

## Group sex event participation: a link to STI risk among African-American heterosexual men incarcerated in North Carolina

Group sex events (GSEs) among heterosexuals and other groups may facilitate STI transmission by contributing to rapid partner exchange and links to high-risk partners.<sup>1,2</sup> Using baseline (in-prison) data from DISRUPT (Disruption of Intimate Stable Relationships Unique to the Prison

Term) (n=142), a cohort study conducted among African-American men incarcerated in North Carolina, USA, who were in committed heterosexual relationships at prison entry, we measured preincarceration GSE participation and other sexual risk behaviours. We tested urine samples for STI (chlamydia, gonorrhoea and trichomoniasis) using nucleic acid amplification tests. Approximately 16% reported GSE participation. GSE was strongly associated with STI (adjusted OR=6.59, 95% CI 1.78 to 24.42) but not with sexual risk behaviours (table 1). Since GSE participation was not associated with sexual risk behaviours, the association of GSE participation with infection suggests that GSEs may facilitate

STI transmission through sex with infected partners. Programmes might intervene at GSE venues or through off-site approaches to GSE attendees. Preliminary results from this analysis were presented at the 2014 STD Prevention Conference.

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**Contributors** JDS conducted the analyses, wrote the first draft of the letter and revised subsequent drafts; SF created the indicators of GSEs in the baseline survey and guided the analyses and interpretation of results; CG is a coinvestigator on project DISRUPT, advised in the conceptualisation of all aspects of the parent study and contributed to the current letter by assisting in interpreting results and writing the letter; DAW is the site principal investigator on Project DISRUPT, oversaw day-to-day operations of the study and contributed to the letter by assisting in interpreting the findings; MRK is the principal investigator of Project DISRUPT, conceptualised and conducted the parent study and guided the current letter analyses. All authors reviewed and revised the original draft of the letter and have approved this version.

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**Table 1** Associations between group sex event (GSE) participation and sexual risk behaviours and STI in the 6 months before incarceration among 142 African-American men incarcerated in North Carolina

Outcome*	% with outcome	OR (95% CI)	Adjusted† OR (95% CI)
Biologically confirmed current (prevalent) STI			
Participated in GSE	26.1	6.53 (1.89 to 22.59)	6.59 (1.78 to 24.42)
Did not participate in GSE	5.1	Referent	Referent
Self-reported past STI			
Participated in GSE	54.6	2.56 (1.02 to 6.44)	2.02 (0.77 to 5.33)
Did not participate in GSE	31.9	Referent	Referent
Inconsistent condom use with new/casual partners			
Participated in GSE	52.1	0.99 (0.41 to 2.45)	0.99 (0.37 to 2.66)
Did not participate in GSE	52.2	Referent	Referent
Multiple (≥2)/concurrent partnerships			
Participated in GSE	56.5	1.39 (0.57 to 3.43)	1.37 (0.52 to 3.57)
Did not participate in GSE	48.3	Referent	Referent
Sex while drunk			
Participated in GSE	87.0	3.29 (0.92 to 11.75)	2.67 (0.73 to 9.79)
Did not participate in GSE	67.0	Referent	Referent
Sex while high			
Participated in GSE	73.9	1.36 (0.50 to 3.73)	1.05 (0.36 to 3.09)
Did not participate in GSE	67.5	Referent	Referent
Sex with partners who ever sold sex			
Participated in GSE	13.0	2.75 (0.64 to 11.91)	1.56 (0.30 to 8.25)
Did not participate in GSE	5.2	Referent	Referent
Sex with partners who are non-monogamous			
Participated in GSE	26.1	1.16 (0.42 to 3.24)	0.81 (0.28 to 2.34)
Did not participate in GSE	23.3	Referent	Referent
Sex with partners who ever had an STI			
Participated in GSE	17.4	1.33 (0.40 to 4.41)	1.43 (0.41 to 5.00)
Did not participate in GSE	13.7	Referent	Referent
Sex with partners who ever used crack			
Participated in GSE	13.6	2.13 (0.52 to 8.76)	1.91 (0.37 to 9.86)
Did not participate in GSE	6.9	Referent	Referent

\*Prevalence of outcomes in total sample (n=142): multiple (≥2)/concurrent partnerships=49.3%; sex while drunk=70.1%; sex while high=68.1%; sex with partners who ever sold sex=6.3%; sex with partners who are non-monogamous=28.5%; sex with partners who ever had an STI=6.9%; sex with partners who ever used crack=7.6%; inconsistent condom use with new/casual partners=50.0%; self-reported previous STI=34.7%; biologically confirmed prevalent STI=8.3%.

†Adjusted for age and antisocial personality disorder.