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The World's No.1 Science & Technology News Service**Coffee makes sperm speed up**

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NewScientist.com news service

Coffee makes sperm go faster, reveals a new study by Brazilian scientists. They suggest caffeine could form the basis of infertility treatment for some men.

Fabio Pasqualotto and colleagues at the University of Sao Paulo tested sperm quality in 750 men who ranged from those who never drink the brew to coffee aficionados.

Sperm motion, sperm concentration and the levels of hormones were all the same for mild, moderate and heavy coffee drinkers. "However, sperm motility was higher in patients who drink coffee compared those who do not," says the team, which presented their work at the American Society for Reproductive Medicine meeting in San Antonio, Texas, US.

But a second study presented at the same meeting on another widely used drug - marijuana - revealed a detrimental effect. Smoking cannabis not only reduces the number of sperm and sperm volume produced by a man, it also causes sperm to speed up temporarily and then "burn-out".

This premature "burn-out" may mean a sperm is not active enough to fertilise an egg when it reaches it.

Heavy drinkers

The Brazilian researchers assessed coffee-drinking and semen quality in men undergoing vasectomies from January 1999 to September 2002. Those who sipped between one and three cups of coffee a day were classed as mild drinkers, those who had between four and six cups as moderate, and those who had over six cups a day were classed as heavy drinkers.

No differences were seen in sperm concentration or the levels of hormones such as testosterone or follicle-stimulating hormone between any of the groups. Neither did the way the sperm moved, for example their linearity, vary between groups. However, sperm motility was significantly higher in coffee drinkers compared with those who abstain.

The team suggests that compounds with active components based on caffeine may be useful for treating some infertile men.

Binding blocker

The study on marijuana fits in with previous work that has shown the illicit substance adversely affects male fertility. The drug contains an active compound called tetrahydrocannabinol (THC), which can act on cannabinoid receptors found on human sperm. The previous work showed that THC can stop sperm binding to eggs.

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The new study, by LJ Burkman and colleagues at the Andrology Lab, SUNY in Buffalo, New York, examined semen samples from 22 men who had smoked dope for an average of 5.1 years.

Semen volume and the number of sperm was significantly lower in the cannabis users compared to men who had never smoked the drug, but "surprisingly, sperm velocity and hyperactivity were abnormally high", say the researchers.

"Hyperactivation" of the sperm is needed to fertilise the egg as it approaches it. "Premature, elevated hyperactivity may lead to early sperm burn-out, reducing fertilising capacity," they say.

Cannabis smoking could also affect the fertility of women by raising levels of THC in their reproductive tract, which could then impact on sperm.

Shaoni Bhattacharya, San Antonio

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