and stress fueled by the pandemic should also be utilized so that the overall quality of life is not further jeopardized.

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Suggested Further Readings

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