

Stress in cervical cancer patients associated with higher risk of cancer-specific mortality

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Cancer cell during cell division. Credit: National Institutes of Health

Psychological stress was associated with a higher risk of cancer-specific mortality in women diagnosed with cervical cancer.

"Patients receiving a [cancer](#) diagnosis are at increased risk of several [stress](#)-related psychiatric disorders, such as depression, anxiety, and stress-reaction and adjustment disorders," Lu said. "Emerging evidence from both experimental and [epidemiological studies](#) indicates that psychological distress might affect the progression of many cancer types."

In this study, researchers examined the potential influence of stress on the cancer-specific mortality of patients with cervical cancer. They examined records of 4,245 patients diagnosed with cervical cancer in Sweden between Jan. 1, 2002, and Dec. 31, 2011. Using Swedish personal identification numbers, they linked the patients to the Swedish Patient Register, which collects nationwide information on hospital discharge records and specialist visits. Data from this register were used to identify patients who had been clinically diagnosed with any of three psychiatric disorders: stress-reaction and adjustment disorders, depression, and anxiety.

The researchers also identified patients who had experienced a stressful life event, such as the death or severe illness of a family member, divorce, or being between jobs, as these events would further reflect an emotional burden on patients, Lu explained.

The researchers used Sweden's Causes of Death Register to identify women who had cervical cancer or unspecified uterine cancers as the underlying cause of death. During the follow-up period, 1,392 patients died, and cervical cancer was listed as the cause of death for 1,005 of them.

In all, the researchers found that 1,797 patients either had stress-related disorders or had undergone stressful life events. Patients with either a stress-related disorder or a stressful life event were 33 percent more likely to die of the disease than those who had not reported stress. Those

who had stress-related [disorders](#) were 55 percent more likely to die of their cervical cancer, and those who had experienced a stressful life event were 20 percent more likely to die of their disease.

Lu pointed out that the association of stress with higher risk of dying of cervical cancer remained, independent of tumor characteristics, mode of diagnosis, and type of treatment. The associations were also consistent across demographic groups and clinical characteristics.

Lu said there are several possible explanations for the link between [psychological stress](#) and cervical cancer-specific mortality. For one, a woman suffering from a psychological disorder may be less likely to seek treatment and may be diagnosed at a later stage. Biologically, he noted, previous research has shown that chronic stress may reduce cellular immune response, which may affect the progression of infection-related cancers, such as cervical cancer. Moreover, a previous study by Lu and his colleagues further supports the role of psychological stress in cervical cancer development, potentially through oncogenic infection of human papillomavirus.

Fellow author Karin Sundström, MD, Ph.D., a project coordinator in the Department of Laboratory Medicine, Karolinska Institutet, said that in Sweden, psychological support is available for patients at large, university-based clinics, but not in smaller regional facilities. She said many patients do not receive emotional support, partially because of lack of awareness of the toll emotional stress can take.

"Our findings support that oncologists or gynecologists perform active evaluation of psychiatric status on return visits to see how patients with cervical cancer are doing, not only somatically, but also mentally," Sundström said. "If confirmed in other populations and countries, psychological screening and intervention may be considered as an integral component in cervical cancer care."

Lu pointed out that this study suggests an association between stress and [cervical cancer](#) prognosis and should not be interpreted as a causal link.

More information: Donghao Lu et al, Psychological distress is associated with cancer-specific mortality among patients with cervical cancer, *Cancer Research* (2019). [DOI: 10.1158/0008-5472.CAN-19-0116](#)

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