

The Women's Health Research Program

Health Bulletin
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Obesity is associated with a poorer prognosis in women with hormone receptor positive breast cancer

New study published July 2014 in the journal *Maturitas*

It is widely accepted that women who are obese are at increased risk of various cancers, notably breast and uterine cancer. This may in part be because fat tissue produces estrogen and higher production of estrogens may 'fuel' some cancers. But more recently it has been shown that other factors produced by fat may play a role in cancer development, and possibly cancer progression.

Whereas many studies have shown higher rates of breast cancer in obese women, the impact of obesity on breast cancer survival is less clear.

We have looked at this in the Bupa Health and Wellbeing After Breast Cancer Study (the Bupa Study). This study involved 1683 Victorian women with breast cancer, followed from diagnosis for 6 years. Of the 1199 women with hormone receptor positive breast cancer, 44% were of normal body weight (body mass index [BMI] 18.5 to less than 25kg/m², 31% were overweight (BMI 25 to less than 30 kg/

m²) and 21% were obese (BMI 30 to less than 40 kg/m²), reflecting the increasing prevalence of obesity in Australian women.

After taking into account age, stage of cancer at diagnosis and treatment given (chemotherapy, radiotherapy and endocrine therapy) women who were overweight did not have an increased rate of recurrence/death from breast cancer than normal weight women at 6 years from diagnosis. But, being obese at diagnosis was independently associated with a 70% greater risk of recurrence /death from breast cancer, after other factors were taken into account (hazard ratio 1.71, 95% confidence interval 1.12-2.62, p=0.014). For women with early breast cancer at diagnosis (stage I disease), being obese was associated with a 3 fold greater risk of recurrence /death from breast cancer (hazard ratio 3.23, 95% confidence interval, p=0.003).

These findings show that the link between obesity and breast cancer recurrence is not simply due to obese women having greater estrogen production by their fat mass. The impact of being moderately to severely obese persisted in our analysis, even when we

took into account the use of medication to block estrogen production/estrogen action. Therefore our findings support the hypothesis that obesity-associated insulin resistance and /or other factors produced in fat play an important role in the relationship between obesity and a poorer breast cancer prognosis.

What do our findings mean for women with breast cancer?

Many women chose to make lifestyle changes after being diagnosed with breast cancer. Obesity is something women can change, and women with breast cancer are receptive to life style changes that will enhance their survival. Our study findings indicate that weight reduction for obese women should be part of their overall breast cancer treatment plan, not just to enhance quality of life, but to improve their prognosis.

Robinson PJ, Bell RJ, Davis SR
Obesity is associated with a poorer prognosis in women with hormone receptor positive breast cancer *Maturitas*. 2014 Jul 18. pii: S0378-5122(14)00232-1. doi: 10.1016/j.maturitas.2014.07.004.



I am not having hot flashes but I can't sleep, is this menopause?

It is understandable that women who have hot flashes during the night have poor quality sleep. But a common complaint of women is poor sleep and fatigue even when they are not flushing or waking up hot. A recent study of 1088 Chinese women, of whom 1/3rd were postmenopausal, has investigated the role of menopause in sleep¹. The women were not experiencing hot flashes. The Pittsburgh Sleep Quality Index was used to assess sleep quality.

The investigators found that postmenopausal women had significantly higher overall Pittsburgh Sleep Quality Index scores (poorer sleep quality) and were more likely to be poor sleepers than premenopausal women. They reported

that menopause and snoring were each associated with an increased risk of poor sleep quality. The effects of menopause and snoring were independent of metabolic and lifestyle factors.

This study adds further evidence that sleep disturbance is a consequence of the menopause transition.

1. Hung, Hao-Chang et al Menopause is associated with self-reported poor sleep quality in women without vasomotor symptoms. *Menopause*, August 2014; 21: 834-9

Get involved in Research

A New Study for Women Taking Tamoxifen to Treat Breast Cancer

Women taking tamoxifen as part of their breast cancer treatment program are invited to participate in this study

Tamoxifen is a highly effective medication used to treat women with hormone sensitive breast cancer- it prevents recurrence and prolongs survival. However it promotes uterine cell growth, and when used for many years, has been associated with an increased rate of uterine cancer.

We have been funded by the NHMRC to conduct a study to assess whether the medication metformin will prevent uterine cancer in women taking tamoxifen.

We are seeking women who are taking tamoxifen therapy, are postmenopausal and under the age of 75 to participate in our study.

Each woman joining the study will have an ultrasound to look at her uterus and ovaries performed by an expert gynaecologist. Any woman found to have an abnormally thickened uterine lining will be investigated further. Women will then be randomised to take metformin or placebo tablets twice a day for 12 months, after which they will again have an ultrasound, and if necessary, a biopsy - at no cost to them.

Women who participate in the study will benefit by having monitoring of their uterine lining while on tamoxifen, which is not part of standard care, and insulin/glucose testing.

Participants will be seen at the Women's Health Research Program at the Alfred Centre (Alfred Hospital) Melbourne, but will stay under the care of their own breast cancer doctors through the study, and continue on their own treatment plan. We have streamlined the study to minimise demands on participants.

If you wish to take part in the study you can contact us by email: med-pecam@monash.edu or phone 03 9903 0833 or 03 9903 0836.

Women's Health Research Program

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