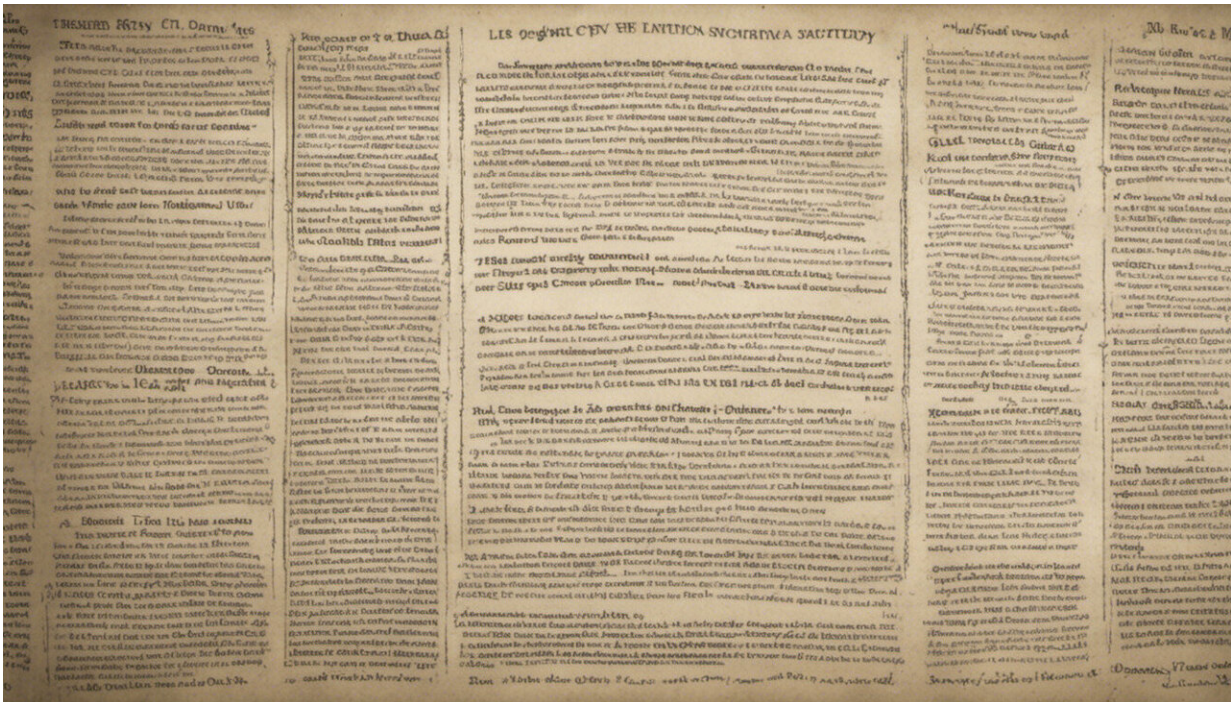


# History of stress increases miscarriage risk, says new review

August 17 2017, by George Wigmore



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A history of exposure to psychological stress can increase the risk of miscarriage by upto 42 per cent, according to a new review.

The study, which is authored by researchers from City, University of London, UCL (University College London) and Zhejiang University, P.

R. China, provides the most robust evidence to date of the harmful nature of [stress](#) to women in [early pregnancy](#). The review is published in *Scientific Reports*.

Miscarriage, or spontaneous [pregnancy loss](#), is the most common complication of [pregnancy](#); it occurs before 24 weeks of gestation in around 20 per cent of pregnancies and in 12–15 per cent of clinically recognised pregnancies.

However, many cases of miscarriage are unreported, especially those involving early fetal loss, so the incidence may be even higher. Miscarriage is also often associated with high levels of distress for women, their partners and families. However, the evidence relating stress to spontaneous miscarriage in the literature is conflicting.

To investigate further whether there was an association between psychological stress and miscarriage, the authors carried out a systematic review and meta-analysis. A literature search was conducted to identify studies reporting miscarriage in women with and without history of exposure to psychological stress and 8 studies were found suitable for analysis. A meta-analysis was performed using a random-effects model with effect sizes weighted by the sampling variance.

The researchers found that the risk of miscarriage was significantly higher in women with a history of exposure to psychological stress. This includes previous psychological challenges such as experience of emotional trauma, social problems, concerns about money, marital/partnership disharmony, work pressure and significant change in personal circumstances as well as prior pregnancy loss. These findings remained after controlling for study type and stress exposure types, along with other factors.

The authors suggest that the association between psychological stress and

miscarriage could result from the activation and release of several stress hormones which can impact on some of the biochemical pathways which are essential for the maintenance of pregnancy.

Speaking about the study, Dr Brenda Todd, a Senior Lecturer in the Department of Psychology at City, University of London and one of the authors of the study, said:

"While chromosomal abnormalities underlie many cases of early pregnancy loss, the results of this meta-analysis support the belief that a high level of psychological stress before and during pregnancy is also associated with miscarriage, the present results show that these [psychological factors](#) could increase the risk by approximately 42 per cent.

"Our finding provides robust evidence that prior [psychological stress](#) is harmful to women in early pregnancy and that there is a need for further high-quality research into an association between the experience of stress across a variety of contexts and [miscarriage](#) risk to fully understand the relationship.

"Our review also highlights the need to include a structured psychological assessment in early pregnancy into routine antenatal care, and our work has demonstrated the potential basis for novel and effective interventions in this field, as we urgently need to identify and treat psychological factors which contribute to adverse pregnancy outcomes."

**More information:** Gernot Wolf et al. On the role of H3.3 in retroviral silencing, *Nature* (2017). [DOI: 10.1038/nature23277](https://doi.org/10.1038/nature23277)

Provided by City University London

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