*Review Manuscript*

# Drug-Facilitated Sexual Assault: A Systematic Review

TRAUMA, VIOLENCE, & ABUSE
1–12

DOI: 10.1177/15248380231195877
journals.sagepub.com/home/tva
Sage

**Irantzu Recalde-Esnoz[1], Pablo Prego-Meleiro[2,3], Gemma Montalvo[3], and Héctor del Castillo[1]**

**Abstract**

Since the last two decades, the scientific community has made an effort to analyze drug-facilitated sexual assault (DFSA). However, a lack of understanding remains about the DFSA problem, particularly concerning the opportunistic variant. Facing this situation, a systematic review of the term DFSA is carried out from its first appearance in the scientific databases consulted (Web of Science, Scopus, and PubMed) to the current day. The search resulted in 773 publications, reduced to a final study sample composed of 19 articles. Eligible studies for this review had to meet certain inclusion criteria, in addition to providing information on DFSA prevalence, DFSA victim profile, DFSA offender profile, involved drugs, or contextual information about the assault. The results demonstrated that the assailants are men, who mostly know victims before the assault. The victims are young women under 30 years old. Alcohol is the drug involved in most DFSA cases, prevailing a voluntary use. Most assaults occur in private spaces, particularly the aggressors' own homes. Furthermore, there is a detected need for a standard definition of DFSA to allow the different actors involved in dealing with sexual violence to work effectively together, and, at the same time, it is detected that the available studies overrepresent proactive DFSA and underestimate opportunism, the most common *modus operandi* involved in DFSA cases.

**Keywords**

sexual violence, drug-facilitated sexual assault, prevalence, victim profile, assailant profile, drugs

## Introduction

Sexual violence is a significant social problem of considerable proportions, particularly affecting women (World Health Organization, 2012), with substantial short-, medium-, and long-term consequences on the mental and physical health and well-being of women, children, and families and severe social and economic repercussions for countries and societies (World Health Organization, 2002). According to the World Health Organization, sexual violence encompasses any sexual behavior or attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic or otherwise directed against a person's sexuality (World Health Organization, 2002). Based on updated estimates, 6% of women 15 years of age or older have suffered from sexual violence perpetrated by someone other than a current or former intimate partner at least once in their lifetime (World Health Organization, 2018). As a recurrent, complex issue, multiple vulnerability factors intersect in sexual violence, triggering diverse abusive situations. A widespread example of this complex reality concerns assailants taking sexual advantage of people experiencing temporary disability resulting from alcohol, pharmaceuticals, or other drugs' psychoactive effects. The use of psychoactive substances to facilitate nonconsensual sexual intercourse is a practice that goes back to the ancient times (Bellis & Hughes, 2004; Isorna & Rial, 2015). However, despite being a long-term problem, the first explicit mentions of this form of sexual violence did not appear in the scientific community until the 80s, although referring only to situations involving victims' involuntary drug use resulting from covert drugging (Poyen et al., 1982). Over the following years, some authors published different approaches, beginning to study this sexual violence related to alcohol and other drugs in colleges (Koss et al., 1897). However, this sexual violence problem did not receive a specific noun in a scientific publication until the dawn of the new millennium when LeBeau et al. (1999) denominated it as "drug-facilitated sexual assault" (DFSA). From a forensic laboratory perspective, these authors

[1]Universidad de Alcalá, Alcalá de Henares, Spain
[2]Universidad Complutense de Madrid, Spain
[3]Universidad de Alcalá, Alcalá de Henares, Spain

**Corresponding Author:**
Héctor del Castillo, Department of Education Sciences, Universidad de Alcalá, C/ San Cirilio, s/n, Aulario María de Guzmán, Alcalá de Henares 28804, Spain.
Email: hector.delcastillo@uah.es

published some recommendations for guiding toxicological investigations of DFSA, meaning sexual assault (SA) situations during which victims are under the effects of psychoactive substances and may have no recollection of the assault. As part of this nominative turning point, a few years later, the Advisory Council on the Misuse of Drugs (ACMD) (2007) adopted the DFSA term, emphasizing both voluntary and involuntary drug use situations. Concretely, the ACMD's definition of DFSA refers to the nonconsensual sexual activity involving the forcible or covert administration of incapacitating or disinhibiting substances by an assailant and situations in which victims' intoxication results from self-consumption. In this regard, the assailants' *modus operandi* in DFSA situations varies according to the victims' voluntary or involuntary nature of substance consumption. As such, in opportunistic DFSA, assailants take advantage of victims' vulnerability resulting from voluntary substance use (Prego-Meleiro et al., 2020). In proactive DFSA, such susceptibility comes from involuntary consumption because of covert or forced substance administration by assailants. The most common procedure and substance in DFSA are opportunistic strategies taking advantage of alcohol voluntary use by victims (Anderson et al., 2017; Prego-Meleiro et al., 2020). More recently, the United Nations Office on Drugs and Crime included drug-facilitated rape within the acts of a sexual nature section of the International Classification of Crime for Statistical Purposes (United Nation Office on Drugs and Crime, 2015).

A more special research focus on DFSA happens after coining the term at the beginning of the new millennium, mainly through case studies of alleged DFSA experiences received by forensic laboratories and SA treatment centers (Anderson et al., 2017; Prego-Meleiro et al., 2020). In turn, survey-based studies have paid particular attention to DFSA prevalence in the university population. The Campus Sexual Assault Study observed that 11% of women students and 3% of men had suffered from SA while incapacitated since entering college (Krebs et al., 2007). Simultaneously, some institutional records have shed certain light on the extent of the DFSA problem. In this line, the United States National Intimate Partner and Sexual Violence Survey observed that 12% of women over 18 years of age have been raped while incapacitated by alcohol or other drugs, 1% during the last year. For men, the data were reduced to 2% and 0.2%, respectively (Basile et al., 2022). However, despite the studies, a lack of understanding remains about the DFSA problem, particularly concerning the opportunistic variant related to voluntary alcohol use by victims (García et al., 2021; Prego-Meleiro et al., 2020).

Facing this situation, making order in studies and knowledge generated up to date becomes necessary to provide a more accurate approximation of the prevalence and features of the DFSA problem. At this point, other systemic reviews about the DFSA topic have overemphasized the proactive DFSA (García et al., 2021; Beynon et al., 2008), repeatedly structured their observations based on geographical classifications (Anderson et al., 2017; García et al., 2021), and included a remarked focus on toxicological-forensic aspects. However, as a novel, necessary approximation, this new review avoids past biases and pays attention to non-previously approached factors such as the assailant profile and situational information concerning DFSA. As such, following are some crucial research questions that demand specific and urgent attention: what are the victim and assailant profiles? what are the psychoactive substances mainly involved in the DFSA phenomenon? what are the contextual features and realities framing DFSA experiences? other works have been structured by geographical locations where DFSA has been monitored, but what about a more in-depth view of DFSA prevalence in those locations? Therefore, this review aims to collect, analyze, and compare the research articles about the DFSA phenomenon published up to date since the first time LeBeau et al. (1999) referred to the DFSA term in a scientific publication and responded to the previous research questions to improve understanding about this form of sexual violence.

## Methodology

### Search Strategy

The scientific literature search for this systematic review was carried out in March 2022, consulting Web of Science, Scopus, and PubMed databases and following the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement (Liberati et al., 2009; Moher et al., 2009). Based on the established objectives, the search terms were "drug-facilitated sexual assault" and "DFSA." Likewise, no limits were placed on the geographical location of included studies, allowing a global search.

### Inclusion and Exclusion Criteria

Following the previous studies (Gonzalez et al., 2018; Kourti et al., 2021; Rumble et al., 2018; Steele et al., 2020; Vitek & Yeater, 2020; Wright et al., 2021), the inclusion and exclusion criteria were established as indicated below. All included articles complied with the following: (a) research articles from scientific journals, (b) final publications, (c) English or Spanish languages, (d) open access or available for consultation, (e) peer-reviewed publications, (f) use the DFSA term, (g) quantitative research, (h) study samples composed of persons or individual cases, (i) study samples including 100 or more persons experiencing confirmed or alleged DFSA, and (j) measured study variables include at least DFSA prevalence, DFSA victim profile, DFSA offender profile, involved drugs, or contextual information about the assault.

The initial search resulted in 773 articles. After removing duplicates, the first two authors reviewed the articles independently, rejecting them in the first step by applying the

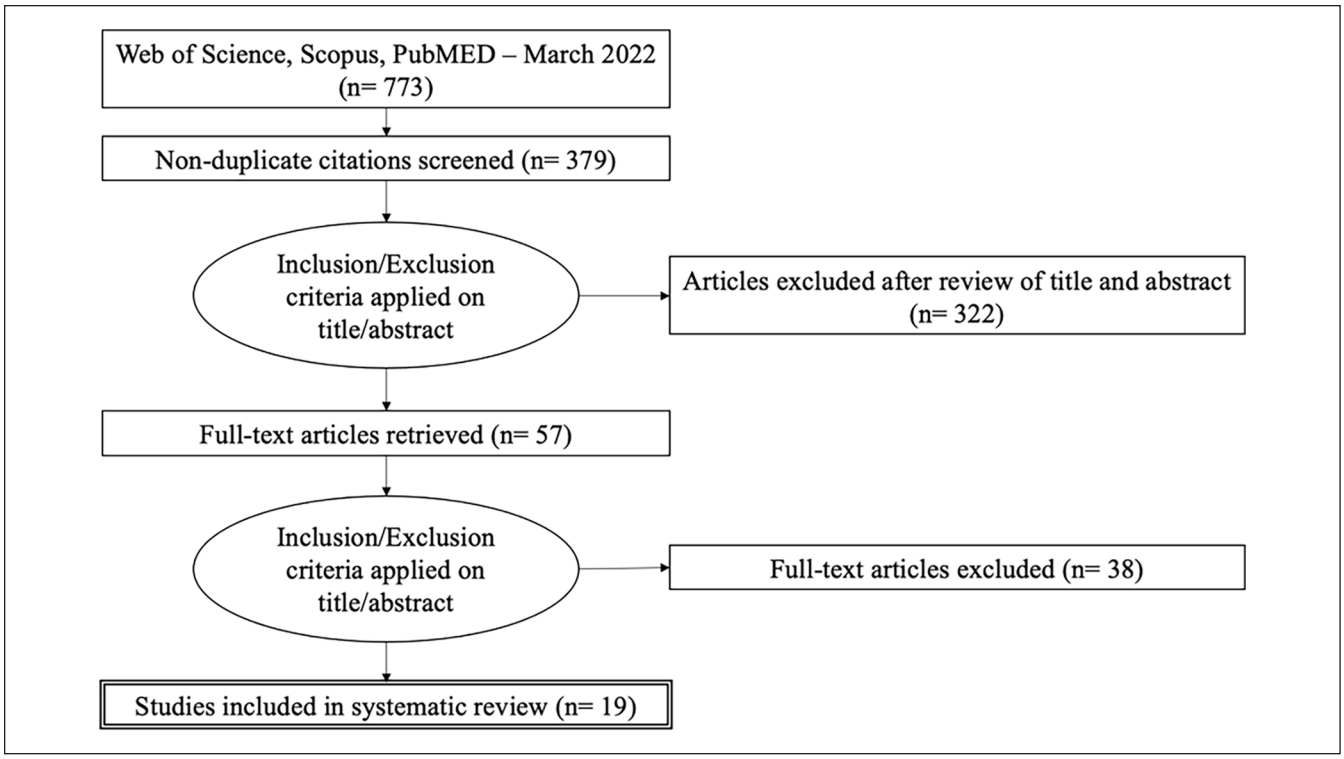


**Figure 1.** Article selection flow chart.

agreed inclusion and exclusion criteria in the title and abstract of the articles. After this first step, all authors discussed the steps taken and the results of the deletions, unifying the results obtained by the two researchers. This resulted in 57 articles that were read in full text independently by the first two authors. The inclusion and exclusion criteria were reapplied. The authors shared the application of the criteria, and after a group discussion, the final search resulted in 19 articles. All authors read the final 19 articles examined for the systematic review. The quality of the selected articles was evaluated independently. Where there was disagreement, a third-party opinion from the research team was sought (see the article selection flow chart, Figure 1).

## Results

The database search resulted in 773 publications, reduced to a final study sample composed of 19 articles after eliminating duplicates and applying exclusion criteria (Figure 1). Table 1 provides more specific details concerning the final study sample.

### *Description of Studies*

Of the 19 articles included, 8 analyze data from North American cases. Five from USA (Basile et al., 2021; Fiorentin & Logan, 2019; Lawyer et al., 2010; McCauley et al., 2009; Richer et al., 2017) and three from Canada (Du Mont et al., 2009; McGregor et al., 2003, 2004). Eight publications come from Europe: three from Spain (García-Caballero et al., 2014, 2017; Quintana et al., 2020), two from United Kingdom (Hall et al., 2008; Scott-Ham & Burton, 2005), one from Netherlands (Bosman et al., 2011), one from Norway (Hagemann et al., 2013), and one from Italy (Bertol et al., 2018). In the Asia-Pacific Region, one article comes from Australia (Anderson et al., 2019) and another one from New Zealand (Poulsen et al., 2021). Finally, one article was included from the African region—South Africa (Tiemensma & Davies, 2018).

As indicated by the inclusion criteria, all articles included in the final study sample performed quantitative analyses. In this sense, eight publications retrieved data from forensic laboratory databases (Anderson et al., 2019; Bosman et al., 2011; Fiorentin & Logan, 2019; García-Caballero et al., 2014, 2017; Hall et al., 2008; Poulsen et al., 2021; Scott-Ham & Burton, 2005). In turn, seven worked with hospital databases (Bertol et al., 2018; Du Mont et al., 2009; Hagemann et al., 2013; McGregor et al., 2003, 2004; Richer et al., 2017; Tiemensma & Davies, 2018). Likewise, three publications were survey-based studies (Basile et al., 2021; Lawyer et al., 2010; McCauley et al., 2009). Finally, another article used a police database as a data source (Quintana et al., 2020). It is crucial to pay attention to the broad, multidisciplinary origin of the studied sample since noteworthy differences exist between selected studies concerning approached variables and analysis design. For example, when comparing data from forensic analysis and attitudinal surveys.

**Table 1.** Studies Included.

| Author | Major Characteristics of the Sample | Study Sample Source | Study Country | Cover Study Variables | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | P | VP | AP | ID | SI |
| Anderson et al. (2019) | All complainants (male and female), aged 18 years and older, who had allegedly experienced DFSA and underwent forensic examination between January 1, 2011, and December 31, 2013, in the Victorian Institute of Forensic Medicine. | Toxicological laboratory databases | Australia | X | X | X | X | X |
| Basile et al. (2021) | A nationally representative sample of Americans (males and females) aged 18 years and older, participants in the National Intimate Partner and Sexual Violence Survey (NISVS) 2010–2012. | Telephone survey | USA | X | | X | X | |
| Bertol et al. (2018) | Women patients above 18 years who attended the Sexual Assault Centre at Careggi University Hospital, in Florence, between 2010 and 2018, after allegedly experiencing sexual abuse. All patients' urine and blood biological samples were analyzed when available for ethanol and selected therapeutic and recreational drugs. | Hospital database | Italy | | X | | X | |
| Bosman et al. (2011) | Alleged sexual assault cases submitted to the Netherlands Forensic Institute between January 2004 and December 2006 with blood or urine samples for analysis. | Toxicological laboratory database | The Netherlands | | X | | X | |
| Du Mont et al. (2009) | Sexual assault victims (males and females) aged 16 years or above who attended seven hospital-based sexual assault treatment centers, in Ontario, between June 2005 and March 2007, within 72 h from the alleged assault, and met specific predefined criteria for suspecting involuntary drug use. | Hospital database | Canada | X | X | | X | X |
| Fiorentin & Logan (2019) | Alleged DFSA cases from a DFSA toxicology panel covering 37 U.S. states and Puerto Rico, received by NMS Labs from March 2015 to June 2016. | Toxicological laboratory database | USA | X | | | X | |
| Garcia Caballero et al. (2017) | Alleged DFSA cases reported to the National Institute of Toxicology and Forensic Sciences in Madrid (Spain), between January 2010 and December 2013, a casuistry selected based on the criteria proposed by Du Mont et al. (2009). | Toxicological laboratory database | Spain | X | X | X | X | X |
| García Caballero et al. (2014) | Alleged sexual assault cases reported to the INTCF between January 2010 and December 2012 concerning sexual crimes related to the use of chemical substances. Cases involving conscious or unconscious consumption of substances by the victim are included; in addition, the consumption must have occurred prior to the event. Cases in which the aggressor has directly used coercion or physical violence or those in which there were no substance use are excluded. Cases in which the available information is insufficient are discarded. | Toxicological laboratory database | Spain | X | X | X | X | X |
| Hagemann et al. (2013) | Women patients aged 12 or above seeking health care after sexual assault at the Sexual Assault Center at St. Olavs University Hospital in Trondheim between July 1, 2003, and December 31, 2010. Authors applied inclusion criteria from Du Mont et al. (2009). | Hospital database | Norway | X | X | | X | |
| Hall et al. (2008) | Alleged sexual assault cases included in the Forensic Science Northern Ireland and 2005 with toxicological requests for drug and/or alcohol assays from either blood and/or urine samples. Cases without toxicological analysis were excluded from the study. Examples of excluded cases would be the young age of the complainant (alleged child sexual abuse), reports made by older complainants, historical or delayed reported cases, or cases of murder or sudden unexplained death in which sexual assault would also have been considered. | Toxicological laboratory database | United Kingdom | | | | X | |
| Lawyer et al. (2010) | Undergraduate female students enrolled in introductory college courses at a large university in the southeastern United States who volunteered to participate in a survey. Data collected in 2004. | Web survey | USA | X | | X | X | X |
| McCauley et al. (2009) | College women (18–34 years) from the American Student List randomly selected by region of the country. Representative sample of college women in USA. | Telephone survey | USA | X | | | | |
| McGregor et al. (2004) | All patients (male and female) reporting suffering from alleged sexual assault to the British Columbia Sexual Assault Service, in the Vancouver General Hospital, between January 1993 and May 2002. Victims reporting alcohol overuse and memory loss judged to be consistent with the volume of alcohol consumed and those who were forcibly injected with a drug were excluded. This study did not require toxicology laboratory confirmation for case identification because the investigators felt that using such a criterion would result in the exclusion of a large number of "false negatives." | Hospital database | Canada | X | X | | | |
| McGregor et al. (2003) | All patients (male and female) reporting suffering from alleged sexual assault to the British Columbia Sexual Assault Service, in the Vancouver General Hospital, between 1993 and 1999. It excluded those victims reporting alcohol overuse and memory loss consistent with volume of alcohol consumed. Also excluded individuals who were aware that they were being deliberately drugged (e.g., those who described an assailant forcibly injecting them with a drug). | Hospital database | Canada | X | X | X | X | |

*(continued)*

**Table 1. (continued)**

| Author | Major Characteristics of the Sample | Study Sample Source | Study Country | Cover Study Variables | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | P | VP | AP | ID | SI |
| Poulsen et al. (2021) | Alleged sexual assault cases (male and female) sent to the Institute of Environmental Science and Research by the New Zealand Police between 2015 and 2018, with blood and/or urine samples for toxicological analysis. | Toxicological laboratory database | New Zealand | X | X | | X | |
| Quintana et al. (2020) | Sexual assaults involving victims' drug use reported to the Spanish Civil Guard between January 1, 2008, and December 31, 2017. | Police database | Spain | | X | X | | X |
| Richer et al. (2017) | Patients (males and females) presenting for treatment of acute rape at a large public hospital. During calendar years 2007 and 2008. Cases excluded of the study due to large amounts of missing data, persecutory delusions strongly suggesting that sexual assault did not occur or loss of consciousness due to head injury. | Hospital database | USA | X | X | | X | |
| Scott-Ham & Burton (2005) | Cases of claimed DFSA analyzed at the Forensic Science Service, London Laboratory between January 2000 and December 2002. Only urine and/or blood sample cases were included (excluded other samples like empty glasses, bottles, or vomit). | Toxicological laboratory database | United Kingdom | | | | X | |
| Tiemensma & Davies (2018) | Survivors (males and females) of suspected DFSA who presented to the Forensic Clinical Unit of the Victoria Hospital in Cape Town. Between October 2013 and June 2016. Only adult cases (18 years or older) where urine, blood, or hair were collected for toxicology testing were included. | Hospital database | South Africa | X | X | X | X | X |

*Note.* P = prevalence, VP = victim profile, AP = assailant profile, ID = involved drugs, SI = situational information, DFSA = drug-facilitated sexual assault.

The study samples' nature significantly varies according to the original data source, with differences between publications based on forensic research, hospital databases, or survey-based studies. Among articles with a forensic approach, some study samples include individuals, as complainants (males and females) or alleged DFSA victims, although other samples gather cases of alleged/suspected SA, in which could be more than one victim. Other forensic publications gather cases of suspected SA in which there could be more than one victim. However, for articles based on hospital databases, study samples include individuals classified in different ways, such as patients, victims, or survivors of suspected DFSA. On the other hand, concerning survey-based studies, the sample is the general population in one of them (Basile et al., 2021) and a specific university population in the other two (Lawyer et al., 2010; McCauley et al., 2009). Finally, in the article based on a police database, the sample consisted of alleged criminal acts reported to the police and violating sexual freedom according to Spanish national laws (Quintana et al., 2020).

On the other hand, four articles included in the systematic review provide information for all of the research questions (Anderson et al., 2019; García-Caballero et al., 2014, 2017; Tiemensma & Davies, 2018), whereas the rest of the studies focus on one or two variables (Anderson et al., 2019; Bertol et al., 2018; Bosman et al., 2011; Du Mont et al., 2009; Fiorentin & Logan, 2019; García-Caballero et al., 2014, 2017; Hagemann et al., 2013; Hall et al., 2008; McGregor et al., 2003; Poulsen et al., 2021; Richer et al., 2017; Scott-Ham & Burton, 2005; Tiemensma & Davies, 2018).

## Findings

The main findings are described below, organized according to the different objectives proposed in this review of knowledge of the DFSA problem: DFSA prevalence; victim profile; assailant profile; involved drugs; and situational information.

*DFSA Prevalence.* Of the 19 reviewed studies, 14 provide information about DFSA prevalence (Anderson et al., 2019; Basile et al., 2021; Du Mont et al., 2009; Fiorentin & Logan, 2019; García Caballero et al., 2014, 2017; Hagemann et al., 2013; Lawyer et al., 2010; McCauley et al., 2009; McGregor et al., 2003, 2004; Poulsen et al., 2021; Richer et al., 2017; Tiemensma & Davies, 2018). However, the disparity in measurement hinders providing global data. When analyzed among the SA cases, DFSA prevalence varies widely, from 1.5% in Poulsen et al. (2021) to 78.5% in Fiorentin & Logan (2019).

Significantly, applying different DFSA definitions and inclusion criteria favors this wide variability among observed prevalence results because of a strong lack of uniformity when measuring cases. Some authors consider only female victims, while others include cases affecting both women and men. For example, as shown in Table 1, McGregor et al. (2003) analyze only proactive DFSA in women and men. In contrast, Hagemann et al. (2013) do not distinguish the specific *modus operandi* used by assailants and only include cases affecting women aged 12 years or older. Table 2 shows DFSA prevalence (note that these are prevalence values within the study samples used in each investigation, that is, these data are only prevalences for each sample). Considering the lack of uniformity within the study sample, we recommend simultaneously viewing Tables 1 and 2 to visualize DFSA prevalence data and specific study details.

*Victim Profile.* A total of 13 reviewed articles provide information about the victim profile (Anderson et al., 2019; Bertol et al., 2018; Bosman et al., 2011; Du Mont et al., 2009;

**Table 2.** DFSA Prevalence.

| Reference | Period | Prevalence (%) | Details |
|---|---|---|---|
| Anderson et al. (2019) | 2011–2013 | 15.0 | A total of 204 cases recorded as suspected DFSAs of all sexual assault cases examined ($n = 1,360$). |
| Basile et al., (2021) | 2010–2012 | Women: 26.2<br>Men: 30.0 | Among female victims of physically forced, completed, or attempted rape, 5,919 (26.2%) reported at least one first victimization encounter in which they used alcohol or drugs. Among male victims of physically forced, completed, or attempted rape, 5,575 (30%) reported at least one first encounter where they used alcohol or drugs. |
| Du Mont et al. (2009) | June 2005–March 2007 | 20.9 | A total of 184 cases are suspected DFSA of all sexual assault cases ($n = 882$). |
| Fiorentin & Logan (2019) | March 2015–June 2016 | 78.4 | Of the 1000 consecutive cases of alleged sexual assault analyzed, 784 tested positive for at least one substance. |
| García Caballero et al. (2017) | January 2010–December 2013 | 34.1 | A total of 152 cases of suspected DFSA in all cases ($n = 445$) of alleged sexual assaults were reported. |
| García Caballero et al. (2014) | January 2010–December 2012 | 35.0 | A total of 107 cases of suspected DFSA in all cases of sexual assault or abuse ($n = 306$). |
| Hagemann et al. (2013) | July 2003–December 2010 | 21.2 | A total of 155 patients of suspected DFSA of all patients ($n = 730$) presented to the Sexual Assault Center. |
| Lawyer et al. (2010) | 2004 spring semester | 24.5 | Of the 314 surveyed women, 77 recognize having suffered drug-related sexual assault experiences. |
| McCauley et al. (2009) | NR | IR: 4.1<br>DAFR: 2.6 | Of the 1,980 surveyed women, 82 recognize having suffered IR: rape by means of the victim's self-induced intoxication and 51 women recognize having suffered DAFR): rape by means of the perpetrator's deliberate intoxication of the victim. |
| McGregor et al. (2004) | January 1993–May 2002 | 15.4 | Among the 1,594 sexual assaults in the study population, there were 246 incidents of suspected DFSA. |
| McGregor et al. (2003) | 1993–1999 | 12.1 | A total of 172 cases were identified as suspected DFSAs. The remaining 1,249 cases served as the comparison group. |
| Poulsen et al. (2021) | December 2015–December 2017 | 1.5 | Of the 11,042 reports of sexual assault, 162 were suspected of DFSA. |
| Richer et al., (2017) | January 2007–December 2008 | 52.3 | Of the 390 victims, 204 have suffered DFSA. |
| Tiemensma & Davies, (2018) | October 2013–June 2016 | 12.0 | A total of 908 adult patients with alleged sexual assault were attended to at the Clinical Forensic Unit over the study period. DFSA was suspected by the patient and/or the examining medical practitioner in 107 of the total cases. |

*Note*. NR = not reported, DFSA = drug-facilitated sexual assault, IR = incapacitated rape, DAFR = drug or alcohol-facilitated rape.

García Caballero et al., 2014; Hagemann et al., 2013; McGregor et al., 2003, 2004; Poulsen et al., 2021; Quintana et al., 2020; Richer et al., 2017; Tiemensma & Davies, 2018). The information's level of detail varies substantially among studies. For example, some authors focus only on victims' sex and age (Bosman et al., 2011; McGregor et al., 2003, 2004; Poulsen et al., 2021), whereas others provide more detailed information, such as victims' previous mental illnesses (Anderson et al., 2019; Du Mont et al., 2009, among others). Concerning the sex, and excluding those studies focused only on women (Bertol et al., 2018; Hagemann et al., 2013), the percentage of female victims varies from 100% (García Caballero et al., 2017) to 81.6% in proactive DFSA and 80.0% in opportunistic DFSA (Richer et al., 2017). Regarding the age of the victims, the first observation is that some articles present this data offering the mean and standard deviation. In contrast, other authors provide the number of cases by age group, although such groups are not uniform across different studies, meaning each applies different ranges. In the first format, the mean age ranges from 22.0 (Bertol et al., 2018) to 26.2 years old (García Caballero et al., 2017). In turn, for those studies working with age groups, in the case of Du Mont et al. (2009) the most frequent age group is 20 to 24 years old (36.4%), while for Hagemann et al. (2013) and Tiemensma & Davies (2018) it is 18 to 24 years old (52% and 48%, respectively). In the research of Richer et al. (2017), where the results are disaggregated according to whether the cases are opportunistic or proactive DFSA, in both cases the most frequent age group is 25–39 years old (46.5% and 43.3%, respectively).

On the other hand, some studies collect more detailed information about victim profiles (Anderson et al., 2019; Du

Mont et al., 2009; Hagemann et al., 2013; Richer et al., 2017; Tiemensma & Davies, 2018). According to Anderson et al. (2019), 28% ($n=65$) of the victims had mental health disorders or diagnoses as premorbid psychosocial factors, a percentage similar to that observed by Du Mont et al. (2009), whose analysis shows that 26.4% ($n=46$) of the victims had previous mental health problems. In the study of Hagemann et al. (2013), the percentage of victims with an anterior history of mental health problems rose to 44% ($n=117$). Another interesting and repeated variable is if the victim has suffered previous SA. This situation is given in the 6.4% ($n=13$) of cases in Anderson et al. (2019), in the 3.7% ($n=4$) according to Tiemensma & Davies (2018), and even in the 40% ($n=105$) of cases in the study of Hagemann et al. (2013). Finally, Richer et al. (2017) point out that 71% ($n=80$) of the proactive DFSA and 68.9% ($n=60$) of the victims of opportunistic DFSA are heterosexual.

*Assailant Profile.* Of the 19 reviewed studies, 7 provide information about the assailant's profile (Anderson et al., 2019; Basile et al., 2021; García Caballero et al., 2017; Lawyer et al., 2010; McGregor et al., 2003; Quintana et al., 2020; Tiemensma & Davies, 2018). Being conscious that the knowledge of this information depends on the testimony of the victims and, sometimes, due to the consumption of psychoactive substances, they have trouble remembering the facts of their assault (Prego-Meleiro et al., 2020). Data point that most assailants are men, whose percentage varies from 100% (Anderson et al., 2019; García Caballero et al., 2017) to 98.3% (Quintana et al., 2020). Regarding the age, 92.7% of assailants are over 18 years old ($M=33.11$ years, $SD=13.30$) in those cases with available data, according to Quintana et al. (2020). On the other hand, the personal relationship between victims and assailants before the assault is the second most studied variable after the sex of the assailant. Data reflect that, in most cases, they both knew each other previously. The lowest percentage of previously known assailants is 56.9% (Anderson et al., 2019), except in the study of Quintana et al. (2020), where it decreases to 34.8%. The highest percentage of victims who previously knew the assailant in some way is 79.4%, as was found by García Caballero et al. (2017). Concerning the relationship, friendship is most frequent previous bond between victims and assailants, followed by new acquaintances (Anderson et al., 2019; Lawyer et al., 2010; Quintana et al., 2020; Tiemensma & Davies, 2018). Finally, Anderson et al (2019) and Tiemensma & Davies (2018) analyze the number of assailants. Their data suggest that in most cases, there was a single assailant only.

*Involved Drugs.* Of the 19 studies reviewed, 16 pay attention to psychoactive substances involved in DFSA cases. However, it is essential to point out that some examine drug use using victims' self-reported statements (Basile et al., 2021; Lawyer et al., 2010), whereas others provide toxicological results from analyses of biological matrices such as blood or urine (Bertol et al., 2018; Bosman et al., 2011; Du Mont et al., 2009; Fiorentin & Logan, 2019; Hall et al., 2008; McGregor et al., 2003; Scott-Ham & Burton, 2005) and others both samples (Anderson et al., 2019; García Caballero et al., 2014, 2017; Hagemann et al., 2013; Poulsen et al., 2021; Richer et al., 2017; Tiemensma & Davies, 2018). Focusing on the self-reported information, according to both Basile et al. (2021) and in Lawyer et al. (2010), the highest percentage of cases indicates voluntary drug use, predominating alcohol consumption. Indeed, according to Lawyer et al. (2010), 100% of victims of opportunistic DFSA report voluntary alcohol drinking, followed by 41.5% pointing to cannabis use. Concerning involuntary consumption, Basile et al. (2021) declare more predominant other different drugs from alcohol—the authors do not specify more details, whereas Lawyer et al. (2010) continue to point out alcohol as the most involuntarily used drug, followed by Rohypnol and gamma-hydroxybutyrate (GHB). Alcohol is also the drug most frequently involved in DFSA based on detection results from toxicological analyses (Bertol et al., 2018; Bosman et al., 2011; Fiorentin & Logan, 2019; Hall et al., 2008; McGregor et al., 2003; Scott-Ham & Burton, 2005). Likewise, cannabis is the most detected illicit drug, according to most articles (Bertol et al., 2018; Fiorentin & Logan, 2019; McGregor et al., 2003; Scott-Ham & Burton, 2005). Stimulant substances are the second most frequently illicit drugs involved in DFSA, particularly cocaine (Bertol et al., 2018; Fiorentin & Logan, 2019; McGregor et al., 2003; Scott-Ham & Burton, 2005). Moreover, several studies detect a frequent presence of benzodiazepines during the toxicological analysis of victims' biological matrices (Bosman et al., 2011; Fiorentin & Logan, 2019; McGregor et al., 2003). Finally, GHB has a residual presence (Bosman et al., 2011; Fiorentin & Logan, 2019). Regarding studies combining data from victims' statements, and toxicological analytical results, the most frequent substance is also alcohol (Anderson et al., 2019; García Caballero et al., 2014, 2017; Hagemann et al., 2013; Poulsen et al., 2021; Richer et al., 2017; Tiemensma & Davies, 2018). Benzodiazepines and antidepressants were the most detected pharmaceutical drugs (Anderson et al., 2019; García Caballero et al., 2017; Hagemann et al., 2013; Poulsen et al., 2021; Tiemensma & Davies, 2018).

*Situational Information.* Six reviewed articles include information about the context in which the DFSA happened, which was collected from victims' statements (Anderson et al., 2019; Du Mont et al., 2009; García Caballero et al., 2017; Lawyer et al., 2010; Quintana et al., 2020; Tiemensma & Davies, 2018). The most frequent studied variable is the place or spatial location where the DFSA happens. The most repeated place is the private residence (Anderson et al., 2019; Lawyer et al., 2010; Quintana et al., 2020; Tiemensma & Davies, 2018), except from the study of García Caballero

**Table 3.** Critical Findings.

| Issue | Findings |
|---|---|
| Prevalence | The disparity in measurement hinders providing global data. |
| Victims profile | Young women under 30 years of age in most frequent cases. |
| Assailants profile | Men who mostly know victims before the assault. |
| Involved drugs | Alcohol is the drug involved in most DFSA cases, prevailing as voluntary use by victims. |
| Situational information | Most assaults occur in private spaces (aggressors' own homes). DFSAs rise at night, on weekends, and in July. |

et al. (2017), which observes most cases occurring in nightlife venues. Concretely, the assailant's home is the private residence most frequently mentioned (Anderson et al., 2019; Tiemensma & Davies, 2018). On the other hand, public spaces such as streets and parks are assault places observed to a lesser extent, varying from 11% of cases in Quintana et al. (2020) to 23.4% in the research carried out by García Caballero et al. (2017). It is important to note that vehicles are also DFSA places, in a percentage between 3% and 1.3% of alleged cases (Lawyer et al., 2010; Quintana et al., 2020). The assault moment is another critical piece of information provided by some articles. Anderson et al. (2019) and Quintana et al. (2020) note night as the most frequent time slot in DFSA cases. According to Du Mont et al. (2009), 44% of the cases occur between Friday and Sunday. In contrast, Quintana et al. (2020) indicate that 40.7% of the assaults happen between Saturday and Sunday—the authors do not consider Fridays and point to July as the month with the higher incidence.

## Discussion

The findings of this review highlight the complexity of measuring the DFSA phenomenon and the wide variety of approaches applied. Despite the lack of methodological and sampling homogeneity, all studies reach similar conclusions—except for the prevalence, discussed in the following epigraph—and point in the same direction. Observed results show that it is not possible quantitatively to draw firm conclusions, but, in a qualitative sense, some points are clear. Table 3 outlines the key findings of this review.

- The assailants are men in all known cases with available data about perpetrators, who mostly know victims before the assault. This observation becomes crucial when facing sexual violence myths, or "rape myths" (Bohner et al., 2009), those beliefs about rape, victims, and perpetrators that deny or minimize sexual violence. According to one of the most common sexual violence myths, the perpetrator is someone unknown to the victim and probably mentally ill or sociopathic (Adolfsson et al., 2017; Dowds, 2019; Isorna & Rial, 2015; Khan et al., 2020), "someone who is out of his mind and because of that he can do that terrible act" (Márquez & Jaenes, 2021, p. 50).
- The victims are young women under 30 years old in most cases. At this point, a critical question emerges when considering the sex of the assailant and that most victims are heterosexual (Richer et al., 2017): what is currently happening in homosexual or other sexualities environments compared to heterosexual environments? In this sense, some case studies have observed the affectation of gay men by DFSA in chemsex contexts (drug use to enhance sex; Ballesteros et al., 2018; Drückler et al., 2021; Fernández Alonso et al., 2019).
- Alcohol is the drug involved in most DFSA cases, prevailing as voluntary use by victims, although involuntary consumption forced or pressed by a third person is also observed.
- Most assaults occur in private spaces, particularly the aggressors' own homes. This specific form of sexual violence rises at night, on weekends, and in July. These observations adjust to nightlife as the main observed victimization context, although recent research also points to the affection of DFSA for domestic cohabitation and other particularly vulnerable contexts (Prego-Meleiro et al., 2022).

### *Conclusion*

After the systematic review and summary results, it is critical to highlight some crucial observations summarized in Table 4. First, there is a serious problem concerning research: the need for a standard definition of DFSA. Not all studies define the specific study problem in the same way. Some authors refer only to proactive assaults, while others include opportunism and proactivity. Likewise, some studies work only with female samples, whereas others focus on assaults suffered by both men and women. Moreover, most reviewed studies work with alleged DFSA cases. Such potential bias conditioning sampling affects all measured variables in this systematic review. But specifically, the difficulties get profound when trying to frame DFSA prevalence by study period. As such, the time considered significantly varies among studies. Some include cases that happened during a few months, while others work with assaults reported over several years. For example, in some cases, it is relative to the surveyed general population whereas in other times to the total victims of SA who have been assisted in a specific hospital program.

Concerning the highlighted need for a standard definition of DFSA, it is crucial to note some attempts to establish predefined criteria for selecting cases (Du Mont et al., 2009). However, such efforts have focused only on involuntary drug

**Table 4.** Implications for Policy, Practice, and Research.

| Area | Implications |
|---|---|
| Research | • The need for a standard definition of DFSA.<br>• Uniformized prevalence measurement.<br>• The need of work with other data sources, not only with alleged DFSA cases. |
| Practice | • The invisibility of opportunistic DFSA: Establish renewed, uniform, and updated inclusion criteria for DFSA cases in the protocols of hospitals and toxicological laboratories. |
| Policy | • Policies should focus on alcohol and other drug consumption education as a strategy for decreasing risk. |

use by victims, contributing to overrepresenting proactive DFSA and underestimating opportunism, the most common *modus operandi* involved in DFSA cases (Lorenz & Ullman, 2016). Such a biased view may critically affect attempts to study prevalence. According to Pape (2014), this tendency is also visible in survey-based studies, where DFSA is understood as a planned and deliberate assault, ignoring the complexity and ambiguity that often involves SA (Stefansen et al., 2020, Tutenges et al., 2019). Consequently, a crucial need has been identified to establish renewed, uniform, and updated inclusion criteria for carrying out future case studies (forensic, hospital, police, etc.), adjusted to the phenomenon's reality and complexity.

Likewise, the appearance and development of the DFSA concept relate closer to the forensic-toxicology and legal medicine fields, so much research focuses on the analytical detection of psychoactive substances in victims' biological matrices. However, a considerable gap exists concerning more sociodemographic and epidemiological views for delving deeper into the DFSA phenomenon causality beyond mere descriptive analysis. More interdisciplinary research efforts would undoubtedly contribute to generating valuable knowledge about DFSAs.

Lastly, the fact of studying the phenomenon from available data (hospital and forensic databases) puts the focus on the information available, which is that provided by the victim. In this way, both the victim and the substance are the main protagonists of the studies. This research team considers that, although research on the characteristics of the victim and the substance used (detected in the analyses) is very necessary, if the only research that is carried out focuses on these aspects it may, in some way, contribute to the blaming of the victim or the substance, making them responsible for the aggression and losing the focus on who should be the target of public policies for the eradication of drug-facilitated sexual violence.

### *Limitations*

Even though this review provides valuable information and insights, it has limitations. The search terms were limited to "DFSA" and "Drug-facilitated sexual assault." Consequently, this review leaves a considerable amount of publications out of study that, undoubtedly, are valuable to answer the research questions exposed in this article (Gilbert et al., 2019; Mellins et al., 2017; Pape, 2014). However, we think that collecting, analyzing, and comparing quantitative studies with a particular sample size ($n \geq 100$) about the DFSA phenomenon is necessary since this is the first time such a concept has appeared in a scientific publication. This difficulty results from an insufficient scientific consensus on how to name sexual violence experiences occurred when victims are under the effects of psychoactive substances.

On the other hand, the main limitation of these studies in terms of providing prevalence figures is the design of these studies. Most of them are case studies, whose design prevents them from providing prevalence data—only prevalence in the sample—since they do not work with representative samples of the population they are focusing on. Consequently, there is a significant selection bias due to the origin of the cases: they only collect those cases that are reported (forensic case studies) and, in addition to being reported, those cases of alleged assault that are followed by judicial requests for toxicological analysis and those whose victims go to seek help at care centers (hospital case studies). Most of the affected and most vulnerable population (those unable to report or seek institutional help) is left out. Likewise, both the more quantitative studies (analyzed in this systematic review) and the qualitative ones (Gunby et al., 2020; Nicholls, 2019; Sinko et al., 2020; Vaadal, 2021) tend to be limited to the urban space, among other reasons, due to the condensation of festive night-time spaces, environments where, a priori, the greatest number of cases of DFSA are accumulated. However, rural spaces and other environments beyond the festive ones (such as domestic or work) should be taken into account as places where drug-facilitated sexual violence also occurs. Studies with cross-sectional designs, such as victimization surveys, are needed to complete these approaches and generate prevalence data on populations. However, the systematic review carried out has only provided one study of this type, which highlights the need for this type of approach.

## Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The current work was financed by the research grant facilitated by the project of the Spanish Ministry of Health (MS-PNSD-2021I052) and the University Professoriate Training Grant (FPU19/2402).

## ORCID iDs

Irantzu Recalde-Esnoz https://orcid.org/0000-0001-6579-1972
Héctor del Castillo https://orcid.org/0000-0001-7901-770X

## References


Adolfsson, K., Strömwall, L. A., & Landström, S. (2017) Blame attributions in multiple perpetrator rape cases: The impact of sympathy, consent, force and beliefs. *Journal of Interpersonal Violence*, *35*, 5336–5364. https://doi.org/10.1177/0886260517721171

Advisory Council on the Misuse of Drugs (ACMD). (2007). *Drug facilitated sexual assault*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/119111/ACMDDFSA.pdf

Anderson, L. J., Flynn, A., Drummer, O., Gerostamoulos, D., & Schumann, J. L. (2019). The role of voluntary and involuntary drug and alcohol consumption and premorbid mental health factors in drug-facilitated sexual assault. *Forensic Science, Medicine and Pathology*, *15*, 382–391. https://doi.org/10.1007/s12024-019-00124-3

Anderson, L. J., Flynn, A., & Pilgrim, J. L. (2017). A global epidemiological perspective on the toxicology of drug-facilitated sexual assault: A systematic review. *Journal of Forensic and Legal Medicine*, *47*, 46–54. https://doi.org/10.1016/j.jflm.2017.02.005

Ballesteros, S., Almarza, E., Quintela, O., & Martínez, M. A. (2018). The risk of consuming "Bath Salts". Exemplification through four forensic cases in Spain. *Forensic Chemistry*, *11*, 87–96. https://doi.org/10.1016/j.forc.2018.10.003

Basile, K. C., Smith, S. G., Kresnow, M., Khatiwada, S., & Leemis, R. W. (2022). *The national intimate partner and sexual violence survey: 2016/2017 report on sexual violence*. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. https://www.cdc.gov/violenceprevention/pdf/nisvs/nisvsreportonsexualviolence.pdf

Basile, K. C., Smith, S. G., Liu, Y., Lowe, A., Gilmore, A. K., Khatiwada, S., & Kresnow, M. (2021) Victim and perpetrator characteristics in alcohol/drug-involved sexual violence victimization in the U.S. *Drug and Alcohol Dependence*, *226*(1), 108839. https://doi.org/10.1016/j.drugalcdep.2021.108839

Bellis, M. A., & Hughes, K. (2004). Sex potions relationships between alcohol, drugs and sex. *Adicciones*, *16*(4), 249–258. https://search.proquest.com/docview/1609161625

Bertol, E., Di Milia, M. G., Fioravanti, A., Mari, F., Palumbo, D., Pascali, J. P., & Vaiano, F. (2018). Proactive drugs in DFSA cases: Toxicological findings in an eight-years study. *Forensic Science International*, *291*, 207–215. https://doi.org/10.1016/j.forsciint.2018.08.032

Beynon, C. M., McVeigh, C., McVeigh, J., Leavey, C., & Bellis, M. A. (2008). The involvement of drugs and alcohol in drug-facilitated sexual assault: A systematic review of the evidence. *Trauma, Violence, & Abuse*, *9*(3), 178–188. https://doi.org/10.1177/1524838008320221

Bohner, G., Eyssel, F., Pina, A., Siebler, F., & Viki, T. (2009). Rape myth acceptance: Cognitive, affective and behavioral effects of beliefs that blame the victim and exonerate the perpetrator. In M. Horvath & J. Brown (Eds.), *Rape, challenging contemporary thinking* (pp. 17–45). Willian Publishing.

Bosman, I. J., Verschraagen, M., & Lusthof, K. J. (2011) Toxicological findings in cases of sexual assault in the Netherlands. *Journal of Forensic Science*, *56*(6), 1562–1568. https://doi.org/10.1111/j.1556-4029.2011.01888.x

Dowds, E. (2019). Towards a contextual definition of rape: Consent, coercion and constructive force. *The Modern Law Review*, *83*(1), 35–63. https://doi.org/10.1111/1468-2230.12461

Drückler, S., Speulman, J., van Rooijen, M., & De Vries, H. J. C. (2021). Sexual consent and chemsex: A quantitative study on sexualised drug use and non-consensual sex among men who have sex with men in Amsterdam, the Netherlands. *Sexually Transmitted Infections*, *97*(4), 268–275. https://doi.org/10.1136/sextrans-2020-054840

Du Mont, J., Macdonald, S., Rotbard, N., Asllani, E., Bainbridge, D., & Cohen, M. M. (2009) Factors associated with suspected drug-facilitated sexual assault. *CMAJ, Canadian Medical Association Journal*, *180*(5), 513–519. https://doi.org/10.1503/cmaj.080570

Fernández Alonso, C., Quintela Jorge, O., Ayuso Tejedor, S., Santiago-Sáez, A. E., & González Armengol, J. J. (2019). Acute intoxication by new recreational drugs in probable cases of opportunistic and/or mixed chemical submission and chemsex in emergency department patients infected with human immuno-deficiency virus. *Emergencias: Revista de la Sociedad Española de Medicina de Urgencias y Emergencias*, *31*(4), 289–290. http://emergencias.portalsemes.org/descargar/intoxicacin-aguda-por-nuevas-drogas-de-abuso-en-probables-casos-de-sumisin-qumica-oportunista-o-mixta-y-chemsex-en-pacientes-con-vih-atendidos-en-urgencias/

Fiorentin, T. R., & Logan, B. K. (2019). Toxicological findings in 1000 cases of suspected drug facilitated sexual assault in the United States. *Journal of Forensic and Legal Medicine*, *61*, 56–64. https://doi.org/10.1016/j.jflm.2018.11.006

García, M. G., Pérez-Cárceles, M. D., Osuna, E., & Legaz, I. (2021). Drug-facilitated sexual assault and other crimes: A systematic review by countries. *Journal of Forensic and Legal Medicine*, *79*(20), 102151. https://doi.org/10.1016/j.jflm.2021.102151

García Caballero, C., Cruz-Landeira, A., & Quintela-Jorge, Ó. (2014). Alleged drug-facilitated sexual assault cases analyzed at the National Institute of Toxicology and Forensic Science (Madrid Department) during the years 2010, 2011 and 2012. *Revista Española de Medicina Legal*, *40*(1), 11–18. https://doi.org/10.1016/j.reml.2013.07.003

García Caballero, C., Quintela Jorge, Ó., & Cruz Landeira, A. (2017). Alleged drug-facilitated sexual assault in a Spanish population sample. *Forensic Chemistry*, *4*, 61–66. https://doi.org/10.1016/j.forc.2017.02.009

Gilbert, L., Sarvet, A. L., Wall, M., Walsh, K., Reardon, L., Wilson, P., Santelli, J., Khan, S., Thompson, M., Hirsch, J. S., & Mellins, C. A. (2019). Situational contexts and risk factors associated with incapacitated and nonincapacitated sexual assaults among college women. *Journal of Women's Health*, *28*(2), 185–193. https://doi.org/10.1089/jwh.2018.7191

Gonzalez, F. R., Benuto, L. T., & Casas, J. B. (2018). Prevalence of interpersonal violence among Latinas: A systematic review. *Trauma, Violence, & Abuse*, *21*(5), 977–990. https://doi.org/10.1177/1524838018806507

Gunby, C., Carline, A., Taylor, S., & Gosling, H. (2020). Unwanted sexual attention in the night-time economy: Behaviors, safety strategies, and conceptualizing "feisty femininity". *Feminist Criminology*, *15*(1), 24–46. https://doi.org/10.1177/1557085119865027

Hagemann, C. T., Helland, A., Spigset, O., Espnes, K. A., Ormstad, K., & Schei, B. (2013). Ethanol and drug findings in women consulting a sexual assault center – associations with clinical characteristics and suspicions of drug-facilitated sexual assault. *Journal of Forensic and Legal Medicine*, *20*(6), 777–784. https://doi.org/10.1016/j.jflm.2013.05.005

Hall, J., Goodall, E. A., & Moore, T. (2008). Alleged drug facilitated sexual assault (DFSA) in Northern Ireland from 1999 to 2005. A study of blood alcohol levels. *Journal of Forensic and Legal Medicine*, *15*(8), 497–504. https://doi.org/10.1016/j.jflm.2008.05.006

Isorna, M., & Rial, A. (2015). Drogas facilitadoras del asalto sexual y sumisión química. *Health and Addiction*, *15*(2), 137–150. https://doi.org/10.21134/haaj.v15i2.246

Khan, S., Greene, J., Mellins, C. A., & Hirsch, J. S. (2020). The social organization of sexual assault. *Annual Review of Criminology*, *3*, 139–163. https://doi.org/10.1146/annurev-criminol-011518-024456

Koss, M. P., Gidycz, C. A., & Wisniewski, N. (1987). The scope of rape: Incidence and prevalence of sexual aggression and victimization in a national sample of higher education students. *Journal of Consulting and Clinical Psychology*, *55*(2), 162–170. https://doi.org/10.1037/0022-006X.55.2.162

Kourti, A., Stavridou, A., Panagouli, E., Psaltopouou, T., Spiliopoulou, C., Tsolia, M., Sergentanis, T. N., & Tsitsika, A. (2021). Domestic violence during the Covid-19 pandemic: A systematic review. *Trauma, Violence, & Abuse*, *24*(2), 719–745. https://doi.org/10.1177/15248380211038690

Krebs, C. P., Lindquist, C. H., Warner, T. D., Fisher, B. S., & Martin, S. L. (2007). *The campus sexual assault (CSA) study*. https://www.ncjrs.gov/pdffiles1/nij/grants/221153.pdf

Lawyer, S., Resnick, H., Bakanic, V., Burkett, T., & Kilpatrick, D. (2010). Forcible, Drug-facilitated, and incapacitated rape and sexual assault among undergraduate women. *Journal of American College Health*, *58*(5), 453–460. https://doi.org/10.1080/07448480903540515

LeBeau, M., Andollo, W., Hearn, W. L., Baselt, R., Cone, E. J., Finkle, B., Fraser, D., Jenkins, A., Mayer, J., Negrusz, A., Poklis, A., Walls, H. C., Raymon, L., & Sa'adi Nezhad, M. J. (1999). Recommendations for toxicological investigations of drug-facilitated sexual assaults. *Journal of Forensic Science*, *44*(1), 227–230. https://doi.org/10.1520/JFS14442J

Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J., Clarke, M., Devereaux, P. J., Kleijnen, J., & Moher, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: Explanation and elaboration. *Journal of Clinical Epidemiology*, *62*(10), e1–e34. https://doi.org/10.1016/j.jclinepi.2009.06.006

Lorenz, K., & Ullman, S. E. (2016). Alcohol and sexual assault victimization: Research findings and future directions. *Aggression and Violent Behavior*, *31*, 82–94. https://doi.org/10.1016/j.avb.2016.08.001

Márquez, R., & Jaenes, M. (2021). *¿Cerró usted las piernas? Contra la cultura de la violación*. Penguin Random House.

McCauley, J., Ruggiero, K. J., Resnick, H. S., Conoscenti, L. M., & Kilpatrick, D. G. (2009). Forcible, drug-facilitated, and incapacitated rape in relation to substance use problems: Results from a national sample of college women. *Addictive Behaviors*, *34*(5), 458–462. https://doi.org/10.1016/j.addbeh.2008.12.004

McGregor, M. J., Ericksen, J., Ronald, L. A., Janssen, P. A., Van Vliet, A., & Schulzer, M. (2004). Rising incidence of hospital-reported drug-facilitated sexual assault in a large urban community in Canada. *Canadian Journal of Public Health*, *95*, 441–445. https://doi.org/10.1007/BF03403990

McGregor, M. J., Lipowska, M., Shah, S., Du Mont, J., & De Siato, C. (2003) An exploratory analysis of suspected drug-facilitated sexual assault seen in a hospital emergency department. *Women & Health*, *37*(3), 71–80. https://doi.org/10.1300/j013v37n03_05

Mellins, C. A., Walsh, K., Sarvet, A. L., Wall, M., Gilbert, L., Santelli, J. S., Thompson, M., Wilson, P. A., Khan, S., Benson, S., Bah, K., Kaufman, K. A., Reardon, L., & Hirsch, J. S. (2017). Sexual assault incidents among college undergraduates: Prevalence and factors associated with risk. *PLoS One*, *13*(1), e0192129. https://doi.org/10.1371/journal.pone.0192129

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D.G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine*, *6*(7), e1000097. https://doi.org/10.1371/journal.pmed.1000097

Nicholls, E. (2019). *Negotiating femininities in the neoliberal night-time economy. Too much of a girl?* Palgrave Macmillan. https://doi.org/10.1007/978-3-319-93308-5

Pape, H. (2014). Sexual assault while too intoxicated to resist: A general population study of Norwegian teenage girls. *BMC Public Health*, *14*, 406. https://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-14-406

Poulsen, H., McCarthy, M. J., Baker, J., Verma, A., Moir, H. J., Brodie, T., Thatti, B., Trotter, G., & Rooney, B. (2021). Toxicological assessment of the role of alcohol and drugs in drug-facilitated sexual assault cases in New Zealand. *Journal of Analytical Toxicology*, *45*(1), 44–52. https://doi.org/10.1093/jat/bkz110

Poyen, B., Rodor, F., Jouve, M. H., Galland, M., Lots, R., & Jouglard, J. (1982). Amnésient troubles comportementaux d'apparence délictuelle sur venue après ingestion de benzodiazépines. *Thérapie*, *20*(3), 675–678.

Prego-Meleiro, P., Montalvo, G., García-Ruiz, C., Bravo Serrano, B., Ayuso-Tejedor, S., Megía Morales, C., & Quintela-Jorge, Ó. (2022). An approximation to the identification of contexts, experiences, and profiles of victims of drug-facilitated sexual assaults. *Journal of Forensic and Legal Medicine*, *90*, 102376. https://doi.org/10.1016/j.jflm.2022.102376

Prego-Meleiro, P., Montalvo, G., Quintela-Jorge, Ó., & García-Ruiz, C. (2020). Increasing awareness of the severity of female victimization by opportunistic drug-facilitated sexual assault: A new viewpoint. *Forensic Science International*, *315*, 110460. https://doi.org/10.1016/j.forsciint.2020.110460

Quintana, J. M., Garcia-Maroto, A., Moreno, O., & Manzanero, A. L. (2020). Characteristics of drug-facilitated sexual assault in Spain. *Journal of Investigative Psychology and Offender Profiling*, *17*(3), 215–223. https://doi.org/10.1002/jip.1550

Richer, L. A., Fields, L., Bell, S., Heppner, J., Dodge, J., Boccellari, A., & Shumway, M. (2017). Characterizing drug-facilitated sexual assault subtypes and treatment engagement of victims at a hospital-based rape treatment center. *Journal of Interpersonal Violence*, *32*(10), 1524–1542 https://doi.org/10.1177/0886260515589567

Rumble, L., Febrianto, R. F., Larasati, M. N., Hamilton, C., Mathews, B., & Dunne, M. P. (2018). Childhood sexual violence in Indonesia: A systematic review. *Trauma, Violence, & Abuse*, *21*(2), 284–299. https://doi.org/10.1177/1524838018767932

Scott-Ham, M., & Burton, F. C. (2005). Toxicological findings in cases of alleged drug-facilitated sexual assault in the United Kingdom over a 3-year period. *Journal of Clinical Forensic Medicine*, *12*(4), 175–186. https://doi.org/10.1016/j.jcfm.2005.03.009

Sinko, L., Munro-Kramer, M., Conley, T., & Saint Arnault, D. (2020). Internalized messages: The role of sexual violence normalization on meaning-making after campus sexual violence. *Journal of Aggression, Maltreatment & Trauma*, *30*(5), 565–585. https://doi.org/10.1080/10926771.2020.1796872

Steele, B., Martin, M., Yakubovich, A., Humphreys, D. K., & Nye, E. (2020). Risk and protective factors for Men's sexual violence against women at higher education institutions: A systematic and meta-analytic review of the longitudinal evidence. *Trauma, Violence, & Abuse*, *23*(3), 716–732. https://doi.org/10.1177/1524838020970900

Stefansen, K., Froyland, L. R., & Overlien, C. (2020). Incapacitated sexual assault among youths: Beyond the perpetrator tactics framework. *Journal of Youth Studies*, *24*(10), 1373–1387. https://doi.org/10.1080/13676261.2020.1844172

Tiemensma, M., & Davies, B. (2018). Investigating drug-facilitated sexual assault at a dedicated forensic centre in Cape Town, South Africa. *Forensic Science International*, *288*, 115–122. https://doi.org/10.1016/j.forsciint.2018.04.028

Tutenges, S., Sandberg, S., & Pedersen, W. (2019). Sexually violent effervescence: Understanding sexual assault among youth. *Sexualities*, *23*(3), 406–421. https://doi.org/10.1177/1363460719830342

United Nation Office on Drugs and Crime. (2015). *International classification of crime for statistical purposes (iccs)*. https://www.unodc.org/documents/data-and-analysis/statistics/crime/ICCS/ICCS_English_2016_web.pdf

Vaadal, K. (2021). From hooking up to staying in? Women negotiating appropriate sexuality in nightlife with age. *Sexualities*, *25*(8), 1111–1125. https://doi.org/10.1177/136346072110338

Vitek, K. N., & Yeater, E. A. (2020). The association between a history of sexual violence and romantic relationship functioning: A systematic review. *Trauma, Violence, & Abuse*, *22*(5), 1221–1232. https://doi.org/10.1177/1524838020915615.

World Health Organization. (2002). *World report on violence and health*. Geneva. https://apps.who.int/iris/bitstream/handle/10665/42495/9241545615_eng.pdf

World Health Organization. (2012). *Understanding and addressing violence against women*. Geneva. http://apps.who.int/iris/bitstream/handle/10665/77434/WHO_RHR_12.37_eng.pdf

World Health Organization. (2018). *Violence against women prevalence estimates, 2018*. Geneva. https://www.who.int/publications/i/item/9789240022256

Wright, E. N., Anderson, J., Phillips, K., & Miyamoto, S. (2021). Help-seeking and barriers to care in intimate partner sexual violence: A systematic review. *Trauma, Violence & Abuse*, *23*(5), 1510–1528. https://doi.org/10.1177/1524838021998305

## Author Biographies

**Irantzu Recalde-Esnoz**, is a PhD researcher at the Faculty of Education of University of Alcalá, Spain. She holds a degree in Sociology and a master's degree in applied social research techniques and Anthropology. She focuses her research on the fields of gender issues, sexual violence, and educational innovation.

**Pablo Prego-Meleiro**, PhD, is postdoctoral researcher at the Department of Public Health and Maternal-Child Health of the Complutense University of Madrid. He holds a degree in Pharmacy and a PhD in Forensic Science. He focuses his research on the fields of toxics, drug-facilitated sexual assault, and educational innovation.

**Gemma Montalvo**, PhD, is an associate professor at the Faculty of Pharmacy of University of Alcalá, Spain. She holds a degree and a PhD in Science (Chemistry); she focuses her teaching and research on the fields of Physical Chemistry and Forensic Science, with greater dedication in toxics, drug-facilitated sexual assault, and educational innovation.

**Héctor del Castillo**, PhD, is an associate professor at the Faculty of Education of University of Alcalá, Spain. He holds a degree in Sociology and a PhD in Education. He focuses his teaching and research on the fields of Education and Research Methods. He is the Director of the Center for Teaching Innovation at University of Alcalá.