Lubricant use and rectal chlamydial and gonococcal infections among men who engage in receptive anal intercourse

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INTRODUCTION

- Men who have sex with men (MSM) are at disproportionately increased risk for acquiring STIs[1]
- In the US, MSM have high median prevalence of chlamydia (CT) and gonorrhea (GC), 6% and 8% respectively[2]
- STIs promote the transmission of HIV, so increasing trends in CT and GC may contribute to the parallel increases in HIV infections[3]
- Up to 95% of MSM report engaging in anal intercourse (AI)[4]
- AI poses the highest risk for sexual transmission of HIV, with receptive AI (RAI) being riskier than insertive AI[5]
- Despite the frequent use of lubricants during AI, few studies have examined associations between specific lubricant types and STIs

OBJECTIVE

- Determine whether self-reported use of nine different lubricant types among lubricant users who engaged in RAI in the previous three months is associated with prevalent rectal chlamydial (CT) and gonococcal (GC) infections

METHODS

Study design and setting

- Men and Sexual Health (MASH) Study
- Cross-sectional study of MSM recruited from an urban STD clinic in the Midwestern United States
- July 2012 through October 2013
- Eligibility
  - Male
  - 18 years of age or older
  - Speak and read English
  - Sex with male in previous 12 months

Measures

- Data collected in self-administered survey via tablet
  - Frequency of lubricant use during RAI in the previous three months
  - Types of lubricant used in the previous three months
- Rectal CT and GC diagnosed using nucleic acid amplification testing

Statistical analysis

- Logistic regression models used to analyze unadjusted and adjusted associations between use of nine specific lubricants among lubricant users who report receptive AI in the previous three months and prevalent rectal chlamydial and gonococcal infections
- Used $\alpha = 0.05$ as the threshold for statistical significance

RESULTS

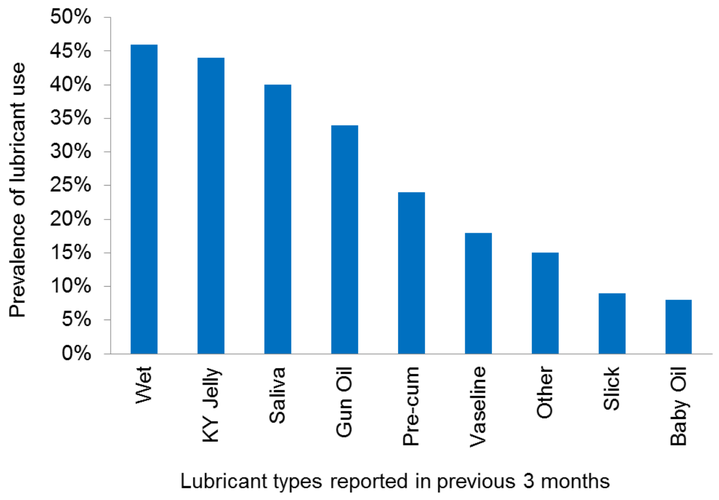
Overall study sample (n=235)

- 75% report RAI in the previous 3 months
- Among RAI participants, 95% report at least some lubricant use in the previous 3 months

Characteristics of RAI participants with lubricant and rectal GC and CT data (n=143)

- Median age: 25 years
- 71% Caucasian
- 23% HIV-positive
- 32% report using condoms always or almost always
- 28% report 6 or more partners in the previous 12 months
- 92% report engaging in both receptive and insertive AI in the previous 12 months

Figure 1: Prevalence of lubricant use in the previous 3 months by lubricant type (n=143)



Participants were able to select more than one lubricant type, so sum is >100.

Unadjusted analyses

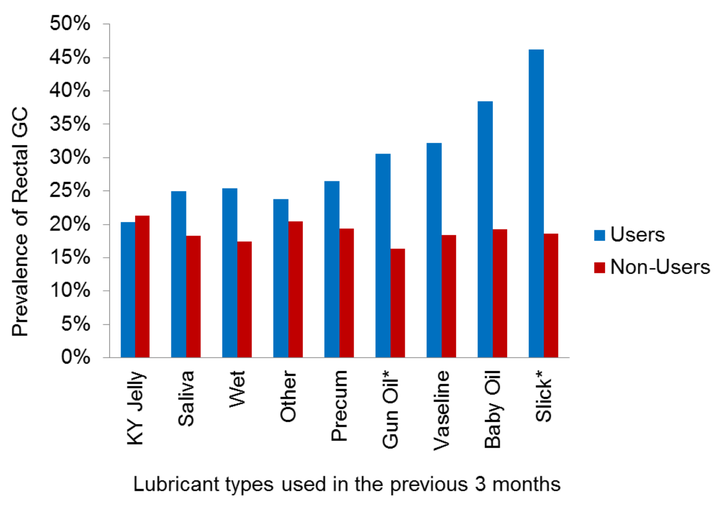
Rectal GC

- Prevalent infection was significantly higher among users of Gun Oil and Slick, compared to non-users of either lubricant (**Figure 2**)

Rectal CT

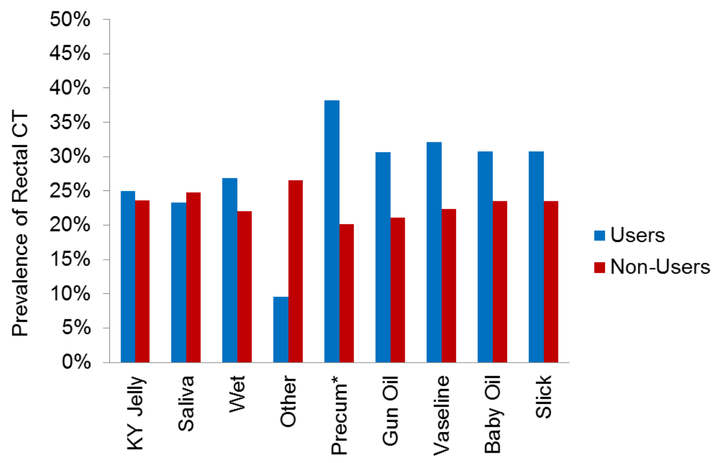
- Prevalent infection was significantly higher among users of precum, compared to non-users (**Figure 3**)

Figure 2: Prevalence of rectal GC among users and non-users of each lubricant type (n=143)



Participants were able to select more than one lubricant type
**p < 0.05*

Figure 3: Prevalence of rectal CT among users and non-users of each lubricant type (n=143)



Participants were able to select more than one lubricant type
**p < 0.05*

Adjusted analyses

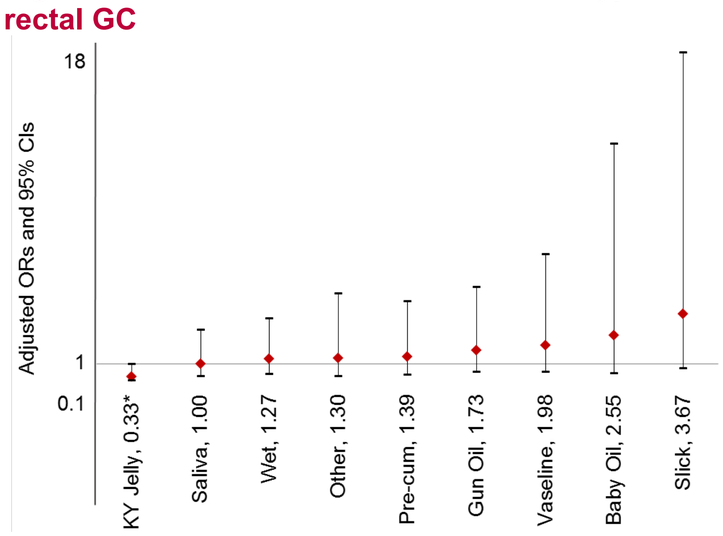
Rectal GC

- KY Jelly emerged as significantly protective against rectal GC, adjusting for age, HIV status, and number of sexual partners over the previous 12 months (**Figure 4**)

Rectal CT

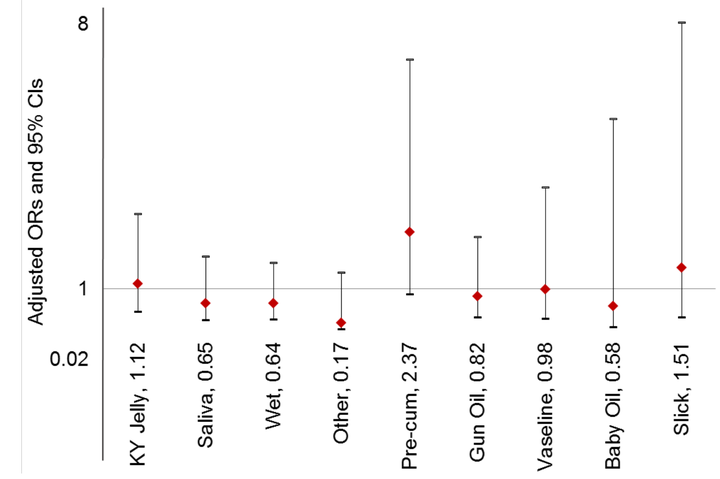
- There were no significant associations after adjusting for age, HIV status, and number of partners over the previous 12 months (**Figure 5**)

Figure 4: AORs and 95% CIs of lubricant type and rectal GC



Participants were able to select more than one lubricant type
Adjusted for age, HIV status, and number of sexual partners over the previous 12 months

Figure 5: AORs and 95% CIs of lubricant type and rectal CT



Participants were able to select more than one lubricant type
Adjusted for age, HIV status, and number of sexual partners over the previous 12 months

DISCUSSION

- Rectal lubricant is a very common exposure among MSM, a population with high prevalence of STIs and HIV
- In unadjusted analyses, we observed significant associations between several lubricants and rectal GC and CT infections
- After multivariable adjustments,
  - KY Jelly was significantly protective against rectal GC infection
  - Wet, Gun Oil, Vaseline, and baby oil each suggested non-significant, harmful associations with rectal GC, yet suggested protective associations with rectal CT
- Longitudinal studies are needed to examine any causal relationship between specific lubricants and GC and CT acquisition

AFFILIATIONS

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