Severe bereavement stress during the prenatal and childhood periods and risk of psychosis in later life: population based cohort study

K M Abel,[1] H P Heuvelman,[1 2] L Jörgensen,[3] C Magnusson,[3] S Wicks,[3] E Susser,[4] J Hallkvist,[3 5] C Dalman[3]

[1]Centre for Women's Mental Health, Manchester Academic Health Sciences Centre, Institute of Brain Behaviour and Mental Health, University of Manchester,, Manchester, UK
[2]The Cathie Marsh Centre for Census and Survey Research, University of Manchester, Manchester, UK
[3]Division of Public Health Epidemiology, Department of Public Health Sciences, Karolinska Institutet, Stockholm, Sweden
[4]Imprints Center for Genetic and Environmental Life Course Studies, Mailman School of Public Health and New York State Psychiatric Institute, Columbia University, NY City, NY, USA
[5]Department of Public Health and Caring Sciences, Uppsala University, Uppsala, Sweden
Correspondence to: K M Abel
kathryn.abel@manchester.ac.uk

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- Research: Course of bereavement over 8-10 years in first degree relatives and spouses of people who committed suicide: longitudinal community based cohort study (*BMJ* 2013;347:f5519)
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- Research: Early interventions to prevent psychosis: systematic review and meta-analysis (*BMJ* 2013;346:f185)
- Editorial: Can we identify and treat "schizophrenia light" to prevent true psychotic illness? (*BMJ* 2013;346:f304)

STUDY QUESTION

What are the risks to offspring of subsequent psychosis associated with severe prenatal and postnatal maternal bereavement stress between conception and adolescence, and with different causes of death?

SUMMARY ANSWER

Postnatal, but not prenatal, severe bereavement stress was associated with an increased risk of later psychosis in offspring. Risks were especially high for affective psychosis after suicide in a nuclear family member, an effect which was not explained by family psychiatric history.

WHAT IS KNOWN AND WHAT THIS PAPER ADDS

The largest previous study showed no effect of prenatal maternal bereavement stress on a range of psychopathological outcomes, but it did not distinguish between loss of a close compared with more distant relative or between causes of death. We found that the risk of psychosis increased significantly if a close family member died suddenly during an offspring's childhood, particularly if a parent committed suicide before the child was 3; this finding was not explained by a family history of mental illness or suicide.

Participants and setting

All children born alive in Sweden between 1 October 1973 and 31 December 1985.

Design, size, and duration

In a cohort of 1 045 336, offspring exposed to severe maternal bereavement stress six months before conception or during pregnancy, or to loss of a close family member subsequently from birth to 13 years of age were followed until 2006.

Main results and the role of chance

Maternal bereavement stress occurring preconception or during the prenatal period was not associated with a significant excess risk of psychosis in offspring (adjusted odds ratio, preconception 1.24, 95% confidence interval 0.96 to 1.62; first trimester 0.95, 0.58 to1.56; second trimester 0.79, 0.46 to 1.33; third trimester 1.14, 0.78 to 1.66). Risks increased modestly after exposure to the loss of a close family member from birth to adolescence for all psychoses (adjusted odds ratio 1.17, 1.04 to 1.32). The pattern of risk was generally similar for non-affective and affective psychosis. Thus, estimates were higher after death in the nuclear compared with death in the extended family, but remained non-significant for prenatal exposure; and higher the earlier the exposure to death in the nuclear family occurred in childhood (all psychoses: adjusted odds ratio, birth to 2.9 years 1.84, 1.41 to 2.41; 3-6.9 years 1.47, 1.16 to 1.85; 7-12.9 years 1.32, 1.10 to 1.58) and after suicide. Following suicide, risks were especially higher for affective psychosis (birth to 2.9 years 3.33, 2.00 to 5.56; 6.9 years 1.84, 1.04 to 3.25; 7-12.9 years 2.68, 1.84 to 3.92).

Crude and adjusted odds ratios for risk of all psychoses after exposures to bereavement stress during prenatal and postnatal periods (n=946 994)

Exposure status	No of cases	Adjusted odds ratio* (95% CI)
Unexposed	2710	—
Any time	1725	1.16 (1.09 to 1.23)
Any prenatal	115	1.10 (0.91 to 1.32)
Any postnatal	1610	1.16 (1.09 to 1.24)
Preconception	58	1.24 (0.96 to 1.62)
First trimester	16	0.95 (0.58 to 1.56)
Second trimester	14	0.79 (0.46 to 1.33)
Third trimester	27	1.14 (0.78 to 1.66)
Birth-2.9 years	312	1.17 (1.04 to 1.32)
3-6.9 years	491	1.21 (1.09 to 1.33)
7-12.9 years	807	1.13 (1.04 to 1.23)

Total exposed n=321 249; total unexposed n=625 745.
*Generated by logistic regression, adjusted for sex, year of birth, country of birth, presence or absence of siblings, any family psychiatric history, urban birth, highest education of parents, receipt of welfare, and maternal and paternal age.

Bias, confounding, and other reasons for caution

Adjustment for key confounders attenuated but did not explain risk associations. We did not have enough cases to calculate risks separately by trimester after the death of nuclear family members.

Generalisability to other populations

Findings may not generalise to other prenatal and maternal environmental exposures, such as nutritional deficiencies.

Study funding/potential competing interests

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