

Disasters can affect cervical cancer screening for years

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Cervical Cancer Screening Bus. Credit: Miki et al.

Cervical cancer screening rates in Japan were significantly affected in the years following the devastating Great East Japan Earthquake of 2011, Tohoku University scientists report in the journal *PLOS ONE*.

"Conflicts and disasters, and the [social isolation](#) that often follows, have a major impact on healthcare and lead to delays in the diagnosis and treatment of cancers," says Tohoku University's Yasuhiro Miki, who

specializes in disaster obstetrics and gynecology.

On March 11, 2011, Miyagi Prefecture in eastern Japan experienced a 9.0 magnitude earthquake, followed by a destructive tsunami that affected its [coastal areas](#). Miki and colleagues at Tohoku University, led by disaster scientist Kiyoshi Ito, examined how the earthquake affected cervical cancer screening rates in Miyagi Prefecture.

Across Japan, approximately 15 women per 100,000 people are affected by cervical cancer. This rate is higher than that in countries such as the US (6.5) and South Korea (8.4), and similar to that in India (14.7) and the Philippines (14.9). Also, less than 1% of girls in Japan have received the human papillomavirus vaccine, which protects against cervical cancer. This means that cervical cancer screening is of particular importance for early detection and diagnosis. Even so, cervical cancer screening rates are lower in Japan (42.3% of women aged 20-69) compared to other countries (80% in the US and the UK, for example).

In the five years after the 2011 disaster, cervical cancer screenings dropped by more than 3% in four areas of Miyagi Prefecture covered by mobile van testing. In the coastal city of Onagawa, for example, cervical cancer screening dropped 7% following the disaster. While rates improved slightly over the years, they were still 6.9% lower in 2016 compared to pre-earthquake levels. Similar trends, though less severe, were found in other areas of the prefecture; with rates significantly lower in coastal areas compared to non-coastal ones.

"Cervical cancer screening is essential for maintaining [good health](#), but in many affected areas, the rates markedly decreased in the year following the earthquake," says Miki. "More problematically, the decline in cervical cancer screening rates did not even recover in some areas five years after the earthquake."

The issue is not specific to Japan. Researchers in the US had previously observed fewer women were diagnosed with cervical [cancer](#) in areas affected by Hurricane Katrina in the five years following 2005, compared to the five years preceding it. Those diagnosed also had more advanced disease, suggesting that the [cervical cancer](#) screening services were not being fully utilized.

"Long term monitoring of women's health is needed after a disaster," Miki says. "Measures need to be taken to restore screening rates in all affected areas."

The team recommends further studies to understand why [screening](#) rates were affected more in some areas compared to others.

More information: Yasuhiro Miki et al. Cervical cancer screening rates before and after the Great East Japan Earthquake in the Miyagi Prefecture, Japan, *PLOS ONE* (2020). [DOI: 10.1371/journal.pone.0229924](#)

Provided by Tohoku University

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