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Syndemics of stigma, minority-stress, maladaptive coping, risk environments and littoral spaces among men who have sex with men using chemsex

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Abstract

There has been a steep rise in the use of drugs during sex by some men who have sex with men in economically developed countries, with associated increases in sexual risk for HIV and other STIs. This paper presents data from telephone interviews with 15 men attending sexual health clinics for post-exposure prophylaxis (PEP) following a chemsex-related risk for HIV, and discusses some of the theoretical approaches that have been employed to understand chemsex and inform interventions. Interviews were conducted as part of a larger intervention study, which used an adapted version of motivational interviewing to explore risk behaviour and support change. Participants conceptualised their chemsex and HIV-related risks in a psycho-social context, highlighting the influences of psycho-socio-cultural challenges of homophobic marginalisation and the 'gay scene' on behaviour. Multiple influences of stigma, marginalisation, minority stress and maladaptive coping (including drug-use) contribute to syndemic 'risk-environments' and 'littoral spaces' in which chemsex and risk behaviours are played out.

Keywords: gay, chemsex, drugs, behaviour, sex between men, UK

Introduction

Gay, bisexual and other men who have sex with men have experienced significant marginalisation in the UK with negative consequences for the health of individuals and communities (Ross et al. 2013; McDermott, Roen, and Scourfield 2008; Herrick et al. 2014). Exposure to minority stress (social stress stemming from stigma and marginalisation) has been shown to increase health risks, but the processes through which this occurs are complex (Hatzenbuehler, Phelan, and Link 2013). The following factors have all been shown to negatively impact on physical and mental health, and on the development of sexual identity schema among men who have sex with men (Elder, Morrow, and Brooks 2015): harassment and microaggressions (Swim, Johnston, and Pearson 2009), forced concealment of identity (Pachankis 2007), internalised homophobia (Herek 2007), and disrupted identity-formation (Perez-Brumer et al. 2015). Processes of minority stress and its outcomes are not unidirectional, but exist within syndemic dynamics, in which disease outcomes and the social conditions that contribute to their proliferation sustain each other (Wilson et al. 2014; Herrick et al. 2014). These social determinants of health, mediated by key psycho-social processes in identity-formation contribute to individual and social behaviours (including chemsex), which also contribute to poor health (Tarlov 1996; World Health Organization 2010). Measures of social determinants of health do not always include sexual orientation, but in this paper we explore the homophobic marginalisation of gay and other men who have sex with men as a social determinant of health, and the disproportionate use of illicit drugs and sexual risk among these men are situated within syndemics of marginalisation and health inequity. (Deimel et al. 2016).

Within some parts of gay communities in the UK there has been a sharp reported increase in the use of 'club-drugs' (methamphetamine [*Crystal-meth*], gamma-hydroxybutyrate [*G/GHB*], mephedrone [*meow*], ecstasy, and cocaine) over the last ten years, related to commercial dance clubs and an associated culture of sex-venues and 'chill-out' sex-parties in private homes (Macfarlane 2016). This chemsex (chemical drug use in sexual settings) has been documented as associated with: temporarily increased stamina, raised libido, sexual confidence, increased frequency of longer-lasting sex, and a decrease in condom-use and other HIV/STI prevention strategies (Bourne et al. 2015).

Chemsex in this aspect of urban gay culture is associated with increased risk of sexually transmitted infections (STIs) including HIV (Li and McDaid 2014; Melendez-Torres et al. 2016a; Hunter et al. 2014; Bourne et al. 2015; Deimel et al. 2016; Hoff et al. 2016; Stockman and Strathdee 2010). Geo-spatial networking apps such as Grindr may be used to facilitate access to sexual partners, drugs and chemsex (Kirby and Thornber-Dunwell 2014; Bourne et al. 2014). The rate and frequency of chemsex drug-use is higher among gay and other men who have sex with men than heterosexuals, and between two and >four times higher still among gay men with HIV (Hunter et al. 2014; Bourne et al. 2015; Keogh et al. 2009; Bourne et al. 2014).

In London the frequency of chemsex is reported to be highest in three central boroughs with the largest per-capita gay male populations, where more than 10% of gay men have used these drugs in the last month (twice the rate elsewhere in London) (Bourne et al. 2014; Measham et al. 2011). This suggests these drugs are disproportionately associated with aspects of the cultural environment, which includes the largest concentration of gay nightclubs and sex-venues (Weatherburn et al. 2016). Although over half of gay men who have used these drugs do not feel their drug-use has a negative impact for them, increasing numbers are experiencing periods in which chemsex impacts on their quality of life and HIV/STI risks (Bourne et al. 2014). While the link between drug-use and sexual risk is complex, the association is increasingly evidenced: one third of gay men report finding it difficult to control their sexual behaviour when using drugs (Bourne et al. 2014; Keogh et al. 2009; Melendez-Torres et al. 2016a; Stuart 2013).

We analysed transcripts of interviews recorded as part of an interventional study, in which a high proportion of participants reported chemsex. We use framework content analysis to qualitatively explore men's accounts of the role of marginalisation and the psycho-social context of chemsex, discuss theoretical approaches that conceptualise the phenomena, and explore approaches that might assist the development of future interventions to reduce chemsex and HIV-risks (Abdulrahim et al. 2016).

Methods

Design

We analysed transcriptions of telephone intervention sessions collected as part of Project PEPSE, an interventional randomised controlled trial of adapted motivational interviewing to support HIV risk-reduction (Llewellyn et al. 2012). Participants were HIV-negative men who had self-referred to four sexual health clinics in London and Brighton (SE England) for Post-Exposure Prophylaxis (PEP) to prevent HIV infection following a sexual risk. Participants were recruited during appointments at clinics and offered two 30-minute telephone sessions with a health adviser, approximately seven days apart, to explore the context of their HIV risks and future risk-reduction. A favourable ethical opinion was provided by National Research Ethics Service Committee, South East Coast, and an approved study protocol was published (Llewellyn et al. 2012).

Participants and settings

Participants were all self-identified gay men, aged ≥ 16 years, prescribed PEP after sexual risk for HIV, attending a sexual health clinic, and were able to give informed consent. Exclusion criteria included those unable to read study materials, and those seeking PEP after sexual assault. All participants who disclosed during the intervention the self-perceived role of chemsex-associated drugs in their HIV risk were included in this sub-analysis (n=15/175)

Data collection

Each telephone intervention session was approximately 30-minutes long. The second session contained similar content to the first, eliciting information about HIV risk behaviours and building on previous discussions about risk-reduction strategies. The interventionist used a risk-reduction manual to initially elicit risk behaviours by inviting the participant to articulate the circumstances that led to self-referring for PEP, explored any deficits that may have contributed to risk, and discussed particular areas related to the risk. The interventionist elicited self-motivational statements from participants through the use of open-ended questions, and utilised motivational interviewing-based

strategies to increase potential behaviour change, including: 1) providing feedback; 2) brief advice supporting a desire for change; 3) providing a menu of options for reducing risk; 4) demonstrating empathy and understanding; and 5) enhancing self-efficacy to reduce sexual risk behaviours (Resnicow et al. 2002). Specific behaviour change techniques were identified (Abraham and Michie 2008) and exemplified.

Analysis

Interventions were digitally recorded (with consent), transcribed verbatim and analysed using framework analysis: a systematic method of organising data, which can be interpreted for explanatory analysis. This case-by-theme approach enables exploratory analysis of parts and the whole dataset, enhancing the contextual credibility of findings. It is particularly effective in multi-disciplinary approaches such as this, and identifying why people do or think what they do (Ritchie and Spenser 1994). Key recurring themes were identified and coded by two analysers based on a combination of *a priori* issues introduced by the interviewer, emergent themes and recurring attitudes or experiences. Although the nature of the qualitative data was interventional and participant led, not interview-based, this approach was felt to be appropriate for analytic purposes.

Validity

Validity of the findings was strengthened by discussion of any discrepancies in interpretation of the data or the classification of supporting quotes into themes and categories, between authors AP and TN, with any discrepancies discussed and agreed with CL. Quotations are provided to support the identified themes/categories.

Results

Fifteen participants (all self-identified gay men; mean age 33 [range 20-44]; 70% White British; 92% employed) from a total of 175 participants taking part in the trial were included in this sub-analysis. Data consisted of a total of twenty-five telephone interviews lasting an average 37mins (range 25-43mins).

[Table 1]

All participants lived in London or Brighton, with easy access to commercial gay scenes. Participants had various degrees of involvement and experience in chemsex: eight were routine users of chemsex and the sexualised environment of gay clubs and sex-venues in Vauxhall, South London; two had experience of this environment on an infrequent basis and described their chemsex in terms of 'blow-outs' that were described as providing release from accumulating professional and/or domestic pressures; two more participants had chemsex-related risks they felt were uncharacteristic; and a further two participants declined recording of their interviews, so limited data is available on their experience. Despite this variation, all participants had experienced problematic risks for HIV related to chemsex, and all articulated concerns about their engagement with urban gay sub-cultural environments and the social/emotional rewards that this did/did not provide.

[Table 2]

The cultural environment of chemsex

The South London (specifically Vauxhall) neighbourhood of nightclubs, with a large resident population of gay and other men who have sex with men, repeatedly appeared in participants' narratives of chemsex and HIV risk. Participation in this environment of 24-hour clubbing, use of sexual networking apps and 'chill-out' sex parties was seen to implicitly involve drug-use and provided the sub-cultural context within which chemsex typically occurred.

'Doing what I am doing, I don't think it's the function of a normal 34 year-old you know - but maybe on the scene in London it probably is'. (Eric, age 34, London)

Participants who regularly used drugs in sex frequently spoke of this social context and expressed ambivalent feelings about the rewards of a stimulating social space that implicitly involved more chemsex than they felt able to comfortably manage.

‘I thought I would be immune towards everything that people were warning me about. But then you come to Vauxhall and you’re just hanging out, there’s just so much temptation, and you go on Grindr and there’s a really good looking guy inviting you over and you just kind of fall into the circle of people and behaviour. It becomes something you enjoy and then it becomes hard to get out...’. (Yousef, age 35, London)

Chemsex was substantially normalised in this environment, which offered a socially bonding and affirmative experience. In this space, temporarily secluded from the pressures of a hostile mainstream, these men found social and sexual interactions that promised acceptance and inclusion. Several participants spoke of the gay scene as a space in which they experienced their sexuality away from everyday life. But the sexualised and commercially marketed nightclubs, and the physical desirability displayed in personal profiles on sexual networking apps such as Grindr, contributed to competition and peer-pressure, and the drug-use that was normalised in these spaces was seen to promise greater rewards than it delivered.

‘It feels like everyone is doing it. I mean socially you can’t not do them. It’s considered almost unsocial if you don’t do drugs. [...] everyone I know – well, it feels like the case in London – are taking drugs and doing the same things... I live in Vauxhall and these gays around me are all like that. And all their friends and their friends are the same [...]. That’s kind of what I wanted’. (Yousef, age 35, London)

‘It’s on one hand an exploration of sexuality, but on the other hand it’s sort of habit-forming and I realised if I didn’t put an end to it, like I’ve begun to - working out that those patterns of behaviour will just continue and become even more unhealthy’. (Philip, age 38, London)

This sexualised drug-use was described as stimulating and fun, but also as compelling, difficult to resist, sometimes overwhelming, and destructive of relationships. Other participants, whose use of chemsex was infrequent, described two ways in which drug-use facilitated aspects of their social lives: drug-use and chemsex were facilitators that enabled men to engage in social and/or sexual experiences they would otherwise find difficult to manage; and chemsex was seen to 'oil-the-wheels' of participation in a socially challenging gay scene. Chemsex was articulated as a social coping strategy by participants who described needing to overcome challenges of social isolation and/or loneliness, and wanting opportunities to develop their sexual identity and behaviour.

'Until a year and half ago I was in a long-term relationship [for 12 years]. It was completely monogamous and I hadn't had any sexual partners before then. [...] My life's changed quite a lot and I explored my sexuality in a lot more detail than I ever have. I think that [when] people in relationships for a long time get out of them, it's easy to do that quite full-on'. (Philip, age 38, London)

Experiences of marginalisation during childhood recurred in participants' narratives. Several described needing to overcome the legacy of homophobic challenges, which had negatively impacted on their capacity to develop sexual identity, engage in rewarding relationships and build self-confidence.

'I think it comes out of a need to be wanted and a need for someone to find me attractive.... because I was [homophobically] bullied quite badly at school [...] often finding the people that bullied me the most attractive, and I came out of that feeling really insecure about myself, and when I came out on the gay scene and guys wanted to have sex with me, it made me feel good about myself. So, I guess it comes out of loneliness and insecurity'. (Nigel, age 38, London)

The legacy of emotional trauma and isolation featured strongly in accounts as influential, or even causal, of recent sexual behaviour. Two main themes of the emotional implications of chemsex were identified: chemsex as a stage in cycles of

dysfunctional behaviour that sought to address loneliness (but was also a barrier to nurturing relationships); and secondly, drug-use as a maladaptive mechanism for coping with, or displacing, painful emotions (or, in three cases, grief following the death of close friends/family).

‘Am I trying to run away from a problem - because I do believe that a big amount of drug taking is escaping problems [...] I don’t know if it's because I am not with somebody I might be a little bit lonely... So, thoughts like that don’t really overtake my day, but maybe subconsciously it has...’. (Eric, age 35, London)

One participant directly linked his chemsex to loneliness/loss and recognised his behaviour as an attempt to feel close to someone without having to risk trust. His experience of chemsex was so intense and rewarding after a painful break-up he was concerned that sex without drugs was spoiled:

‘I’ve always enjoyed sex and being on a natural high for hours and being with somebody, but now it seems that’s not possible anymore because it’s been replaced by a chemically-induced high, which is very different and I know that the natural bit can’t compete with something like that’. (Kirit, age 43, London)

The pressures of routine domestic responsibilities figured strongly in several accounts in which the occasion of chemsex was described as a ‘blow-out’ or ‘bender’, to relieve or balance these pressures.

‘...sometimes it gets a bit lonely, particularly if the pressure at work’s quite heavy and I’m not seeing my friends very often, because I’m working late and tired and wanting to go home afterwards. So occasionally, when it gets to the weekend, it would have been: “Right! Okay, I’ve got some time, let’s have a real blow-out!” But unfortunately, that has really impacted on seeing my friends as well, because the majority of my friends don’t do that. So, I was becoming quite isolated...’. (Nigel, age 38, London)

Intimacy and loneliness

Narratives of intimacy and loneliness repeatedly appeared in men's reasons for participating in chemsex. Chemsex was seen to facilitate not just access to sex partners and heightened sexual experience, but also intense feelings of intimacy that fleetingly addressed the need for social connection.

'It's very superficial, sex and chatting, superficial talks with people: always three dates and then you see them out on Wednesday or Tuesday and you avoid each other because of the things you did or talked about over the weekend'. (Yousef, age 35, London)

The relationship between drug use and intimacy was often conflicted. For some, chemsex facilitated intimacy and sex and was a method to overcome emotional or social barriers - drug-use and networking apps provided short-cuts to sexual interaction and physical intimacy that several participants felt otherwise unable to find or manage; but chemsex was also experienced as a barrier to more profound intimacy, destructive of, or incompatible with 'meaningful' emotional relationships.

'...every time I've started dating someone, the drugs destroy it because if I see a person and if you're both high, you kind of get more emotional on drugs especially because of the sex part...'. (Yousef, age 35, London)

Vicious cycles that participants struggled to understand

Participants' accounts of chemsex frequently included explanations of their perceived reasons for using drugs, which were typically related to past experiences. These suggest interrelated emotional and circumstantial patterns of marginalisation and loneliness, before arriving into an accepting but highly sexualised environment of normalised drug-use, which supports superficial social contact but limits opportunities for emotional attachment. Breaking these cycles was repeatedly identified by participants as a method for reducing chemsex and HIV risks, either through resolving the feelings of

loneliness and marginalisation, or by leaving the facilitating social environment. None of the study participants however was able to identify a coherent strategy for resolving these pressures.

‘You know, when people feel a bit more down they tend to take more risks with sex, drugs, alcohol, life in general and I think bringing people to understand their behavioural patterns - to me at least - would be more effective’. (Colin, age 26, London)

‘...solving the problem at the root by setting out the behaviour patterns I’m not feeling that great about, and I don’t want to be involved in that kind of gay sex-life in London. I find it's damaging. [...] I want to move beyond these sorts of behaviour patterns’. (Philip, age 38, London)

The role of social networks and romantic relationships

Friendships were central to many participants’ accounts of chemsex and appeared in three distinct roles contributing both negative and positive influences: as associates on the social scene, whose interaction facilitated or encouraged drug-use; as positive support for developing alternative interests outside the gay scene; and as romantic partners, whose anticipated influence would moderate involvement in chemsex.

Associates on the scene were often seen to support participation in chemsex, but dissatisfaction with these ‘druggy’ social environments frequently conflicted with the social rewards participants gained there. Friends outside the social environment of drug-use presented a resource for positive influences and critical perspectives, and female friends in particular offered alternative, non-sexual, social networks. However, the potential of these benign influences was contrasted with the loss of the affirmative and hedonistic rewards these gay environments offered.

‘I kind of want to avoid the ones who are more fun to be with [IRONY - Laughter]. Hang out with some more boring friends [IRONY]. No not really! [...] I do have

friends that don't take drugs: Girls! [Laughter]. Straight girl-friends'. (Yousef, age 35, London)

Several participants articulated a desire for 'meaningful' romantic relationships as an ideal alternative, and sometimes an exit strategy from drug-use. But the end of relationships were often recognised as a factor initiating periods of chemsex; chemsex was seen as a barrier to developing relationships; and chemsex was often the reason emotional relationships ended.

Avoiding, reducing or stopping drug-use and/or chemsex

Two main strategies for avoiding future HIV-risks and/or reducing drug-use appeared in the accounts of these participants who had all experienced recent HIV risks related to chemsex: developing personal insight into their motivations for taking part in chemsex; and removing themselves from the social environment of 'the scene' (including discontinuing use of sexual networking apps). Personal insight into past emotional experience was a key theme for most participants, who attempted to articulate causal psychological factors for their chemsex behaviour. These articulations were often self-critical, and participants were typically dissatisfied with their attempts to explain or understand their motivations for taking part in chemsex.

'I think if I can ...at least rationalise in my head why I am the way I am, and try and find a way to deal with this behaviour. It would be the answer to a lot of problems in terms of finding a partner and actually being happy with somebody and eliminating those risks from my life...'. (Nigel, age 38, London)

There was limited awareness of support services for chemsex, and those who were aware of specialist support expressed ambivalence and reluctance about attending, and tensions between the positive attractions and negative effects of the scene were challenging for participants. Gaining physical distance from the scene was among participants' principal strategies for reducing their drug-use.

'I'm thinking of moving outside South London just to avoid all this - the temptation is so much. My friends all say the same thing..., I have one friend who moved from Stockwell to Canary Wharf just to have less temptation at the weekends [...] it feels like to stay away from these things I need to go away from London. And several of my other friends do the same thing when they want to have a weekend to recover; they book tickets and go somewhere else...'. (Yousef, age 35, London)

Stopping use of sexual networking apps was another method of increasing distance and reducing involvement in chemsex environments. However, the tension involved in staying away from the rewards of the affirmative gay scene remained implicit in participants' strategies:

'I erased Grindr off my phone, but the minute I've got mephedrone, Grindr gets back on my phone again'. (Eric, age 35, London)

HIV (and STI) risks

All the study participants had experienced recent risks for HIV infection related to chemsex and were motivated to self-refer to clinics for PEP. Some were aiming to reduce their HIV risk through condom-use, but others focused on addressing their chemsex as the key strategy for avoiding future HIV-risks. At least two participants stated that their inability to manage HIV-prevention during chemsex left them resigned to contracting HIV, and several others sought to conceptually minimise the potential impact of HIV infection.

'And the thing is with some of my friends have kind of said like, "Oh yeah, it'd be much [easier] to get HIV because then I don't have to worry, I can just have some fun"'. (Yousef, age 35, London)

'I still don't know how it happened, so I think you do have to prepare for potential worst-case scenario, because it's a possibility'. (Colin, age 26, London)

Discussion

The cultural environment of chemsex

All the participants were experiencing chemsex in a hedonistic gay scene, which exists in relation to, but separate from, a largely hostile mainstream that de-values gay lives (Valentine and Skelton 2003). An association between undermined self-worth and compromised interrelationships between gay and other men who have sex with men is not surprising given the damaging social and emotional influences within which men are socialised in the UK (Ross et al. 2013; Herrick et al. 2014; Chard et al. 2015). Despite recent advances in civil rights and legal equality, men who have sex with men have, within living memory been subjected to political, legal and social measures that deliberately invalidated their emotions and relationships; and moral and cultural measures continue to militate against wellbeing. The legacy of these sanctions continue to affect non-heterosexual men and women of all ages (Keogh et al. 2009; Berg et al. 2013; 2015; McDermott, Roen, and Scourfield 2008).

For people dealing with the effects of personal, social and sexual invalidation, interpersonal relationships are made challenging and difficulties with social connectedness have been identified (Keogh et al. 2009; Hickson et al. 2001; Bourne et al. 2013; Chaney and Burns-Wortham 2015; Berg et al. 2015; Herrick et al. 2014; Chard et al. 2015). All study participants referred to deep-seated challenges in finding and maintaining emotional relationships in the pressured environment of the gay scene, which focused cultural narratives and interpersonal relations on sexual themes, and facilitated sexual interactions but limited opportunities for more profound relationships. Drug use among men who have sex with men can therefore be seen to occur in three simultaneous contexts of adversity: a prevailing homophobic culture; an antithetical and hedonistic gay sub-culture; and experiences at the interpersonal level. Many of these men found valued social interactions in the context of a rewarding gay scene away from the heterosexual mainstream, and the sexual intimacy enabled and amplified by drug-use. But these thrilling interpersonal interactions on drugs lacked, and further limited, satisfying emotional authenticity. Withdrawing from the drugs and negative aspects of

this scene involved withdrawing from a rewarding community experience – and often risked leaving participants without an affirmative social circle. This presented a significant problem for men who saw their only option in returning to a marginalised mainstream life with limited opportunity for connection with gay men, leading to increased isolation.

Stigma, marginalisation and minority stress

Pervasive and embedded stigma is corrosive of health and disrupts multiple aspects of life (relationships, resources, development, coping behaviours, social opportunities) and is a major influence on health (Hatzenbuehler, Phelan, and Link 2013). Other studies have shown that gay and other men who have sex with men in the UK recognise and articulate their drug-use and HIV risk behaviours as modalities of ‘shame avoidance’ as a consequence of homophobia (McDermott, Roen, and Scourfield 2008), and study participants repeatedly articulated links between marginalisation and their drug-use/HIV risks. Homophobic stigma contributes to syndemic dynamics in which marginalisation and minority stress contribute to significant harms (Meyer 2003). These syndemics operate through maladaptive mediators which are also harms in their own right: damaging drug (and/or alcohol) use, smoking, over/under eating, depression, isolation and social anxiety are maladaptive coping mechanisms used to manage uncomfortable emotions, but result in further harms (King et al. 2008; Meads, Carmona, and Kelly 2012; Bourne et al. 2016; Hagger-Johnson et al. 2013; Santos et al. 2014; Pachankis, Hatzenbuehler and Starks 2014; Brubaker, Garrett, and Dew 2009). These maladaptive harms mediate between pervasive minority-stress and further negative health outcomes such as sexual health risks, lung cancers and cardiovascular disease, obesity/anorexia, mental distress, suicide, and social disconnect (Warner 2004; Daniel and Butkus 2015; Haas et al. 2010; Eliason et al. 2012; Gruskin et al. 2009). Links between homophobic marginalisation, drug-use, and HIV-risk have been well evidenced (Ross et al. 2013; McDermott, Roen, and Scourfield 2008; Kurka, Soni and Richardson 2015; Hunter et al. 2014; Herrick et al. 2014). Furthermore, the processes through which internalised homophobia acts on HIV-risk has been explored, identifying expectations

that drug-use would enhance sexual experience as a key mediating factor (Meyer 2003; Torres and Gore-Felton 2007; Kashubeck-West and Szymanski 2008).

Theories of loneliness, sexual risk, 'risk environments' and littoral spaces

Several models have attempted to conceptualise the relationships between cultural context, social interaction and the individual experience of chemsex among gay and other men who have sex with men. What might be described as the Loneliness and Sexual Risk Model has drawn causal links describing sexual behaviour and 'substance use' as driven by anxiety-reduction mechanisms (Torres and Gore-Felton 2007). Studies using this model have identified powerful relationships between isolation, maladaptive sexual compulsiveness and chemsex used to facilitate emotional connection among gay and other men who have sex with men (Chaney and Burns-Wortham 2015; Hubach, DiStefano, and Wood 2012). But this and other psychological models site the causes and agency for change within the individual, neglecting the role of the cultural environment in which the individual was socialised, and the environment in which the drug-use/sex take place. Participants in this study clearly related their chemsex to the impact of social marginalisation and the gay scene in which they found shelter.

The Risk Environments model offers more value in understanding chemsex in its socio-cultural contexts by describing the dynamic, socially constructed nature of interactions between individuals, and the social (or physical) environments that contribute to risk behaviour (Rhodes 2009; Rhodes et al. 2012). This approach recognises the distribution of the causes of drug harms across the social, political and individual interactions that construct patterns of risk, and shifts responsibility and agency for change from being directed at vulnerable individuals, towards a shared responsibility. Drug harms and HIV-risk can therefore be understood as features of the social and political economy of homophobic stigma and marginalisation (Rhodes 2009). From this perspective, homophobic mainstream culture constitutes a macro level 'risk environment' in which gay and other men who have sex with men are stigmatised; against which lesbian, gay and bisexual communities have constructed antithetical sub-cultures to resist shame and celebrate marginalised identities. The explicitly sexualised commercial venues that form one aspect of contemporary gay sub-culture offer an

affirmative counter to the invalidation of gay lives, but aspects of these celebratory and hedonistic spaces, in which normalised drug-use is frequently used to facilitate sexual interactions, constitute a further (meso level) risk environment in which a focus on sexualised interactions fails to meet (and limits) the psycho-social needs of individuals.

Participants' narrative explanations of their chemsex can then be understood as descriptions of (maladaptive) mechanisms for coping with the effects of homophobic marginalisation, and also as social aspects of a resistant gay culture that many men find difficult to manage. These processes are mutually entangled and should be considered contextual aspects of gay men's experience of growing up in hostile macro cultures; and a resistant sex-positive meso sub-culture. Individual interactions within this sub-culture constitute a further (micro) level risk environment expressed at the individual level as psychological and emotional harms, reduced agency, and drug-risk behaviour. It is at this, individual, level that most health promotion interventions have focused.

A recent systematic review has identified ways in which the gay scene and chemsex represent a valorised 'littoral' (marginal and non-compliant) space characterised by its difference from, and resistance to hostile and dominant heterosexual norms. Within this space chemsex is seen to operate as a liberating behaviour, affirming resistance to the pressures and norms of compulsory heterosexuality (Melendez-Torres and Bonell 2016). This re-analysis of qualitative work in substance use among gay and other men who have sex with men provides new understandings of chemsex as a performative aspect of gay spaces being used to experience and underline difference from mainstream life. The use of chemsex on the gay scene may therefore be understood as an aspect of the performance of resistance, solidarity and escape. The practice of chemsex and its social contexts (both marginalised and antithetical) are mutually constituted and provide a function that cannot be understood without reference to the marginalisation of gay and other men who have sex with men. This has clear implications for interventions seeking to address the harms of this practice/space.

Participants in this study drew causal links between their emotional experience and drug-use, and repeatedly articulated chemsex as a liberating escape or balance to the emotional pressures of mainstream life. But while they struggled with the negative impact of chemsex, the available alternatives they identified; (time with female friends

or away from the urban gay scene of clubs and sex parties) were seen as part of mainstream life, which offered limited attractions for them as marginalised men.

Strengths and limitations

The sample of men in this study is a sub-set from an interventional trial using behavioural techniques to explore and address HIV-risk. The psychological intervention may therefore have elicited insights into participant narratives with advantages and limitations (Llewellyn et al. 2012). The limitation to two (maximum) 30-minute telephone interviews may have constrained further disclosure and insight. Our sample is restricted to men who self-identified a problematic role of drug-use in their sex-lives. Men who felt in control of their drug use around sex were not included.

This paper explores the marginalisation of gay and other men who have sex with men as a social determinant of health, and discusses theories that provide descriptive explanations for the elevated use of chemsex among these men, which can be used to inform interventions. Our findings coincide with similar studies of chemsex among gay men (Bourne et al. 2014; Melendez-Torres et al. 2016b). The Chemsex Study (thirty in-depth interviews with gay and bisexual men in South London) reached similar findings, with a high number of participants reporting problems with internalised homophobia, low self-esteem/confidence, shame, and loneliness, which drugs helped to overcome (or mask). The role of past emotional experience was key in participants' articulations of why they were involved in chemsex, and all the men interviewed related their chemsex to psycho-social experience. Narratives of loneliness and difficulty in forming satisfying intimate relationships were repeatedly identified. For these marginalised men, the socio-sexual environment of the gay scene provided a hedonistic safe-space away from mainstream pressures and facilitated access to affirming physical intimacy with men. But while these spaces provided safe environments in which to meet, they implicitly militated against emotionally satisfying interactions, undermined relationships, and contributed to cycles of psychological harm, loneliness, maladaptive drug-use, risky sex and emotional isolation. Syndemic patterns of drug use and HIV-risk in 'self-treatment' of loneliness among gay and other men who have sex with men have been identified in several studies, which recognised the damaging effects of mainstream

homophobic hostility and indicate the value of loneliness interventions as strategies for reducing drug-use and HIV-risks (Hubach, DiStefano, and Wood 2012; Kuyper and Fokkema 2010; Li, Hubach, and Dodge 2015; Hickson et al. 2001). Our findings reinforce these perspectives and add additional evidence of the role that marginalisation and the urban gay scene play in chemsex.

Conclusion and Implications

Gay men have been shown to recognise the impact of homophobic environments on individual and community health (Adams, McCreanor, and Braun 2013). Men in this sample articulated their experience of chemsex and HIV-risk in complex narratives, within which their drug-use was related to experiences of marginalisation, loneliness, and the littoral experience of an affirmative and sexualised gay scene that provided personal affirmation and resistance, at the same time as it proved a barrier to emotional connections. Syndemics of marginalisation, minority stress, loneliness, and the performative littoral space of the gay scene (including drug-use), were seen to contribute to chemsex and associated HIV risks. These health outcomes have routinely been described without acknowledgement of the integral links between mainstream homophobia, sub-cultural resistance and chemsex. Addressing health promotion interventions specifically to chemsex and HIV-related risk is likely to have limited impact on the syndemic conditions that drive the health behaviours of this marginalised group. Shifting the responsibility for change from vulnerable individuals to a shared responsibility distributed across social, political and institutional contexts that contribute to these syndemics is essential.

Interventions at the personal level may increase their appeal to gay and other men who have sex with men if they are seen to recognise and articulate two key factors: the psychosocial effects of marginalisation and the escape into chemsex; and recognition of the ways in which the gay scene (and its drug-use) perform resistance to marginalisation. Offering these perspectives and alternative modes of social connection that are valued for their difference and escape from repressive heterosexual norms may provide rewarding and attractive alternatives to chemsex.

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Conflict of interest

No potential conflict of interest was reported by the authors.

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Table 1: Demographic and other relevant characteristics of participants disclosing participation in chemsex versus those that did not

Characteristic	Disclosing chemsex (n=15*)		Non-disclosure of chemsex (n=162)		P value**
	Mean	SD	Mean	SD	
Age in years	32.85	(6.58)	34.64	(9.25)	0.49
	n	(%)	n	(%)	
Ethnicity					
White UK	9	(69.2)	71	(43.8)	0.089
other	4	(30.8)	91	56.2)	
Employment					
Self/employed	12	(92.3)	129	(79.6)	0.674
Student	1	(7.7)	19	(11.7)	
Unemployed	0		12	(7.4)	
Retired/other	0		2	(1.2)	
Education level					
Below degree	2	(15.4)	46	(28.4)	0.462
Degree	5	(38.5)	65	(40.1)	
Post-graduate	6	(46.0)	51	(31.5)	
Previous use of psychological support services	2		32		0.795
Sero-discordancy with main partner	0		19	(11.7)	0.025
Received money or favours for sex in the last 4 months	0		4		0.582

* missing data for 2 participants

** Pearsons chi 2 and t-test analysis for independent samples

Table 2: Themes and categories emerging from the data

Themes and categories	Sub-themes
<i>The cultural environment of chemsex</i>	<p>Socially rewarding</p> <p>Use of mobile apps (e.g. <i>Grindr</i>)</p> <p>Normalised drug-use</p> <p>Compelling and uncontrolled</p>
<i>Loneliness</i>	<p>Emotional disturbance in past</p> <p>Difficulties developing intimate relationships</p> <p>Bereavement</p> <p>Social isolation</p>
<i>Vicious cycles of drug use and sex that participants struggled to understand.</i>	
<i>The role of social networks and romantic relationships</i>	<p>Negative influences as encouraging compatriots on the scene</p> <p>Positive effects as alternatives to the scene</p> <p>Romantic alternatives to the scene</p>
<i>Avoiding, Reducing or Stopping drug-use and/or chemsex</i>	<p>Resolving the emotional drivers of current behaviour</p> <p>Departing from the social context of chemsex</p>

<i>HIV (and STI) risks</i>	Searching for risk-reduction behaviour change Resigned to ' <i>inevitable</i> ' HIV infection
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