

# Women with false-positive mammograms report high anxiety and reduced quality of life

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Doctors are calling for women to receive more information about the pitfalls of breast cancer screening, as well as the benefits, after some women who received false-positive results faced serious anxiety and reduced quality of life for at least a year.

A study published online by BJS, the *British Journal of Surgery*, shows that patients with false-positive results - where the mammogram is abnormal but no cancer is present - had to undergo more diagnostic procedures than women with [breast cancer](#) before they were given the all clear.

Researchers from The Netherlands spoke to 385 women with abnormal mammogram results - 152 were subsequently diagnosed with breast cancer, but the other 233 had false-positive results and did not have cancer.

"Common sense tells us that early detection of breast cancer is good and most screening programmes have been successful in reducing breast cancer deaths" says lead author Dr Lideke van der Steeg from the Department of Surgery, St Elisabeth Hospital, Tilburg, and the Centre of Research and Psychology in Somatic Diseases, Tilburg University.

"However, while some women truly benefit from early detection, others experience harm and unnecessary anxiety. The women who received

false-positives in our study experienced a significant reduction in their quality of life, especially if they were prone to anxiety, and the effects of this lasted at least a year.

"In fact, women who had a tendency to be anxious fared much worse if they received a false-positive - which is estimated to happen in 60 per cent of abnormal [mammograms](#) - than if they were actually diagnosed with breast cancer."

Women with abnormal mammograms attending three hospitals over a five-year period were invited to participate. Their quality of life (QoL) was assessed using the World Health Organization's Quality of Life instrument 100, which assesses QoL in six domains – physical health, psychological health, level of independence, social relationships, environment and spirituality.

Clinical data were obtained from the women's medical records and they were also asked to complete questionnaires providing demographic information such as age, marital status, education and socioeconomic status.

Women in the breast cancer (BC) group were significantly older than the women in the false-positive (FP) group – 60.2 years versus 57.3 years. They also had larger tumours than the FP group – 17.4mm versus 9.9mm.

The key factors influencing QoL scores differed between the two groups:

- Trait anxiety (a tendency to experience anxiety) accounted for up to 55 per cent of the variance in the QoL score in the FP group. It reached this peak at three months, but was similar at months

one and 12 (43 per cent and 40 per cent respectively).

- State anxiety (temporary anxiety due to a specific situation) accounted for up to 46 per cent of the variance in the BC group. It peaked at six months, but was similar in months one and 12 (32 per cent and 34 per cent).
- State anxiety levels did not significantly influence QoL in the FP group and trait anxiety levels did not influence QoL in the BC group.

Significantly more diagnostic procedures, including biopsies, were needed in the FP group to reach a final diagnosis. Only 14 per cent of the BC group required four procedures - the other 86 per cent required three - while 32 per cent of the FP group required more than three. Fifty-five per cent of the FP group returned to the outpatient clinic in the first year, some as many as eight times.

The authors believe that the anxiety and lower QoL experienced by women in the FP group were solely due to the recall after screening and the subsequent diagnostic procedures.

"The decision to participate in a screening programme requires balanced information about the potential benefits and dangers" says Dr van der Steeg.

"Women often overestimate their risk of breast cancer and the material provided by healthcare professionals and government agencies often focus on the positive aspects of screening and are not always objective.

"Women deserve more balanced information to help them to choose whether or not to accept a breast screening invitation. This should not only cover the supposed benefits, but explain the potential side-effects

of a false-positive, such as the increased feelings of anxiety and reduced QoL found by our study."

**More information:** The full paper can be accessed free online at:  
[onlinelibrary.wiley.com/doi/10.1002/bjs.7371/pdf](https://onlinelibrary.wiley.com/doi/10.1002/bjs.7371/pdf)

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