Supplementary Material

Coronavirus (COVID-19) and sexualised drug use among men who have sex with men: a systematic review

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Supplementary Table S1: Epistemonikos search (01/01/19 - 11/08/21)
(title:((title:((title:(COVID*) OR abstract:(COVID*)) OR (title:(corona*) OR abstract:(corona*)) OR (title:(social distanc*) OR abstract:(social distanc*)) OR (title:(social restrict*) OR abstract:(social restrict*)) OR (title:(pandemic*) OR abstract:(pandemic*)) OR (title:(lockdown) OR abstract:(lockdown))) OR abstract:((title:(COVID*) OR abstract:(COVID*)) OR (title:(corona*) OR abstract:(corona*)) OR (title:(social distanc*) OR abstract:(social distanc*)) OR (title:(social restrict*) OR abstract:(social restrict*)) OR (title:(pandemic*) OR abstract:(pandemic*)) OR (title:(lockdown) OR abstract:(lockdown)))) AND (title:((title:(drug) OR abstract:(drug)) OR (title:(alcohol) OR abstract:(alcohol)) OR (title:(sexual*) OR abstract:(sexual*)) OR (title:(chemsex) OR abstract:(chemsex)) OR (title:(psychoactive) OR abstract:(psychoactive))) OR abstract:((title:(drug) OR abstract:(drug)) OR (title:(alcohol) OR abstract:(alcohol)) OR (title:(sexual*) OR abstract:(sexual*)) OR (title:(chemsex) OR abstract:(chemsex)) OR (title:(psychoactive) OR abstract:(psychoactive)))) AND (title:((title:(lesbian*) OR abstract:(lesbian*)) OR (title:(gay) OR abstract:(gay)) OR (title:(bisexual*) OR abstract:(bisexual*)) OR (title:(trans*) OR abstract:(trans*)) OR (title:(men who have sex with men) OR abstract:(men who have sex with men)) OR (title:(women who have sex with women) OR abstract:(women who have sex with women))) OR abstract:((title:(lesbian*) OR abstract:(lesbian*)) OR (title:(gay) OR abstract:(gay)) OR (title:(bisexual*) OR abstract:(bisexual*)) OR (title:(trans*) OR abstract:(trans*)) OR (title:(men who have sex with men) OR abstract:(men who have sex with men)) OR (title:(women who have sex with women) OR abstract:(women who have sex with women))))) OR abstract:((title:((title:(COVID*) OR abstract:(COVID*)) OR (title:(corona*) OR abstract:(corona*)) OR (title:(social distanc*) OR abstract:(social distanc*)) OR (title:(social restrict*) OR abstract:(social restrict*)) OR (title:(pandemic*) OR abstract:(pandemic*)) OR (title:(lockdown) OR abstract:(lockdown))) OR abstract:((title:(COVID*) OR abstract:(COVID*)) OR (title:(corona*) OR abstract:(corona*)) OR (title:(social distanc*) OR abstract:(social distanc*)) OR (title:(social restrict*) OR abstract:(social restrict*)) OR (title:(pandemic*) OR abstract:(pandemic*)) OR (title:(lockdown) OR abstract:(lockdown)))) AND (title:((title:(drug) OR abstract:(drug)) OR (title:(alcohol) OR abstract:(alcohol)) OR (title:(sexual*) OR abstract:(sexual*)) OR (title:(chemsex) OR abstract:(chemsex)) OR (title:(psychoactive) OR abstract:(psychoactive))) OR abstract:((title:(drug) OR abstract:(drug)) OR (title:(alcohol) OR abstract:(alcohol)) OR (title:(sexual*) OR abstract:(sexual*)) OR (title:(chemsex) OR abstract:(chemsex)) OR (title:(psychoactive) OR abstract:(psychoactive)))) AND (title:((title:(lesbian*) OR abstract:(lesbian*)) OR (title:(gay) OR abstract:(gay)) OR (title:(bisexual*) OR abstract:(bisexual*)) OR (title:(trans*) OR abstract:(trans*)) OR (title:(men who have sex with men) OR abstract:(men who have sex with men)) OR (title:(women who have sex with women) OR abstract:(women who have sex with women))) OR abstract:((title:(lesbian*) OR abstract:(lesbian*)) OR (title:(gay) OR abstract:(gay)) OR (title:(bisexual*) OR abstract:(bisexual*)) OR (title:(trans*) OR abstract:(trans*)) OR (title:(men who have sex with men) OR abstract:(men who have sex with men)) OR (title:(women who have sex with women) OR abstract:(women who have sex with women))))))

Supplementary Table S2: Search strategy for APA PsycInfo (01/01/19 – 11/08/21)		
Concept	Keywords	MeSH terms / Subject Heading
1. Population (LGBT+ adults)	"Homosexual*" OR "gender non-binary" OR "gender non binary" OR "non-binary" OR "non binary" OR "genderqueer" OR "pansexual*" OR "gay" OR "bisexual*" OR "lesbian*" OR "trans* wom*" OR "trans* man" OR "trans* men" OR "men who have sex with men" OR "women who have sex with women" OR "MSM" OR "WSW" OR "LGBT*" OR "intersex*" OR "questioning" OR "asexual*"	LGBTQ, Homosexuality, Transgender, Bisexuality, Psychosexual Behavior, Gender Identity, Sexual Orientation, Lesbianism, Male Homosexuality, Transsexualism, Gender Nonconforming, Same Sex Intercourse, Intersex Conditions, Asexuality
2. (Sexualised) drug use	"chemsex" OR "sexual* drug" OR "methamphetamine" OR "cocaine" OR "GHB" "gamma hydroxybutyric acid" OR "GBL" OR "gamma butyrolactone" OR "mephedrone" OR "cathinone" OR "ketamine" OR "novel psychoactive substance" OR "slam*" OR "booty bump" OR "party and play" OR "pnp" OR "high and horny" OR "HnH" or "highfun" OR "chemfun" OR "chem fun" OR "chems*" OR "tina" OR "gina" OR "alcohol*" OR "drinking" OR "drunk" OR "bing*" OR "heavy episodic drinking" OR "intoxicat*" OR "benzo*" OR "Valium" OR "Xan*" OR "heroin" OR "smack" OR "opiate*" OR "methadone" OR "bup*" OR "sub*" OR "prescri*" OR "NMUPD" OR "cannabi*" OR "spice" OR "SCRA" OR "MDMA" OR "ecstasy" OR "amphetamine" OR "speed*" OR "Mexican speedball" OR "crack" OR "popper*" OR "amyl nitrate" OR "viagra" OR "Cialis" OR "sildenafil" OR "tadalafil" OR "smok*" OR "tobacco" OR "nicotine" OR "cigar*" OR "vap*" OR "heat not burn" OR "IQOS" OR "nicotine replac*"	Methamphetamine, Harm Reduction, Drug Abuse, Drug Usage, Intravenous Drug Usage, Designer Drugs, Cocaine, Drugs, CNS Stimulating Drugs, Gamma Hydroxybutyrate, Drug Addiction, Ketamine, Heroin, Opiates, Drug Overdoses, Cannabis, "Cannabis Use Disorder", Cannabinoids, Alcohols, Alcohol Abuse, Alcohol Drinking Attitudes, Alcoholism, Alcoholic Psychosis, Alcoholic Hallucinosis, Alcohol Intoxication, Alcohol Withdrawal, Binge Drinking, Sobriety, Benzodiazepines, Methylenedioxymethamphetamine, Inhalant Abuse, Sildenafil, Erectile Dysfunction, Smokeless Tobacco, Tobacco Smoking, 'Tobacco Use Disorder', Prescription Drugs, Prescription Drug Misuse
3. COVID-19	"coronavirus" OR "covid*" OR "lockdown" OR "social restriction*" OR "SARS" OR OR "stay at home" OR "social distanc*"	Coronavirus, Pandemics, Severe Acute Respiratory Syndrome
Searches combined with AND: 1 AND 2 AND 3.		

Supplementary Table S3: Search strategy for Embase Classic + Embase (01/01/19 – 11/08/21)		
Concept	Keywords	MeSH terms / Subject Heading
1. Population (LGBT+ adults)	"Homosexual*" OR "gender non-binary" OR "gender non binary" OR "non-binary" OR "non binary" OR "genderqueer" OR "pansexual*" OR "gay" OR "bisexual*" OR "lesbian*" OR "trans* wom*" OR "trans* man" OR "trans* men" OR "men who have sex with men" OR "women who have sex with women" OR "MSM" OR "WSW" OR "LGBT*" OR "intersex*" OR "questioning" OR "asexual*"	homosexuality, male homosexuality, homosexual female, bisexuality, "sexual and gender minority", gender identity, homosexual male, transgender, male to female transgender, female to male transgender, transsexualism, men who have sex with men, women who have sex with women, LGBT people, lesbian, intersex, sex differentiation disorder, "disorder of sexual development", asexual people
2. (Sexualised) drug use	"chemsex" OR "sexual* drug" OR "methamphetamine" OR "cocaine" OR "GHB" "gamma hydroxybutyr*" OR "GBL" OR "gamma butyrolactone" OR "mephedrone" OR "cathinone" OR "ketamine" OR "novel psychoactive substance" OR "slam*" OR "booty bump" OR "party and play" OR "pnp" OR "high and horny" OR "HnH" or "highfun" OR "chemfun" OR "chem fun" OR "chems*" OR "tina" OR "gina" OR "alcohol*" OR "drinking" OR "drunk" OR "bing*" OR "heavy episodic drinking" OR "intoxicat*" OR "benzo*" OR "Valium" OR "Xan*" OR "heroin" OR "smack" OR "opiate*" OR "methadone" OR "bup*" OR "sub*" OR "prescri*" OR "NMUPD" OR "cannabi*" OR "spice" OR "SCRA" OR "MDMA" OR "ecstasy" OR "amphetamine" OR "speed*" OR "Mexican speedball" OR "crack" OR "popper*" OR "amyl nitrate" OR "viagra" OR "Cialis" OR "sildenafil" OR "tadalafil" OR "smok*" OR "tobacco" OR "nicotine" OR "cigar*" OR "vap*" OR "heat not burn" OR "IQOS" OR "nicotine replac*"	drug use, drug abuse, drug dependence, methamphetamine, methamphetamine dependence, methamphetamine-induced psychosis, 4' methylmethcathinone, cathinone, gamma butyrolactone, 4 hydroxybutyric acid, cocaine, cocaine dependence, cocaine-induced psychosis, ketamine, intoxication, diamorphine, opiate, opiate addiction, amphetamine, amphetamine abuse, amphetamine dependence, cannabis, cannabis addiction, cannabis smoking, "cannabis use", cannabinoid receptor agonist, midomafetamine, alcohol, binge drinking, alcohol abuse, alcohol consumption, alcohol intoxication, alcohol psychosis, alcohol withdrawal seizure, alcohol withdrawal syndrome, "Alcohol Use Disorders Identification Test", benzodiazepine, benzodiazepine dependence, nitrate, amyl nitrate, sildenafil, tadalafil, tobacco, smokeless tobacco, tobacco consumption, tobacco dependence, "tobacco use", prescription drug, prescription drug misuse, prescription drug diversion
3. COVID-19	"coronavirus" OR "covid*" OR "lockdown" OR "social restriction*" OR "SARS" OR "stay at home" OR "social distanc*"	Coronavirinae, coronavirus disease 2019, pandemic, severe acute respiratory syndrome
Searches combined with AND: 1 AND 2 AND 3.		

Supplementary Table S4: Search strategy for Ovid MEDLINE(R) and Epub Ahead of Print, In-Process, In-Data-Review & Other Non-Indexed Citations and Daily (01/01/19 – 11/08/21)		
Concept	Keywords	MeSH terms / Subject Heading
1. Population (LGBT+ adults)	"Homosexual*" OR "gender non-binary" OR "gender non binary" OR "non-binary" OR "non binary" OR "genderqueer" OR "pansexual*" OR "gay" OR "bisexual*" OR "lesbian*" OR "trans* wom*" OR "trans* man" OR "trans* men" OR "men who have sex with men" OR "women who have sex with women" OR "MSM" OR "WSW" OR "LGBT*" OR "intersex*" OR "questioning" OR "asexual*"	Homosexuality, Female, Homosexuality, Male, "Sexual and Gender Minorities", Homosexuality, Transgender Persons, Transsexualism, Gender Identity, Bisexuality, Intersex Persons, "Disorders of Sex Development"
2. (Sexualised) drug use	"chemsex" OR "sexual* drug" OR "methamphetamine" OR "cocaine" OR "GHB" "gamma hydroxybutyric acid" OR "GBL" OR "gamma butyrolactone" OR "mephedrone" OR "cathinone" OR "ketamine" OR "novel psychoactive substance" OR "slam*" OR "booty bump" OR "party and play" OR "pnp" OR "high and horny" OR "HnH" or "highfun" OR "chemfun" OR "chem fun" OR "chems*" OR "tina" OR "gina" OR "alcohol*" OR "drinking" OR "drunk" OR "bing*" OR "heavy episodic drinking" OR "intoxicat*" OR "benzo*" OR "Valium" OR "Xan*" OR "heroin" OR "smack" OR "opiate*" OR "methadone" OR "bup*" OR "sub*" OR "prescri*" OR "NMUPD" OR "cannabi*" OR "spice" OR "SCRA" OR "MDMA" OR "ecstasy" OR "amphetamine" OR "speed*" OR "Mexican speedball" OR "crack" OR "popper*" OR "amyl nitrate" OR "viagra" OR "Cialis" OR "sildenafil" OR "tadalafil" OR "smok*" OR "tobacco" OR "nicotine" OR "cigar*" OR "vap*" OR "heat not burn" OR "IQOS" OR "nicotine replac*"	Substance-Related Disorders, Methamphetamine, Designer Drugs, Drug Overdose, Hydroxybutyrates, Ketamine, Cocaine, Cocaine-related Disorders, Heroin, Heroin Dependence, Opiate Alkaloids, Cannabis, Cannabinoid Receptor Agonists, Cannabinoids, Alcohols, Alcohol Drinking, Binge Drinking, Alcoholism, Alcohol Withdrawal Delirium, Benzodiazepines, Substance Withdrawal Syndrome, Sildenafil Citrate, Tadalafil, N-Methyl-3,4-methylenedioxyamphetamine, Amphetamine, Amphetamine-related Disorders, Nitrates, Tobacco, Tobacco Products, Tobacco, Smokeless, Tobacco Smoking, "Tobacco Use", Tobacco Use Cessation", "Tobacco Use Cessation Devices", Tobacco Use Disorder, Smoking, Non-Tobacco Products, Prescriptions
3. COVID-19	"coronavirus" OR "covid*" OR "lockdown" OR "social restriction*" OR "SARS" OR OR "stay at home" OR "social distanc*"	COVID-19, Coronavirus, Coronavirus Infections, Pandemics, severe acute respiratory syndrome, SARS-CoV-2
Searches combined with AND: 1 AND 2 AND 3.		

Supplementary Table S5: Search strategy for Web of Science databases (Web of Science Core Collection, KCI-Korean Journal Database, Russian Science Citation Index, SciELO Citation Index; 01/01/19 – 14/08/21)
1. (Sexualised) drug use (((AB=(chemsex)) OR AB=(sexuali* drug use)) OR AB=(party and play)) OR AB=(pnp)) OR AB=(high and horny)) OR AB=(hnh)) OR AB=(high fun)) OR AB=(chemfun)) OR AB=(chem fun)) OR AB=(methamphetamine)) OR AB=(gamma hydroxybutyr*)) OR AB=(gamma butyrolactone)) OR AB=(GHB)) OR AB=(GBL)) OR AB=(mephedrone)) OR AB=(cathinone)) OR AB=(ketamine)) OR AB=(novel psychoactive substance)) OR AB=(slamming)) OR AB=(slam*)) OR AB=(booty bump)) OR AB=(alcohol)) OR AB=(alcohol intoxication)) OR AB=(alcoholism)) OR AB=(alcoholic hallucinosis)) OR AB=(alcohol withdrawal)) OR AB=(binge drink*)) OR AB=(heavy episodic drink*)) OR AB=(benzodiazepine)) OR AB=(benzo*)) OR AB=(Xan*)) OR AB=(Val*)) OR AB=(cannabis)) OR AB=(spice)) OR AB=(cannabinoid)) OR AB=(cannabinoid receptor)) OR AB=(SCRA)) OR AB=(MDMA)) OR AB=(methylenedioxymethamphetamine)) OR AB=(ecstasy)) OR AB=(amphetamine)) OR AB=(speed)) OR AB=(overdose)) OR AB=(opiate)) OR AB=(heroin)) OR AB=(smack)) OR AB=(prescription)) OR AB=(methadone)) OR AB=(bup*)) OR AB=(sub*)) OR AB=(non-medical use of prescription drugs)) OR AB=(NMUPD)) OR AB=(speedball)) OR AB=(Mexican speedball)) OR AB=(popper*)) OR AB=(amyl nitrate)) OR AB=(alkyl nitrate)) OR AB=(viagra)) OR AB=(cialis)) OR AB=(sildenafil)) OR AB=(tadalafil)) OR AB=(smoking)) OR AB=(tobacco)) OR AB=(nicotine)) OR AB=(cigar*)) OR AB=(heat not burn)) OR AB=(IQOS)) OR AB=(tobacco use disorder)) OR AB=(tobacco cessation)) OR AB=(nicotine replace*)
2. LGBT+ ((((((((((((((((((((TS=(lesbian*)) OR TS=(gay)) OR TS=(homosexual*)) AND TS=(bisexual*)) OR TS=(pansexual*)) OR TS=(transgender*)) OR TS=(transsexual*)) OR TS=(sexual minorit*)) OR TS=(gender minorit*)) OR TS=(trans* wom*)) OR TS=(trans* man)) OR TS=(trans* men)) OR TS=(gender non-binary)) OR TS=(non-binary)) OR TS=(non binary)) OR TS=(genderqueer)) OR TS=(LGBT*)) OR TS=(men who have sex with men)) OR TS=(women who have sex with women) OR TS=(asexual*)) OR TS=(questioning)) OR TS=(intersex*))
3. COVID-19 (((((((TS=(COVID-19)) OR TS=(covid*)) OR TS=(coronavirus*)) OR TS=(SARS)) OR TS=(SARS-CoV-2)) OR TS=(pandemic)) OR TS=(lockdown)) OR TS=(social restriction*) OR TS=(stay at home*)) OR TS=(social distance*))
Searches combined with AND: 1 AND 2 AND 3.

Supplementary Table S6: Abstracts reviewed for each of three Google Scholar searches (28/08/21)	
Search 1: "covid" AND "chemsex" OR "drug use"	
Record title	Outcome (with reason)
Substance misuse during COVID-19: protecting people who use drugs (commentary)	Exclude (commentary)
Illicit drug use and harms in Australia in the context of COVID-19 and associated restrictions: Anticipated consequences and initial responses	Exclude (commentary)
Changes in Drug Use Patterns during the COVID-19 Pandemic in Italy: Monitoring a Vulnerable Group by Hair Analysis	Exclude (wrong population)
Potential Influences of the COVID-19 Pandemic on Drug Use and HIV Care Among People Living with HIV and Substance Use Disorders: Experience from a Pilot mHealth Intervention	Full-text review
Loneliness, Mental Health, and Substance Use among US Young Adults during COVID-19	Full-text review
Domestic violence and drug use during the COVID-19 pandemic	Exclude (theoretical study)
Key findings from the 'Australians' Drug Use: Adapting to Pandemic Threats (ADAPT)'Study Wave 3	Full-text review
New trends of substance abuse during COVID-19 pandemic: an international perspective	Exclude (commentary)
The Early Impact of Social Distancing Measures on Drug Use	Full-text review
Developments in Drug Addiction During COVID-19—An Austrian Perspective Based on a Clinical Sample	Exclude (commentary)
Full report: Recreational drug use during COVID-19 outbreak	Full-text review
Search 2: "coronavirus" AND "chemsex" OR "drug use"	
Record title	Outcome (with reason)
Changing Patterns of Substance Use During the Coronavirus Pandemic: Self-Reported Use of Tobacco, Alcohol, Cannabis, and Other Drugs	Full-text review
The COVID-19 pandemic and its impact on substance use: Implications for prevention and treatment	Exclude (letter)
Search 3: "lockdown" AND "chemsex" OR "drug use"	
Record title	Outcome (with reason)
Changes of drug use in the general population due to COVID-19	Exclude (conference)
Apathy and Anhedonia in Adult and Adolescent Cannabis Users and Controls Before and During the COVID-19 Pandemic Lockdown	Full-text review
Mental Health and Domestic Violence in LGB+ Persons during Lockdown Measures in Belgium	Full-text review
Investigating the impact of COVID-19 on performance and image enhancing drug use	Full-text review
Drugs in the Time of COVID	Full-text review
Substance consumption styles during the COVID-19 lockdown for socially integrated people who use drugs	Full-text review
Factors of Negative Affect in Elderly Patients With Substance Use Disorders During COVID-19 Pandemic	Full-text review