SEXUAL BEHAVIOUR

Use of recreational Viagra among men having sex with men

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Objective: Given the potential for Viagra (sildenafil) use to foster greater friction during sex (owing to enlarged erection size) and prolonged sex, the recreational use of this substance warrants investigation in the context of STI risk. Thus, an exploratory study was conducted to identify bivariate correlates of recreational (non-prescription) Viagra use among men who have sex with men (MSM) attending a popular sex resort for men located in the southern United States.

Methods: A cross sectional study was conducted. Behavioural measures, including Viagra use, were assessed using a 3 month recall period.

Results: Of 164 men asked to participate, 91% completed a self administered questionnaire. Men resided in 14 states, most of which were located in the southern United States. Their average age was 40 years. Most (93%) men self identified as white. The median annual income interval was $25 000 to $50 000. One sixth (16.7%) reported being HIV positive. 16% reported using non-prescription Viagra. Age (p = 0.41), income (p = 0.32), and HIV serostatus (p = 0.85) were not associated with Viagra use. Of men recently using ecstasy during sex, 35% reported Viagra use compared to 13% among those not using ecstasy (p = 0.01). Of men recently using cocaine during sex, 37% reported Viagra use compared to 13% among those not using cocaine (p = 0.009). Use of ''poppers'' approached, but did not achieve, statistical significance as a correlate of Viagra use (p = 0.06). Recent frequency of unprotected anal sex (p = 0.79), fisting (p = 0.10), rimming (p = 0.64), and having five or more sex partners (p = 0.09) were not associated with Viagra use.

Conclusion: Recreational Viagra use was relatively common among men, regardless of age or HIV serostatus. Viagra use was associated with men's substance abuse behaviours rather than their sexual risk behaviours.

Men who have sex with men (MSM) experience a disproportionate risk of infection with HIV.[1–4] Evidence also suggests that MSM are disproportionately at risk of acquiring and transmitting bacterial STIs.[5–10] Addressing these threats to MSM involves multiple challenges, many are behavioural. For example, it is quite plausible that recreational use of Viagra (sildenafil) among MSM may be an important contributing factor to their risk of STI acquisition. Studies in the United Kingdom and the United States indicate that recreational Viagra use has become common among MSM.[11–15] Further, it has been suggested that Viagra should be sold with warnings relative to increased risk of STI.[16] The suggestion may have a great deal of merit as use of Viagra for anal insertive intercourse among MSM may lead to two conditions that could conceivably foster tissue abrasion and therefore increase the odds of STI transmission: greater friction during sex (from enlarged erection size) and prolonged sex.

From a behavioural perspective, it is important to identify correlates of recreational Viagra use among MSM. Empirical investigations of this question have been uncommon. However, a recent study (in San Francisco, CA, USA) found that Viagra use among MSM was associated with illicit drug use, being HIV positive, older age, and having unprotected sex with risky partners.[15] Given the need to expand this body of research, we conducted an exploratory study designed to identify bivariate correlates of recreational (non-prescription) Viagra use among MSM attending a sex resort located in the southern United States.

METHODS

Study sample

During Saturdays from May through November of 2002, 164 men attending a sex resort located in northeast Georgia were randomly approached by trained male research staff and asked to participate in a brief survey. Of these, 150 completed a self administered questionnaire (yielding a response rate of 91%). Incentives for participation were not provided. The Emory University institutional review board approved the study protocol before study implementation. A more detailed explanation of the sample can be found in two articles that have addressed distinctly different research questions using these data.[17 18]

Data collection

Men giving informed consent were provided with a 10 page (single sided and double spaced) questionnaire. Men completed the questionnaire at tables within the patio area or near the pool.

Measurement of recreational Viagra use

Using a 3 month recall period, men were asked if they had ''used non-prescription Viagra for sexual encounters.''

Measurement of correlates

In addition to assessing self reported HIV status and two demographic correlates (age and income level), we assessed correlates related to substance abuse behaviour and sexual behaviour. All recall periods were limited to the past 3 months. Substance abuse behaviour consisted of three questions asking men about their use of ''poppers'' (alkyl nitrites, including isobutyl nitrite, butyl nitrite, and amyl nitrite that cause muscles around blood vessels to relax), ecstasy (methylenedioxymethamphetamine), and cocaine. Assessed sexual practices were rimming, engaging in group sex, fisting, having sex with five or more partners during the recall period, and engaging in unprotected anal sex.

Abbreviations: MSM, men who have sex with men; STI, sexually transmitted infections

Data analysis

Associations between dichotomous correlates and Viagra use were assessed by contingency table analyses. Associations between correlates measured on a continuous level and Viagra use were assessed by independent groups *t* tests. Significance was defined by an alpha level of 0.05 or less.

RESULTS

Characteristics of the sample

Men residing in 14 states comprised the sample (most states were within a 500 mile radius of the sex resort). Average age of the men was 40.6 years (SD 9.4; median 40 years; range 45). Most (92%) men self identified as white. The median income annual interval was $25 000 to $50 000 (the equivalent of €20 875 to €41 759). One sixth (16.7%) reported they were HIV positive. Men reported having sex with an average of 10 partners in the past 3 months (SD 42; median 4; range 500). Seven men did not answer the question about Viagra use; thus, valid data for the analysis were obtained from 143 men. Twenty three men (16.1% of 143) reported using non-prescription Viagra in the past 3 months.

Bivariate associations

Table 1 displays the percentage of men reporting non-prescription Viagra use stratified by their responses (yes versus no) to the assessed dichotomous correlates. Table 1 also provides prevalence ratios, their 95% confidence intervals, and respective p values. As shown, two indicators of substance abuse achieved significance (ecstasy and cocaine), with use of poppers approaching significance ($p = 0.06$). With the exception of fisting ($p = 0.10$) and engaging in sex with five or more partners ($p = 0.09$), none of the other correlates approached significance.

Differences in age between men who reported non-prescription Viagra use (mean age 39.1) and men not reporting use (mean age 40.9) were not observed ($t = 0.83$; degrees of freedom = 140; $p = 0.41$). Similarly, differences in income levels were not observed ($t = 1.0$; degrees of freedom = 136; $p = 0.32$).

Because statistical power was limited, an effect size analysis for the correlates approaching significance was warranted. Effect size, as assessed by Cohen's h, has been described as a useful method for comparing proportions.[19 20] Cohen has described an h value of 0.20 as representing small effects and noted that medium effects begin at approximately 0.50. Fisting produced an h value of 0.35 and the correlate pertaining to five or more sex partners yielded an h value of 0.30. These effects are modest at best. Similarly, the effect for poppers was modest ($h = 0.31$). By comparison, the two statistically significant effects yielded a medium effect size ($h = 0.53$ for ecstasy and $h = 0.57$ for cocaine).

DISCUSSION

This exploratory study of MSM found that recreational Viagra use was associated with substance abuse (ecstasy and cocaine) rather than age, income, HIV status, or selected sexual risk behaviours. In particular, the findings suggest that MSM who attend sex resorts may use or not use recreational Viagra regardless of their sexual risk behaviours. However, the findings also suggest that MSM who obtain and use other illicit substances (for example, ecstasy and cocaine) may be especially likely to also obtain and use Viagra on a recreational basis. Thus, in STI prevention education efforts, recreational Viagra use may be a particularly important issue to address for MSM who abuse substances.

Other than the observed associations with substance abuse, our findings were markedly different from the findings reported from a sample of MSM in San Francisco.[15] While the differences may be attributable to the different culture of MSM in the southern United States compared to San Francisco, a more likely explanation is the unique nature of our sample: men attending a sex resort.

Table 1 Bivariate associations between dichotomous correlates and use of recreational Viagra, in the past 3 months, among men attending a sex resort (n = 143)

Correlate	No	% Reporting Viagra use	PR*	95% CI†	p Value
Knowingly HIV positive					
Yes	23	17.4			
No	120	15.8	1.09	0.41–2.93	0.85
Used poppers‡					
Yes	71	21.1			
No	71	9.9	2.14	0.93–4.94	0.06
Used ecstasy ‡					
Yes	20	35.0			
No	119	12.6	2.78	1.30–5.95	0.01
Used cocaine‡					
Yes	19	36.8			
No	122	13.1	2.81	1.33–5.92	0.009
Engaged in rimming‡					
Yes	87	26.4			
No	56	14.3	1.84	0 .85–3.99	0.64
Engaged in group sex‡					
Yes	90	16.7			
No	52	15.4	1.08	0.49–2.38	0.84
Engaged in fisting‡					
Yes	22	27.3			
No	120	13.1	2.04	0 .90–4.65	0.10
Five or more sex partners‡					
Yes	69	21.7			
No	72	11.1	1.96	0.89–4.32	0.09
Engaged in unprotected anal sex‡					
Yes	68	17.6			
No	72	12.5	1.41	0.63–3.14	

*Prevalence ratio.
†Confidence interval.
‡Past 3 months.

Regardless, further empirical investigations addressing recreational Viagra use among MSM are warranted. Further research should test prevention messages and programmes that emphasise to MSM the potential for Viagra to increase their risk of acquiring or transmitting STIs, including HIV. A priority population for these studies may be MSM who abuse other substances including alcohol and methamphetamines (especially given the potential for fatal drug interactions in conjunction with non-prescription Viagra use). Men may, for example, benefit from messages that simply explain how prolonged and chemically exaggerated vasocongestion of the penis can foster microabrasions that increase risk of STI acquisition and transmission.

Limitations

Findings are limited by several factors, including the inherent limitations of a cross sectional study design and the use of a convenience sample. An important limitation is reliance on the validity of men's responses to the interview questions. Further, the analysis was limited by the low statistical power. However, our assessment of effect size indicated that the study had adequate power to detect medium or larger effect sizes.

Conclusions

About one of every six men reported recent use of non-prescription Viagra. This recreational use was associated with men's substance abuse behaviours. Specifically, MSM who use ecstasy and cocaine may be more likely to also use Viagra on a recreational basis. Given the potential for Viagra to increase risk of STI, prevention education efforts may be warranted.

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