

Marijuana May Impair Male Fertility

Smokers Have Lower Total Sperm Count

Men who smoke marijuana frequently have significantly less seminal fluid, a lower total sperm count and their sperm behave abnormally, all of which may affect fertility adversely, a new study in reproductive physiology at the University at Buffalo has shown.

This study is the first to assess marijuana's effects on specific swimming behavior of sperm from marijuana smokers and to compare the results with sperm from men with confirmed fertility. Marijuana contains the cannabinoid drug THC (tetrahydrocannabinol), which is its primary psychoactive chemical, as well as other cannabinoids.

Marijuana Affects Male Sperm

Results of the study were presented at the annual meeting of the American Society of Reproductive Medicine in San Antonio.

"The bottom line is, the active ingredients in marijuana are doing something to sperm, and the numbers are in the direction toward infertility," said Lani J. Burkman, Ph.D., lead author on the study. Burkman is assistant professor of gynecology/obstetrics and urology and head of the Section on Andrology in the UB School of Medicine and Biomedical Sciences. UB's andrology laboratory also carries out sophisticated diagnosis for infertile couples.

Sperm Swimming Too Fast, Too Early

"We don't know exactly what is happening to change sperm functioning," said Burkman, "but we think it is one of two things: THC may be causing improper timing of sperm function by direct stimulation, or it may be bypassing natural inhibition mechanisms. Whatever the cause, the sperm are swimming too fast too early." This aberrant pattern has been connected to infertility in other studies, she noted.

Further research in the andrology laboratory showed that human sperm exposed to high levels of THC displayed abnormal changes in the sperm enzyme cap, called the acrosome. When researchers tested synthetic anandamide equivalents on human sperm, the normal vigorous swimming patterns were changed and the sperm showed reduced ability to attach to the egg before fertilization. Only about 10 laboratories in the U.S. perform this array of sperm function tests.

Testing for Sperm Count

In the current study, Burkman received seminal fluid from 22 confirmed marijuana smokers and subjected the samples to a variety of tests. The volunteers reported smoking marijuana approximately 14 times a week, and for an average of 5.1 years.

Control numbers were obtained from 59 fertile men who had produced a pregnancy. All men abstained from sexual activity for two days before the lab analysis.

The samples from both groups were tested for volume, sperm-count-per-unit of seminal fluid, total sperm count, percent of sperm that was moving, velocity and sperm shape.

Smokers Had Less Sperm

Results showed that both the volume of seminal fluid and the total number of sperm from marijuana smokers were significantly less than for fertile control men. Significant differences also appeared when HA and velocity, both before and after washing, were assessed, the study found.

"The sperm from marijuana smokers were moving too fast too early," said Burkman. "The timing was all wrong. These sperm will experience burnout before they reach the egg and would not be capable of fertilization."

Risky for Borderline Fertility Men

Burkman noted that many men who smoke marijuana have fathered children. "The men who are most affected likely have naturally occurring borderline fertility potential, and THC from marijuana may push them over the edge into infertility," she said.

As to the question of whether fertility potential returns when smokers stop using marijuana: Burkman said the issue hasn't been studied well enough to provide a definitive answer.

"THC remains stored in fat for a long period, so the process may be quite slow. We can't say that everything will go back to normal. Most men who have borderline fertility are unaware of that fact. It's difficult to know who is at risk. I definitely would advise anyone trying to conceive not to smoke marijuana, and that would include women as well as men."

Source: <http://alcoholism.about.com/cs/pot/a/blub031013.htm>

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Cannabis link to male fertility

Men are today warned that smoking cannabis could affect their fertility. Scientists have uncovered new evidence that the drug upsets the male reproductive system.

They fear it could reduce the amount of testosterone - which plays a key role in sperm production - produced by the body.

It may have a serious impact on the body's natural hormones and they want more research to assess the risk.

The warning comes in a study by scientists at Aberdeen University, who examined the impact of cannabis on male mice.

The animals, whose reproductive systems are similar to those of humans, were injected with cannabinoids - cannabis derivatives - to see if they changed natural messages from the brain to the testes regulating testosterone production.

Because the testes also produce testosterone of their own accord, as well as reacting to brain signals, the research team also looked at whether cannabis affected this function.

The results suggest that the drug has a significant impact on both processes. Dr Paul Fowler - from the university's department of obstetrics and gynaecology - who led the research, said: "Our study suggests that cannabis interferes with the hormones needed for reproduction.

"It appears to affect the way the testes make and release testosterone, and has an impact on the way the brain regulates production of the hormone."

The team found that in mice, cannabis may actually boost the amount of testosterone produced as a result of brain signals, but it reduces the amount produced by the testes. Dr Fowler said: "These two things could add together to have a serious negative impact on testosterone production."

The research, to be unveiled at a major fertility conference in Aberdeen today, reignites the debate about the potential dangers of so-called soft drugs.

Cannabis is the most widely used drug in the United Kingdom after alcohol and cigarettes. Home Office figures suggest that a third of all 15-year-olds have tried it. Experts estimate it is responsible for 30,000 deaths in the UK every year. Last month, it emerged that cannabis users are seven times more likely to suffer from mental illness, triggering fears of an epidemic of schizophrenia.

The United Nations drugs watchdog has warned that the Government's "softly, softly" approach is putting the health of a generation at risk.

Critics say the decision to downgrade it to a Class C drug has sent out the wrong message, encouraging people to think it is safe. Studies show that nine out of 10 children believe it is legal.

Scientists have speculated that falling sperm counts among European men are due to the surge in the use of recreational drugs. Previous studies on mice suggest that women who smoke marijuana during pregnancy risk damaging their baby's reproductive system.

Source: <http://www.dailymail.co.uk/health/article-188394/Cannabis-link-male-fertility.html>