

Study explores link between methamphetamine use and risky sexual behavior

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Recreational use of the illicit drug methamphetamine has long been associated with increases in overall impatient and risky behavior. Now, a new study by Johns Hopkins Medicine researchers affirms that meth use increases not only sexual desire but also, specifically and measurably, the risk of casual sex without a condom for those who have an increase in sexual desire.

The findings of the study, described in the Sept. 28 issue of *Experimental and Clinical Psychopharmacology*, illuminate the complicated relationship between sexual arousal and [decision making](#). The study demonstrated that the more

intense the [sexual arousal](#), the more likely study participants were to rapidly shift their stated preference for using a [condom](#) to more risky snap decisions to have [unprotected sex](#).

"I discourage anyone from using illicit meth, but if someone is going to use it, they need to be aware that one of the many dangers is that they are more likely to make unsafe decisions when it comes to sex," says Matthew W. Johnson, Ph.D., professor of psychiatry and behavioral sciences at the Johns Hopkins University School of Medicine. "Just knowing that, specifically for new users, may help them plan ahead and have a condom at hand just to be prepared."

According to the U.S. Centers for Disease Control and Prevention (CDC), rates of HIV and other sexually transmitted infections (STIs) are extremely high among methamphetamine users. This largely mirrors what is known about the impact of stimulants, including cocaine, on sexual risk behavior.

"This isn't just about the needle sharing factor for the spread of HIV or other infections," says Johnson. "It's more about how people engage in risky behaviors in association with these drugs and sex, which is largely connected with the concept of delay discounting, or the degree to which people take the future into account in their decision making."

For the study, the researchers recruited otherwise healthy recreational meth users from Baltimore and surrounding areas. Participants included 13 men and six women, averaging 27 years of age.

In a clinical and controlled setting, participants were randomly assigned to take capsules containing 0 milligrams (placebo), 20 milligrams or 40 milligrams

of methamphetamine in three separate sessions.

After each dose, participants were presented with hypothetical settings in which they had to select all the people with whom they would consider having sex from among 60 photographs of clothed men (30) and women (30). The photographs represented a diverse sample in terms of race/ethnicity, age, weight, body shape, clothing style and attractiveness. From the selected photographs, participants then chose the person they would most want to have sex with, as well as the person they would least want to have sex with. Participants also selected the person they judged as least likely to have an STI and the person most likely to have an STI.

The results showed that, in the 40 milligram sessions, participants selected on average 9.5 partners with whom they would consider having sex, nine partners in the 20 milligram sessions and 7.4 partners in the placebo session.

Participants were also asked to imagine they weren't in a committed relationship, the photographed person wanted to have sex now and there was no risk of pregnancy if a condom wasn't used.

They were then shown the photographs of their selected partners and asked to rate their likelihood of using a condom in a hypothetical casual sex situation in which a condom was immediately available. The rating scale went from 0 (I will definitely have sex with this person now without a condom) to 100 (I will definitely have sex with this person with a condom). Next, the participants were asked to rate their likelihood of using a condom in the same scenario except that a condom wasn't immediately available. In this scenario, the 100% value in the range represented "I will definitely wait to have sex with this person until a condom is available." Participants ranked seven time delays: one hour, three hours, six hours, one day, one week, one month and three months.

Participants didn't report significantly different likelihoods of using an immediately available condom during the 20 milligram or 40 milligram sessions relative to placebo sessions. However, the

researchers found that having to wait for a condom had a large effect on the likelihood of condom use with the most desirable sexual partners—from 87% when immediately available to 62% when delayed by one day.

Overall, methamphetamine had a large effect on sexual desire. A 20 milligram dose caused a 2.4 times increase in ratings of sexual desire compared to placebo. This increase was 3.5 times higher for the 40 milligram dose.

Study findings also showed that the greater the increase in sexual desire, the less likely it was for the person to want to wait for a condom. For example, when determining the most desirable partner for the 10% of study participants who showed the greatest increase in [sexual desire](#) as a result of getting the higher drug dose, condom use dropped from 80% when on placebo to 55% when on the 40 milligram dose when they had to wait for a day.

Johnson says previous research showed that "decision making with hypothetical scenarios in the lab is aligned to real world behavior involving both risk and delay discounting. So, by using hypothetical situations, we can have some confidence when we say that for some participants, the decision to use a condom was influenced by delay, and that increases in desire were associated with the likelihood of choosing not to use a condom."

More information: Berry, M. S. et al. Methamphetamine administration dose effects on sexual desire, sexual decision making, and delay discounting. *Experimental and Clinical Psychopharmacology*. (2020). Advance online publication. doi.org/10.1037/pha0000398

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