

# INPLASY PROTOCOL

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**Support:** Int. Univ. of La Rioja (UNIR).

**Review Stage at time of this submission:** Formal screening of search results against eligibility criteria.

**Conflicts of interest:**  
None declared.

## Prevalence of sex under the influence of drugs among young adults: a systematic review and meta-analysis protocol

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**Review question / Objective:** The objective of this systematic review and meta-analysis is to examine the prevalence of engaging in sex under the influence of drugs among young adults.

**Condition being studied:** The prevalence of sex under the influence of drugs in young adults.

**Information sources:** Published and unpublished literature will be systematically searched via three electronic databases: ISI Web of Science (WoS Core Collection); Scopus; and Psychological Information (PsycInfo). A grey literature search will also be performed via the Google and Google Scholar search engines, in order to obtain other potential relevant studies. Reference lists of relevant published studies will also be examined to obtain additional eligible reports. Additionally, emails will be sent to the research groups that have published the most about SDU, with the aim of identifying unpublished studies.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 20 October 2021 and was last updated on 20 October 2021 (registration number INPLASY2021100077).

## INTRODUCTION

**Review question / Objective:** The objective of this systematic review and meta-analysis is to examine the prevalence of engaging in

sex under the influence of drugs among young adults.

**Rationale:** Sexualized Drug Use (SDU) refers to the use of drugs before or during sexual activity (Edmundson et al., 2018;

González-Baeza et al., 2018), including practices known as Chemsex, Party and Play (Schmidt et al., 2016; Souleymanov et al., 2019), and Slamsex (Bourne et al., 2015; Pufall et al., 2018). To date, a number of empirical and review studies have examined SDU prevalence and its associated outcomes, predominantly among gay and bisexual communities, and communities of other men who have sex with men (Guerra et al., 2020; Maxwell et al., 2019). Currently, this behaviour represents a major public health concern, and has gained increasing empirical attention in relation not only to gay and bisexual communities, but also to other populations, such as young adults (Hamilton et al., 2019; Loza et al., 2021). The risky behaviour has been associated with various negative health consequences, including overdoses (Hammoud et al., 2018), decreased use of condoms for preventing sexually transmitted diseases such as HIV (Guerra et al., 2020; Hamilton et al., 2018; Maxwell et al., 2019; Pufall et al., 2018), and deterioration in the quality of social relationships and personal well-being (Bourne et al., 2015). The lack of reviews concerning SDU among the young adult population and its potential health implications support the need to carry out a thorough review aimed at providing an estimate of its prevalence. Ultimately, knowing the extent of this behaviour will facilitate the planning of preventive public health strategies and therapeutic interventions for this population grouping.

**Condition being studied:** The prevalence of sex under the influence of drugs in young adults.

## METHODS

**Search strategy:** Following the ‘Peer Review of Electronic Search Strategies’ (PRESS) guideline, our search strategy will consist of two groups of search terms: (1) referring to SDU (e.g., “alcohol / drug\* before sex\*”, “alcohol consum\* during sex\*”, “alcohol / drug\* during sex\*”, “alcohol / drug\* enhanc\* sex\*”, “alcohol / drug\* for sex\*”, “alcohol /

drug\* prior to sex\*”, “alcohol / drug\* us\* prior to sex\*”, “alcohol / drug\* use before sex\*”, “alcohol / drug\* use during sex\*”, “consum\* before sex\*”, “consum\* prior to sex\*”, “chemsex”, “inject\* during sex\*”, “inject\* sex\* drug\*”, “intak\* before sex\*”, “intak\* during sex\*”, “intercourse under the influence”, “intercourse while drunk\*”, “intercourse while high”, “intercourse while intoxicat\*”, “party and play”, “sex after consum\*”, “sex after inject\*”, “sex under the influence”, “sex while drunk\*”, “sex while high”, “sex while intoxicat\*”, “sex while us\* drug\*”, “sex\* after us\*”, “sex\* drug\* tak\*”, “sex\* drug\* use”, “sex\* inject\* drug\*”, “sexual\* substance\* us\*”, “slamming”, “slamsex”, “substanc\* during sex\*”, “substanc\* us\* at last sex\*”, “substanc\* us\* before sex\*”, or “substanc\* us\* prior to sex\*”); and (2) indicating young adults as the target population (e.g., “adulthood”, “bachel\*”, “college seni\*”, “college”, “college-age\*”, “degree\*”, “doctoral degree”, “early adult\*”, “emerging adult\*”, “freshman”, “graduat\*”, “higher education”, “junior college”, “juvenil\*”, “late adolescen\*”, “master\*”, “older adolescen\*”, “postgraduat\*”, “postsecondary”, “student\*”, “tertiary education”, “undergraduat\*”, “universit\*”, “university student\*”, “young adult\*”, “young people”, “young\*”, “young”, “youth\*”, or “18 to 29”). If possible, we will use the combination of MeSH words and free words to conduct the literature search. The Boolean operators OR and AND will be used within and across descriptors respectively. The search strategy will be modified according to the specifics of each database.

**Participant or population:** Young adult people, aged between 18 and 29 years old, regardless of country, gender, ethnicity, or diagnosed condition.

**Intervention:** Not applicable.

**Comparator:** Not applicable.

**Study designs to be included:** This systematic review will take into account empirical studies with experimental (randomized and non-randomized), non-

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experimental (e.g., cross-sectional and longitudinal studies), single-case and qualitative designs. However, single-case and qualitative designs will not be included in the meta-analysis.

**Eligibility criteria:** Studies will be included if they: (1) aim to examine the prevalence of engaging in sex under the influence of drugs and/or of its correlates (2) provide original empirical data, (3) comprise a sample of participants from 18 to 29 years old, (4) are published or available in English, Spanish or Catalan; and (5) report a prevalence figure on the condition of having sex under the influence of drugs. Regarding the inclusion criterion (5), we will also consider studies that report the prevalence disaggregated by substance. We will exclude studies if they: (1) provide insufficient demographic or methodological descriptions, (2) the prevalence of the condition of having sex under the influence of drugs was not calculable from the data; or (3) analyze data from the same batch of data as another of the included studies. Studies analyzing data from the same research project were included only when the samples differed among them. Furthermore, clinical and/or community specific samples (e.g., injected drug users) will be excluded from the analysis.

**Information sources:** Published and unpublished literature will be systematically searched via three electronic databases: ISI Web of Science (WoS Core Collection); Scopus; and Psychological Information (PsycInfo). A grey literature search will also be performed via the Google and Google Scholar search engines, in order to obtain other potential relevant studies. Reference lists of relevant published studies will also be examined to obtain additional eligible reports. Additionally, emails will be sent to the research groups that have published the most about SDU, with the aim of identifying unpublished studies.

**Main outcome(s):** The main outcome will be the prevalence of engaging in sex under the influence of drugs in our target population. Other relevant outcomes are likely to include: data collection year, study

design, applied sampling technique, administration procedure, and the sample characteristics of primary studies (e.g., geographical origin, gender distribution, mean age, sexual orientation, ethnicity). Further outcomes will be the identification and description of potential moderating factors, such as the participants' sex, purpose and the willingness with which they partake in the behaviour, the drug type used, and the timeframe of the measure, among others.

**Additional outcome(s):** Not applicable.

**Data management:** References identified by the authors via the search strategy will be entered into the latest version of the Mendeley bibliographic software. Duplicate references will be removed. Two reviewers will be independently involved in selecting studies. First, titles and abstracts will be screened by both reviewers. When decisions cannot be made from the title and abstract alone, the full paper will be retrieved. Documents will be selected according to the indicated eligibility criteria. Second, the full-text of selected studies will be screened and analysed by both reviewers. Finally, the selected studies will be organized and main information will be classified according to encoding records by both reviewers. Disagreements will be solved by a third reviewer or by consensus. In order to improve the quality of this process, a third author will review the included studies and the classification of the main information in according to the encoding records. The selected and excluded studies will be reported after the review by the third author. Tables and figures will be created to show the included studies and outcomes.

**Quality assessment / Risk of bias analysis:** Risk of bias will be assessed for each study using an ad-hoc tool elaborated by the authors and adapted from a tool specifically designed to assess bias in prevalence studies (Hoy et al., 2012). This tool will be used to evaluate a total of five methodological quality domains, two relating to the external validity of the study (representativeness of the target

population: probabilistic or non-probabilistic sample; and study response rate), and three relating to the internal validity of the study (measure quality: reporting or justifying evidence of validity and reliability in the study sample, or equivalent samples; common administration procedures for all participants or not; and timeframe of the measure: well-defined or undefined).

**Strategy of data synthesis:** We will provide a summary of the characteristics and results of the included studies in tables. A meta-analysis will be developed to examine the prevalence of engaging in sex under the influence of drugs and moderating factors among the young adult population. The pooled prevalence of participating in sex under the influence of drugs and the associated 95% confidence intervals (CI) and credibility intervals (CR) around the estimates will be computed. The heterogeneity will be evaluated by I<sup>2</sup>, Q and Tau<sup>2</sup> statistics will also be computed to assess the statistical heterogeneity of effect sizes. Subgroup and meta-regression analysis will be performed to explore the sources of heterogeneity. All analyses will be carried out with the latest version of the Metafor package for R.

**Subgroup analysis:** Subgroup analysis will be performed on the basis of the following variables: document type, applied sampling technique, administration procedure, risk of bias assessment, data collection year, sample type, geographical origin of the sample, participants' sex, substance use, purpose and willingness with which they partake in the behaviour, or timeframe of the measure. Other demographic, sexual or health associated variables may also be considered.

**Sensitivity analysis:** If necessary, sensitivity analysis using relevant standards will be performed.

**Language:** English, Spanish and Catalan.

**Country(ies) involved:** Spain.

**Other relevant information:** The publication of the protocol has been delayed due to the summer holiday period.

**Keywords:** Sexualized Drug Use; Sex under the influence of; Systematic Review; Meta-analysis; Prevalence; Young Adults; Chemsex; Slamsex; Party and Play.

**Dissemination plans:** The results will be disseminated by publication in a peer-reviewed journal and presented at relevant academic conferences.

**Contributions of each author:**

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