Introduction
Obesity is a big problem getting bigger. The prevalence of obesity now exceeds the critical threshold of 15%, as defined by the World Health Organization (WHO), to be described as an epidemic. This cuts across age and gender and could be heavily linked with the British diet. The obesity epidemic in the UK is well documented. The answer is clearly in the problem with the food industry and the quantities of food being consumed. 2

The problem now is that the obesity epidemic is continuing to spread. In a recent study of 5000 women in the north Thames Region, Sebire et al found that gestational diabetes, pre-eclampsia, induction of labour, emergency Caesarean section, postpartum haemorrhage, postpartum infection, wound infection, birth weight above the 90th centile and intrauterine fetal death are all significantly more likely to occur in the obese parturient than her normal-weight counterpart. 3 Furthermore, it is well known that the incidence of obesity is increasing in pregnancy, with investigations in Scotland and in the USA recently recording increasing BMI in women in early pregnancy over a 10-year period and an up to two-fold increase in the number of obese pregnant women in the same time period. 4,5

The ‘2005 American Committee on Obstetrics and Obstetric Health Education’ study, 6 stated that one-third of pregnant women in the USA are obese and recognised that these women are at increased risk of major pregnancy complications. 7 Furthermore, it is well established that obesity is associated with a smaller size for gestational age infant, increased delivery by emergency Caesarean section, postpartum haemorrhage, postpartum infection, wound infection, birth weight above the 90th centile and intrauterine fetal death are all significantly more likely to occur in the obese parturient than her normal-weight counterpart. 8


In this research article, the same multi-state database was accessed, but from 1999, and information on pregnancy intention, BMI and contraceptive use at the time of conception was analysed. Unintended pregnancy was defined as an ‘unwanted’ or ‘miss-timed’ pregnancy. The BMI data were again self-reported and the method of contraception at the time of conception was determined. The authors recognised that not all unintended pregnancies represent contraceptive failures and not all contraceptive methods are intended. They state that of the 6 million pregnancies in the USA each year, 3 million are unintended. Half of them, however, occur in the 90% of women who use some form of contraception. The other half occur in women who are not using contraception despite an intention not to become pregnant. The women were analysed in two groups: those using and those not using contraception, and within those groups the authors determined which women had unintended pregnancies. Following multivariable logistic regression analysis, the authors found an association between BMI and unintended pregnancy in the group using contraception in overweight and obese women compared to normal-weight women. Obese women who were non-smokers were more likely to have unintended pregnancies than lighter women who did not smoke. The authors hypothesise that as non-smokers were more likely to be using the combined oral contraceptive pill (COC) than smokers, the obese non-smokers were at greater risk of unintended pregnancies because the COC was more likely to fail due to problems with absorption and increased levels of free oestrogen affecting the feedback loop. The mechanism of contraception was, however, not determined. Unfortunately the database only included women with live births and so no data were available about BMI, contraception and pregnancy intention in women who underwent induced abortion.


This group from Minneapolis analysed weight-related issues and ‘high-risk’ sexual behaviours in a group of college students completing a questionnaire. The questionnaire assessed sexual risk-taking behaviour, BMI, body image and unhealthy weight-modifying behaviours such as inducing vomiting, binge eating, use of laxatives, and so on. The response rate was 57% and amongst the respondents, 20% were overweight and 7% obese. Some 42% of female respondents were never or rarely satisfied with their body image and one-third exhibited unhealthy weight control behaviours. There was a positive association, in female students, with high BMI and frequent alcohol intake and intoxication at the time of most recent intercourse. Unhealthy weight-modifying behaviour was significantly associated with casual sex, non-use of condoms and with intoxication. Interestingly, the differences were not demonstrated in the males studied. The authors conclude that whilst their findings might simply represent clustering of risk-taking behaviours previously described in adolescent health literature, it may reflect a situation where young women with increased BMI are engaging in high-risk sexual behaviours in order to feel better about themselves by demonstrating the ability to attract a partner.

Conclusion
Few anti-obesity interventions including drugs, surgery, diet and behavioural therapies have been shown to be effective in the short term for the treatment of obesity. 2 Therefore, obstetricians and gynaecologists need to develop strategies in order to care for women with obesity and related problems in order to maximise health and minimise complications.

Unfortunately, the above studies suggest that obese women may be more likely to engage in these ‘high-risk’ sexual behaviours, are at greater risk of contraceptive failure and are more likely to report contraceptive non-use. Whilst there is a need for education and health promotion to tackle the rise in obesity, there is also clearly need for targeted education about contraception in addition to improved access to contraception for overweight and obese women. Further study of contraceptive use and outcomes of obesity intervention in this group would be of value.

References
2. House of Commons Health Committee. Obesity. London, UK: Stationery Office. The market for obesity-related health care; a report of the informal market; and health economic point of view. As a result, there is an ‘unwanted’ or ‘miss-timed’ pregnancy. The BMI data were again self-reported and the method of contraception at the time of conception was determined. The authors recognised that not all unintended pregnancies represent contraceptive failures and not all contraceptive methods are intended. They state that of the 6 million pregnancies in the USA each year, 3 million are unintended. Half of them, however, occur in the 90% of women who use some form of contraception. The other half occur in women who are not using contraception despite an intention not to become pregnant. The women were analysed in two groups: those using and those not using contraception, and within those groups the authors determined which women had unintended pregnancies. Following multivariable logistic regression analysis, the authors found an association between BMI and unintended pregnancy in the group using contraception in overweight and obese women compared to normal-weight women. Obese women who were non-smokers were more likely to have unintended pregnancies than lighter women who did not smoke. The authors hypothesise that as non-smokers were more likely to be using the combined oral contraceptive pill (COC) than smokers, the obese non-smokers were at greater risk of unintended pregnancies because the COC was more likely to fail due to problems with absorption and increased levels of free oestrogen affecting the feedback loop. The mechanism of contraception was, however, not determined. Unfortunately the database only included women with live births and so no data were available about BMI, contraception and pregnancy intention in women who underwent induced abortion.


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Contraceptive use by diabetic and obese women

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