Ovarian cancer screening: Gynecologists overestimate the benefits and underestimate the harms

Physicians are ill-informed about the evidence for screening

Berlin, 18 December 2018 – The idea behind evidence-based medicine is that physicians draw on the best scientific evidence to make good treatment decisions. However, previous research has shown that this does not always happen in practice. Physicians may continue to use procedures that have no proven benefits and may even be harmful. Ovarian cancer screening is a case in point, as an online study of more than 400 US gynecologists conducted by the Max Planck Institute for Human Development has shown. The results have been published in *Nature Scientific Reports*.

Two large randomized controlled clinical trials have concluded that ovarian cancer screening does not save any additional lives, but may have substantial harms — for example, healthy women may have their ovaries unnecessarily removed. Currently, no medical organization recommends screening for ovarian cancer. However, an online study of 401 US gynecologists conducted by the Max Planck Institute for Human Development has shown that almost 60% of them nevertheless recommend the screening. What’s more, the majority of the gynecologists misjudge the benefits and harms of screening and are therefore not in a position to provide their patients with sufficient information to make an informed decision.

“Both patients and doctors have misconceptions about the effectiveness of cancer screening. According to a previous study, one reason for these mistaken beliefs may be that many doctors are not sufficiently trained to interpret the statistics used to describe benefits and harms,” says Odette Wegwarth, lead author of the study and researcher in the Center for Adaptive Rationality at the Max Planck Institute for Human Development.

The aim of the new study was to investigate whether gynecologists recommend ovarian cancer screening despite recommendations to the contrary by medical organizations, and whether this practice was related to their knowledge of the benefits and harms of screening. In addition, the researchers examined whether gynecologists revised their estimates of the benefits and harms of screening when the current best evidence was presented in an easily understandable format.

The findings showed that the majority of gynecologists substantially overestimated the benefits and underestimated the harms of screening. Depending on the question, the responses of between 45% and 97% of respondents diverged from current best evidence. The almost 60% of gynecologists who routinely recommended screening were particularly likely to hold incorrect beliefs. When current best evidence was presented in an easy-to-understand fact box, 52% revised their initial estimates; 48% did not.

“Our study shows that recommending screening with no proven benefits is associated with a lack of knowledge of the current best evidence. For physicians who are open to evidence-based medicine, clear and easy-to-understand presentation formats can improve risk communication.
But even this kind of transparent presentation obviously doesn’t reach all physicians. More research is needed to find out why not,” says Odette Wegwarth.

The fact that the study was conducted in a sample of US gynecologists does not mean that the problem is limited to the US healthcare system. “There is a large body of evidence indicating that doctors worldwide have a poor understanding of cancer screening statistics and of the effectiveness of screening. For evidence-based medicine to succeed in practice, we need to provide effective, practical training in how to interpret health statistics during medical education,” says Odette Wegwarth.

Original Publication

Max Planck Institute for Human Development
The Max Planck Institute for Human Development in Berlin was founded in 1963. It is an interdisciplinary research institution dedicated to the study of human development and education. The Institute belongs to the Max Planck Society for the Advancement of Science, one of the leading organizations for basic research in Europe.

Contact:
Max Planck Institute for Human Development
Public Relations Department
Kerstin Skork
Phone: 030–82406–211
E-Mail: skork@mpib-berlin.mpg.de

Artur Krutsch
Phone: 030–82406–284
E-Mail: krutsch@mpib-berlin.mpg.de

Further Information:
www.mpib-berlin.mpg.de/en
www.mpg.de/en