

Teenagers and young adults diagnosed with cancer are at increased risk of suicide

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Teenagers and young adults are at increased risk of suicide after being diagnosed with cancer according to a study published in the leading cancer journal *Annals of Oncology* [1] today.

A study of nearly eight million Swedes aged 15 and over found that among the 12,669 young people diagnosed with [cancer](#) between the age of 15 and 30 there was a 60% [increased risk](#) of [suicide](#) or attempted suicide. The risk was highest during the first year immediately after diagnosis when suicidal behaviour was 1.5-fold (150%) higher among the cancer patients compared with the cancer-free group.

Dr Donghao Lu, a PhD student in the Department of Medical Epidemiology and Biostatistics, Karolinska Institutet (Stockholm, Sweden), said: "We found that there were 22 suicides among the cancer patients versus 14 expected and 136 attempts at suicide versus 80 expected. This equates to an extra 64 instances of suicidal behaviour among the 12,669 young cancer people.

"As far as we are aware, this is the first study to look at suicidal behaviour following a [cancer diagnosis](#) in adolescents and [young adults](#). Given that young people are still developing their coping strategies for stress, they may be more affected than adults when facing major adversity such as a cancer diagnosis. Although the absolute risk of suicidal behaviour is modest among the cancer patients, it emphasises the need to support and carefully monitor these vulnerable [young people](#)."

Dr Lu and colleagues from Sweden, Iceland and the USA used Swedish census, medical and other records to follow 7,860,629 Swedes aged 15 and over between 1987 and 2009. They took account of psychiatric history and they also looked more closely at the difference in suicidal behaviour in women who had been diagnosed with [cervical cancer](#) or a precursor to cervical cancer (the equivalent of cervical intraepithelial neoplasia grade 3, or CIN3).

During an average of 17.4 years of follow-up, there were 105,868 cases of suicidal behaviour among the nearly eight million people. Among the 12,669 cancer patients, more men than women (16 versus 6) killed themselves (completed suicide), whereas more women than men (82 versus 54) made an unsuccessful suicide attempt. Although the incidence of suicide attempts was higher among people both with and without a cancer diagnosis if they had a history of mental problems, a diagnosis of cancer did not seem to make a statistically significant difference to the suicide risk between these two groups. The researchers suggest that this might be due to ongoing treatment for psychiatric problems, such as antidepressants, which might help to prevent suicidal behaviour.

An increased risk of suicidal behaviour was seen after diagnoses for most cancers, except for cancer of the thyroid and testis and melanoma (skin cancer), which may reflect the better prognosis for these cancers in this age group.

However, this reasoning did not hold for cervical cancer. Even though the vast majority of patients diagnosed with this disease between the ages of 20-29 could expect to survive for more than five years, there was a three-fold increased risk of suicidal behaviour, rising to a nearly six-fold increased risk in the first year after diagnosis. Women diagnosed with CIN 3 had a 2.5-fold increased risk of suicidal behaviour compared to women without a diagnosis of CIN 3 and who were cancer-free.

"We don't know why this might be and it needs to be explored further," said Dr Lu. "A potential reason might be related to the effects of treatment, such as menopausal symptoms and lymphoedema, which might contribute to emotional distress. But this does not appear to explain entirely the increased risk of suicidal behaviour in our study since only one of the four observed suicide cases during the first year after diagnosis had gone through surgery." [2]

Another possibility might be that there are certain individual characteristics or health behaviours that are shared in women with suicidal tendencies and CIN 3 or cervical cancer. But the results seem to suggest this does not completely explain the increased risk, as there is a contrasting pattern of increased risk between women diagnosed with cervical cancer or with CIN 3. The peak of suicidal behaviour occurs in the year immediately after a cancer diagnosis and then declines, but the increased risk is constant after a diagnosis of CIN 3.

Dr Lu concluded: "Only a small proportion of patients committed suicide or attempted suicide immediately after being diagnosed with cancer. But suicide behaviours can be seen as manifestations of the extreme emotional stress induced by the cancer diagnosis. We believe that the evident risk of suicidal behaviour is likely to represent just the tip of the iceberg of mental suffering in these young cancer patients. Our findings also have important implications for the relatives and other people involved in the healthcare of the young [cancer patients](#). They emphasise the need for mental care to be included in the clinical care of these patients, particularly those with pre-existing psychiatric conditions, or with poor prognosis. Ideally, this task should be a cooperation with different parties, including the medical professionals, psychological professionals, family members, as well as social workers."

The researchers say their findings cannot necessarily be extrapolated to other countries, although it is likely that similar results might be found,

as studies from the USA, Australia and Japan have reported increased suicide risk in adults diagnosed with cancer. They are currently carrying out further research to identify what factors might play a role in severe stress reactions to a cancer diagnosis, who might be at high risk and what could be done to reduce the risk.

More information: [1] "Suicide and suicide attempt after a cancer diagnosis among young individuals", by D. Lu, K. Fall, P. Sparén, W. Ye, H-O Adam, U. Valdimarsdóttir, F. Fang. *Annals of Oncology*. [DOI: 10.1093/annonc/mdt415](https://doi.org/10.1093/annonc/mdt415)

[2] Lymphoedema is the build up of fluid where the lymph system has been blocked or damaged, for instance by surgery for cancer.

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