

BMJ OPEN

Girls born small or underweight twice as likely to be infertile in adulthood

Advances in medicine likely to increase numbers of such births

[Birth characteristics in a clinical sample of women seeking infertility treatment: a case-control study doi 10.1136/bmjopen-2013-004197]

Girls born unexpectedly small or underweight seem to be twice as likely to have fertility problems in adulthood as those of normal size at birth, suggests research published in the online only journal BMJ Open.

Medical advances mean that more underweight and very small babies will survive into adulthood, which might therefore increase the prevalence of fertility problems, say the authors.

But as this is the first research of its kind, further studies will be needed before definitive conclusions can be drawn, they caution.

The researchers base their findings on 1206 women who were born in Sweden from 1973 onwards, and part of a straight couple seeking help for fertility problems at one major centre between 2005 and 2010.

The primary cause of infertility—female, combined, male or unexplained—was gleaned from the patients' medical records, while details of their birth size, age, and weight were gathered from Sweden's national medical birth register.

Infertility was attributed to female causes in 38.5% of the cases; male causes in just under 27%; combined causes in just under 7%; and unexplained in 28%.

Around two thirds of the women were of a healthy weight, while around one in four was overweight. One in 20 was obese while almost 2.5% were under weight.

Women whose infertility was attributable to a female cause tended to be heavier than average; excess weight is a known risk factor for infertility.

Just under 4% of the women had been born prematurely; a similar proportion were underweight at birth; while just under 6% were unexpectedly small babies.

Analysis of the data showed that women with fertility problems attributable to a female factor, were almost 2.5 times as likely to have been underweight at birth as those in whom the cause of infertility was attributable to a male factor or unexplained.

Similarly, these women were almost three times as likely to have been born unexpectedly small as those whose primary cause of infertility was unexplained.

These findings held true even after influential factors, including previous motherhood and current weight, were taken into account.

By way of possible explanation, the authors suggest that growth restriction in the womb might affect the developing reproductive organs as previous research has linked fetal growth restriction with reduced ovulation.

And other research has pointed to the fetal origins of some adult diseases, they add.

They caution that the sample size was relatively small and carried out in one geographical area in one country so may not be applicable elsewhere. Further research would be needed before definitive conclusions could be drawn, they say.

But they say that if the associations between low birthweight or small birth size and infertility are confirmed, this may have implications for the prevalence of infertility problems.

“As medical research and care advances, more infants will be born [with low birthweight or small size] and survive, which in turn might influence future need of infertility treatment,” they conclude.