Comment

Communicating the Pros and Cons of Mammography Screening

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I encountered the mammography debate while trying to find statistics about breast-cancer screening for a book about risk. Knowing that millions of women are screened every year, I assumed that mortality data for screened and unscreened women would be readily available. It turned out to be not that simple.

On the website of Cancer Research UK (1), I found their Breast Cancer Factsheet, which presented age-specific data on breast-cancer incidence and mortality. Although it drew attention to the fall in mortality over the years, the fact sheet did not mention an expected reduction in mortality due to screening. My own analysis of the data in the fact sheet found a greater mortality reduction over time in the unscreened age group (40-49) than in the screened age group (50-64). I also found an increase, with respect to the trend, in the incidence of breast cancer in the 50-64 age group that was much larger than the corresponding reduction in the 65-69 age group. This suggested that the screening process detected many cases of cancer that would otherwise never have become clinically significant, and thus increased the overall burden of cancer.

Clearly I needed medical help. Information intended for the general public was not going to provide what I wanted. It was at this point that I read the article in the November issue of EJHP about the European guidelines for mammography screening (2). Again, there were no numbers, only an oblique suggestion that breast screening might reduce mortality from the disease. I was provoked into further investigation.

A more extensive search of the literature turned up an amazing range of claims for the reduction in breast-cancer mortality due to screening, from 6% (3) to 63% (4). Most astonishing of all was a Cochrane review (5), which re-evaluated the results of all randomized trials of breast screening and concluded that "the reliable evidence does not indicate any survival benefit of mass screening for breast cancer". The reviewers also pointed out that estimates of relative mortality should be based on overall mortality (not just breast cancer mortality) because deaths might arise from screening-related interventions such as radiotherapy. The reviewers called for modern trials with all-cause mortality as the primary outcome. However, in the current climate of medical opinion, it is unlikely that funding would be available for such a study, which would need to involve over 2 million women.

In the absence of conclusive evidence, medical opinion is divided and the public is confronted with conflicting advice. In March 2002, the PDQ group of 11 experts who advise the US National Cancer Institute changed their advice to physicians (6) in response to the Cochrane review. However, the NCI did not alter their advice to the public. About the same time, the International Agency for Research on Cancer assembled a working group of 24 experts to review the evidence, who concluded that screening of women in the 50-69 age group reduced mortality by 35% (7). The PDQ group uses a scale on their website to rate the levels of evidence for all their cancer advice: at the top of the scale are good randomized trials, while at the bottom are reports of expert committees!

Effective communication about risk begins with truth. The available evidence about breast screening does not deny a benefit, but neither does it confirm it. The unpalatable truth is that we do not know. In this climate of uncertainty, the question of whether the benefits of screening outweigh the harms is essentially a value judgement (8). Instead of leaving this judgement to agents of the state and members of the healthcare industry, a better option might be to provide clear information about all the risks so that women can decide for themselves. Is that not the aim - informed consent?

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