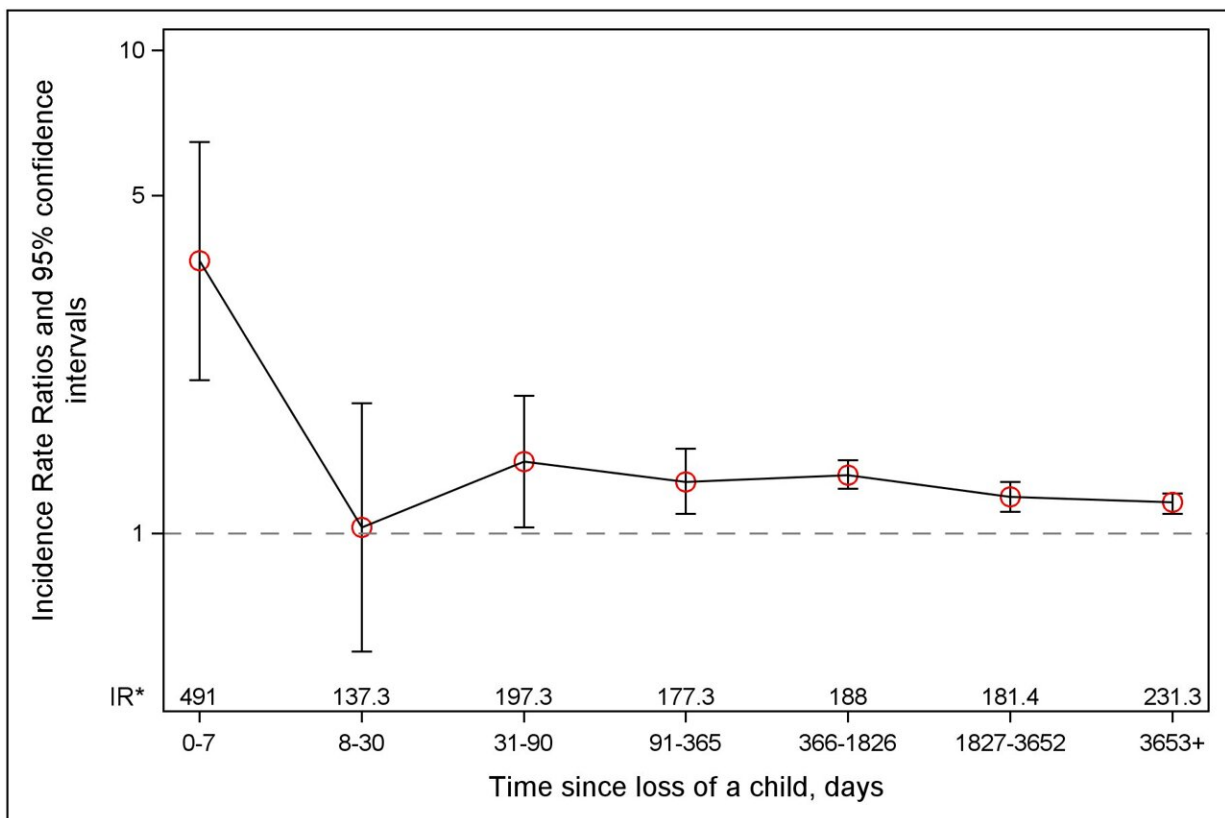


# The death of an offspring is associated with an increased parental risk of ischemic heart diseases

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IRRs and 95% CIs for AMI according to time since the death of a child. \*IR, incidence rate; the incidence rate (per 100,000 person-years) of AMI in the exposed group. AMI, acute myocardial infarction; CI, confidence interval; IRR, incidence rate ratio. Credit: DOI: 10.1371/journal.pmed.1003790

The death of a child is an extremely stressful life event with potential long-term health consequences. The death of an offspring is associated with an increased risk of ischemic heart diseases in parents. This is according to a study at Karolinska Institutet, published in *PLOS Medicine*.

The death of an offspring is one of the most extreme stressors, with potentially long-term health consequences for parents. Knowledge about the association between the loss of an offspring and the [risk](#) of ischemic heart diseases, however, is very limited. A recently published study by Dang Wei and colleagues shows that parents who lost an offspring had increased risks of ischemic heart diseases and acute myocardial infarction. The findings that an association was present also in case of losses of children due to unnatural causes and that the risk of acute myocardial infarction was highest in the first week after the loss may suggest that stress-related mechanisms may also contribute to the observed associations.

The researchers conducted a population-based [cohort study](#) including 6.7 million parents from Denmark and Sweden to investigate the association between death of an offspring and the parents' risk of ischemic heart diseases.

## **What are the most important results of your study?**

"We found that the death of a child was associated with an increased risk of ischemic heart [disease](#) and acute myocardial infarction. The associations were present not only if the child died of cardiovascular diseases or other [natural causes](#), but also in case of unnatural deaths. The risk of [acute myocardial infarction](#) among bereaved parents was more than three times higher in the week after the loss and approximately 20% higher on the long term compared to that among the non-bereaved parents," says Krisztina László, last author of the study.

## How did you perform the study?

"We conducted a population-based cohort study including 6.7 million parents of children recorded in the Danish Medical Birth Register during 1973–2016 and in the Swedish Medical Birth Register during 1973–2014. Individual level information on cohort members' socioeconomic, demographic, and health-related factors, including the outcomes, was retrieved through linkage between several nationwide registers," says Dang Wei, Ph.D. student.

## What are the next steps in the research?

"We are currently studying the association between [death](#) of an offspring and the risk of other cardiovascular diseases in the [parents](#). It would also be interesting and important to know more about the underlying mechanisms for the associations between bereavement and cardiovascular diseases" says Dang and Krisztina.

**More information:** Dang Wei et al, Death of an offspring and parental risk of ischemic heart diseases: A population-based cohort study, *PLOS Medicine* (2021). [DOI: 10.1371/journal.pmed.1003790](https://doi.org/10.1371/journal.pmed.1003790)

Provided by Karolinska Institutet

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