

Obesity and Menopause: Redefining Obesity – New Guidelines

The global obesity pandemic continues to rise, with figures from the World Health Organization showing that in 2022, 43% of adults were overweight, and 16% were living with obesity.^[1]

Whether this increased obesity is a consequence of menopause, age, genetics, or environmental factors has long been debated. Increasing life expectancy means women spend a significant part of their lives in the menopause.^[2]

The relationship between obesity and menopause is complex, influenced by a combination of hormonal fluctuations, lifestyle factors, and changes in metabolism.

The increasing prevalence of obesity imposes significant health challenges, particularly in women undergoing menopause.

This article explores the connection between obesity and menopause, the underlying factors contributing to weight gain, the health risks associated with obesity during this life stage, and strategies to manage weight effectively.^[3]

THE LINK BETWEEN OBESITY AND MENOPAUSE

Hormonal changes during menopause

One of the primary factors contributing to weight gain during menopause is hormonal fluctuations, particularly the decline in estrogen levels. Estrogen is a hormone that plays a critical role in regulating fat distribution in women's bodies. In premenopausal women, estrogen helps to store fat in areas like the hips, thighs, and buttocks. However, during menopause, as estrogen levels decrease, there is a shift in how the body stores fat.^[4]

- **Shift in fat distribution:** Postmenopausal women tend to accumulate fat around the abdomen rather than the hips and thighs. This change in fat distribution – referred to as central or visceral fat – has important implications for health, as abdominal fat is more metabolically active and associated with higher risks of heart disease, type 2 diabetes, and metabolic syndrome
- **Insulin resistance:** Estrogen deficiency can also lead to increased insulin resistance, a condition where the body's cells become less responsive to insulin. Insulin resistance is a precursor to type 2 diabetes and is often associated with increased fat storage, particularly in the abdominal region.

Metabolic slowdown

During menopause, the metabolic rate – the rate at which the body burns calories – tends to slow down. This decrease in metabolic rate can contribute to weight



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gain, even if there are no significant changes in diet or exercise patterns. Several factors contribute to this metabolic slowdown:

- **Loss of muscle mass:** As women age and experience hormonal changes, there is a natural decline in muscle mass, a condition known as sarcopenia. Muscle tissue is more metabolically active than fat tissue, so as muscle mass decreases, so does the body's ability to burn calories efficiently
- **Changes in thyroid function:** Thyroid hormones also influence metabolism. In some women, menopause may be accompanied by changes in thyroid function, leading to hypothyroidism (underactive thyroid). This can further contribute to weight gain and a slower metabolic rate.

Lifestyle factors

In addition to hormonal and metabolic changes, lifestyle factors play a significant role in weight gain during menopause. Many women experience changes in their activity levels, eating habits, and stress levels during the menopause transition.

- **Physical inactivity:** With aging, many women experience a decline in physical activity, either due to fatigue, joint pain, or a general decrease in motivation. Reduced physical activity can lead to weight gain, as the body burns fewer calories
- **Dietary changes:** Hormonal shifts during menopause can also affect appetite and eating patterns. Some women may experience increased cravings for high-calorie foods, particularly those rich in sugar and fat. In addition, some women turn to food for comfort in response to stress or mood swings, which can lead to overeating and weight gain
- **Sleep disruptions:** Sleep disturbances, common during menopause due to hot flashes, night sweats, or insomnia, can also contribute to weight gain. Poor sleep is associated with increased hunger and cravings for high-calorie foods, particularly those high in carbohydrates. It can also alter the balance of hunger-regulating hormones like ghrelin and leptin, leading to overeating.

Psychological and emotional factors

Menopause is often accompanied by mood changes, anxiety, and depression, which can affect eating behaviors. Some women may find themselves eating more to cope with feelings of sadness, irritability, or stress. Emotional eating can contribute significantly to weight gain, especially when combined with the metabolic and hormonal changes described above.

HEALTH RISKS OF OBESITY AFTER MENOPAUSE

Obesity is a serious health concern at any age, but it is particularly problematic for postmenopausal women due to its association with a number of chronic diseases and conditions.^[5] Women who are obese or overweight after menopause face an increased risk for:

Cardiovascular disease

Obesity is a major risk factor for heart disease, and postmenopausal women with excess abdominal fat are at an even higher risk. As estrogen levels decrease, women lose some protective effects estrogen has on the cardiovascular system. The accumulation of visceral fat in the abdominal area produces inflammatory markers and chemicals that can contribute to the development of atherosclerosis (hardening of the arteries), hypertension (high blood pressure), and other cardiovascular conditions.

Metabolic syndrome

Metabolic syndrome is a cluster of conditions that include high blood pressure, high blood sugar, abnormal cholesterol levels, and excess body fat around the waist. These factors increase the risk of heart disease, stroke, and type 2 diabetes. Obesity, especially visceral fat, is a key factor in the development of metabolic syndrome.

Type 2 diabetes

The relationship between obesity and type 2 diabetes is well-documented. Obesity, particularly excess abdominal fat, contributes to insulin resistance, a key factor in the development of type 2 diabetes. Postmenopausal women are particularly vulnerable to developing diabetes due to hormonal changes that affect insulin sensitivity.

Cancer risk

Obesity has been associated with an increased risk of several types of cancer, including breast cancer. It is widely recognized that higher circulating levels of estrogen in postmenopausal women are linked with an increased risk of breast cancer by increasing cell division and DNA damage, as well as promoting cancer cell growth. Postmenopausal obesity is also thought to increase breast cancer risk through other mechanisms, including insulin resistance suppression of sex hormone binding globulin, thus increasing bioavailable E2,

decreased adiponectin, increased leptin, obesity-related mitogens, and chronic inflammation.

Joint problems and osteoarthritis

Excess weight puts additional strain on the joints, particularly weight-bearing joints such as the knees, hips, and lower back. This can accelerate the wear and tear of cartilage and lead to osteoarthritis, a condition that causes pain, stiffness, and reduced mobility.

Sleep apnea

Obesity is a major risk factor for sleep apnea, a condition where the airway becomes blocked during sleep, leading to frequent awakenings and poor-quality sleep. Postmenopausal women are more likely to develop sleep apnea, especially if they are overweight or obese.

Increased mortality risk

Studies have shown that obesity in postmenopausal women is associated with an increased risk of premature death. This is largely due to the increased risk of chronic diseases such as cardiovascular disease, type 2 diabetes, and cancer, all of which are more prevalent in women who are obese.

MANAGING OBESITY DURING MENOPAUSE

Before actual management let us recognize newer development in the field of obesity.

Redefining obesity

- The lancet diabetes and endocrinology commission has recently updated its guidelines for diagnosing and managing obesity, introducing a more comprehensive approach that goes beyond traditional body mass index (BMI) metrics. They recommend considering additional factors such as waist circumference, waist-to-height ratio, and the impact of obesity on organ function and daily activities [Table 1]
- Relying on BMI alone to establish if someone has obesity is problematic as this can inaccurately classify a person as having or not having excess body fat and also lead to under-diagnosis of many whose health is impaired and over-diagnosis of many who are healthy.^[6]

Table 1: Classification of obesity

Preclinical obesity	Clinical obesity
Preclinical obesity: This category includes individuals with excess body fat but without significant health issues from that fat. The focus here is on risk reduction to prevent progression to clinical obesity, involving lifestyle advice and monitoring	Clinical obesity: This is defined as a chronic condition where excess body fat leads to organ dysfunction, symptoms, and health complications like heart disease, diabetes, or mobility issues. Treatment for clinical obesity should aim at improving or regaining organ function through lifestyle changes, medication, or surgery

New classifications: Two new categories have been introduced:

The Lancet Diabetes and Endocrinology Commission. (January 15, 2025). The definition and diagnostic criteria of clinical obesity.

- Beyond BMI: While BMI is used as an initial screening tool, it is not the sole measure for diagnosing obesity. BMI overestimates obesity in people like athletes who have increased muscle mass. Following a BMI screening, further assessments such as clinical evaluations, medical history, and physical examinations are necessary to classify an individual's condition accurately [Figure 1]
- Waist circumference: More than 80 cm in Asian women is a threshold to screen for metabolic syndrome risk
- Waist-to-height ratio: A ratio <0.5 is considered optimal; higher ratios suggest a higher risk of obesity-related health issues.

IDENTIFYING OBESITY

Clinical

- Organ dysfunction: This includes assessing whether excess fat has led to dysfunction in organs such as the heart, liver, or pancreas, kidneys, upper airways, metabolic organs, nervous, urinary and reproductive systems, and the lymph system in the lower limbs. Symptoms or signs might include high blood pressure, breathlessness, fatty liver disease, or type 2 diabetes
- Functional impairment: Evaluating if obesity impacts daily activities, such as mobility, breathing, or sleep quality
- Symptoms: Presence of symptoms such as hip and knee joint pain, reduced mobility, sleep apnea, or excessive fatigue due to obesity and altered reproductive history.

Preclinical

- Excess body fat: Identified through anthropometric measurements but without current health complications
- Risk factors: Consider genetic predisposition, family history, or lifestyle factors that could lead to the development of clinical obesity if not managed.

Comprehensive health assessment

- Medical history: Reviewing past and family medical history for obesity-related conditions
- Physical examination: Checking for physical signs of obesity impact, like acanthosis nigricans
- Hypertriglyceridemia: Glucose levels, liver function, and hormonal assessments to identify metabolic risks
- Dynamic evaluation: The status of an individual can change; hence, ongoing assessment is crucial to adjust from preclinical to clinical obesity or vice versa based on health outcomes or interventions
- These parameters aim to personalize the diagnosis and management of obesity, focusing on health outcomes rather than just weight or BMI numbers, encouraging a more holistic treatment approach.

Tailored interventions

The guidelines emphasize personalized care:

- For those with preclinical obesity, interventions like lifestyle modifications are recommended to prevent progression
- For those with clinical obesity, more intensive treatments might be necessary, aiming at managing or reversing health complications.

Insurance and stigma

The guidelines advocate for health insurance coverage for treatments of clinical obesity without the necessity of another comorbid disease. They also stress the importance of providing care free from stigma or blame, highlighting the need for education to combat weight-based biases.

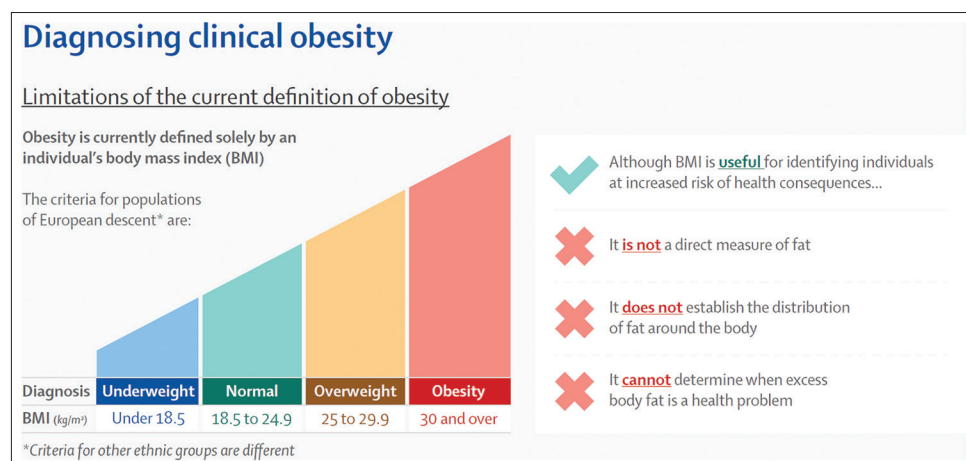


Figure 1: Limitations of current definition of obesity

This overhaul in the approach to obesity aims to improve clinical care, policy-making, and societal attitudes towards this condition, ensuring that treatment is both effective and just.

MANAGING OBESITY DURING MENOPAUSE

While menopause is associated with weight gain, there are effective strategies to manage weight and reduce the risks associated with obesity.^[7] Below are some key recommendations:

Healthy eating habits

- **Balanced diet:** A diet rich in fruits, vegetables, lean proteins, whole grains, and healthy fats can help women manage their weight during menopause. Focus on nutrient-dense foods that provide essential vitamins and minerals without excessive calories^[8]
- **Portion control:** Portion sizes often increase with age and hormonal changes, making it important to monitor food intake. Eating smaller, more frequent meals throughout the day can help prevent overeating
- **Reduce processed foods:** Minimize consumption of highly processed foods that are high in refined sugars, unhealthy fats, and empty calories
- **Manage cravings:** Cravings for high-calorie comfort foods can be managed by finding healthier alternatives, such as swapping sugary snacks for fresh fruit or yogurt.

Exercise

- **Strength training:** Resistance training helps build muscle mass, which is important for increasing metabolic rate and preventing the loss of muscle during menopause. Aim for at least 2 days a week of strength training exercises
- **Cardio exercise:** Aerobic activities such as walking, swimming, or cycling are effective for burning calories and improving cardiovascular health. Aim for at least 150 min of moderate-intensity exercise per week^[9]
- **Flexibility and balance:** Incorporate flexibility and balance exercises, such as yoga or Pilates, to improve joint health and prevent falls.

Sleep and stress management

- **Prioritize sleep:** Address sleep disturbances by creating a calming bedtime routine and making the bedroom environment conducive to rest. Aim for 7–9 h of quality sleep each night^[10]
- **Manage stress:** Practice relaxation techniques such as deep breathing, mindfulness, or meditation to manage stress, which can otherwise contribute to emotional eating and weight gain.

Medical interventions

- **Hormone therapy:** Hormone Therapy may help some women manage menopausal symptoms, including weight gain, by restoring estrogen levels. However, HT is not suitable for everyone and should be discussed with a healthcare provider.^[11]
- **Medication:** For women struggling with obesity, weight-loss medications may be an option. Medications like orlistat or liraglutide can help with weight loss in combination with diet and exercise
- **Consulting a dietitian:** A registered dietitian can provide personalized advice on creating a balanced eating plan and managing portion sizes during menopause.

KEY OBSERVATIONS

- **Obesity and hormones:** Clinical obesity leads to increased peripheral conversion of androgens to estrogens in adipose tissue, affecting hormonal balance^[12]
- **Menopause symptoms:** Obesity exacerbates hot flashes, joint pain, and sleep disturbances due to higher inflammation and metabolic strain
- **Long-term risks:** Postmenopausal women with clinical obesity are more prone to cardiovascular diseases, type 2 diabetes, and certain cancers (e.g., breast, endometrial).

CONCLUSION

Obesity is a growing concern during and after menopause due to the hormonal, metabolic, and lifestyle changes that occur during this time. The shift in fat distribution, slower metabolism, and increased risk of chronic diseases make managing weight especially important for postmenopausal women. By adopting a healthy lifestyle that includes balanced nutrition, regular exercise, stress management, and adequate sleep, women can mitigate the effects of obesity and reduce their risk of developing associated health problems.^[13]

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