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# How to identify HIV-positive men who have sex with men at risk for HCV re-infection: Is a single screening question about condom use sensitive enough?

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## Background

The Swiss HCVree trial used a test, treat and counsel strategy with the aim to eliminate HCV in the population of HIV-diagnosed MSM [1].

Study participants (n=122) reporting condomless anal intercourse with non-steady partners (nsCAI) in the year prior treatment, were additionally invited to participate in a sexual risk reduction intervention to reduce HCV re-infections after successful DAA treatment.

The reason to select men based on nsCAI was because of feasibility but the usefulness remains questionable.

## Aims

1) to describe what sexual and drug-using behaviours participants reported at study baseline
2) to compare the differences between the groups in applying the selection criterion “nsCAI”
3) to examine the condom-use question’s sensitivity and specificity in identifying men who engaged in other HCV relevant risk behaviours

## Methods

A descriptive comparative study design was employed and included 118 (97%) participants disclosing their sexual and drug-use behaviours. Participants were classified into two groups: those who reported nsCAI (72 (61%)) and those without nsCAI (46 (39%)) at time of study recruitment.

Data were collected by self-completed questionnaire at study baseline and the following HCV transmission risk behaviours (including risk mediators) were assessed: sharing sex toys with non-steady partners, practising fisting (insertive or receptive), use of one of five drugs (yes/no), see Table 1. If the answer to drug use was yes, the participant was asked if the drug was taken in combination with sex (yes/no) and the method of administration.

Odds ratios and their 95% confidence intervals (CI) were calculated to compare the odds of engaging in other risk behaviours in individuals with and without nsCAI followed by an analysis of the sensitivity and specificity of the nsCAI question.

## Results

At study baseline, many reported engaging in a variety of sexual or drug-use behaviours identified as risk factors for HCV-infection, 25 (24%) shared sextoys, 28 (25%) practised fisting and 52 (44%) used drugs in the last six months (Table 1).
Those with nsCAI were significantly more likely to have engaged in other risky sexual behaviours.
Odds ratios for two well-known risk behaviours were 2.28 (CI 0.88, 5.92) for fisting and 5.79 (CI 1.26, 22.66) for injecting drug use. Sexualised drug use, a potential mediator for increasing other risk behaviours showed an odds ratio of 5.89 (CI 2.33, 14.9).
The sensitivity of asking about nsCAI in detecting other HCV-related risk behaviours was: (1) 88.2% for injecting drugs, (2) 84.6% for drug use, (3) 84.1% for sexualized drug use, (4) 75% for fisting and (5) 66.7% for sharing sex toys.

***Table 1.*** HCV-related risk behaviours in the last 6 months

| HCV-related risk behaviours in the last 6 months at study baseline | Total (n=118) n (%) | Participants without nsCAI (n=46) n (%) | Participants with nsCAI (n=72) n (%) | Odds Ratio (95% CI) |
|---|---|---|---|---|
| Sharing sextoys (n=104/38/66)[a] | 25 (24) | 7 (18) | 18 (28) | 1.86 (0.71, 4.88) |
| Fisting (n=114/43/71)[a] | 28 (25) | 7 (16) | 21 (30) | 2.28 (0.88, 5.92) |
| Drug use (n=117/45/72)[a] | 52 (44) | 8 (18) | 44 (61) | 7.46 (3.03, 18.32) |
| Y-butyrolactone/γ-hydroxybutyric acid (GHB/GBL) | 30 (26) | 3 (7) | 27 (38) | 22.00 (6.22, 77.83) |
| Cocaine | 26 (22) | 6 (13) | 20 (28) | 2.50 (0.92, 6.81) |
| Crystal methamphetamine | 22 (19) | 1 (2) | 21 (29) | 18.12 (2.34, 140.21) |
| Ketamine | 11 (9) | 2 (4) | 9 (14) | 3.07 (0.63, 14.91) |
| Mephedrone | 10 (9) | 0 (0) | 10 (15) | 8.03 (1.00, 64.43) |
| Use of any of the drugs listed above during sex (n=116/45/71)[a] | 44 (38) | 7 (16) | 37 (52) | 5.89 (2.33, 14.90) |
| Reporting injection of drugs (n=117/45/72)[a] | 17 (15) | 2 (4) | 15 (21) | 5.79 (1.26, 22.66) |

[a]specified how many HIV-positive MSM answered the question (n=total group/without nsCAI/with nsCAI), used for calculation of percentages

## Conclusions and next research steps

HIV-diagnosed MSM in the Swiss HCVree trial showed various behaviours that are associated with an increased risk of sexual HCV transmission. Although nsCAI has been shown to be a fairly reliable proxy for selection in relying entirely on it to gauge other HCV-related risk behaviours, we would miss a substantial proportion of HIV-diagnosed MSM at risk for HCV.

Based on our findings, we recommend pursuing an open recruitment strategy while developing behavioural interventions adaptable to the specific needs of each participant. Our results clearly indicate that reducing HCV infection/reinfection in HIV-diagnosed MSM will require content not only on condom use, but also on other topics, especially drug use.

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**Ref:** [1] Braun DL et al. High Cure Rates With Grazoprevir-Elbasvir With or Without Ribavirin Guided by Genotypic Resistance Testing Among Human Immunodeficiency Virus/Hepatitis C Virus-coinfected Men Who Have Sex With Men. Clin Infect Dis. 2018.

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