

Would-be fathers pollution threat

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Men wishing to father a baby should avoid air pollution around the time of conception to ensure best quality sperm, research suggests. A study in Human Reproduction found a significant link between exposure to periods of high air pollution and damaged sperm among men. Although the damage is reversible, the study highlights the importance of staying healthy when trying for a baby.

Fertility experts advise fathers-to-be to exercise and eat healthily.

They should also moderate their alcohol intake and ideally quit smoking.

Mounting evidence suggests that traffic pollution reduces the quality of sperm in men.

The latest study looked at young men from Teplice in the Czech Republic - an area that has considerably higher air pollution during winter because of coal-burning power stations and fossil fuels burned to heat homes.

The sperm quality of the 35 men was monitored throughout the year for two years. During the periods of higher air pollution sperm quality went down significantly. When the air quality improved, so did the quality of the sperm. The study authors said this suggested that the pollution was affecting mature sperm late in their development, damaging the DNA. This, in turn, could make it harder for a couple to conceive and increase the risk of miscarriage, they said. However, the damage appears to be transient and so avoiding such toxins allows new sperm to develop normally.

"If it created permanent damage you would tend to see sperm quality go down over time," they said.

Dr Allan Pacey, senior lecturer in Andrology at the University of Sheffield and Secretary of the British Fertility Society, said: "We are uncovering more and more evidence that sperm DNA can be damaged by a variety of environmental or occupational factors.

"This is the first real evidence that air pollution can damage sperm DNA, but it reassuring that the effect is reversible. Men attempting to conceive with their partner need to be alert to what may be damaging their sperm DNA and minimize their exposure to chemicals at home or in the workplace. But they should remember that it takes about three months to produce a sperm so any change they make will take that time to be effective."

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