Confusing risk information may lead breast cancer patients to make poor treatment choices

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A new study from researchers at the University of Michigan Comprehensive Cancer Center found that a tool commonly used by doctors to estimate the risk of a woman's breast cancer returning after surgery is not very effective at explaining risk to patients. As a result, women with breast cancer may not find these tools helpful when deciding whether to have chemotherapy.

The tool itself is very useful to doctors, many of whom print out information from this tool and give it to patients when they are discussing chemotherapy. Nearly all women diagnosed with early stage breast cancer will have surgery, but many will also consider chemotherapy to help prevent the cancer from coming back.

"The main benefit of additional treatments such as chemotherapy after surgery is long-term risk reduction. But chemotherapy does not provide much benefit for some women, and those women can potentially avoid unnecessary side effects by skipping chemotherapy. So understanding how large or small the risk reduction is can help women make the right choice," says lead study author Brian Zikmund-Fisher, Ph.D., research assistant professor of general medicine at the U-M Medical School and a researcher at the VA Ann Arbor Healthcare System.

The currently available risk-assessment tools present risk statistics in a bar graph format that compares four different potential choices:

hormonal therapy alone, chemotherapy alone, both hormonal and chemotherapy, or no treatment at all. The problem, Zikmund-Fisher points out, is that most women are really only choosing between two options: For women whose cancers are sensitive to the hormone estrogen, hormonal treatments provide large benefits with few side effects. The real question is whether chemotherapy is also necessary.

Because the tool shows statistics about all four options, however, the researchers found that it is more difficult for women to find and focus on the number that most matters to their choice: the benefit of adding chemotherapy to hormonal therapy.

In the study, published Dec. 15 in the journal *Cancer*, researchers surveyed 1,619 women, presenting them with a hypothetical breast cancer diagnosis. All women were given identical risk factors for recurrence. The women viewed one of four graphical formats to describe how chemotherapy would reduce the risk of dying from a return of cancer.

When respondents saw the risk information in the bar graph format that current risk-assessment tools use, only 51 percent correctly understood how much their chance of surviving would increase if they took chemotherapy. When women were shown a simpler graph that showed only the two key options, 65 percent were accurate. And, when the simpler graph used a pictograph format that showed a set of 100 small rectangles to represent the possible outcomes, a full 77 percent were able to correctly report the benefit of chemotherapy.

"Even when patients are given the information they need, they have to be able to understand it well enough to make the right choice. We're making patients work too hard. Discussions of risk need to be simple and transparent so doctors can spend as little time as possible explaining the numbers to patients and as much time as possible talking about what

those numbers mean. That's the best way to make sure that each patient can make the right choice for her situation," says Zikmund-Fisher, a member of the Center for Behavioral and Decision Sciences in Medicine at U-M.

The researchers hope that eventually these risk tools will incorporate better ways to show these risks to both doctors and patients. In the meantime, Zikmund-Fisher suggests that patients confused about risk information think of it in terms of frequency, rather than percentages. In other words, if you are told you have an 82 percent chance of surviving 10 years, imagine there are 100 people just like you and that 82 of them are still alive to come back to a 10-year reunion.

"Thinking about those different people and what happens to each of them will help you to realize both possible outcomes and how likely each one is," Zikmund-Fisher says.

Source: University of Michigan Health System

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