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Drug Consumption and (Safer) Sex

According to a survey of approx. 700 people on the influence of alcohol and 13 other drugs on their sexual perception, sexual behaviour and condom use, it was found that most drugs increase sociableness, the desire for sex, orgasm strength and sensitivity to touch. However, they also lower the ability to orgasm and maintain an erection, and increase the risk of unsafe sex. The greatest risks here, in up to 75% of cases, occur after the consumption of GHB/GBL or crystal, and in 20 to 50% of cases following the consumption of speed, ecstasy, poppers, cocaine or large quantities of alcohol.

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Introduction

The consumption of alcohol and other drugs that affect the psyche also leads to changes in sociableness, the desire for sex, and in our experience of the sexual act compared with our «normal sober state». Of particular importance are changes in condom use and/or attitudes to «safer sex», as unprotected intercourse generally leads to a significant increase in the risk of sexually transmitted infections. Although there have been a number of studies into the subject of «drugs and sex», that of «drug use and safer sex behaviour» has hitherto hardly been analysed – at least in a direct drug comparison. Following a study into the influence of drugs on changes in the desire for love, tenderness and sex involving 1600 respondents,[1] this study now looks more closely, through a direct drug comparison, at how the most frequently used legal and illegal drugs change specific parameters regarding sex compared with the sober state.These parameters include the desire for sex, the ability to maintain an erection and experience orgasm etc., and whether the drugs consumed also lead to a change in condom use. Comparing condom use without and following the consumption of drugs in the same respondents enables us to establish, for the first time, whether the «unsafe sex» behaviours of consumers discussed in countless publications is a consequence of their drug use, as argued therein, or whether this occurs for different reasons.

Method of obtaining and describing the random sample

The survey presented here was carried out in the Greater Berlin district in the form of a 12-page questionnaire handed out at a number of techno parties (including several gay ones). Such parties are attended by large numbers of people with experience of multiple drugs, as was confirmed.[2] The information collated included age, level of education, gender, sexual orientation, prevalence of the consumption of alcohol and eleven other drugs, and the frequency of condom use when sober. The respondents were asked about the influence of alcohol (after moderate and high consumption) and other drugs (after «normal» consumption) on specific changes in their sexual perception and behaviour, including any changes in condom use in comparison with their sober state. Of the 732 people aged between 15 and 48 years of age questioned (average age 27 years), 58% were male, and 30% of those were gay or bisexual (MSM). The survey was financed by Deutsche AIDS Hilfe, with the balance being provided by INEIDFO, the institute responsible for its implementation.

Consumer experience of drugs

Of the surveyed techno partygoers,91.3% had used at least one illegal drug, 84.4% in the previous year. Table 1 provides a more precise overview. After cannabis, the party drugs speed, Ecstasy and cocaine were the most frequently used illegal drugs. Poppers were clearly more popular with gay and bisexual men, whose indicated lifetime prevalence was approximately three times higher than that of heterosexual men – 71% compared with only 24%.

Drug	Experience of the use of various drugs among techno party-goers Prevalnce in %		
	Lifetime	last 12 months	last month
Alcohol, moderate	98,8	95,5	78,5
Alcohol, high	91,8	81,1	49,8
Cannabis	90,7	79,4	58,7
Poppers	32,4	19,7	5,9
Ecstasy	53,0	37,3	9,1
Speed	51,1	38,1	12,7
Crystal	19,2	7,8	0,6
Cocaine	45,1	29,3	4,7
LSD	37,3	20,2	2,4
Psilocybin mushrooms	53,5	32,0	1,8
GHB / GBL	16,4	6,8	1,1
Ketamine	13,4	5,8	1,4
Heroin	6,9	1,4	0,2

Tab. 1: **Consumption experience of various drugs among 732 techno partygoers.**

Condom use in general

The use of condoms in general (without prior drug use) was less widespread during sex with a regular partner than in sex with fleeting acquaintances; in the latter case, 27% used a condom for oral intercourse, 67% for vaginal intercourse, and among homosexual men, 75% used for anal sex. Our survey also confirmed the importance of «safer sex» in preventing sexually transmitted infections (STIs). Of the gay or bisexual men included in the survey, 32 people said they used a condom for anal intercourse in a maximum of half of their sexual encounters; 59% of these reported having had an STI or hepatitis in the past, and 56% were HIV-positive. Of the 78 people who mostly used a condom for sex, only 40% had one of these diseases, and 14% were HIV-positive.

Results and discussion

Changes in sexual perception and behaviour and towards «safer sex» following the use of certain drugs

Table 2 contains the specific effects of drugs with regard to sexual perception etc. (on the left) and safer sex behaviour (on the right) after a moderate and high consumption of alcohol, and standard (average) consumption of eleven other drugs and two impotence drugs. All analyses are limited to those who had used each drug. The mean values given in the table regarding a specific sex parameter (e.g. desire for sex) were taken from the given possible individual figures in the questionnaires (possible single values: -2/-1 = severe/moderate inhibition; 0 = no difference; +1/+2 = moderate/high enhancement compared with the sober state). Light or dark green fields in the table indicate enhancement, orange or red inhibition, of the questioned parameter. The outer right part of the table shows the average changes (also as mean values) in condom use. «Passive» female and homosexual sex partners were also included in this survey, as the corresponding question was: Compared with when I am sober, after consumption of drug XY I use a condom, or make sure that my active male partner uses a condom; about the same as normal (single value = 0); slightly/decidedly less often (single value = -1/-2); slightly/decidedly more often (single value= +1/+2).

Alcohol - disinhibition with possible loss of sexual performance

Generally, and as indicated elsewhere,[3] only low or moderate consumption of a drug will enhance sex; this is particularly evident when the drug is alcohol. A moderate consumptionof alcohol (approx. 1 litre of beer or a BAC of 0.5 g/l as the surveyed guide value) clearly increases the desire for new contacts as well as the

Average changes of several parameters regarding sex following the use of certain drugs compared with the sober state (reference value = 0.00) among respondents

Drug consumed	Responses (N) general/ condom use	Sociable-ness	Desire for sex	Desire for new sex practices	Ability to practice sex/erection	Sensitivity to touch	Ability to achieve orgasm/ time**	Feeling of orgasm	Rel. frequency of sex	Condom use in comparison with sober state
		A	B	C	D	E	F	G	H	I
Alcohol, moderate	N = 630 / 405	1.02	0.71	0.62	0.15	0.17	-0.25	-0.01	-0.06	-0.08
Alcohol, high	N = 456 / 276	0.95	0.35	0.40	-0.58	-0.40	-0.68	-0.50	-0.55	-0.42
Cannabis	N = 464 / 270	-0.22	0.32	0.06	0.21	0.89	-0.30	0.63	-0.22	-0.11
Poppers	N = 101 / 72	0.55	0.89	1.34	0.21	0.91	-0.16	0.95	0.57	-0.39
Ecstasy	N = 226 / 123	1.54	1.00	0.67	0.18	1.25	-0.64	0.86	-0.05	-0.41
Speed	N = 201 / 118	1.17	0.65	0.58	-0.05	0.36	-0.61	0.32	-0.07	-0.24
Crystal	N = 43 / 24	0.67	0.67	0.31	-0.24	0.25	-0.82	0.34	0.00	-0.50
Cocaine	N = 155 / 92	1.04	1.11	0.86	0.54	0.62	-0.56	0.55	0.03	-0.35
LSD	N = 118 / 51	0.24	-0.11	-0.05	-0.16	1.34	-0.39	0.91	-0.48	-0.24
Psilocybin mushrooms	N = 164 / 71	-0.05	-0.54	-0.24	-0.38	0.74	-0.73	0.73	-0.91	-0.14
GHB / GBL	N = 34 / 20	1.03	1.32	0.80	0.34	1.07	-0.39	0.96	0.44	-0.75
Ketamine	N = 25 / 15	-0.40	-0.13	0.42	-1.09	0.41	-1.15	-0.13	-0.50	-0.80
Viagra, Cialis	N = 34 / 23	0.63	1.31	0.74	1.71	0.47	-0.47	0.39	1.25	0.17
Yohimbe	N = 16 / 7	0.20	0.81	0.29	0.69	0.69	-0.54	1.10	0.67	not assessed
Heroin	N = 16 / 6	-0.38	-0.73	-1.08	-0.86	-0.40	-1.32	-0.89	-0.56	not assessed
	Range of values	-2.0 to -1.20	-1.19 to -0.80	-0.79 to -0.40	-0.39 to 0.40	0.41 to 0.80	0.81 to 1.20	1.21 to 2.00		-0.49 to -0.31 / -0.30 to -0.20
	Description of parameter	extremely reduced	significantly reduced	slightly reduced	quite the same as sober	slightly increased	significantly increased	extremely increased	**considered as rather positive by men during sex	extremly less often / significantly less often

Tab. 2: **Sex and Safer Sex after the consumption of Alcohol and other Drugs**

desire for sex; the other parameters of the survey remained the same (see Table 2). Where there had been a high consumptionof alcohol (approx. 2.5 litres of beer or a BAC of 1.2 g/l as the guide values), there was still a vast increase in the level of sociableness, but not in the desire for sex. The survey's parameters regarding sexual performance (such as the ability to achieve erection, sensitivity to touch, ability to orgasm) were much worse than when sober. (See table 2). In fact, even Shakespeare writes in Macbeth of an increase in (sexual) disinhibition and significant reduction in performance following the consumption of large quantities of alcohol: «It (alcohol) provokes the desire, but it takes away the performance.» Concerning the use of a condom during sex with a fleeting acquaintance, 8% of those surveyed (value: - 0.08) stated that they were generally less likely to use a condom after consuming a moderate quantity of alcohol than when sober, whereas when a larger quantity of alcohol had been consumed the same reply was 42% of those interviewed (value: - 0.42; see table 2). Such a high risk of «unsafe sex» following the consumption of large quantities of alcohol is also described in other surveys.[4] This high level of risk concerns the passive (female) partner in particular, since she will not be affected by a reduction in the ability to achieve erection following the consumption of alcohol; however, when under the influence of alcohol, she will be less likely to ensure that the active male partner uses a condom for sex.

Cannabis - not an aphrodisiac, but makes for great sex

With regard to the described effects, the most frequently consumed illegal drug, cannabis,(see table 1) resulted (following the standard consumption of one or two joints as the guide figure in the survey) in a significant positive increase in sensitivity to touch (value: + 0.89, see table), as has also been described elsewhere.[5] There was also a significant improvement in the feeling of orgasm. In contrast with many other drugs, there was no particular increase in the desire for sex, but nor was there any particular negative evaluations of sexual performance following the use of cannabis, in particular the ability to achieve an erection, as was often the case with other drugs. Respondents also noted only a moderate reduction in the use of a condom (11% of those asked, value: -0.11), which is also expressed in other reports in a comparison of drugs as a lower risk of reduced condom use by users of cannabis.[6]

Poppers - almost only for (gay) sex

Poppers, the inhaled drug (amyl nitrite etc.) that is particularly popular with gay and bisexual males (see above) and consumed almost only for sex (see figure for relative frequency of sex = + 0.67 in table 2),showed a significant enhancement of the main investigated sex parameters, in particular with regard to the desire for new sexual practices. 39% of those who had used poppers (value: -0.39) reported a reduced use of condoms while under the influence of this substance. These figures correspond to the information given in other publications,[7] in which homosexual consumers of poppers spoke of a marked increase in «unsafe sex» and HIV prevalences in comparison with non-users of the drug.

Ecstasy - for feelings of love and soft sex

The drug comparison contained generally good descriptions of the effects of almost every parameter for the amphetamine derivative Ecstasy (MDMA); in particular, the increase in sociableness was the greatest following the standard consumption of one Ecstasy tablet (value: + 1.64; see table 2). The highly «empathogenic» effect of MDMA is due to a dioxy methyl group in the amphetamine molecule.[8] According to our findings, Ecstasy does not reduce the desire for sex, as is often claimed at parties, but quite the opposite (see tab figure for relative frequency of sex: + 1.00), as is also described elsewhere.[9] However, sex is also more likely to end in soft «snuggle sex» with less likelihood of active penetration. If penetrative sex does occur, there is a far greater risk of unprotected intercourse, as is indicated by the findings of this survey (value: -0.41; see table) and elsewhere.[10]

Amphetamines - make men horny... and impotent

Amphetamine (speed) and the more effective methamphetamine *(crystal)*, after consuming the standard one or two lines, have a similar, highly ambivalent active profile. Respondents judging the parameters of speed slightly more favourably than those of crystal. Both drugs increase the desire for sex, but there is a significant reduction in the ability to achieve erection (see table 2), especially after the use of crystal, due to the vasoconstrictingactivation of the sympathetic nervous system which prevents erection. However, speed – and especially crystal in the USA – is used in large quantities at gay (sex) raves to enhance sexual prowess, and because – at least in passive homosexual partners – a male erection is not necessary; otherwise, impotence drugs such as Viagra are used to help things along. According to findings, the use of speed results in a moderate increase (value - 0.24), and that of crystal in a significant increase (value -0.50 in 50% of consumers) in the non-use of condoms for sex. An increase in «unsafe sex» in users of speed, and especially in users of crystal in the USA, is reported in other works.[11]

Cocaine - hard sex that goes on and on to the point of ecstasy

According to these findings, cocaine well deserves its reputation as the «traditional sex drug». Positive reports were given in almost all the parameters of the survey (see table 2). In contrast to amphetamines, there is no reduction in the ability to achieve an erection (following the normal consumption of one to two lines); in fact, the opposite is most distinctly the case. In fact, one respondent actually wrote on the questionnaire: «As hard as Krupp steel». However, there is a significant reduction in the ability to achieve orgasm after using cocaine (see table), as is also the case with amphetamines, which is referred to in other publications.[12] However, most men do not consider this marked delay in orgasm after commencing penetrative sex to be a disadvantage; rather, it results in much longer, more ecstatic sex than when sober, to the point of «climax», which is also experienced far more intensively than when sober (see table). According to these findings, there is much lower use of condoms in sex after the use of cocaine than when sober (value: -0.35 in the table), which is also referred to in other studies.[13]

Liquid ecstasy - best and riskiest sex drug

The drug GHB (liquid ecstasy) and its derivative GBL were judged as those having the most sexual effects in this report. Although there is a slight reduction in the ability to achieve orgasm (quickly), positive mean values were given in every other parameter in the survey (including the ability to achieve erection). Overall, GHB/GBL resulted in the highest desire for sex after the standard dose (1-2 ml in the case of GBL) in the drug comparison (value: + 1.32) and in the most intensive orgasm (value: +0.96). Other publications also speak of a marked increase in libido[14] and, as with Ecstasy, a general loss of inhibition with an increase in sociableness,[15] as well as a stronger erection with a delayed but more intense orgasm.[16] Interestingly, the overall biggest increase in sexual performance in the drug comparison correlates with the biggest increase (in 75% of respondents, see table value: -0.75) in unsafe sex compared with when sober. Other studies confirm that users of GHB have far more unprotected sex.[17]

Ketamine - hard to mix with active sex

There was a significant reduction in condom use (value as low as -0.80; see table) after the consumption of the «hallucinogenic» or dissociative drug ketamine. This has also been reported in

other surveys, especially from the USA.[18] However, unlike GHB/GBL ketamine is clearly not a sexually stimulating drug; in particular, there is a significant reduction in the ability to achieve erection and orgasm, and the frequency of sex following the consumption of ketamine is very low (see table). The use of ketamine specifically in association with sex is largely limited to painful passive sexual practices (such as passive «fist fucking» etc.) in gay men, as ketamine is primarily a narcotic and anaesthetic. So overall, the risk of transmitting HIV etc. in unprotected sex following the use of ketamine can be graded as significantly lower than with GHB because of the marked reduction in sexual performance and in the frequency of sex.

Traditional hallucinogenic drugs - making sex difficult

The traditional hallucinogens LSD and psilocybin mushrooms were often assessed as similar to ketamine. Although these hallucinogens (like cannabis) increase sensitivity to touch, they do not affect sociableness or the desire for sex, and the relative frequency of sex is also lower than when sober. In higher doses of hallucinogens in particular – as also described elsewhere[19] – sexual climax is almost impossible, either because erection can no longer be achieved or, if it is, because these drugs inhibit the areas of the brain where orgasm is initiated. According to comments made by users of these hallucinogens, it is almost impossible to concentrate on sex on a heavy trip. However, if orgasm is possible, then it is described as far more intensive than when sober - as with the drugs cannabis, poppers, Ecstasy, cocaine and GHB. With regard to condom use, where sex was still possible after consumption of these drugs, a moderate to medium reduction in condom use was noted (in 14% of respondents following the consumption of psilocybin mushrooms or in 24% following the use of LSD; see table). Other publications saw a slight positive[20] or noassociation[21] between LSD consumption and increased «unsafe sex» behaviour.

Heroin – the anti-aphrodisiac

However, the drug that is least suitable for sex is not the hallucinogen ketamine described above, but the opiate heroin. Minus values were achieved for every parameter in the survey. In particular, heroin means: no desire for sex or new sexual practices, no erection, almost impossible to achieve orgasm – and if it is, then the feelings are extremely weak. These results correlate to other descriptions of an extreme reduction in the desire for sex and in sexual potency.[22] Even if it is achieved, then sex under the influence of heroin will only be passive and receptive, as with ketamine. As fewer than ten respondents provided information on using a condom after the consumption of heroin (see table), no (decidedly negative) average figure was given because of the statistical uncertainty.

Impotence drugs - don't only enhance erection

The impotence drugs Viagra and Yohimbe are effectively the opposite of heroin in terms of sex. As is to be expected, of all the substances investigated, Viagra had the best effect on the male erection (value: + 1.71) and the highest consumption reference to sex (value: + 1.26 to relative frequency of sex; see table). The additional descriptions of an increased desire for sex and new sex practices following the consumption of Viagra must be interpreted as an indirect psychological consequence of the marked increase in male potency, as Viagra does not interact with the central nervous system. Viagra is used primarily if, following a higher consumption of amphetamines, alcohol or other drugs, the libido is (still) high but there is a marked reduction in the ability to achieve and maintain erection. The combination of Viagra and poppers that is so popular with homosexual men has already resulted in numerous fatalities.[23] With regard to condom use, men were more likely to use a condom after taking Viagra (but no other drugs) than without prior consumption of this impotence drug (value +0,17), in marked contrast to the psychoactive drugs.

Concluding observations and outlook

Sex is a major reason for the consumption of alcohol and other drugs. As we have seen, most of the drugs investigated here increase the desire for new contacts and for sex, with both acting as a strong incentive for the occurrence of sex. However, most of the psychoactive substances investigated do not encourage male erection; in all of the drugs analysed orgasm takes much longer to achieve than when sober, although men in particular consider this as desirable as it enables them to enjoy hours of ecstatic sex before climax. They are then rewarded by an orgasm that is extremely intense (much more so than when sober).

We can therefore deduce that, causally, the combination of an increased desire for sex and sex that is perceived as more enjoyable than when sober,and the psychoactive effects of these drugs (which do not exactly encourage rational considerations particularly with regard to «safer sex»), results in a marked reduction in the use of a condom. In particular, the psychoactive drugs that strongly enhanced various sex parameters were associated with a marked increase in «unsafe sex» of up to 75% in the case of GHB/GBL, and up to 50% following the consumption of crystal. In turn this means an increase in the risk of infection from AIDS, hepatitis, syphilis and other diseases. Yet from a general social point of view, in Central Europe the illegal drugs considered here, including GHB/GBL, are unlikely to be responsible for a greater spread of HIV, etc, through unprotected sex following drug consumption if we include the consumption prevalence of these drugs in the analysis. As table 1 illustrates, only some 7% of the 700 techno party-guests had consumed GHB/GBL or crystal in the previous twelve months. According to the results of an *INEIDFO*[24] survey in German-speaking countries (D, CH, A), these countries total population of 14- to 60-year-olds had consumed the following in 2009: approx. 0.3% GHB or crystal; approx. 1% cocaine or Ecstasy; approx. 1.5% speed, and approx. 6% cannabis. Three quarters (73%) of the 3000 respondents had also consumed large quantities of alcohol in the same period. In our study, the overall social risk of more «unsafe sex» following the consumption of large quantities of alcohol (individual risk = approx. 42% of more «unsafe sex», annual consumption prevalence approx. 73%; product = 3.066 points) seen overall in the drug comparison is by far the highest, and at least 140 times higher than the same risk following the consumption of GHB/GBL (individual risk = approx. 75% of more «unsafe sex», annual consumption prevalence 0.3%, product = 215 points). This is also at least 50 to 100 times higher than in a comparison of alcohol with all the other illegal drugs investigated here, including methamphetamine and cocaine, as analogous calculations for these drugs show.

The methodical design of this study used: 1)a direct comparison of the effects of drugs with regards to changes in sexual perception and the use of condoms, and 2) an internal standardisation comparing the use of condoms being sober and after drug consumption by the same (identical) respondents (in contrast to an external standardisation by comparing condom use of non drug users and condom use of drug users by analysing different respondents, as practised in most surveys). Through the innovative methodical design of this study, we are able to suggest for the first time that the correlation between drug use and changes in condom use, is not (as claimed in some surveys) determined by other independent parameters (e.g, consumers of particular drugs are generally more fraught with risk, and are therefore also less likely to use a condom). These findings show that the reduced use of condoms by consumers of a particular drug appears to be a causal consequence of the prior consumption of this drug.●

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Endnotes

1 Cf. Eul et al. 2009.
2 Cf. Eul et al. 2004.
3 Cf. Eul et al. 2009.
4 Cf. Woody et al. 1999, Castilla et al. 1999, Rusch et al. 2004.
5 Cf. Gay et al. 1973, Eul et al. 2009.
6 Cf. Woody et al. 1999, Mattison et al. 2001, Rusch et al. 2004.
7 Cf. Woody et al. 1999, Mattison et al. 2001, Drumright et al. 2006, Crosby et al. 1996.
8 Cf. Shulgin et al. 2000.
9 Cf. Romanelli et al. 2003.
10 Cf. Mattison et al. 2001, Rusch et al. 2004, Romanelli et al. 2003, Drumright et al. 2006.
11 Cf. Mattison et al. 2001, Rusch et al. 2004, Drumright et al. 2006.
12 Cf. Rätsch et al. 2003.
13 Cf. Crosby et al. 1996, Castilla et al. 1999, Ross et al. 2001.
14 Cf. Romanelli et al. 2003, Morgenthaler 1994, Rätsch et al. 2003.
15 Cf. Morgenthaler 1994, Rätsch et al. 2003.
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17 Cf. Mattison et al. 2001, Romanelli et al. 2003, Rusch et al. 2004, Drumright et al. 2006.
18 Cf. Mattison et al. 2001, Romanelli et al. 2003, Rusch et al. 2004, Drumright et al. 2006.
19 Cf. Gay et al. 1973, Rätsch et al. 2003, Eul et al. 2009.
20 Cf. Woody et al. 1999.
21 Cf. Drumright et al. 2006.
22 Cf. Gay et al. 1973, Ross et al. 2001, Rätsch et al. 2003.
23 Cf. Rätsch et al. 2003.
24 Cf. Eul 2010.