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Birth Outcomes after Prenatal Exposure to Maternal Stress due to Sudden Loss of Close Relatives: A Nationwide Population-Based Study in the Netherlands

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Sudden bereavement has a pronounced effect on the mental health of those left behind, yet less is known about intergenerational health effects if such a shock occurs during a pregnancy. We account for socioeconomic differences that influence both exposure to maternal loss and offspring birth outcomes, providing novel causal evidence on the effects of maternal loss during pregnancy. We employ data on all registered births (2001-2024) from the Dutch Perinatal Registry to obtain pregnancy trajectories and perinatal outcomes (pre-term birth and small-for-gestational age). We link this to data from Statistics Netherlands, including family and cause of death registers. With this linkage, we identify pregnancies that take place around the sudden loss of a mothers' family member. We exploit differences in the timing of maternal losses and compare perinatal outcomes of offspring exposed to a sudden maternal loss in utero (treatment group) and of their counterparts exposed shortly after birth (control group) to shed light on long-term mental health effects of exposure in utero. We are unable to present any results just yet, but will be able to do so at the time of the conference. However, because of various biological pathways that may transfer maternal stress to the fetus, we expect that the group exposed in utero will have worse perinatal outcomes than the group exposed shortly after birth. One of these pathways that causes this hypothesis is the through extensive exposure of cortisol, which may inhibit fetal growth and may active childbirth processes earlier than usual.

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