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SEXUAL HEALTH

Slamsex in The Netherlands among men who have sex with men (MSM): use patterns, motives, and adverse effects

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ABSTRACT

Background. This paper describes an online survey of men who have sex with men (MSM) and use drugs before or during sex ('chemsex') via injection ('slamming' or 'practising slamsex'). Approximately 15–30% of the MSM population in The Netherlands have practiced chemsex at some point, and 0.5–3.1% of them ever had 'slamsex'. This study investigates which substances are used in The Netherlands during slamsex, the motives for slamming and the health risks involved. **Method.** In total, 175 MSM from The Netherlands, who had used substances before or during sex via injection completed an *ad hoc* online questionnaire designed for this study. **Results.** Mean age of respondents was 47.8 years. During chemsex, almost every substance was used; the most common substances that were injected (slammed) were 3-methylmethcathinone (3-MMC), methamphetamine, ketamine, 4-methylethcathinone (4-MEC) and mephedrone (4-MMC). Reasons for slamming were mainly to experience a more intense rush and longer sex. Virtually none of the respondents used a condom during slamsex, but needles were almost never shared or used only once. Slammers reported health problems associated with injecting drugs (skin problems, collapsed veins and infections). Of most concern were the psychological symptoms reported by about three-quarters of respondents (e.g. insomnia, sadness, depressed mood, anxiety, suicidal tendencies). About half of respondents reported some degree of loss of control or concerns about their slamming behaviour. **Conclusion.** Results show that slamsex is associated with consciously chosen sexual risk behaviours and risk-avoidance slam behaviours. This study may contribute to the reinforcement of accessible, non-judgmental and well informed prevention and harm reduction activities to support MSM practising slamsex.

Keywords: cathinones, chemsex, injection, methamphetamine, MSM, slamming, slamsex.

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Introduction

Sexualised substance use or 'chemsex' – the use of illegal substances during sex to increase pleasure and facilitating sexual sessions that last several hours or days[1] – has become more common in the past decade among gay, bisexual and other men who have sex with men (MSM). 'Slamsex', a sub-category of chemsex, involves injecting ('slamming' or 'practising slamsex') drugs before or during sexual encounters.[2,3]

Chemsex is a widespread practice across MSM in high income countries world wide.[4–10] Among the most commonly used chemsex drugs are mephedrone, crystal methamphetamine (meth), and GHB/GBL,[11–13] which are taken orally or anally ('booty bumping'). Unlike the current study, most studies from the UK and the US, include the use of poppers, cannabis, alcohol, and nitrous oxide during sex in their definition of chemsex.

To date, research has mainly been focussed on chemsex. Slamsex, practiced by a (small) subgroup of people practising chemsex, has been much less studied. Existing studies were recently reviewed by Scheibein *et al.*[14] who in their review explained the reasons to practice slamsex and described the implications for health care and policy of MSM and

sexualised injecting drug use (SIDU), including being on antiretroviral treatment. The authors further addressed challenging social taboos, ill-equipped traditional services to address 'SIDU', such as lack of knowledge of practices and lack of associated vocabulary and a failure to integrate sexual health with drug services. For instance, among 1589 MSM attending HIV services in four European countries, 24.0% and 6.5% reported chemsex and slamsex in the past year, respectively.[15] A survey among clients of 30 HIV clinics in England and Wales showed that 29% of MSM reported engaging in chemsex in the past year and about 10% reported slamming.[16] Prevalence rates of both chemsex and slamming highly depend on the definition of chemsex and sample selection. As such, a recent overview of the prevalence of slamming world wide reported extremely variable slam prevalence rates among MSM, ranging from 2 to 91%, whereas the rates ranged from 7 to 14% in other sexually active subjects.[17] Methamphetamine, mephedrone and other synthetic cathinones appeared to be the most popular slamsex drugs; more rarely ketamine, MDMA, speed and cocaine.[15,18–22]

In The Netherlands, slamsex is an under-studied and under-reported phenomenon. Since 2017, Dutch prevention and harm reduction professionals noticed an increase in slamsex among MSM, but also among male sex workers, transsexual people and bisexual men and women. On dating apps and websites, communication about slamsex is becoming more frequent and (usually) open, and from 2016 the chemsex team of the Mainline Foundation, a Dutch non-profit organisation dedicated to harm reduction related to drug use, received more and more acute requests for help regarding problems related to slamsex. This mainly concerned users of methamphetamine and/or 3-MMC who were looking for low-threshold support or professional help. Recent studies showed that the prevalence of slamming among MSM who practice chemsex in The Netherlands was (still) low: 0.5–3.1% (C. den Daas, P. C. G. Adam, W. Zuilhof, J. B. F. de Wit, unpubl. data).[23] However, very little is known about the motives, the practice, and the adverse effects of slamsex. Therefore this study aims to have a better description of the motives for slamsex, the nature of the slamming behaviour, and the problems and needs of a group of Dutch MSM who regularly practice slamsex.

Materials and methods

Survey

A cross-sectional, quantitative study about slamming among 175 MSM who used drugs intravenously before or during sexual activities was performed using an online survey consisting of 60 questions, divided over five thematic blocks: (1) personal data; (2) drugs used (3) sexual experiences; (4) complaints; and (5) information and assistance. Since no standard (validated) questionnaire was available, we developed a new '*ad hoc*' self-report questionnaire based on professional knowledge and discussions with persons with lived slamsex experiences. From March to July 2020, the survey was entered into SurveyMonkey, tested, and modified several times. From July 2020 to January 2021, this *ad hoc* questionnaire could be completed by gay and bisexual men and by trans and non-binary persons aged 18 years and older who had had sex with men and had at least three experiences with slamsex. Completing the questionnaire took about 20–30 min.

Definitions

In the current study, the following definition is used for slamming: 'the use of (a combination of) substances – except for poppers, cannabis, alcohol and nitrous oxide – during sex by men who have sex with men'. Of course, participants practising chemsex could have used all kinds of drugs (also outside the context of chemsex) and therefore, in the questionnaire all drugs were recorded. In this report, slamming stands for 'injecting drugs intravenously (into the veins), intramuscularly (into the muscles: 'muscling') or subcutaneously (under the skin: 'skin popping') during sex. Note that alcohol, poppers, nitrous oxide or cannabis are not injected and thus not considered in our description of slamsex. In most cases, this involved intravenous injection. Ketamine was sometimes injected intramuscularly or subcutaneously.

Recruitment of participants

The survey link was shared via the Mainline Foundation's website and newsletter, on social media and the website sexntina.nl. In addition, respondents were personally recruited through professionals affiliated with the Amsterdam Chemsex Consultation, Mainline Foundation's national network of healthcare professionals from (mental) health and addiction care, and the National Network of HIV Consultants. Additional efforts were made to recruit sub-target groups such as sex workers, trans people and migrants who fled their home country because of their LGBTI status. The largest group of respondents was reached through 'Planet Romeo', a popular European gay dating site. Ultimately, 175 participants living in The Netherlands took part in the study; 153 questionnaires were completed in full, implying a dropout rate of only 13%; the remaining 22 questionnaires were approximately half completed but were included in the analysis of the survey. The survey could be completed either in Dutch or English by those not speaking Dutch; 17 questionnaires were completed in English and 158 in Dutch. According to Dutch law, ethical approval of the study was not required since the survey was filled out anonymously and participants gave informed consent to use the information for research purposes when asked during filling the questionnaire.

Statistics

Presented data are descriptive data, which were not statistically evaluated

Results

Demographics of the sample

The mean age of the respondents was 47.8 years (range: 19–78 years). The largest group was between 51 and 60 years (32%), followed by the group between 41 and 50 years (29%), the group over 60 years (15%, with four men older than 71 years), the group of younger than 30 years (14%), and finally the group between 31 and 40 years (10%). All 175 respondents in the survey identified themselves as 'male'. Despite the many attempts to reach trans and non-binary people through the trans community and outreach, none of the respondents identified themselves as such. A total of 152 respondents identified themselves as gay (87%), 21 as bisexual (12%) and two as queer (1%). Most respondents had a Dutch cultural background (78%), 11% had a non-Dutch European background and 9% had a non-European background. Almost half of the respondents lived in a large city (48%) and almost a fifth in a medium-sized city (19%). The other respondents lived in a small town (14%), a village (16%) or in rural areas (3%).

Use of chemsex and slamsex drugs and their combinations

All substances, that the respondents ever used during sex, including alcohol, poppers, cannabis and nitrous oxide, are summarised in Table 1. Note that the substances in Table 1 are not exclusively used in slamsex. The most frequently used substances used at least weekly during sex were poppers (58%), 3-MMC (50%), GBL (28%) and GHB (25%),

Table 1. Experience with substances during having sex ($N = 175$).

Substance	Daily	Weekly	Monthly	Occasionally	Ever (experience)	%	Never (no experience)	%
Poppers	3	58	49	41	17	96.0	7	4.0
GHB	1	25	44	49	38	89.8	18	10.2
Methamphetamine	4	13	40	57	39	87.5	22	12.5
Ecstasy (MDMA)[A]	0	9	29	66	48	86.9	23	13.1
Ketamine	2	12	35	66	36	86.3	24	13.7
3-MMC	0	50	53	34	13	85.8	25	14.2
GBL	0	28	34	51	27	80.0	35	20.0
MDMA (ecstasy)[A]	0	2	16	53	48	78.0	56	32.0
Alcohol	8	15	20	35	36	65.1	61	34.9
Cannabis	7	11	17	40	38	64.6	62	35.4
Powder cocaine	1	6	8	41	52	61.8	67	38.2
Dexamphetamine (speed)	1	4	17	38	48	61.8	67	38.2
4-MMC (mephedrone)	0	3	15	30	55	59.8	72	41.2
4-MEC	0	2	2	26	44	42.3	101	57.7
Base cocaine (crack)	0	0	4	18	37	33.7	116	66.3
2-CB	0	0	1	5	32	21.8	137	78.2
LSD	0	1	0	7	27	20.0	140	80.0
Nitrous oxide	0	2	1	10	21	19.5	141	80.5
3-MEC	0	3	3	9	19	19.5	141	80.5
Other	0	0	4	3	5	18.3	143	81.7
4-FA (4-FMP)	0	0	2	11	16	16.6	146	83.4
Magic mushrooms	0	0	0	32	6	16.0	147	84.0
Methoxetamine	0	0	0	2	11	7.5	162	92.5
Heroin	0	0	0	0	2	0.9	173	99.1

[A]Ecstasy and MDMA are mentioned separately here, as this was the drug the user claimed was taken.

GHB, gammahydroxybutyric acid; 3-MMC, 3-methylmethcathinone; 4-MMC, 4-methylethcathinone; 4-MEC, 4-methylethcathinone; 2-CB, 4-broom-2,5-dimethoxyphenethylamine; LSD, lysergic acid diethylamide; 3-MEC, 3-methylethcathinone; 4-FA, 4-fluor-amphetamine.

alcohol (15%), methamphetamine (13%), ketamine (12%) and cannabis (11%).

The most frequently used slamdrugs were 3-MMC (81.5%), methamphetamine (79.8%) and ketamine (36.4%; Table 2). More than one-third (37.8%) of the respondents had experience with slamming multiple substances at the same time, while 15% of respondents had an explicit preference for slamming multiple substances at the same time, especially the combination of methamphetamine or 3-MMC together with ketamine and/or MDMA. The most popular slamsex drug(s) were methamphetamine (46%), 3-MMC (43%) and, to a lesser extent, ketamine (5%; data not shown). Some respondents explicitly preferred the combination of a cathinone with ketamine. In the group where methamphetamine was the drug of choice, 3-MMC was often mentioned as the second most popular. In addition, respondents were asked which other substances were used during slamsex but administered non-intravenously. Table 3 shows that GHB or GBL were most frequently mentioned, followed by poppers, ketamine, 3-MMC and methamphetamine.

Last, 11 (6%) of the 173 respondents had ever used anabolic steroids, of which two respondents took oral steroids, seven injectable steroids, and two both oral and injectable steroids. Some respondents have since stopped using steroids.

Slamsex history

Of all respondents, 41% had been slamming for more than 3 years, 38% for 1–3 years and 21% for less than 1 year. In total, 26% had ever tried to quit slamsex, of which 85% had made two or more quit attempts and three respondents more than ten attempts. One (19.5%) in five respondents said they never allowed to be slammed by others (and always injected the slamsex drugs themselves), while the other respondents did allow this to varying degrees. Of all respondents, 46 (26%) had not slammed in the month before the survey, of which 21 (12%) had stopped slamsex altogether. Approximately three-quarters (74%) of respondents had slammed in the past 4 weeks; 36% of them once, 35% 2–3 times, 25% weekly or every weekend and 5% (almost) daily.

During the COVID-19 pandemic, 12 (7%) respondents took a slamsex break, while 29 (17%) respondents had slammed more often. The largest group said they had slamsex 'equally' (35%) or somewhat less often (29%). Of the 172 respondents who answered the COVID questions, 12% said they had stopped slamsex completely. Incidentally, less than half (45%) had also sex without substance use in the past month, and one in 10 men had used drugs at each sexual encounter for more than 6 years.

Table 2. Experience with 'slamdrugs' (multiple answers possible).

Substance	Number (N = 173)	%
3-MMC (3-methylmethcathinone)	141	81.5
Methamphetamine	138	79.8
Ketamine	63	36.4
4-MEC (4-methylethcathinon)	42	24.2
Mephedrone (4-MMC)	36	20.8
MDMA (ecstasy)	26	15.0
Cocaine	21	12.1
Speed	20	11.6
3-MEC (3-methylethcathinone)	19	10.9
MXE (methoxetamine)	2	1.1
Heroin	1	0.5
Other substances	5	2.8
Mix of multiple chemsex substances	26	15.0

Table 3. Use of substances other than slamdrugs (multiple answers possible).

Substances	Number (N = 173)	%
GHB/GBL	128	74.0
Poppers	121	70.0
Ketamine	64	37.0
3-MMC (3-methylmethcathinone)	53	30.6
Methamphetamine	48	27.7
Cannabis	36	20.8
Alcohol	22	12.7
Speed	20	11.5
Powder cocaine	20	11.5
4-MMC (mephedrone)	10	5.8

Motives for slamsex

The most frequently mentioned reasons (added value) of slamsex compared to other forms of drug administration were a more intense rush (86%), and longer sex (66%), more sexual energy (50%), no/less inhibitions (48%), increased sexual focus (43%) and more extreme sex (35%). Other reasons that were mentioned (<25%) were 'huge confidence boost', longer and more intense orgasms, boosted ego, enjoyment of pain/humiliation and 'overcoming fear of sexually transmitted infections (STIs)'.

Slamsex technique

Most respondents bought their needles and syringes online (64%), at the pharmacy (30%) or received them from their sex partner (30%). The vast majority (89%) of respondents never shared their needles, almost two-thirds (65%) used the needles only once and only a few (5%) shared blood while slamming ('brotherhood'). Most (40%) slam sessions lasted 6–12 h, 23% lasted less than 6 h, 19% lasted 12–24 h, 13% lasted 1–2 days and 2% lasted longer than

3 days. A total of 35.2% of respondents reported that they had slammed multiple times in a row during slamsex.

Setting

Almost three-quarters of the respondents reported that their first slam experience took place at other people's homes and more than a quarter at their own home. Respondents reported on average 2.6 sources for arranging a slamsex date (Table 4) with most of them organised through sex friends, dating apps and to a lesser extent, slamsex parties. Slamsex dates were much less frequently found in a pub, sauna, darkroom or during a circuit party (Table 4). Most slamsex sessions took place 'at other people's homes' (80%), 'at home with others' (75%) or in public spaces, such as cruise spots (15%), darkrooms (11%), saunas (10%) and sex swingers clubs (10%). Of all respondents, 61% reported that their sex network consisted of a maximum of 10 slammers, 21% had a slamsex-network of 11–25 people, 10% had a slam-network of 25–250 people, and in one case, the slamsex-network comprised more than 250 people.

Nearly two-thirds (63%) of the respondents never used condoms during sex; 18% sometimes. During slamsex, 83% never used condoms and 7% sometimes, while none of the respondents always used condoms. For many of those who rarely or never used condoms, anal sex without condom was a conscious choice and a matter of principle, separate from slamsex or substance use during sex.

Adverse health complaints

Almost half (49%) of the respondents was HIV positive and 45% was HIV negative; the remaining 6% of the participants were unaware of their current HIV status or had never been tested. Almost all (98%) of the HIV-positive participants used HIV medication and 66% of the HIV-negative participants used Pre-Exposition Prophylaxis (PrEP; 55% daily and 47% before a sex date). Almost all (94%) respondents were regularly tested for STIs, more than half (59%) every 3 months and more than one-quarter (26%) every 6 months. Most (94%) respondents had had at least one STI in the past 2 years, with chlamydia being reported most (60%), followed by gonorrhoea (55%) and syphilis (48%). A total of 332 STIs was reported, an average of two per respondent. More than one-quarter (26%) of the respondents has ever had hepatitis C. More than half of this group contracted the hepatitis C virus again.

Of the respondents, 92% had ever (at least once) suffered from slamsex-related complaints, with less drastic complaints such as bruising (81%) and extravasation (61%). More than one in three also sometimes suffered from more serious slam-related complaints such as skin problems (35%), collapsed veins (32%) and infections (32%). One in six (17%) had experienced an overdose.

In addition to these slamsex-related complaints, more than three-quarters of the respondents (77%) had physical complaints from slamming drugs ranging from relatively harmless, such as teeth grinding (58%) and muscle twitching (27%), to severe such as cardiovascular problems (6%) and kidney problems (2%).

Three-quarters (76%) of the respondents had experienced life-long psychological problems as a result of practising slamsex. Table 5 shows that insomnia was the most common mental health complaint, followed by sadness and/or depressive feelings. Eight respondents reported ever suicidal tendencies due to slamming, four of which actually made one or more suicide attempts. In addition, 47% of the respondents endorsed at least one out of five given statements about loss of control or concerns about slamsex, with 27% being concerned about their own slamsex behaviour, 21% having feelings of regret after slamming and 5% reporting loss of control over slamming.

Table 4. Sources for slam date(s) (multiple answers possible).

	Number (N = 170)	%
Sex mates	126	74.1
Dating app	114	67.1
Dating website	84	49.4
Slam-party	50	29.4
Circuit party	18	10.6
Club/bar	11	6.4
Sauna	9	5.3
Darkroom	9	5.3
'Web-camming'	9	5.3
Other	5	3.0
Total number of sources	435 (435:170 = 2.6 slam date sources per respondent)	

Table 5. Psychological/mental complaints due to slamming (multiple answers possible).

Psychological/mental complaint	Number (N = 165)	%
Sleep problems	82	49.6
Gloom	59	35.8
Depressive feelings	57	34.5
Being worked up	42	24.5
Loneliness/socially isolated	39	23.6
Anxiety and panic attacks	25	15.1
Intense emotions/crying fits	25	15.1
Psychoses/delusions/hallucinations	22	13.3
Self-harm	12	7.2
Suicidal thoughts	8	4.8
Other	8	4.8

Almost one (19.5%) in five respondents ever sought (professional) help, specifically because of slamming or related complaints. This involved help through multiple care disciplines, often seeking help aimed at addiction and (sexual) health as well as social and psychological support.

Discussion

This study provides a detailed description of slamsex in the Dutch MSM population. It shows that the main aims of slamsex are to have a more intense rush and longer sex, confirming previous results.[1] Approximately three-quarters (74%) of all respondents had practiced slamsex in the past 4 weeks; 71% of them 1–3 times, 25% weekly or every weekend and 5% (almost) daily. This rate compares well with data from Australia, where 43% of gay and bisexual practising slamsex slammed at least once a month and 17% at least weekly.[22]

As shown previously,[15,18–20] the most popular slamming drugs are 3-MMC, methamphetamine and to a lesser extent, ketamine. The use of methamphetamine is of particular concern as this substance can cause serious physical and psychological harm,[24] including psychological dependence. In addition, acute intoxications following the use of slam drugs (e.g. 3-MMC, GHB and 4-MEC) have been reported, of which six out of 13 cases had a fatal outcome.[25] In the current study, 17% of the responders reported one or more overdoses due to slamsex drugs.

This study also shows that virtually none of the MSM used a condom during slamsex and that this seems to lead to many STIs. However, the study also found that needles were almost never shared during slamming, that needles were usually used only once and that only a few respondents shared needles during slamming ('brotherhood'). Thus, a mix of conscious sexual risk behaviours and conscious risk-avoidance behaviours, suggesting that many are still in control of the own slamsex behaviour. Nevertheless, many respondents had problems associated with injecting drugs (skin problems, collapsed veins, infections) and three-quarters reported experiencing psychological problems, such as insomnia, sadness, depressed feelings, anxiety, and suicidal tendencies. Finally, about half of the respondents said they recognised some form of loss of control or were concerned about their slamming behaviour. In addition to this, approximately 40% reported multiple slamming sessions in a row during slamsex. Characteristic of the latter is that 26% had ever tried to stop slamming, of which 85% have made two or more attempts to stop and three respondents more than 10 times. These findings, albeit more detailed, generally agree well with previous research on slamsex in The Netherlands[26–30] and beyond.[31] A previous study, showed for instance that 41% (n = 382) of those engaged in chemsex reported unwanted side-effects due to chemsex and 21% as a result of withdrawal from chemsex.[15] Particularly, mental health symptoms (e.g. depression, anxiety, withdrawal and dependence) and severe psychopathological symptoms (e.g. aggressive behaviour, paranoid thoughts and suicidal behaviours) were more severe among those who practiced slamsex.[31–33]

From a prevention, health care and harm reduction perspective, part of results obtained are of concern. About half of the respondents reported some form of loss of control or were concerned about their slamming behaviour and that 26% had ever tried to stop slamming. The results further show that virtually none of the MSM used a condom during slamsex, which includes a treat to become virally infected.

Strengths and limitations of the study

The strengths of this study are the large number (n = 176) of respondents for a difficult to reach population, the use of only *ad hoc* close-ended questions, and the wide range of topics they were surveyed about. The main limitations of the study are the lack of structured sampling frame, the use of an *ad hoc* questionnaire, and the lack of a control group (MSM having chemsex but not slamming; MSM not having chemsex). The results should therefore be seen as a first, albeit broad, exploration of this topic with possible limitations regarding external validity/generalisability and internal validity. With regard to external validity, it should be noted that this is still largely a hidden population and thus the use of a strict sampling frame is not yet possible. Moreover, there were no female or heterosexual slammers present in the present study and therefore, the results only apply to gay and bisexual male slammers. Regarding the internal validity, questions can be raised about the distinction between reported complaints and systematically assessed psychological disorders using (semi-)structured interviews. Also the self-reported need for treatment might not equal actual treatment seeking. For example, a recent study among MSM practising chemsex found that the self-reported help-seeking behaviour did not always take place in reality.[21]

Conclusions and recommendations

Although the prevalence of slamsex is increasing, it is (still) small phenomenon that is mainly limited to a small group of MSM. Therefore, slamsex, despite its many risks and negative consequences, still only has a limited effect on Dutch public health. Slamsex is associated with consciously chosen sexual risk behaviours (e.g. anal sex without condom) but also with a conscious avoidance of the risks related to the slamming of drugs (e.g. no needle sharing).

Slamsex seems to be related to many physical and psychological problems and a significant proportion of the slammers indicate that they need (professional) help and support. This research provides a detailed description of slamsex behaviour among MSM in 2020. However, part of results are of health concern and should be addressed by prevention and healthcare professionals. Regarding the health hazards found in this study, it is recommended that a follow-up study is executed with this group and a control population to correct for confounding variables that determine health outcomes in the group of slamsex users.

Apparently, traditional healthcare and addiction care services are not familiar with this specific group of drug users; i.e. have poor knowledge of and insufficient experience with their practices. As suggested before by Scheibein *et al.*,[14] these issues need to be addressed by and integrated in professional healthcare programmes. Current results may contribute to the development and updated provision of low-threshold, non-judgmental and well informed prevention and harm reduction activities and support for MSM involved in slamsex.

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Data availability. The integral report (in Dutch; 150 pp.) is available and can be requested via the Mainline website: https://mainline.nl/posts/show/14340/vraag-slammen-in-nederland-gratis-aan.

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