

Public release date: 3-Dec-2006

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Underweight women at greater risk of miscarriage

Women who have a low body mass index before they become pregnant are 72% more likely to suffer a miscarriage in the first three months of pregnancy, but can reduce their risk significantly by taking supplements and eating fresh fruit and vegetables, according to study findings published online today.

These are some of the findings of a new study, which appears today in the online edition of *BJOG: An International Journal of Obstetrics and Gynaecology*. The study, from a team based at the London School of Hygiene & Tropical Medicine, aimed to examine the association between biological, behavioural and lifestyle risk factors and the risk of miscarriage, which affects an estimated quarter of a million women in the UK every year¹.

While there are a number of well-established risk factors, such as increased maternal age, a previous history of miscarriage, and infertility, the causes of the majority of miscarriages are not fully understood. Many supposed risk factors, for example alcohol consumption, smoking and caffeine intake, remain controversial or unconfirmed.

The researchers questioned 603 women aged 18-55 in the UK whose most recent pregnancy had ended in first trimester miscarriage (less than 13 weeks gestation) and 6,116 women whose most recent pregnancy had progressed beyond 12 weeks. The women were asked about socio-demographic, behavioural and other factors in their most recent pregnancy. The findings confirmed the findings of previous studies into possible risk factors, for example in relation to increased maternal age and alcohol consumption, but they also revealed a number of interesting new associations.

They found that underweight women were 72% more likely to miscarry in the first trimester. However, women who took vitamin supplements during early pregnancy reduced their risk by around 50%, with the effect being most pronounced among those taking folic acid or iron and multivitamins, which contain these. Eating fresh fruit and vegetables daily or on most days was

also found to halve the odds of miscarriage and, in a finding that will delight pregnant women everywhere, the consumption of chocolate was also found to be associated with lower risk.

There were a number of other interesting new findings. If a woman was not married or living with a partner, her risk of miscarriage was higher. If she had changed partner (for example, after having been pregnant before by a previous partner), her odds increased by 60%. If she had had a previous termination, the odds of subsequent miscarriage appeared to rise by more than 60%, while fertility problems were associated with 41% increased odds. All types of assisted reproduction were associated with increased odds, but the ratios were highest among pregnancies resulting from intrauterine insemination or artificial insemination.

Women who described their pregnancy as 'planned' had 40% reduced odds of miscarriage. But within this group, those who took more than a year to conceive were twice as likely to miscarry as those who had conceived within three months.

The authors found confirmation for the widely-held belief that morning sickness is an indicator that the pregnancy is progressing well. Women who suffered from nausea and sickness in the first twelve weeks of pregnancy were almost 70% less likely to miscarry, and the more severe the sickness, the better the odds of the pregnancy continuing.

Noreen Maconochie, Senior Lecturer in Epidemiology and Medical Statistics at the London School of Hygiene & Tropical Medicine, and lead author of the study, comments: 'An estimated one in five pregnancies in the UK will end in miscarriage². It can be a very distressing experience for women, and any advice on how they can improve their chances of achieving a full-term pregnancy is likely to be welcome.

'Our study confirms the findings of previous studies which suggest that following a healthy diet, reducing stress and looking after your emotional wellbeing may all play a role in helping women in early pregnancy, or planning a pregnancy, to reduce their risk of miscarriage. The findings related to low pre-pregnancy weight, previous termination, stress and change of partner are noteworthy, and we suggest further work be initiated to confirm these findings in other study populations'.

The Miscarriage Association, which sponsored this study, commented: 'We speak to thousands of women who are desperate to find out why they miscarried and what they can do to prevent it happening again; that's why we commissioned this research. While we still don't have all the answers, these findings are going to help women who want to reduce their risk of losing a baby in pregnancy'.

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For further information, or to contact the authors, please contact the London School of Hygiene & Tropical Medicine Press Office on 020 7927 2073/2802. Contact the Miscarriage Association at 01924 200795.

Risk factors for first trimester miscarriage – results from a UK-population-based case-control study. 2007 N Maconochie, P Doyle, S Prior, R Simmons. Department of Epidemiology and Population Health, London School of Hygiene & Tropical Medicine, London, UK, BJOG.

This project was funded by the National Lottery Charity Fund (through The Miscarriage Association) and the Miscarriage Association.

1, 2 Miscarriage Association
