Obesity is increasing in incidence globally and is a big concern to many women as they transition to menopause. There has been a rapid epidemiological change in weight gain in South Africa with the prevalence of obesity now up to 30% in women aged 30 to 59. The shift in population from a rural to urban environment has been associated with significant lifestyle changes and increased availability of foods high in fat and carbohydrates. Easy access to fast foods has also resulted in obesity. The effects of obesity are vast and include diabetes mellitus, cardiovascular disease, stroke and hypertension. Obesity is also related to an increase in dementia and malignancies such as endometrial, breast and colon cancer. Overweight women have a higher incidence of osteoarthritis and this adds to their inability to exercise. Women in comparison to men are protected from heart disease prior to the menopause because of the anti-arthrogenic effect of estrogen which changes as women transition to menopause, especially if there are changes in body habitus, fat distribution and weight.

Computed tomography (CT) and magnetic resonance imaging (MRI) have shown that there is an accumulation of intra-abdominal fat in postmenopausal women compared to premenopausal women. This increase in abdominal fat is said to be due to the decrease in estrogen levels, even though the androgens remain steady, resulting in a decrease in resting metabolic rate coupled with decrease in physical activity. In animal models, estrogen has been shown to inhibit food intake. Waist circumference closely corresponds to cardiovascular disease and dyslipidemia. The waist-to-hip ratio, which increases with menopause, is associated with an increase in visceral fat, a good indicator of the metabolic syndrome. Abdominal obesity is defined as a waist-to-hip ratio (WHR) of above 0.85 in females. WHR has been found to be a better predictor of mortality in older people than body mass index BMI or waist circumference alone. The controversy regarding age, menopausal status and lifestyle behaviours which contribute to “the middle age spread” still prevails. This may all be a function of chronological aging itself. A study in Scotland followed premenopausal women over time to their menopause and found that the increase in weight gain did not differ between those that remained premenopausal over the study period and those that became menopausal in that same period of time. Interestingly, rural women in Mauritius were less likely to have abdominal obesity (27%) compared to urban women in the perimenopause. This was thought to arise because of increased physical activity and less calorie containing diet because of socioeconomic status. There is no doubt that the waist circumference in relation to the last menstrual period does increase.

What does seem to be important is the level of physical activity related to weight gain and abdominal circumference. The SWAN study showed that women who decreased their level of activity at midlife were associated with a much higher weight gain over time. What does appear to be evident is that while an increase in activity does contribute to less weight gain, there still appears to be an increase in abdominal girth. Several studies have attributed this to changes in diet in the midlife with an increase in carbohydrate intake.

Several other factors are associated with obesity such as urbanization, poor education, parity, early marriage and family history of obesity. Depression is also associated with an increase in weight gain. Women in the perimenopausal phase are at higher risk of depression and as a result this further contributes to obesity. Second generation antidepressants, which are frequently used in peri- and postmenopausal women, contribute to weight gain. The most commonly used antidepressants that cause an increase in weight are clozapine (Clozaril), imipramine (Tofranil) and amitriptyline (Elavil). These drugs have an effect on the satiety centre and are involved in cholesterol and fatty acid biosynthesis. The SSRIs particularly lead to weight changes of which weight gain is more common than weight loss. Antidepressants, which do not cause weight gain, are ziprasidone (Geodon) and buproprion (Wellbutrin, Zyban). Apart from depression, overweight women suffer from psychosocial issues and the percentage of women with sexual dysfunction in the menopause is significantly higher in menopausal women with a high BMI. The treatment of metabolic syndrome and weight loss improves sexual function in these women.
The age of menopause is largely genetically determined and obesity has a strong genetic link. The Penn Ovarian Aging Study found that a high body mass index is associated with a later menopause. In obese women, enzymes such as aromatase and 7 beta hydroxysteroid dehydrogenase are increased in activity and consequently estradiol levels are elevated. A weight fluctuation of 5kg and an increase of BMI was also associated with a late menopause. Women who consume more alcohol, smoke and eat meat also have a later menopause. Despite the later menopause and the higher estradiol levels, women who are obese at the menopause have more severe symptoms. A reduction in abdominal circumference and weight in obese menopausal patients improves symptoms such as hot flushes, joint pain and sleep disturbances.

In the Global Longitudinal Study on osteoporosis in women, it was found that obese women were twice as likely to fracture ankles and hips than women with a normal BMI and this contradicts previous belief that obese women lose less bone. This is probably due to the fact that obese women are more likely to have other comorbidities such as diabetes, asthma and emphysema and are less likely to do weight bearing exercise.

Most women believe that hormone therapy (HT) increases weight. A Cochrane review, published in 1999, and updated in 2011, showed that unopposed estrogen had no effect on weight gain when compared to women not on hormone therapy. There was insufficient data when the researchers looked at hip to waist ratio and body fat composition. This non effect on weight gain lasted at least 48 months in the WHI review and dose of hormone therapy also did not appear to affect BMI. Patients on high doses of estrogen and or estrogen and progesterone did not appear to differ from those on lower doses. When combined hormone replacement therapy, continuous combined or sequential therapy was studied, there did not appear to be a difference in weight gain when compared to women not on hormone therapy. Hip to waist and body fat composition also remained the same. HT, however, has favorable effects in that it decreases central adiposity. Oral estrogen when compared to transdermal estrogen had a small but significant increase in fat mass but it appears to cause an overall improvement in insulin sensitivity and decreases the development of type 2 diabetes.

Perimenopausal and menopausal women should be encouraged to undertake a moderate physical activity of at least 60 min a day to ensure a normal weight. The elderly are prone to loss in muscle and bone mass. Resistant exercise has been shown to decrease intra-abdominal fat, improve lean mass and decrease the incidence of osteoporosis. An increase in physical activity by one hour a week can result in a 4cm loss in intra abdominal fat. There is no doubt that exercise also decreases hypertension and type 2 diabetes.

A diet low in carbohydrates has been suggested to improve a decrease in central obesity and decreases type 2 diabetes. Ideally, any diet that restricts calories should not result in loss of protein. Weight control is essential in counseling peri-menopausal women and is critical to decreasing menopausal symptoms and improving general health. Contrary to belief, hormone replacement therapy does not add to the increase in weight gain, but may rather decrease accumulation of abdominal fat. Metformin is a useful drug for selected overweight individuals in the menopause and will treat insulin resistance and patients with type 2 diabetes. There is however no substitute for healthy eating and exercise.

References

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