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Research paper

Poly drug use, chemsex drug use, and associations with sexual risk behaviour in HIV-negative men who have sex with men attending sexual health clinics

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ABSTRACT

Background: Recreational drug use and associated harms continue to be of significant concern in men who have sex with men (MSM) particularly in the context of HIV and STI transmission.
Methods: Data from 1484 HIV-negative or undiagnosed MSM included in the AURAH study, a cross-sectional, self-completed questionnaire study of 2630 individuals from 20 sexual health clinics in the United Kingdom in 2013–2014, was analysed. Two measures of recreational drug use in the previous three months were defined; (i) polydrug use (use of 3 or more recreational drugs) and (ii) chemsex drug use (use of mephedrone, crystal methamphetamine or GHB/GBL). Associations of socio-demographic, health and lifestyle factors with drug use, and associations of drug use with sexual behaviour, were investigated.
Results: Of the 1484 MSM, 350 (23.6%) reported polydrug use and 324 (21.8%) reported chemsex drug use in the past three months. Overall 852 (57.5%) men reported condomless sex in the past three months; 430 (29.0%) had CLS with ≥2 partners, 474 (31.9%) had CLS with unknown/HIV+ partner(s); 187 (12.6%) had receptive CLS with an unknown status partner. For polydrug use, prevalence ratios (95% confidence interval) for association with CLS measures, adjusted for socio-demographic factors were: 1.38 (1.26, 1.51) for CLS; 2.11 (1.80, 2.47) for CLS with ≥2 partners; 1.89 (1.63, 2.19) for CLS with unknown/HIV+ partner(s); 1.36 (1.00, 1.83) for receptive CLS with an unknown status partner. Corresponding adjusted prevalence ratios for chemsex drug use were: 1.38 (1.26, 1.52); 2.07 (1.76, 2.43); 1.88 (1.62, 2.19); 1.49 (1.10, 2.02). Polydrug and chemsex drug use were also strongly associated with previous STI, PEP use, group sex and high number of new sexual partners. Associations remained with little attenuation after further adjustment for depressive symptoms and alcohol intake.
Conclusion: There was a high prevalence of polydrug use and chemsex drug use among HIV negative MSM attending UK sexual health clinics. Drug use was strongly associated with sexual behaviours linked to risk of acquisition of STIs and HIV.

Introduction

Gay, bisexual, and other men who have sex with men (MSM) continue to be one of the highest risk groups for HIV in the UK and globally (Beyrer, Baral et al., 2012; Beyrer, Sullivan et al., 2012), and experience a significant burden of ill health and harm through the use of alcohol, recreational drugs and tobacco (Public

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Health England, 2015). Recreational drug use in MSM and the associations with sexual-risk behaviour has been documented on an international level (Colfax & Guzman, 2006; De Ryck, Van Laeken, Noestlinger, Platteau, & Colebunders, 2013; Drumright et al., 2007; Heiligenberg et al., 2012; McCarty-Caplan, Jantz, & Swartz, 2014; Pappas & Halkitis, 2011; Prestage et al., 2009; Santos et al., 2013) and is an important public health consideration in Western Europe (EMIS, 2010), particularly the UK (Bolding, Hart, Sherr, & Elford, 2006; Daskalopoulou et al., 2014; Hickson, Bonell, Weatherburn, & Reid, 2010; Home Office, 2013/14; Hunter, Dargan, Benzie, White, & Wood, 2014; Kirby & Thornber-Dunwell, 2013), where transmission of HIV and other sexually transmitted infections (STIs), remain high (Public Health England, 2014). A 2014 report described the use of psychoactive drugs in sexual settings among MSM in London (Bourne, Reid, Hickson, Torres Rueda, & Weatherburn, 2014). This has been termed 'chemsex' which relates to the use of certain sexually-disinhibiting recreational drugs before or during sex with the specific purpose of facilitating or enhancing sex; namely any combination of crystal methamphetamine, mephedrone and gammahydroxybutrate/gammabutyrolactone (GHB/GBL) (Bourne et al., 2014; Bourne, Reid, Hickson, Torres-Rueda, Steinberg et al., 2015; McCall, Adams, Mason, & Willis, 2015; Melendez-Torres & Bourne, 2016). By definition, chemsex differs from generic illicit/recreational drug use (Bourne et al., 2014); it is thought to be associated with higher-risk sexual activity, and linked to an increase in transmission of STIs (Melendez-Torres, Hickson, Reid, Weatherburn, & Bonell, 2016; Stuart & Weymann, 2015).

There is evidence that specific recreational drugs, are associated with facilitation of HIV (Buchacz et al., 2005; Macdonald et al., 2007; Plankey et al., 2007; Prestage et al., 2009; Ostrow et al., 2009) and STI (Hirshfield, Remien, Walavalkar, & Chiasson, 2004) transmission, increased sexual risk behaviour (Hoenigl et al., 2016; Mansergh et al., 2006; Colfax et al., 2004), and potential risk of serious overdose and death (Caldicott, Chow, Burns, Felgate, & Byard, 2004; Liechti & Kupferschmidt, 2004). There is limited recent information relating specifically to HIV negative or undiagnosed MSM and recreational drug use in the UK, particularly around chemsex drug use (Public Health England, 2014) and the associations with sexual behaviours which are linked to risk of acquiring HIV or other STIs. Information on prevalence of recreational drug use and potential associations with sexual risk behaviour is essential if targeted sexual health and HIV prevention policies are to be developed and delivered effectively to those that may benefit from them most. Changing trends in the popularity of certain recreational drugs in MSM, including an increase in use of chemsex drugs, has been suggested (Daskalopoulou et al., 2014; Stuart, 2013).

The aim of this study was to use data from a cross-sectional multi-centre study among HIV negative MSM attending UK GUM clinics, to assess prevalence and factors associated with polydrug use and chemsex drug use, and to explore the associations of drug use with sexual behaviour, in particular condomless sex.

Methods

AURAH (Attitudes to and Understanding of Risk of Acquisition of HIV) is a cross-sectional, clinic-based study that recruited HIV negative or undiagnosed participants from 20 GUM clinics across England between June 2013 and November 2014. Methodological details have been published elsewhere (Sewell et al., 2016). Participants completed a confidential, self-administered paper questionnaire that included items on demographics (gender, sexual orientation, age, ethnicity, UK birth, relationship status), socio-economic factors (education, employment, housing, money for basic needs), health and lifestyle factors (higher risk alcohol use, ascertained by a shortened version of the WHO (AUDIT) questionnaire (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001), symptoms of depression ascertained using the Patient Health Questionnaire 9 item scale (PHQ-9) (Kroenke, Spitzer, & Williams, 2001), symptoms of anxiety ascertained using the Generalized Anxiety Disorder 7-item scale (GAD-7) (Spitzer, Kroenke, Williams, & Lowe, 2006)), as well as recent sexual behaviour, and recent recreational drug use.

Men were classified as MSM if they met at least one of the following criteria: (i) reported being gay or bisexual (including other plurisexual identity labels; pansexual, omnisexual, open, or queer, i.e. identities that are not explicitly based on attractions to one sex/gender (Galupo, Lomash & Mitchell, 2017)), (ii) reported anal sex with a man in the past three months, or (iii) reported having disclosed to their family, friends or workmates as being gay, bisexual and/or attracted to men..

Ascertainment of recreational drug use

All participants were asked to report whether they had used recreational drugs in the past three months and, if so, to select which drug or drugs from the following list of 18 options: acid, lysergic acid diethylamide (LSD), or magic mushrooms (all grouped as psychedelics); anabolic steroids; cannabis (marijuana, grass); cocaine (coke); crack; codeine; crystal meth (methamphetamine); ecstasy (MDMA or E); GHB (GBL or liquid ecstasy); heroin; ketamine (k); khat (chat); mephedrone; morphine; opium; poppers (amyl nitrites); speed (amphetamine); erectile dysfunction drugs (Viagra); and other (whereby participants were asked to specify the drug). Other drugs specified were coded to the above categories where appropriate (in most cases, participants specified one of the drug options under a different or street name). Participants were also asked whether they had injected recreational drugs in the past three months.

Recreational drug use definition

Two measures of recreational drug-use were defined: (i) poly drug use: use of three or more recreational drugs (from the above list of 18) in the past three months and (ii) chemsex drug use: use of one or more of mephedrone, methamphetamine or GHB/GBL in the past three months. It should be noted that the questionnaire did not ask about drug use during sex specifically.

Sexual behaviour questions

Eight self-reported sexual behaviour measures were derived from the questionnaire. Sex was defined throughout as anal sex with men, or vaginal or anal sex with women. Four measures of condomless (anal or vaginal) sex (CLS) in the past three months were defined: (i) CLS with one or more partners (ii) CLS with two or more partners, (iii) CLS with partners of an unknown or HIV positive status (men who reported no CLS partners of unknown HIV status, and only one HIV positive CLS partner who was a long-term partner and with whom they 'thought the risks of catching HIV were low because their partner was taking ART', were not counted) and (iv) receptive CLS with an HIV unknown status partner. The following additional measures were also investigated: (v) self-reported diagnosis with a bacterial STI in the past year (Gonorrhoea, Chlamydia, Syphilis, and/or Lymphogranuloma venereum, LGV) and (vi) post-exposure prophylaxis (PEP) use in the past year. Finally, two measures of partner numbers were investigated: (vii) report of eleven or more new sexual partners in the past year and (viii) group sex in the past three months. It is reported in Genitourinary Medicine Clinic Activity Dataset (GUMCAD) data that having a bacterial STI and use of PEP in the