

# Expecting the worst increases side-effects in breast cancer patients on hormone therapies

August 22 2016

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A study of women receiving hormone therapies such as tamoxifen as part of their treatment for breast cancer has found that the number and seriousness of side-effects they experienced were influenced by their expectations.

The study, which is published in the leading cancer journal *Annals of Oncology* today, found that women who had higher expectations of suffering more and worse side-effects before their treatment began did, in fact, experience more after two years of adjuvant hormone therapy. They experienced nearly twice the number of side-effects than did women with positive expectations or who thought the effects would not be too bad.

The researchers say that their findings are important because women may stop taking their adjuvant hormone treatment if they experience too many side-effects and worse health-related quality of life; this, in turn, can affect the success of treatment and survival. However, if expectations can predict the risk of experiencing side-effects, then interventions such as counselling could lower the risk and, therefore, improve adherence to medication.

Professor Yvonne Nestoriuc, of the Department of Psychosomatic Medicine and Psychotherapy at the University Medical Centre, Hamburg, Germany, who led the study, said: "Our results show that expectations constitute a clinically relevant factor that influences the long-term outcome of hormone therapy. Expectations can be modified

so as to decrease the burden of long-term side-effects and optimise adherence to preventive anti-cancer treatments in [breast cancer](#) survivors."

The research was carried out in 111 women who were enrolled in a clinical trial at the Breast Cancer Centre at the University of Marburg, Germany, who had had surgery for hormone receptor positive breast cancer and who were scheduled to start adjuvant hormone therapy with tamoxifen or aromatase inhibitors such as exemestane.

The researchers questioned the patients about their expectations of the effect of taking adjuvant hormone therapy at the start of the trial, and then assessed them at three months (107 women) and at two years (88 women).

At the start of the trial nine patients (8%) said they expected no side-effects from adjuvant hormone treatment; 70 patients (63%) said they expected mild side-effects, and 32 patients (29%) expected moderate to severe side-effects.

After three months, patients who later dropped out of the trial (19) reported significantly more side-effects than those who remained in it (88). At the end of the two years, adherence to medication was associated with side-effects at three months and expectations at the beginning of the trial. Two-year adherence rates were higher in women with low expectations of side-effects before treatment started (87% adherence), than in women with high expectations of side-effects (69%). Higher expectations of side-effects at the start of the study predicted a 1.8 increase in their occurrence after two years and a lower health-related quality of life when compared to women expecting no or mild side-effects. The researchers adjusted their findings to take account of factors that could affect the results, such as sociodemographic and medical factors, including symptoms the women were already

experiencing at the start of the study, and previous menopausal symptoms. After these adjustments, expectations were still shown to be independent and clinically relevant factors.

Side-effects included joint pain (71%), weight gain (53%) and hot flushes (47%). But women also reported symptoms that could not be directly attributable to their medication; these included back pain (31%), breathing problems (28%) and dizziness (26%). "This substantiates the conclusion that psychological mechanisms such as negative expectations about the treatment play a significant role in the side-effects breast cancer patients experience," said Prof Nestoriuc. "Higher negative expectations, formed by patients before the start of their adjuvant therapy, seem to have a pronounced influence on long-term tolerability, especially once they are confirmed by initially high side-effects after three months."

A limitation of the study was that nearly 40% of patients who were eligible to join the trial did not take part. Their decision might have been affected by the fact that they already had negative expectations about adjuvant [hormone therapy](#).

Prof Nestoriuc and her colleagues are currently carrying out a randomised controlled trial to see whether strategies for improving [women's](#) expectations are effective. These include counselling by psychologists or trained medical staff just before the start of treatment as well as during the first couple of months, information on [treatment](#) that highlights its benefits, that also explains about the possible effects of expectations, and that gives [patients](#) strategies for coping with side-effects.

**More information:** "Is it best to expect the worst? Influence of patients' side-effect expectations on endocrine treatment outcome in a two-year prospective clinical cohort study", by Y. Nestoriuc et al. *Annals*

*of Oncology*, [DOI: 10.1093/annonc/mdw266](https://doi.org/10.1093/annonc/mdw266)

Provided by European Society for Medical Oncology

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