

Mechanisms in the Relationship Between Crystal Methamphetamine Use and STI Diagnosis and HIV/STI Risks in Gay, Bisexual, and Other Men Who Have Sex with Men (gbMSM)

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Background

- ▶ Crystal methamphetamine (CM) use is associated with increased sexual risk for HIV and other sexually transmitted infections (STI) (e.g., Forrest et al. 2010; Hoenigl et al 2016).
- ▶ Beliefs about condoms and about CM use may explain this observation.
- ▶ We tested whether the relationship between CM use and STI/HIV risk was mediated by:
 - ▶ Condom use self-efficacy
 - ▶ Escape expectancies
(expectancies that substance use allows one to “escape” from anxiety related to sex)

Methods:

- ▶ We recruited 2449 GBM, ≥ 16 years, in Montreal, Toronto, and Vancouver using respondent-driven sampling.
- ▶ Participants completed computer-assisted questionnaires in French or English and nurse-assisted testing for HIV and STIs.
- ▶ We examined the association between CM use and insertive condomless anal sex (CAS), receptive CAS, and STI (syphilis, gonorrhea, and chlamydia)/HIV diagnosis within the past six months (P6M), including at study visit.
- ▶ We also evaluated possible mediating and moderating effects of sexual compulsivity, condom use self-efficacy, perceived condom barriers, and escape expectancies.

Results

➤ Crystal Meth (CM) use

- Associated with receptive CAS ($\beta=.79, p<.001$) and recent self-reported HIV diagnosis, last 6M ($\beta=1.47, p<.001$)
- NOT associated with insertive CAS ($\beta=.26, p=.06$) and STI ($\beta=.08, p=.68$).

➤ Condom Use Self Efficacy

- Mediator between CM use and CAS (Average causal mediation effect; ACME=.02, $p=.02$)
- Effect modifier between CM use and receptive CAS (Interaction $\beta=-.27, p=.03$), such that men with CM use but also high Condom Use Self Efficacy had a 24% lower likelihood of receptive CAS.

➤ Escape Motives

- Mediator between CM use and insertive CAS (ACME=.05, $p=.001$)
- Effect modifier between CM use and receptive CAS (Interaction $\beta=.40, p=.01$) such men with a CM use but also high Escape Motives had a 49% greater likelihood of receptive CAS.

Conclusion

- ▶ Crystal Meth use is associated with receptive CAS
- ▶ Condom use beliefs continued to be relevant in 2017–2020 in understanding the relationships between Crystal Meth use and CAS
- ▶ Condom use self efficacy and escape expectancies modify the odds that Crystal Meth use is associated with receptive CAS.
- ▶ Interventions to promote sexual health among GBM should address sexualized substance use for STI prevention.