

Health: Soya-based foods may harm male fertility, say scientists

- Study links ingredient to lower sperm count
- Chemical mimics female sex hormone

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Men who eat soya-based foods may be harming their fertility, doctors said yesterday, after a study found a link between soya-rich diets and lower sperm counts.

The study showed men who consumed more than two portions of soya-based foods a week had, on average, 41m fewer sperm per millilitre of semen than men who had never eaten soya products.

The apparent fall in sperm count is unlikely to make healthy men infertile, but some experts said it could have a significant impact on those already with lower than average sperm counts. A sperm count of between 80m and 120m per ml is regarded as normal, while men who produce fewer than 20m sperm per ml are regarded as clinically subfertile.

The study, by Jorge Chavarro at Harvard school of public health in Boston, builds on previous research in animals and on human tissues that has suggested certain ingredients in soya could harm sperm production.

Male fertility has been in decline in the west for several decades, with about 20% of young Europeans having a low sperm count, while levels of soya have risen steadily in the western diet since the 1940s because it is a cheap source of protein. Soya-based products are now found in two-thirds of manufactured food including biscuits, sweets, pasta and bread, according to the Institute of Food Research in Norwich.

In the biggest human study into the effects of soya on fertility, Chavarro and colleagues at Massachusetts General hospital recruited 99 men who had visited a fertility clinic between 2000 and 2006. The men were asked to fill out a questionnaire which asked them about the amounts of 15 different soya foods they had eaten over the previous three months. The researchers then put the men into four groups according to the levels of chemicals called isoflavones in their diets. Isoflavones are ingredients in soya products that mimic the female sex hormone, oestrogen. Each man then provided a sperm sample for testing.

Chavarro found that men who consumed at least half a portion of soya food a day had the lowest sperm counts.

"Our findings suggest that the greater the soya food intake is, the lower the sperm concentration, compared with men who never consume soya food," said Chavarro, whose study appears in the journal *Human Reproduction*.

Richard Sharpe, of the Medical Research Council's human reproductive sciences unit, said: "The take-home message could be that if you've got an already low sperm count ... soya foods are probably not a good idea for you, as they could have a real impact on your fertility by further lowering your sperm count."