



**Summit
Sommet**

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)

Kiffer Card^{3,2}, Shayna Skakoon-Sparling¹, Graham Berlin¹, Nathan J. Lachowsky², David Moore³, Darrell H. Tan^{4,5}, Daniel Grace⁵, Syed W. Noor¹, Joseph Cox⁶, Jordan Sang^{3,2}, Jody Jollimore⁷, Gilles Lambert⁸, Abbie Parlette¹, Allan Lal³, Jared Star⁹, Marc Messier-Peet⁶, Trevor A. Hart^{1,5}

1. Ryerson University, Toronto, ON, Canada, 2. University of Victoria, Victoria, BC, Canada, 3. BC Centre for Excellence, Vancouver, BC, Canada, 4. St. Michael's Hospital, Toronto, ON, Canada, 5. University of Toronto, Toronto, ON, Canada, 6. McGill University, Montreal, QC, Canada, 7. CBRC, Vancouver, BC, Canada, 8. Direction régionale de santé publique - Montréal, Montreal, QC, Canada, 9. University of Manitoba, Department of Community Health Sciences

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.

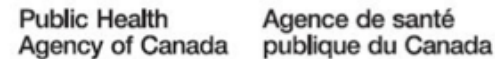
❓ Escape Motives

- 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.

Acknowledgements



A big thank you to our Engage participants!