

The effect of bodyweight on fertility



**AUSTRALIAN
CONCEPT
FERTILITY
CENTRE**

Globally 1.6 billion adults are overweight and at least 300 million of these are clinically obese. Since 1980 there has been a 3-fold increase in obesity rates in Europe, North America, China and Australasia. In Australia 7 million adults are overweight and a third of these are obese. It has also been estimated that 60% of Australian adults are overweight. The figure in the panel on the right shows that a high percentage of men and women in the reproductive age range are overweight as evidenced by increased body mass index (BMI).

A person's body weight can have a profound impact on their fertility. Men and women who are either under or over their ideal weight have a higher risk of experiencing infertility. A BMI of less than or greater than the desired weight can also lead to fertility problems. Being under or over the desired weight for both males and females can disrupt the hormonal balance that is necessary for normal egg and sperm production, leading to a 30% decline in the likelihood of a pregnancy and healthy birth.

The impact of weight on female reproduction

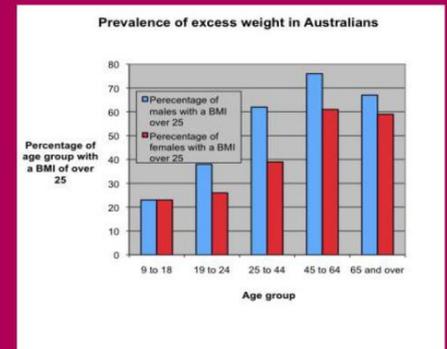
Research from as early as the 1930s demonstrated a link between excess body weight and polycystic ovary syndrome (PCOS). Excess body weight can lead to menstrual cycle irregularity, infertility, an increased risk of miscarriage and difficulty achieving a good response to assisted reproductive procedures. It also appears that excess weight as a teenager has a significant effect on subsequent fertility. This was the conclusion of a number of large research studies from the Netherlands, Japan, the United Kingdom and Australia. Conversely, being underweight can also lead to disruptions in the normal menstrual cycle and subsequent fertility problems.

The effect of weight on success of fertility treatment

Recent research has shown that a lowered or elevated BMI significantly reduces the chance of achieving a pregnancy after in vitro fertilization and embryo transfer (IVF-ET). In this study of nearly 400 couples, 21.8% of the female partners had a BMI below the normal range and 22% were above the normal range. The results suggest that being either underweight or over weight can have a negative effect on IVF outcome leading to a decreased chance of pregnancy from these procedures. It has been estimated that the chance of pregnancy is 30% less in overweight or obese women.

The body mass index (BMI) is the routine measure used to assess whether a person is under or over their ideal weight. BMI is calculated as weight (in kilograms) divided by height (in metres) squared.

| BMI | Description |
|---------|----------------|
| <20 | Underweight |
| 20 - 25 | Desired weight |
| 26 - 30 | Overweight |
| >30 | Obese |



Source: Australian Institute of Health and Welfare, 2000