Taylor & Francis
Taylor & Francis Group

Relationship between family mental health problems and substance use disorders: a gender perspective analysis

José J. López-Goñi, Javier Fernández-Montalvo, Alfonso Arteaga & Leire Leza

Published online: 17 May 2023.

Submit your article to this journal ↗

Article views: 129

View related articles ↗

View Crossmark data ↗

Taylor & Francis
Taylor & Francis Group

Relationship between family mental health problems and substance use disorders: a gender perspective analysis

José J. López-Goñi[a,b], Javier Fernández-Montalvo[a,b], Alfonso Arteaga[a,b], and Leire Leza[a]

[a]Department of Health Sciences, Universidad Pública de Navarra, Pamplona, Spain; [b]Instituto de Investigación Sanitaria de Navarra (IdiSNA), Pamplona, Navarra, Spain

ABSTRACT

Background: Little is known about family mental illness and substance use disorder (SUD). This case-control study explored the relationship between family (parents and/or siblings) mental health problems (FMHP) and lifetime substance use disorder (SUD), considering a gender perspective.
Methods: A sample of 387 patients ($n = 306$ men, 79.1%; $n = 81$ women, 20.9%) was recruited from the Proyecto Hombre Navarra (Spain) addiction treatment program. Patients with (80 men; 24 women) and without (226 men; 57 women) FMHP were compared, taking sex into account.
Results: The prevalence of FMHP was 26.9%, without significant differences between men ($n = 80$; 26.1%) and women ($n = 24$; 29.6%). Men with FMHP reported higher severity in family/social and psychiatric areas than those without FMHP. Women with FMHP reported a higher severity in the psychiatric area and a higher prevalence of anxiety problems, suicidal attempts, previous psychopharmacological treatments, and physical abuse than women without FMHP.
Conclusions: FMHP is highly prevalent in patients with SUD. They are associated with lifetime psychopathological problems, mainly in men. Further specific research is needed to evaluate this issue to develop specific treatments tailored to the needs of patients with FMHP.

Mental health problems are prevalent worldwide. For example, 322 million (4.4%) people in the world develop depression throughout their life, and 264 million (3.6%) develop anxiety disorders. In addition, suicide is estimated to cause approximately 788,000 deaths a year, representing 1.5% of all deaths worldwide (World Health Organization, 2017). These disorders do not only and exclusively affect patients but also have negative consequences on the patients' environment. In this sense, long-term mental health problems for one family member pose a great challenge to the entire family system (Jansen et al., 2015). Both individual members of the family and the family as a whole are often exposed to greater physical and emotional difficulties than families without these problems (Kovacs et al., 2019).

The prevalence of children with parents presenting mental health problems ranges from 12.1% to 38.5% (Bassani et al., 2008; Maybery et al., 2009). Research has found that children of parents with mental health problems have more negative consequences in their life than those without these adverse experiences (Mowbray & Oyserman, 2003). In fact, Felitti et al. (1998) included the parental mental illness as an adverse childhood experience that can have negative long-term consequences on the children's development and physical and mental health. These children are at higher risk of abuse and neglect (Van Santvoort et al., 2015) and of developing psychological Hosman et al., 2009; D. Maybery et al., 2005), social, cognitive and physical problems (Van Santvoort et al., 2015) throughout

life. Specifically, they are more likely to develop depression, anxiety disorders, substance use, eating disorders, suicidal behavior and physical illness (Beardslee et al., 2011; Hosman et al., 2009; Leverton, 2003; Weissman et al., 2006). Moreover, several studies have found that some specific risk factors, such as parental mental illness severity and chronicity, are the most important predictors of child functioning, rather than the parental illness diagnosis *per se* (Ashman et al., 2008; Foster et al., 2008; Schreier et al., 2008). In summary, studies report that these children are more likely to develop psychopathological symptoms and to make use more frequently of professional mental health services (Van Santvoort et al., 2015).

However, the sibling relationship is an important ground for cognitive and social development during childhood and adulthood (Van Volkom, 2006). Mental health problems in siblings are related to a range of emotional problems and difficult experiences (e.g., anger, culpability, impotence, social retreat and the sense of loss of a sibling) (Barak & Solomon, 2005), so it would be necessary to analyze the consequences of mental health problems in these family members (Kovacs et al., 2019).

However, there is no research that evaluates the influence of the presence of mental health problems in the family of origin (parents and/or siblings) on people who use drugs. Substance use disorders are a possible consequence of these adverse experiences (Mowbray & Oyserman, 2003). Family mental health problems could be a relevant factor to be considered in the field of SUD. Nevertheless, there is a gap in the

knowledge about FMHP in patients with SUD, and nothing is known about gender perspective in these specific patients.

Previous research has shown that there is a significant prevalence of histories of physical and/or sexual abuse (Fernandez-Montalvo et al., 2015) and high rates of lifetime suicidal ideation and attempts among patients in treatment for addiction problems (Lopez-Goni et al., 2018). These events have been related to a higher addiction severity profile. Furthermore, from a gender perspective, the percentage of women seeking treatment for addiction problems is significantly lower than that of men, making it difficult to conduct research with representative samples of both genders. Even so, studies have shown that both the prevalence of histories of physical and/or sexual abuse and the presence of suicidal ideation and attempts are higher in women. This has resulted in a higher severity profile among women compared to men (Fernandez-Montalvo, Lopez-Goni, Arteaga, et al., 2017; Fernández-Montalvo et al., 2019). Based on these data, this study will take a gender perspective in the data analyses. Therefore, the aims of this study were (1) to analyze the prevalence of FMHP in patients who seek treatment for SUD and (2) to evaluate the relationship between FMHP and the presence and severity of lifetime SUD while taking into account a gender perspective. The main hypothesis of this study is that patients with FMHP will present greater severity of addiction and more severe psychopathological profile than those without FMHP.

Methods

The ethics committees of the Universidad Pública de Navarra (PI-006/16) and Proyecto Hombre Navarra (PHN2016–01) approved the protocol for this study. All participants signed informed consent forms.

Participants

The sample consisted of 408 consecutive patients who voluntarily sought treatment for a SUD in the Proyecto Hombre Navarra addiction treatment program (Spain). This is a cognitive-behavioral intervention with two different modalities (outpatient and inpatient treatment) aimed at abstinence, which has been shown to be effective in treating addictions (Fernandez-Montalvo & Lopez-Goni, 2010; Fernandez-Montalvo et al., 2008). This program is financed by public institutions and serves patients older than 18 years old from throughout the region. These patients are representative of Spanish patients with addiction problems.

The sample inclusion criteria were as follows: a) to meet the diagnostic criteria of SUD according to DSM-5 (American Psychiatric Association, 2013); b) to sign the informed consent to participate in the study after having been properly informed of its characteristics; and c) to fulfil the assessment tools.

Twenty-one (5.2%) of the 408 initial subjects did not meet these criteria: 14 (3.4%) dropped out before completing the assessment tools, and 7 (1.7%) did not give their informed consent. Therefore, the final sample consisted of 387 patients (306 men, 79.1%; 81 women, 20.9%). The mean age of the participants was 37.7 years (SD = 9.4). The main substances that motivated treatment were cocaine (47.0%; n = 164) and alcohol (42.1%; n =

163), followed by other substances (e.g., heroin, cannabis, amphetamine) in smaller numbers (10.6%; n = 42).

Instruments

The *EuropASI* (Kokkevi & Hartgers, 1995) is the European version of the *Addiction Severity Index scale* (ASI) (McLellan et al., 1980). In this study, the Spanish version of this scale was used (Bobes et al., 1996). This interview assessed the need for patient treatment based on seven different areas: 1) general medical condition; 2) employment and financial situation; 3) alcohol consumption; 4) use of other drugs; 5) legal problems; 6) family and social relationships; and 7) psychiatric state. After concluding the interview, the intervention team assessed the patient´s need for treatment in each of these areas. The Interviewer Severity Ratings (ISR), which have shown good predictive validity in different studies conducted in the treatment context (López-Goñi et al., 2012), were used for this assessment. The ISR is calculated based on a series of critical items in each of the areas to consider the patient´s own self-evaluation and the interviewer´s judgment. The score for each area ranges from 0 (*no problem*) to 9 (*extreme problem*). The higher the score is, the greater the addiction severity is and the greater the need for treatment is. In addition, several items of the EuropASI were used to obtain information about the presence of alcohol/drug-related problems (drug and alcohol use scale: Items 1–13, age of onset and consumption during life), family mental health problems (family history scale: presence of psychiatric problems in mother, father and/or siblings) and psychological problems (family/social relationships scale: Items 18A, 18B and 18C during life; and psychiatric scale: Items 1, 3, 4, 5, 6, 7, 8, 9 and 10). The short-term test – retest reliabilities of the ASI severity ratings have been reported to be greater than or equal to .92 for all domains. Cronbach's α for the current sample was .71.

The *Symptom Checklist-90-Revised (SCL-90-R)* (Derogatis, 1992) is a self-administered questionnaire for general psychopathological assessment. This questionnaire consists of 90 items and uses a five-point Likert scale ranging from 0 (*nothing*) to 4 (*extremely*). The questionnaire aims to reflect the current symptoms of psychological distress. The Symptom Checklist consists of nine primary symptom dimensions: somatization, obsession-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Additionally, this questionnaire offers three global indices that reflect the level of overall severity of the subject: The Global Severity Index (GSI), which reflects the overall symptom severity; the Positive Symptom Distress Index (PSDI), which indicates symptom intensity; and the Positive Symptom Total (PST), which includes the number of items answered with a score other than 0. In this study, the percentiles of each dimension were considered. The internal consistency ranges from .70 to .90. Cronbach's alpha for the current sample was .93.

Procedure

The assessment of the sample was performed in two sessions before beginning the treatment. All patients were interviewed by clinical psychologists who had ten or more years of experience assessing and treating addictions. After the assessment

sessions, patients began the standard treatment for SUD. All patients signed informed consent prior to the assessment sessions.

Data analysis

The FMHP variable was operationalized as the presence of any psychiatric disorder in the patient´s mother, father and/or siblings. Comparisons between groups (presence/absence of FMHP) were performed using χ^2 or Student's t-test, depending on the nature of the variables studied. Effect sizes (Cohen's d) were provided, taking into account Cohen's recommendation (Cohen, 1988): $d = 0.20$ (small effect size), $d = 0.50$ (medium effect size), and $d = 0.80$ (large effect size). Two logistic regression analyses (forward method) were conducted to determine which specific factors were important to differentiate between the two groups (presence/absence of FMHP) in men and in women. In these analyses, the variables with statistically significant differences in the bivariate analyses were included. The variable entry criterion was set to 0.05, and the variable retention criterion was set to 0.10. Moreover, the Hosmer – Lemeshow test was used to assess the goodness of fit of this model. A difference of $p < .05$ was considered significant. Statistical analyses were carried out using SPSS software (version 27.0).

Results

Prevalence of mental health problems in the family of origin

The prevalence of FMHP in the sample was 26.9% ($n = 104$). The prevalence of these problems was 26.1% ($n = 80$) in men and 29.6% ($n = 24$) in women. No statistically significant gender differences were found.

In the total sample, the prevalence of FMHP in only siblings was 5.9% ($n = 23$); in only mothers, 13.2% ($n = 51$); in only fathers, 4.1% ($n = 16$); in both parents, 2.1% ($n = 8$); and in siblings and one parent, 1.5% ($n = 6$). Regarding men, the prevalence of FMHP in only siblings was 6.5% ($n = 20$); in only mothers, 12.7% ($n = 39$); in only fathers, 3.9% ($n = 12$); in both parents, 2% ($n = 6$); and in siblings and one parent, 1% ($n = 3$). In the case of women, the prevalence of these problems in only siblings was 3.7% ($n = 3$); in only mothers, 14.8% ($n = 12$); in only fathers, 4.9% ($n = 4$); in both parents, 2.5% ($n = 2$); and in siblings and one parent, 3.7% ($n = 3$).

Comparisons of sociodemographic variables and substances that motivated treatment

The results of the comparisons of sociodemographic variables and the main substance that motivated treatment between patients with and without FMHP are shown in Table 1. Statistically significant differences were found in women but not in men, with medium effect sizes. Women with FMHP reported significantly higher percentages of primary education levels than those without FMHP.

Comparisons on consumption and age of onset

Regarding the substances consumed, statistically significant differences were found in men but not in women, with small and medium effect sizes (Table 2). The group of men with FMHP reported statistically higher percentages of consumption of benzodiazepines, cocaine, amphetamines and hallucinogens than those without FMHP. No significant differences were found between groups in women.

With regard to the age of onset, statistically significant differences were found in women but not in men. Women with FMHP reported an earlier age of onset in the use of benzodiazepines and amphetamines compared to women without these problems.

Comparisons on addiction severity variables

Statistically significant differences between patients with and without FMHP were found in addiction severity variables, with medium and large effect sizes (Table 3). Men with FMHP reported statistically higher scores in the family/social and psychiatric areas than those without these problems. Women with FMHP showed statistically higher scores in the psychiatric area than women without FMHP.

Comparisons of psychopathological variables

The results of the comparisons of psychopathological variables assessed through the SCL-90-R are shown in Table 4. No significant differences were found between groups in either men or women.

The results of the comparisons of other psychopathological symptoms assessed with the EuropASI are shown in Table 5. Statistically significant differences between groups were found in both men and women, with medium effect sizes. Men with FMHP showed statistically higher percentages of anxiety problems, violence control problems, previous psychopharmacological treatments, trouble understanding, lifetime hallucinations, and physical and emotional abuse than men without FMHP. Women with FMHP reported statistically higher percentages of anxiety problems, suicidal attempts, previous psychopharmacological treatments, and physical abuse than women without these problems.

Multivariate analysis for differentiating between patients with and without family mental health problems

Variables related to the presence of FMHP in men were higher scores on the family scale of the EuropASI, consumption of benzodiazepines, previous psychopharmacological treatments, and violence control problems (Table 6). No variables differentiating women with and without FMHP were found.

Discussion

The purpose of this paper was to evaluate the prevalence of FMHP in a sample of patients who seek treatment for SUD and to analyze the relationship between FMHP and the severity of SUD according to gender. The main results of this study

Table 1. Gender comparisons of sociodemographic variables and main substance that motivated treatment between patients with and without family mental health problems.

	Men N = 306	Family mental problems Yes n = 80	No n = 226			
	Mean (SD)	Mean (SD)	Mean (SD)	d	t (df)	p
Age	38.02 (9.5)	37.17 (9.0)	38.32 (9.6)	.12	0.93 (302)	NS
	N (%)	n (%)	n (%)	Phi	χ² (df)	p
Marital status						
Single	155 (50.7)	48 (60.0)	107 (47.3)	.11	3.90 (2)	NS
Married/In couple	95 (31.0)	21 (26.3)	74 (32.7)			
Divorced	56 (18.3)	11 (13.7)	45 (19.9)			
Education level						
Primary	184 (60.1)	49 (61.3)	135 (59.7)	.01	0.06 (2)	NS
Secondary	94 (30.7)	24 (30.0)	70 (31.0)			
University	28 (9.2)	7 (8.8)	21 (9.3)			
Principal substance						
Alcohol	122 (39.9)	28 (35.0)	94 (41.6)	.06	1.21 (2)	NS
Cocaine	155 (50.7)	43 (53.8)	112 (49.6)			
Others	29 (9.5)	9 (11.3)	20 (8.8)			
	Women N = 81	Yes n = 24	No n = 57			
	Mean (SD)	Mean (SD)	Mean (SD)	d	t (df)	p
Age	36.43 (9.0)	34.06 (7.4)	37.43 (9.5)	.38	1.55 (79)	NS
	N (%)	n (%)	n (%)	Phi	χ² (df)	p
Marital status						
Single	44 (54.3)	14 (58.4)	30 (52.6)	.05	0.23 (2)	NS
Married/In couple	18 (22.2)	5 (20.8)	14 (24.6)			
Divorced	19 (23.5)	5 (20.8)	13 (22.8)			
Education level						
Primary	38 (46.9)	16 (66.7)	22 (38.5)	.28	6.41 (2)	<.05
Secondary	30 (37.0)	7 (29.2)	23 (40.4)			
University	13 (16.0)	1 (4.2)	12 (21.1)			
Principal substance						
Alcohol	41 (50.6)	10 (41.7)	31 (54.4)	.13	1.26 (2)	NS
Cocaine	27 (33.4)	10 (41.7)	17 (29.8)			
Others	13 (16.0)	4 (16.6)	9 (15.8)			

NS = Not significant.

showed a high prevalence of FMHP in patients with SUD in treatment and the association of FMHP with the development of psychopathological problems throughout life. These results are consistent with previous research that shows that parental mental illness increases the risk for SUD in adolescents (Ali et al., 2016). However, research on this relationship is scarce. Our findings provide evidence about this relationship and the need to consider the gender perspective as it has been hypothesized.

Regarding the prevalence of FMHP in the sample, a higher prevalence of FMHP was found in mothers than in fathers or siblings in both men and women with SUD. These results are similar to those obtained in previous research. Ali et al. (2016) found an association between maternal mental health problems and SUD in adolescents. In line with these results, Herman-Stahl et al. (2008) found that mothers´ serious psychological distress had a greater influence on children´s problematic behaviors than fathers´ serious psychological distress. From a preventive perspective, the implementation of adequate support strategies for patients with mental health problems who are parents may be a specific childhood prevention policy (Lannes et al., 2021; Maone et al., 2021; Siegenthaler et al., 2012). These types of interventions could reduce the

negative consequences of family mental health problems on the rest of the members.

In this study, men with FMHP reported a higher need for treatment in family/social and psychiatric areas than men without FMHP. In addition, they showed higher lifetime use of benzodiazepines, cocaine, amphetamines and hallucinogens compared to men without FMHP. No significant differences in psychopathological symptomatology at admission of treatment were shown in men with and without FMHP. However, when examining lifetime psychopathological symptoms, men with FMHP reported more anxiety problems, difficulties in controlling violent behaviors, a greater number of previous psychopharmacological treatments, trouble understanding and hallucinations. This lifetime symptomatology may hinder their successful evolution in SUD treatment programs. These same difficulties have been identified in SUD treatment programs in other problematic events, such as having suffered sexual/physical abuse (Fernandez-Montalvo et al., 2015; Haro et al., 2021), intimate partner violence (Gezinski et al., 2021; Schneider et al., 2009; Walsh et al., 2020), or adverse childhood experiences (Leza et al., 2021).

Previous studies have shown that women who seek treatment for an SUD present a more severe psychopathological

Table 2. Gender comparisons of consumption substances and age of onset between patients with and without family mental health problems.

	Men N = 306	Family mental problems Yes n = 80	No n = 226			
	N (%)	n (%)	n (%)	Phi	χ^2 (df)	p
Consumption						
Alcohol	269 (87.9)	67 (83.8)	202 (89.4)	.08	1.76 (1)	NS
Alcohol large amounts	239 (78.1)	62 (77.5)	177 (78.3)	.01	0.02 (1)	NS
Heroin	67 (21.9)	20 (25.0)	47 (20.8)	.05	0.61 (1)	NS
Benzodiazepine	101 (33.0)	40 (50.0)	61 (27.0)	.22	14.15 (1)	<.001
Cocaine	226 (73.9)	68 (85.0)	158 (69.9)	.15	6.97 (1)	<.01
Amphetamines	144 (47.1)	48 (60.0)	96 (42.5)	.15	7.28 (1)	<.01
Cannabis	180 (58.8)	52 (65.0)	128 (56.6)	.08	1.71 (1)	NS
Hallucinogens	54 (17.6)	20 (25.0)	34 (15.0)	.12	4.03 (1)	<.05
	Mean (SD)	Mean (SD)	Mean (SD)	d	t (df)	p
Age of onset						
Alcohol	17.42 (4.99)	16.83 (4.23)	17.61 (5.20)	.16	1.09 (260)	NS
Alcohol large amounts	23.27 (8.60)	21.89 (6.64)	23.73 (9.12)	.21	1.63 (128.5)	NS
Heroin	22.00 (5.41)	22.50 (5.86)	21.79 (5.32)	.13	0.34 (32)	NS
Benzodiazepine	27.37 (7.87)	22.52 (7.02)	28.73 (8.25)	.42	1.81 (76)	NS
Cocaine	23.63 (7.00)	22.60 (5.89)	24.05 (7.38)	.21	1.52 (141.3)	NS
Amphetamines	18.62 (4.93)	18.13 (3.67)	18.88 (5.50)	.15	0.82 (127)	NS
Cannabis	16.57 (3.52)	16.04 (2.18)	16.78 (3.91)	.21	1.58 (151.9)	NS
Hallucinogens	18.55 (2.97)	18.00 (2.25)	19.07 (3.52)	.36	0.97 (27)	NS
Previous Treatments						
Alcohol	0.78 (2.07)	0.86 (1.77)	0.76 (2.17)	.05	0.38 (303)	NS
Drugs	0.90 (2.03)	1.28 (2.39)	0.77 (1.88)	.25	1.73 (113.4)	NS
	N (%)	n (%)	n (%)	Phi	χ^2 (df)	p
Overdose	38 (12.4)	13 (16.3)	25 (11.1)	.07	1.46 (1)	NS
Delirious Tremens	16 (5.2)	3 (3.8)	13 (5.8)	.04	0.48 (1)	NS
	Women N = 81	Yes n = 24	No n = 57			
	N (%)	n (%)	n (%)	Phi	χ^2 (df)	p
Consumption						
Alcohol	71 (87.7)	20 (83.3)	51 (89.5)	.09	0.59 (1)	NS
Alcohol large amounts	60 (74.1)	17 (70.8)	43 (75.4)	.05	0.19 (1)	NS
Heroin	18 (22.2)	6 (25.0)	12 (21.1)	.04	0.15 (1)	NS
Benzodiazepine	39 (48.1)	14 (58.3)	25 (43.9)	.13	1.42 (1)	NS
Cocaine	43 (53.1)	16 (66.7)	27 (47.4)	.18	2.53 (1)	NS
Amphetamines	30 (37.0)	9 (37.5)	21 (36.8)	.01	0.00 (1)	NS
Cannabis	37 (45.7)	12 (50.0)	25 (43.9)	.06	0.26 (1)	NS
Hallucinogens	13 (16.0)	5 (20.8)	8 (14.0)	.09	0.58 (1)	NS
	Mean (SD)	Mean (SD)	Mean (SD)	d	t (df)	p
Age of onset						
Alcohol	17.13 (4.44)	16.95 (5.15)	17.20 (4.19)	.06	0.21 (69)	NS
Alcohol large amounts	26.95 (8.61)	27.71 (9.13)	26.64 (8.49)	.12	0.43 (57)	NS
Heroin	20.40 (5.30)	23.67 (8.96)	19.00 (2.78)	.92	0.88 (2.2)	NS
Benzodiazepine	27.47 (8.65)	22.62 (5.55)	30.22 (8.97)	.96	2.76 (34)	<.01
Cocaine	22.45 (5.51)	23.31 (7.18)	21.92 (4.26)	.25	0.70 (21.6)	NS
Amphetamines	19.21 (4.81)	16.38 (2.07)	20.29 (5.15)	.86	2.07 (27)	<.05
Cannabis	17.83 (6.22)	19.55 (9.99)	17.08 (3.58)	.40	0.80 (11.1)	NS
Hallucinogens	18.43 (2.23)	16.50 (0.71)	19.20 (2.17)	1.4	1.64 (5)	NS
Previous treatments						
Alcohol	0.91 (1.53)	1.00 (1.79)	0.88 (1.42)	.08	0.33 (79)	NS
Drugs	0.73 (1.38)	0.83 (1.37)	0.68 (1.39)	.11	.044 (79)	NS
	N (%)	n (%)	n (%)	Phi	χ^2 (df)	p
Overdose	8 (9.9)	3 (12.5)	5 (8.8)	.06	0.26 (1)	NS
Delirious Tremens	2 (2.5)	2 (8.3)	–	.25	4.87 (1)	<.05

NS = Not significant.

profile than men (Fernandez-Montalvo et al., 2014; Fernandez-Montalvo, Lopez-Goni, Azanza, et al., 2017). In this study, women with FMHP showed an earlier age of onset in benzodiazepine and amphetamine consumption, a higher severity in the psychiatric area, and higher rates of lifetime anxiety problems, suicide attempts and previous lifetime psychopharmacological treatments than women without FMHP. Consistent with these results, a prior European study found important differences in the psychiatric status of men and women in inpatient treatment for an SUD (De Wilde et al., 2004). In this study, women reported a high lifetime prescription of medication for any psychological or emotional

Table 3. Gender comparisons of addiction severity variables between patients with and without family mental health problems.

| | | Family mental problems | | | | |
| | Men N = 306 | Yes n = 80 | No n = 226 | | | |
	Mean (SD)	Mean (SD)	Mean (SD)	d	t (df)	p
EuropASI (ISR)						
Medical	2.18 (1.55)	2.45 (1.48)	2.08 (1.57)	.24	1.85 (300)	NS
Employment/Financial situation	2.69 (1.82)	2.98 (1.81)	2.59 (1.82)	.21	1.62 (301)	NS
Alcohol use	4.05 (2.08)	4.01 (2.15)	4.06 (2.06)	.02	0.17 (301)	NS
Drug use	3.86 (2.23)	4.23 (2.01)	3.72 (2.29)	.23	1.74 (302)	NS
Legal	2.11 (1.69)	2.17 (1.76)	2.08 (1.66)	.05	0.41 (303)	NS
Family/Social	3.80 (1.89)	4.49 (1.87)	3.55 (1.84)	.51	3.89 (298)	<.001
Psychiatric	3.48 (1.87)	3.95 (1.94)	3.31 (1.82)	.35	2.66 (299)	<.01

| | | Family mental problems | | | | |
| | Women N = 81 | Yes n = 24 | No n = 57 | | | |
	Mean (SD)	Mean (SD)	Mean (SD)	d	t (df)	p
EuropASI (ISR)						
Medical	2.42 (1.87)	2.96 (2.39)	2.20 (1.58)	.41	1.44 (31.95)	NS
Employment/Financial situation	3.22 (2.03)	3.88 (1.92)	2.95 (2.03)	.46	1.91 (79)	NS
Alcohol use	4.00 (2.20)	4.08 (2.57)	3.96 (2.05)	.05	0.22 (79)	NS
Drug use	3.68 (2.38)	4.42 (2.55)	3.36 (2.25)	.45	1.85 (78)	NS
Legal	1.38 (1.37)	1.17 (1.34)	1.48 (1.38)	.23	0.94 (76)	NS
Family/Social	4.75 (1.71)	5.29 (1.78)	4.51 (1.64)	.46	1.90 (77)	NS
Psychiatric	4.39 (1.88)	5.29 (1.92)	4.00 (1.73)	.72	2.95 (77)	<.01

ISR = Interviewer Severity Rate; NS = Not significant.

Table 4. Gender comparisons of psychopathological variables between patients with and without family mental health problems.

| | | Family mental problems | | | | |
| | Men N = 306 | Yes n = 80 | No n = 226 | | | |
	Mean (SD)	Mean (SD)	Mean (SD)	d	t (df)	p
SCL-90-R						
GSI	65.47 (32.45)	68.39 (30.63)	64.44 (33.08)	.12	0.94 (304)	NS
PSDI	46.95 (29.43)	49.54 (30.57)	46.04 (29.04)	.12	0.91 (304)	NS
PST	69.85 (30.88)	73.13 (28.68)	68.69 (31.60)	.14	1.10 (304)	NS
Somatisation	59.71 (32.68)	61.68 (32.43)	59.01 (32.81)	.08	0.63 (304)	NS
Obsessive-compulsive	61.79 (32.77)	65.56 (31.91)	60.46 (33.04)	.16	1.20 (304)	NS
Interpersonal sensitivity	63.49 (32.54)	63.96 (31.26)	63.32 (33.04)	.02	0.15 (304)	NS
Depression	62.03 (32.42)	67.61 (30.43)	60.05 (32.93)	.23	1.80 (304)	NS
Anxiety	58.50 (33.44)	63.26 (32.75)	56.81 (33.59)	.19	1.49 (304)	NS
Hostility	52.74 (32.54)	55.05 (33.45)	51.92 (32.24)	.10	0.74 (304)	NS
Phobic anxiety	49.90 (37.79)	56.61 (34.88)	47.52 (38.56)	.24	1.95 (152.1)	NS
Paranoid ideation	62.58 (32.85)	62.88 (31.09)	62.47 (33.52)	.01	0.09 (304)	NS
Psychoticism	66.82 (33.68)	70.20 (32.71)	65.62 (34.01)	.14	1.04 (304)	NS

| | | Family mental problems | | | | |
| | Women N = 81 | Yes n = 24 | No n = 57 | | | |
	Mean (SD)	Mean (SD)	Mean (SD)	d	t (df)	p
SCL-90-R						
GSI	67.86 (33.11)	69.29 (31.69)	67.26 (33.95)	.06	0.25 (79)	NS
PSDI	50.88 (35.87)	49.71 (34.96)	51.37 (36.54)	.05	0.19 (79)	NS
PST	72.19 (30.61)	71.42 (30.43)	72.51 (30.95)	.04	0.15 (79)	NS
Somatisation	57.99 (31.00)	55.88 (31.07)	58.88 (31.20)	.10	0.40 (79)	NS
Obsessive-compulsive	63.79 (32.83)	57.33 (32.04)	66.51 (33.05)	.28	1.15 (79)	NS
Interpersonal sensitivity	66.56 (33.42)	63.42 (31.81)	67.88 (34.26)	.13	0.55 (79)	NS
Depression	62.90 (33.34)	63.38 (34.20)	62.70 (33.28)	.02	0.08 (79)	NS
Anxiety	65.23 (32.71)	63.46 (31.82)	65.98 (33.33)	.08	0.32 (79)	NS
Hostility	53.84 (32.43)	51.92 (37.64)	54.65 (33.30)	.08	0.32 (79)	NS
Phobic anxiety	56.22 (36.78)	56.75 (37.16)	56.00 (36.94)	.02	0.08 (79)	NS
Paranoid ideation	63.64 (35.23)	64.04 (31.48)	63.47 (36.96)	.02	0.07 (79)	NS
Psychoticism	72.98 (29.39)	70.17 (30.76)	74.16 (29.00)	.14	0.56 (79)	NS

GSI: Global Severity Index; PST: Positive Symptom Total; PSDI: Positive Symptom Distress Index; NS = Not significant.

Table 5. Gender comparisons of other psychopathological symptoms between patients with and without family mental health problems.

	Men $N = 306$	Family mental problems				
		Yes $n = 80$	No $n = 226$			
	N (%)	n (%)	n (%)	Phi	χ^2 (df)	p
EuropASI						
Depression	155 (50.7)	45 (56.3)	110 (48.7)	.07	1.36 (1)	NS
Anxiety	183 (59.8)	56 (70.0)	127 (56.2)	.12	4.68 (1)	<.05
Violence	126 (41.2)	45 (56.3)	81 (35.8)	.18	10.16 (1)	<.01
Suicidal ideation	117 (38.2)	37 (46.3)	80 (35.4)	.10	2.95 (1)	NS
Suicidal attempts	44 (14.4)	14 (17.5)	30 (13.3)	.05	0.86 (1)	NS
Psychopharmacological treatment	139 (45.4)	51 (63.7)	88 (38.9)	.22	14.67 (1)	<.001
Trouble understanding	124 (40.5)	41 (51.2)	83 (36.7)	.13	5.17 (1)	<.05
Hallucinations	49 (16.0)	19 (23.8)	30 (13.3)	.13	4.82 (1)	<.05
Emotional abuse	117 (38.2)	41 (51.2)	76 (33.6)	.16	7.77 (1)	<.01
Physical abuse	38 (12.4)	15 (18.8)	23 (10.2)	.11	3.99 (1)	<.05
Sexual abuse	10 (3.3)	4 (5.0)	8 (2.7)	.06	1.03 (1)	NS

	Women $N = 81$	Family mental problems				
		Yes $n = 24$	No $n = 57$			
	N (%)	n (%)	n (%)	Phi	χ^2 (df)	p
EuropASI						
Depression	59 (72.8)	21 (87.5)	38 (66.7)	.21	3.71 (1)	NS
Anxiety	68 (84.0)	24 (100.0)	44 (77.2)	.28	6.52 (1)	<.05
Violence	33 (40.7)	11 (45.8)	22 (38.6)	.07	0.37 (1)	NS
Suicidal ideation	42 (51.9)	16 (66.7)	26 (45.6)	.19	3.00 (1)	NS
Suicidal attempts	22 (27.2)	12 (50.0)	10 (17.5)	.33	9.00 (1)	<.01
Psychopharmacological treatment	53 (65.4)	20 (83.3)	33 (57.9)	.24	4.83 (1)	<.05
Trouble understanding	44 (54.3)	16 (66.7)	28 (49.1)	.16	2.10 (1)	NS
Hallucinations	16 (19.8)	5 (20.8)	11 (19.3)	.02	0.03 (1)	NS
Emotional abuse	59 (72.8)	19 (79.2)	40 (70.2)	.09	0.69 (1)	NS
Physical abuse	46 (56.8)	18 (75.0)	28 (49.1)	.24	4.61 (1)	<.05
Sexual abuse	25 (30.9)	11 (45.8)	14 (24.6)	.21	3.58 (1)	NS

NS = Not significant.

Table 6. Variables related to the presence of family mental health problems.

Dependent variable = Family mental problems; 0 = Absence; 1 = Presence

Men (n = 306)

Variable	OR	p	(95% IC)
Family (EuropASI, ISR)	1.17	<.05	(1.01–1.36)
Consumption benzodiazepine	1.96	<.05	(1.08–3.57)
Psychopharmacological treatment	1.79	<.05	(1.00–3.21)
Violence control problems	1.83	<.05	(1.05–3.18)
Adjusted R^2			.150
% Correctly classified			72.7

ISR = Interviewer Severity Rate.

problem and had often attempted suicide. Therefore, the need to detect and address these suicidal behaviors should be considered in both clinical practice and future research.

The lack of differences in psychopathological symptoms between patients with and without FMHP is striking. Although these patients do not present specific symptoms at the time of admission to the treatment program, when their life trajectories are explored, the presence of lifetime psychological problems is relevant. Thus, more research is needed.

Caution should be exercised in generalizing the results of this study. The study sample was obtained from a single center. Even so, as it is one of the few centers specializing in the treatment of addiction problems in Navarra, the sample is representative of this Spanish region. Moreover, the study design does not allow for causal inferences. These limitations should be taken into account in future research.

Prior studies have focused on the relationship between parental mental health problems and their health consequences for children. The present study goes beyond this, including all origin family members (not only parents) and identifying one specific long-term problem (lifetime SUD) while taking into account a gender perspective. Thus, this is innovative research that must be continued with new studies that evaluate this relationship to contribute to the development of specific interventions tailored to the needs of SUD patients with FMHP.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

References

Ali, M. M., Dean, D., & Hedden, S. L. (2016). The relationship between parental mental illness and/or substance use disorder on adolescent substance use disorder: Results from a nationally representative survey. *Addictive Behaviors*, 59, 35–41. https://doi.org/10.1016/j.addbeh.2016.03.019

American Psychiatric Association. (2013) . *Diagnostic and statistical manual of mental disorders* (5th ed.). APA.

Ashman, S. B., Dawson, G., & Panagiotides, H. (2008). Trajectories of maternal depression over 7 years: Relations with child psychophysiology and behavior and role of contextual risks. *Development & Psychopathology*, 20(1), 55–77. https://doi.org/10.1017/s0954579408000035

Barak, D., & Solomon, Z. (2005). In the shadow of schizophrenia: A study of siblings' perceptions. *The Israel Journal of Psychiatry and Related Sciences*, 42(4), 234.

Bassani, D. G., Padoin, C. V., & Veldhuizen, S. (2008). Counting children at risk: Exploring a method to estimate the number of children exposed to parental mental illness using adult health survey data. *Social Psychiatry & Psychiatric Epidemiology*, 43(11), 927–935. https://doi.org/10.1007/s00127-008-0376-3

Beardslee, W. R., Gladstone, T. R. G., & O'Connor, E. E. (2011). Transmission and prevention of mood disorders among children of affectively ill parents: A review. *The Journal of the American Academy of Child & Adolescent Psychiatry*, 50(11), 1098–1109. https://doi.org/10.1016/j.jaac.2011.07.020

Bobes, J., González, M. P., Sáiz, P. A., & Bousoño, M. (1996). Índice Europeo de Severidad de la Adicción: EuropASI. Versión española [European Index of Severity of Addiction: EuropASI. Spanish Version]. In J. Bobes García (Ed.), *Actas de la IV reunión interregional de psiquiatría* (pp. 201–218).

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Lawrence Erlbaum Associates.

De Wilde, J., Soyez, V., Broekaert, E., Rosseel, Y., Kaplan, C., & Larsson, J. (2004). Problem severity profiles of substance abusing women in European therapeutic communities: Influence of psychiatric problems. *Journal of Substance Abuse Treatment*, 26(4), 243–251. https://doi.org/10.1016/j.jsat.2004.01.006

Derogatis, L. R. (1992). *SCL-90-R: Administration, scoring & procedures manual-II, for the (revised) version and other instruments of the psychopathology rating scale series* (2nd Ed.). Clinical Psychometric Research.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. *American Journal of Preventive Medicine*, 14(4), 245–258. https://doi.org/10.1016/s0749-3797(98)00017-8

Fernandez-Montalvo, J., & Lopez-Goni, J. J. (2010). Comparison of completers and dropouts in psychological treatment for cocaine addiction. *Addiction Research & Theory*, 18(4), 433–441. https://doi.org/10.3109/16066350903324826

Fernandez-Montalvo, J., Lopez-Goni, J. J., & Arteaga, A. (2015). Psychological, physical, and sexual abuse in addicted patients who undergo treatment. *Journal of Interpersonal Violence*, 30(8), 1279–1298. https://doi.org/10.1177/0886260514539843

Fernandez-Montalvo, J., Lopez-Goni, J. J., Arteaga, A., Cacho, R., & Azanza, P. (2017). Therapeutic progression in abused women following a drug-addiction treatment program. *Journal of Interpersonal Violence*, 32(13), 2046–2056. https://doi.org/10.1177/0886260515591980

Fernández-Montalvo, J., López-Goñi, J. J., Arteaga, A., & Haro, B. (2019). Suicidal ideation and attempts among patients with lifetime physical and/or sexual abuse in treatment for substance use disorders. *Addiction Research & Theory*, 27(3), 204–209. https://doi.org/10.1080/16066359.2018.1485891

Fernandez-Montalvo, J., Lopez-Goni, J. J., Azanza, P., Arteaga, A., & Cacho, R. (2017). Gender differences in treatment progress of drug-addicted patients. *Women & Health*, 57(3), 358–376. https://doi.org/10.1080/03630242.2016.1160967

Fernandez-Montalvo, J., Lopez-Goni, J. J., Azanza, P., & Cacho, R. (2014). Gender differences in drug-addicted patients in a clinical treatment center of Spain. *The American Journal on Addictions*, 23(4), 399–406. https://doi.org/10.1111/j.1521-0391.2013.12117.x

Fernandez-Montalvo, J., Lopez-Goni, J. J., Illescas, C., Landa, N., & Lorea, I. (2008). Evaluation of a therapeutic community treatment program: A long-term follow-up study in Spain. *Substance Use & Misuse*, 43(10), 1362–1377. https://doi.org/10.1080/10826080801922231

Foster, C. E., Webster, M. C., Weissman, M. M., Pilowsky, D. J., Wickramaratne, P. J., Rush, A. J., Hughes, C. W., Garber, J., Malloy, E., Cerda, G., Kornstein, S. G., Alpert, J. E., Wisniewski, S. R., Trivedi, M. H., Fava, M., & King, C. A. (2008). Course and severity of maternal depression: Associations with family functioning and child adjustment. *Journal of Youth & Adolescence*, 37(8), 906–916. https://doi.org/10.1007/s10964-007-9216-0

Gezinski, L. B., Gonzalez-Pons, K. M., & Rogers, M. M. (2021). Substance use as a coping mechanism for survivors of intimate partner violence: Implications for safety and service accessibility. *Violence Against Women*, 27(2), 108–123. https://doi.org/10.1177/1077801219882496

Haro, B., Lopez-Goni, J. J., Fernandez-Montalvo, J., & Arteaga, A. (2021). Prevalence and differential profile of patients with substance use disorder who have suffered physical and/or sexual abuse. *Journal of Interpersonal Violence*, 37(15–16), NP12820–12837. https://doi.org/10.1177/08862605211001463

Herman-Stahl, M. A., Ashley, O. S., Penne, M. A., Bauman, K. E., Williams, J., Sanchez, R. P., Loomis, K. M., Williams, M. S., & Gfroerer, J. C. (2008). Moderation and mediation in the relationship between mothers' or fathers' serious psychological distress and adolescent substance use: Findings from a national sample. *Journal of Adolescent Health*, 43(2), 141–150. https://doi.org/10.1016/j.jadohealth.2008.01.010

Hosman, C. M. H., van Doesum, K. T. M., & van Santvoort, F. (2009). Prevention of emotional problems and psychiatric risks in children of parents with a mental illness in the Netherlands: I. The scientific basis to a comprehensive approach. *Australian E-Journal for the Advancement of Mental Health*, 8(3), 250–263. https://doi.org/10.5172/jamh.8.3.250

Jansen, J. E., Gleeson, J., & Cotton, S. (2015). Towards a better understanding of caregiver distress in early psychosis: A systematic review of the psychological factors involved. *Clinical Psychology Review*, 35, 56–66. https://doi.org/10.1016/j.cpr.2014.12.002

Kokkevi, A., & Hartgers, C. (1995). EuropASI: European adaptation of a multidimensional assessment instrument for drug and alcohol dependence. *European Addiction Research*, 1(4), 208–210. https://doi.org/10.1159/000259089

Kovacs, T., Possick, C., & Buchbinder, E. (2019). Experiencing the relationship with a sibling coping with mental health problems: Dilemmas of connection, communication, and role. *Health & Social Care in the Community*, 27(5), 1185–1192. https://doi.org/10.1111/hsc.12761

Lannes, A., Bui, E., Arnaud, C., Raynaud, J. P., & Revet, A. (2021). Preventive interventions in offspring of parents with mental illness: A systematic review and meta-analysis of randomized controlled trials. *Psychological Medicine*, 51(14), 2321–2336. https://doi.org/10.1017/s0033291721003366

Leverton, T. J. (2003). Parental psychiatric illness: The implications for children. *Current Opinion in Psychiatry*, 16(4), 395–402. https://doi.org/10.1097/01.yco.0000079218.36371.78

Leza, L., Siria, S., Lopez-Goni, J. J., & Fernandez-Montalvo, J. (2021). Adverse childhood experiences (ACEs) and substance use disorder (SUD): A scoping review. *Drug & Alcohol Dependence*, 221, 108563. https://doi.org/10.1016/j.drugalcdep.2021.108563

López-Goñi, J. J., Fernández-Montalvo, J., & Arteaga, A. (2012). Predictive validity of the EuropASI: Clinical diagnosis or composite scoring? *Journal of Substance Abuse Treatment*, 42(4), 392–399. https://doi.org/10.1016/j.jsat.2011.09.011

Lopez-Goni, J. J., Fernandez-Montalvo, J., Arteaga, A., & Haro, B. (2018). Suicidal ideation and attempts in patients who seek treatment for

substance use disorder. *Psychiatry Research*, 269, 542–548. https://doi.org/10.1016/j.psychres.2018.08.100

Maone, A., D'Avanzo, B., Russo, F., Esposito, R. M., Goldos, B. L., Antonucci, A., Ducci, G., & Narracci, A. (2021). Implementation of psychodynamic multifamily groups for severe mental illness: A recovery-oriented approach. *Frontiers in Psychiatry*, 12, 646925. https://doi.org/10.3389/fpsyt.2021.646925

Maybery, D., Ling, L., Szakacs, E., & Reupert, A. (2005). Children of a parent with a mental illness: Perspectives on need. *Australian E-Journal for the Advancement of Mental Health*, 4(2), 78–88. https://doi.org/10.5172/jamh.4.2.78

Maybery, D. J., Reupert, A. E., Patrick, K., Goodyear, M., & Crase, L. (2009). Prevalence of parental mental illness in Australian families. *Psychiatric Bulletin*, 33(1), 22–26. https://doi.org/10.1192/pb.bp.107.018861

McLellan, A. T., Luborsky, L., Woody, G. E., & Obrien, C. P. (1980). Improved diagnostic evaluation instrument for substance abuse patients: Addiction severity index. *Journal of Nervous & Mental Disease*, 168(1), 26–33. https://doi.org/10.1097/00005053-198001000-00006

Mowbray, C. T., & Oyserman, D. (2003). Substance abuse in children of parents with mental illness: Risks, resiliency, and best prevention practices. *The Journal of Primary Prevention*, 23(4), 451–482. https://doi.org/10.1023/A:1022224527466

Schneider, R., Burnette, M. L., Ilgen, M. A., & Timko, C. (2009). Prevalence and correlates of intimate partner violence victimization among men and women entering substance use disorder treatment. *Violence & Victims*, 24(6), 744–756. https://doi.org/10.1891/0886-6708.24.6.744

Schreier, A., Wittchen, H.-U., Hoefler, M., & Lieb, R. (2008). Anxiety disorders in mothers and their children: Prospective longitudinal community study. *British Journal of Psychiatry*, 192(4), 308–309. https://doi.org/10.1192/bjp.bp.106.033589

Siegenthaler, E., Munder, T., & Egger, M. (2012). Effect of preventive interventions in mentally ill parents on the mental health of the offspring: Systematic review and meta-analysis. *The Journal of the American Academy of Child & Adolescent Psychiatry*, 51(1), 8–17. https://doi.org/10.1016/j.jaac.2011.10.018

Van Santvoort, F., Hosman, C. M. H., Janssens, J. M. A. M., van Doesum, K. T. M., Reupert, A., & van Loon, L. M. A. (2015). The impact of various parental mental disorders on children's diagnoses: A systematic review. *Clinical Child & Family Psychology Review*, 18(4), 281–299. https://doi.org/10.1007/s10567-015-0191-9

Van Volkom, M. (2006). Sibling relationships in middle and older adulthood: A review of the literature. *Marriage & Family Review*, 40(2–3), 151–170. https://doi.org/10.1300/J002v40n02_08

Walsh, L., Slesnick, N., & Wong, J. D. (2020). Substance use, self-efficacy, and differentiation as predictors of intimate partner violence among substance-using women. *Substance Use & Misuse*, 55(5), 707–714. https://doi.org/10.1080/10826084.2019.1696825

Weissman, M. M., Wickramaratne, P., Nomura, Y., Warner, V., Pilowsky, D., & Verdeli, H. (2006). Offspring of depressed parents: 20 years later. *The American Journal of Psychiatry*, 163(6), 1001–1008. https://doi.org/10.1176/ajp.2006.163.6.1001

World Health Organization. (2017). *Depression and other common mental disorders: Global health estimates*. https://apps.who.int/iris/bitstream/handle/10665/254610/WHO-MSD-MER-2017.2-eng.pdf