

Mental disorder prevalence and associated risk factors in three prisons of Spain

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ABSTRACT:

Aims: To determine the lifetime and monthly prevalence of people with mental disorders and its association with socio-demographic factors and criminal risk in three Spanish prisons (Ocaña, Madrid I, II and VI).

Method: Cross-sectional epidemiological study of a sample of 184 inmates. Socio-demographic and criminal data were collected by an *ad hoc* interview. Mental disorders were assessed with the clinical version of the Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders Axis I Disorders (SCID-I).

Results: Life prevalence of mental disorders was 90.2%. The most common mental disorders and substance abuse or dependence was 72.3%, followed by mood disorder (38.5%) and psychotic disorders (34.2%). Moreover, the prevalence of any mental disorder in the last month was 52.2%. The main psychotic disorder (20.7%) was followed by substance abuse or dependence (18.5%), and mood disorder state (13%). A socio-demographic profile as a risk for each disorder was found.

Discussion: The prevalence of people with mental disorders is very high in Spanish prisons, and is associated with a distinct demographic profile. It is essential to continue researching this reality, translating the results into therapeutic and preventive action adapted to the status of inmates to reduce social inequalities in this high priority public health situation.

Keywords: Prisons; Mental disorders; Prevalence; Epidemiology; Mental health; Street drugs; Substance-related disorders; Risk factors; Spain.

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INTRODUCTION

The imprisoned population has increased over the last twenty-five years in most of the countries¹. In many of them, such as in the Netherlands or Greece, by 150%. In Spain, such population has grown up to 140 per every 100,000 inhabitants². This escalation of the imprisoned population runs parallel with an increased prevalence of mental disorders among them, with higher rates than in the general public³⁻⁴. Epidemiological studies on the matter conclude that the rates of inmates with common mental disorders are twice as high and four times higher when considering severe mental disorders⁵. Hence, the importance of mental disorders in prisons as a key public health

issue⁶, mainly associated with substance and alcohol abuse and dependence disorders.

A revision of studies⁷, concludes that the vast majority of people hosted in correctional facilities suffer from some type of mental disorder at some point, 61% of whom are formerly diagnosed with a mental disorder and 33.8% of whom present positive scores in mental health issues.

With regard to the most common mental disorders, the revision and meta-analysis⁸ carried out in 24 countries, suggests the prevalence of psychotic and major depression disorders, present in one of every seven inmates. Furthermore, they concluded high co-morbidity of such disorders with substance abuse, this being higher in patients with psychotic disorders (13.6% to 95%), prevailing in male offen-

ders five years after their arrest in up to 27%, higher than among the general population, present un one of every six inmates⁹.

In our country, it is worth considering the PreCa⁴ study, the first multi-centre epidemiological study aimed at defining lifetime and month prevalence of mental disorders in prison. Its results show a lifetime prevalence for any mental disorder of 84.4%, the most common being substance abuse, followed by anxiety, mood and psychotic disorders. Month prevalence was 41.2%, the most common being anxiety disorder followed by substance abuse, mood and psychotic disorders.

In this context, the objective of the present study is to define lifetime and month prevalence of the main mental disorders in prison, as well as the sociodemographic profile of the male imprisoned population in two correctional facilities in Castilla-La Mancha and a facility in the Community of Madrid, by following the methodology described by the PreCa⁴ study.

MATERIAL AND METHODS

This is a cross-sectional descriptive study, of non-experimental design carried on convicted males hosted in the prisons of Ocaña I, Ocaña II (Castilla-La Mancha) and Madrid VI (Community of Madrid).

Study subjects

Inclusion criteria: 1) Males deprived of their freedom, serving their sentences in the correctional facilities under study. 2) Ages ranged between 18 and 75 years. 3) Spanish-speaking foreigners or with appropriate communication and comprehension skills. 4) Mentally able to provide signed informed consent.

Exclusion criteria: 1) Female inmates. 2) Inmates under preventive detention. 3) Inmates under security measures. 4) Foreigners with language difficulties. 5) Release in the next six months. 6) Inmates under open regimens. 7) Inmates with severe medical conditions unable to undergo the interview. 8) Inmates pending imminent transfer to other correctional facilities. 9) Inmates admitted to prison psychiatric units. 10) Inmates mentally unable to provide informed consent.

Sample Size

The sample included in the study (n=184) was selected from the list provided by each prison which included inmate identification numbers, by means of random stratified sampling techniques. Each selected participant had three alternates. Of the 184 individuals

to whom the interview was administered, 5 alternates were selected and the response rate was 97.7%. The distribution of inmates was carried out proportionally to the population size of each prison.

Study variables

Sociodemographic variables were considered (age, nationality, marital status, maximum level of education achieved, working status and place of residence) along with criminal variables (type of offence, type of sentence, prison regimen, number of legal proceedings, arrests and admissions to prison) and clinical variables (mental disorders at some point and throughout the last month).

Evaluation tools

1. Structured interview on Socio-Demographic and Criminal data
2. Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders Axis I Disorders (SCID-I), for the diagnosis of mental disorders according to DSM-IV criteria¹⁰. It is an interview protocol to diagnose the most important DSM-IV Axis I disorders¹¹, by following a clinical diagnosis interview. It enhances diagnostic validity by providing a series of diagnostic criteria and the systematic inquiry into symptoms which could otherwise go unnoticed¹².

The interview was individually and manually administered. Individuals took part voluntarily in the study, by providing signed written informed consent, prior information on the study. The authorization of corresponding prison administrations was necessary for the development of this study.

Statistical Analysis

Sociodemographic variables were described through absolute frequency and percentages. Prevalence has been expressed by absolute frequency and percentages with 95% confidence intervals. Raw and adjusted Odds-ratio was calculated for different mental disorders and sociodemographic variables through logistic regression models. Multivariate model includes all sociodemographic variables included in the table. All statistical significance tests are bilateral and consider a significance level of $p < 0.05$. Data was analyzed through SPSS v.22.0 statistical software (SPSS for Windows, SPSS Inc., Chicago, IL, USA).

Table 1: Social and Demographic features of the sample under study.

		Muestra total n = 184	
Age, mean (SD) (min-max range)		39.6 (11.3) (20-71)	
Place of birth: n° (%)			
	Spain	101	(54.9)
	Africa	14	(7.6)
	South America	49	(26.6)
	Asia	1	(0.5)
	Europe	19	(10.3)
Marital status: n° (%)			
	Single	91	(49.5)
	Married or mated	53	(28.8)
	Separated or divorced	36	(19.6)
	Widowed	4	(2.2)
Education level: n° (%)			
	Illiterate	2	(1.1)
	Incomplete primary education	41	(22.3)
	Complete primary education	59	(32.1)
	Secondary education	57	(31.0)
	University	22	(12.0)
	Other	3	(1.6)
Criminal Record: n° (%)			
	Previous imprisonment	77	(41.8)
	Prior arrest	100	(54.6)
	Prior trial	98	(53.3)
Crime: n° (%)			
	Homicide	9	(4.9)
	Attempted homicide	6	(3.3)
	Murder	5	(2.7)
	Sexual offence	9	(4.9)
	Domestic violence	17	(9.2)
	Bodily injury	10	(5.4)
	Robbery	38	(20.7)
	Robbery with intimidation	21	(11.4)
	Robbery without intimidation	13	(7.1)
	Theft	13	(7.1)
	Offences against Public Health	61	(33.2)
	Breach of sentence	1	(0.5)
	Arson	2	(1.1)
	Threats/Coercion	3	(1.6)
	Other	37	(20.8)
Prior working status: n° (%)			
	Employed	106	(57.6)
	Unemployed	62	(33.7)
	Other	16	(8.7)
Recidivism: n° (%)			
	First sentence	107	(58.2)
	Recidivists	77	(41.8)

Table 2. Lifetime and last month prevalence of the main mental disorders.

Trastorno mental	Lifetime prevalence			Last month prevalence		
	n	%	95% CI	n	%	95% CI
Mental Illness	166	90.2	85.9-94.5	96	52.2	44.9-59.4
Substance abuse or dep.	133	72.3	65.8-78.7	34	18.5	12.8-24.1
Stimulants	3	1.6	0.0-3.4	1	0.5	0.0-1.6
Cannabis	30	16.3	10.9-21.6	18	9.8	5.4-14.0
Cocaine	73	39.6	32.5-46.7	8	4.3	1.4-7.340
Hallucinogens	2	1.09	0.0-2.5	1	0.5	0.0-1.6
Opiates	34	18.4	12.8-24.1	6	3.3	0.7-5.8
Sedatives	3	1.6	0.0-3.4	1	0.5	0.0-1.6
Others	1	0.5	0.0-1.6	0	0.0	0-0
Alcohol	83	45.1	37.8-52.3	15	8.2	4.1-12.1
Mood disorders	71	38.5	31.5-45.6	24	13.0	8.1-17.9
Major depressive disorder	52	28.2	21.7-34.7	16	8.7	4.6-12.7
Dysthymic disorder	15	8.1	4.1-12.1	15	8.2	4.1-12.1
M. disorder due to medical condition	3	1.6	0.0-3.4	1	0.5	0.0-1.6
M. disorder due to substance	38	20.6	14.7-26.5	12	6.5	2.9-10.0
Bipolar 1 disorder	8	4.3	1.3-7.3	1	0.5	0.0-1.6
Bipolar 2 disorder	1	0.5	0.0-1.6	1	0.5	0.0-1.6
Other bipolar disorder	12	6.5	1.3-11.6	4	2.2	0.1-4.2
General anxiety disorder	12	6.5	2.9-10.0	0	0.0	0-0
US anxiety disorder	3	1.6	0.0-3.4	1	0.5	0.0-1.6
Panic disorder & agoraphobia	10	5.4	2.1-8.7	7	3.8	1.0-6.5
Panic disorder without agoraphobia	11	5.9	2.5-9.4	3	1.6	0.0-3.4
Agoraphobia without panic disorder	19	10.3	5.9-14.7	nd	–	–
Anxiety disorder due to medical condition	0	0.00	0-0	0	0.0	0-0
Social Phobia	7	3.8	1.0-6.5	nd	–	–
Specific Phobia	41	22.2	16.2-28.3	nd	–	–
Obsessive compulsive disorder	15	8.1	4.1-12.1	14	7.6	3.7-11.4
Anxiety disorder due to substance	18	9.7	5.4-14.0	6	3.3	0.6-5.8
Post-traumatic stress disorder	42	22.8	16.7-28.9	11	6.0	2.5-9.4
Adaptive disorder	5	2.7	0.3-5.0	nd	–	–
Somatization disorder	10	5.4	2.1-8.7	nd	–	–
Hypochondriasis	10	5.4	2.1-8.7	nd	–	–
Body dysmorphic disorder	6	3.2	0.6-5.8	nd	–	–
Psychotic disorder	63	34.2	27.3-41.1	38	20.7	14.7-26.5
Schizophrenia	21	11.4	6.8-16.0	18	9.8	5.4-14.0
Schizotypal disorder	0	0.0	0-0	0	0.0	0-0
Schizoaffective disorder	2	1.0	0.0-2.5	1	0.5	0.0-1.6
Delusional disorder	7	3.8	1.0-6.5	6	3.3	0.6-5.8
Brief psychotic disorder	0	0.0	0-0	0	0.0	0-0
Psychotic disorder due to medical condition	0	0.0	0-0	0	0.0	0-0
US psychotic disorder	10	5.4	2.1-8.7	3	1.6	0.0-3.4
Psychotic disorder due to substance	24	13.0	8.1-17.9	10	5.4	2.1-8.7

95% confidence interval. UA: unavailable information

RESULTS

Table 1 depicts sociodemographic variables as well as variables on criminal record and recidivism of the subjects under study. The mean age was 39.6 years. 54.9% were from Spain and 26.6% from South America. Only 28.8% were married or mated. 55.5% had finished primary school and only 12% had studied at university. 57.6% were employed prior to imprisonment. 41.8% were recidivists: crimes against public health (33.2%) and robbery (20.7%) being the most common. Last, 54.6% had been previously arrested.

Table 2 depicts lifetime and last-month prevalence of the main mental disorders. Lifetime prevalence of any mental disorder was 90.2%: substance abuse or dependence disorder (72.3%; 95%CI 65.8-78.7) being the most common, followed by mood disorders (38.5%; 95%CI 31.5-45.6) and psychotic disorders (34.2%; 95%CI 27.3-41.1).

As for the substances most commonly associated with abuse or dependence disorders throughout the subjects' lives, alcohol was the leading cause (45.1%; 95% CI 37.8-52.3), followed by cocaine (39.6%; 95%CI 32.5-46.7).

On the other hand, last-month prevalence of any mental disorder was 52.2% (95%CI 44.9-59.4), the most common being psychotic disorders (20.7%; 95%CI 14.7-26.5) followed by substance abuse or dependence disorder (18.5%; 95%CI 12.8-24.1) and mood disorders (13%; 95%CI 8.1-17.9).

Table 3 shows the prevalence and raw and adjusted odds-ratio for suffering from mood or anxiety disorders according to sociodemographic factors. With regard to mood disorders, the main risk factors are associated to age, being twice as common at the age of 40 years and onwards (adjusted OR 1.92; 95%CI 0.65-5.6), university education (adjusted OR 2.68, 95% CI 0.69-10.14) in comparison with those who had not finished primary school; being born in Spain (adjusted OR 0.37; 95%CI 0.09-1.5 for Africans adjusted OR = 0.07; 95%CI 0.02-0.2 for Latin Americans and adjusted OR 0.29, 95% CI 0.09-1 for the rest of Europe) and being unemployed (adjusted OR 1.69, 95% CI 0.79-3.6).

As for anxiety disorders, it is worth noting that we identified the following risk factors: older ages (adjusted OR=0.44; 95%CI 0.13-1.5 for individuals 50 and older), being married (adjusted OR = 1.44; 95% CI 0.62-3.3); low educational level (adjusted OR = 1.92; 95%CI 0.74-5.0 for those who had not finished primary school); place of birth, foreigners suffering less from anxiety disorder (adjusted OR 0.25; 95%CI 0.06-1 for Africans, adjusted OR = 0.42; 95%

CI 0.18-1 for Latin-Americans and adjusted OR = 0.38; 95%CI 0.12-1.02 for the rest of Europeans), and last, being unemployed (adjusted OR= 1.82; 95%CI 0.87-3.8).

With regard to substance abuse or dependence disorders (see Table 4) the following risk factors were described: age ranged between 30 and 39 years (adjusted OR= 1.47; 95% CI 0.5-4.3), being single in comparison with being or giving been married (adjusted OR= 0.68; 95%CI 0.28-1.6 and 0.86; 95%CI 0.31-2.4 respectively), not having finished primary school (OR = 0.75; 95%CI 0.19-2.9), being unemployed (adjusted OR= 0.69; 95% CI 0.32-1.5) and Spanish nationality (adjusted OR=0.71; 95% CI 0.17-3.1 for Africans in comparison with inmates born in Spain).

The possibility of suffering from any mental disorder is associated to age, being more common among individuals with ages ranged between 20 to 29 years, having been previously married (adjusted OR = 3.02; 95%CI 0.52-17.4) and having unfinished or only complete primary education (adjusted OR 2.27; 95%CI 0.42-12.3). Foreign inmates presented lower probabilities (adjusted OR = 0.11; 95% CI 0.02-0.5 for Latin-Americans and adjusted OR = 0.16; 95% CI 0.02-1.1 for the rest of Europeans). Last, unemployment is also a risk factor (adjusted OR= 1.11; 95% CI 0.33-3.8).

Table 5 depicts how psychotic disorders are associated to the following risk factors: age ranged between 40 and 49 years (adjusted OR= 2.88; 95% CI 0.98-8); being single, primary education (adjusted OR 1.12; 95% CI 0.45-2.8), foreigners born in Africa or Latin America presented a lower probability (adjusted OR = 0.22; 95% CI 0.04-1.2 for Africans and adjusted OR = 0.37; 95% CI 0.14-1.0 for Latin-Americans) in comparison with those born in Spain and finally, being unemployed (adjusted OR = 0.69; 95% CI 0.32-1.5).

DISCUSSION

The profile of the sample includes male inmates with a mean age of 39.6 years, mostly from Spanish nationality, with primary education, single and unemployed at the time of imprisonment, with a high rate of recidivism and prior arrests. The most common crimes committed were offenses against public health and robbery. As for this aspect, our results run parallel with other studies¹³, where crimes against public health also account for the leading cause among male inmates. Our results on recidivism show lower rates than other Spanish studies^{4, 14}.

Table 3. Prevalence and Raw and Adjusted Odds-ratio of suffering a mood or anxiety disorder, according to social and demographic factors.

	Any mood disorder			Any anxiety disorder		
	Prevalence %, 95%CI	OR 95%CI	Adj. OR 95%CI	Prevalence %, 95%CI	OR 95%CI	Adj. OR 95%CI
Age						
20 to 29	34.1% (19.0-49.3)	1	1	63.4% (48.0-78.8)	1	1
30 to 39	31.5% (18.7-44.3)	0.89 (0.37-2.1)	0.77 (0.27-2.2)	66.7% (53.7-79.7)	1.15 (0.49-2.7)	1.47 (0.54-3.9)
40 to 49	50.0% (36.2-63.8)	1.93 (0.83-4.5)	1.92 (0.65-5.6)	57.4% (43.8-71.0)	0.78 (0.34-1.8)	0.67 (0.25-1.8)
50 and older	39.4% (21.8-57.0)	1.25 (0.48-3.2)	0.96 (0.27-3.5)	48.5% (30.5-66.5)	0.54 (0.21-1.4)	0.44 (0.13-1.5)
Marital status						
Never married	37.4% (27.2-47.5)	1	1	60.4% (50.2-70.7)	1	1
married	37.7% (24.2-51.2)	1.02 (0.50-2.0)	1.82 (0.74-4.5)	60.4% (46.8-74.0)	0.997 (0.50-2.0)	1.44 (0.62-3.3)
Prev. married	42.5% (26.5-58.5)	1.24 (0.58-2.6)	1.44 (0.53-3.9)	60.0% (44.1-75.9)	0.98 (0.46-2.1)	1.32 (0.49-3.5)
Education level						
< primary	39.5% (24.3-54.8)	1	1	62.8% (47.7-77.8)	1	1
primary	44.1% (31.0-57.1)	1.20 (0.54-2.7)	1.27 (0.49-3.3)	71.2% (59.3-83.1)	1.46 (0.63-3.4)	1.92 (0.74-5.0)
secondary	29.8% (17.6-42.1)	0.65 (0.28-1.5)	1.56 (0.54-4.5)	52.6% (39.3-66.0)	0.66 (0.29-1.5)	1.07 (0.41-2.8)
university	50.0% (27.3-72.7)	1.53 (0.54-4.3)	2.68 (0.69-10.4)	45.5% (22.9-68.1)	0.49 (0.17-1.4)	0.87 (0.25-3.1)
Place of birth						
Spain	51.5% (41.6-61.4)	1	1	70.3% (61.2-79.4)	1	1
Africa	42.9% (13.2-72.5)	0.71 (0.23-2.2)	0.37 (0.09-1.5)	42.9% (13.2-72.5)	1.46 (0.63-3.4)	0.25 (0.06-1.0)
South America	12.2% (2.7-21.8)	0.13 (0.05-0.3)	0.07 (0.02-0.2)	51.0% (36.5-65.5)	0.66 (0.29-1.5)	0.42 (0.18-1.0)
Rest of Europe	31.6% (8.6-54.6)	0.43 (0.15-1.2)	0.29 (0.09-1.0)	42.1% (17.7-66.6)	0.49 (0.17-1.4)	0.38 (0.12-1.2)
Working status						
Employed	34.9% (25.7-44.1)	1	1	52.8% (43.2-62.5)	1	1
Unemployed	46.8% (34.0-59.5)	1.64 (0.86-3.1)	1.69 (0.79-3.6)	71.0% (59.3-82.6)	2.18 (1.12-4.2)	1.82 (0.87-3.8)

95%CI: 95% confidence interval. OR are adjusted for all the variables in the table.

Table 4: Prevalence and Raw and Adjusted Odds-ratio of suffering a substance abuse or dependence disorder or any other mental disorder, according to social and demographic factors.

	Substance abuse or dependence			Any mental disorder		
	Prevalence	OR	Adj. OR	Prevalence	OR	Adj. OR
	%, 95%CI	95%CI	95%CI	%, 95%CI	95%CI	95%CI
Age						
20 to 29	73.2% (59.0-87.3)	1	1	92.7% (84.4-100)	1	1
30 to 39	81.5% (70.8-92.2)	1.61 (0.61-4.3)	1.47 (0.50-4.3)	92.6% (85.4-99.8)	0.99 (0.21-4.7)	0.82 (0.15-4.4)
40 to 49	74.1% (62.0-86.1)	1.05 (0.42-2.6)	1.12 (0.38-3.3)	90.7% (82.8-98.7)	0.77 (0.17-3.4)	0.54 (0.10-3.0)
50 and older	54.5% (36.6-72.5)	0.44 (0.17-1.2)	0.35 (0.10-1.2)	81.8% (67.9-95.7)	0.36 (0.08-1.5)	0.11 (0.02-0.7)
Marital status						
Never married	78.0% (69.4-86.7)	1	1	91.2% (85.3-97.1)	1	1
Married	66.0% (52.9-79.2)	0.55 (0.26-1.2)	0.68 (0.28-1.6)	86.8% (77.4-96.2)	0.63 (0.22-1.9)	1.37 (0.37-5.1)
Prev. married	67.5% (52.3-82.7)	0.59 (0.26-1.3)	0.86 (0.31-2.4)	92.5% (84.0-100)	1.19 (0.30-4.7)	3.02 (0.52-17.4)
Education level						
< primary	74.4% (60.8-88.0)	1	1	90.7% (81.7-99.7)	1	1
primary	76.3% (65.1-87.5)	1.10 (0.44-2.7)	1.21 (0.44-3.3)	93.2% (86.6-99.8)	1.41 (0.33-6.0)	2.27 (0.42-12.3)
secondary	70.2% (57.9-82.4)	0.81 (0.33-2.0)	0.79 (0.28-2.2)	89.5% (81.3-97.7)	0.87 (0.23-3.3)	1.84 (0.38-8.8)
university	59.1% (36.8-81.4)	0.50 (0.17-1.5)	0.75 (0.19-2.9)	81.8% (64.3-99.3)	0.46 (0.10-2.1)	1.23 (0.20-7.6)
Place of Birth						
Spain	76.2% (67.8-84.7)	1	1	96.0% (92.2-99.9)	1	1
Africa	64.3% (35.6-93.0)	0.56 (0.17-1.8)	0.71 (0.17-3.1)	85.7% (64.7-100)	0.25 (0.04-1.5)	0.20 (0.03-1.6)
South America	67.3% (53.7-81.0)	0.64 (0.30-1.4)	0.71 (0.28-1.8)	81.6% (70.4-92.9)	0.18 (0.05-0.6)	0.11 (0.02-0.5)
Rest of Europe	73.7% (51.9-95.5)	0.87 (0.28-2.7)	0.99 (0.27-3.7)	84.2% (66.2-100)	0.22 (0.04-1.1)	0.16 (0.02-1.1)
Working status						
Employed	72.6% (64.0-81.3)	1	1	87.7% (81.4-94.1)	1	1
Unemployed	69.4% (57.6-81.2)	0.85 (0.43-1.7)	0.69 (0.32-1.5)	91.9% (85.0-98.9)	1.59 (0.54-4.7)	1.11 (0.33-3.8)

95%CI: 95% confidence interval. OR are adjusted for all the variables in the table.

Tabla 5. Prevalencia y Odds-ratio cruda y ajustada de padecer un trastorno psicótico, según factores sociodemográficos

	Psychotic disorder		
	Prevalence	OR	Adj. OR
	%, 95%CI	95%CI	95%CI
Age			
20 to 29	22.0% (8.7;35.2)	1	1
30 to 39	35.2% (22.0;48.3)	1.93 (0.76;4.9)	2.01 (0.69;5.9)
40 to 49	46.3% (32.6;60.0)	3.07 (1.23;7.6)	2.88 (0.98;8.5)
50 and older	30.3% (13.8;46.9)	1.55 (0.54;4.4)	1.19 (0.32;4.4)
Marital status			
Never married	40.7% (30.4;50.9)	1	1
Married	20.8% (9.5;32.0)	0.38 (0.17;0.8)	0.46 (0.18;1.2)
Prev. married	37.5% (21.8;53.2)	0.88 (0.41;1.9)	0.87 (0.33;2.3)
Education level			
< primary	41.9% (26.5;57.2)	1	1
primary	45.8% (32.7;58.9)	1.17 (0.53;2.6)	1.12 (0.45;2.8)
secondary	19.3% (8.7;29.9)	0.33 (0.14;0.8)	0.50 (0.17;1.4)
university	27.3% (7.1;47.5)	0.52 (0.17;1.6)	0.82 (0.21;3.2)
Place of Birth			
Spain	45.5% (35.7;55.4)	1	1
Africa	21.4% (-3.2;46.0)	0.33 (0.09;1.2)	0.22 (0.04;1.2)
South America	16.3% (5.6;27.1)	0.23 (0.10;0.5)	0.37 (0.14;1.0)
Rest of europe	31.6% (8.6;54.6)	0.55 (0.19;1.6)	0.81 (0.23;2.8)
Working status			
Employed	34.0% (24.8;43.1)	1	1
Unemployed	32.3% (20.3;44.2)	0.93 (0.48;1.8)	0.69 (0.32;1.5)

95%CI: 95% confidence interval. OR are adjusted for all the variables in the table.

We concluded a high lifetime prevalence (90.2%), higher than other European studies which have results ranging between 27% and 78%^{15-16,7} and slightly higher than the prevalence concluded by the PreCa⁴ study and by the FAISEM¹⁴ (*Fundación Pública Andaluza para la Integración Social de personas con Enfermedad Mental*) the Andalusian Public Fund for Social Integration of people with Mental Disorders, which found a prevalence of 82.6% with our same methodology. In comparison with the general public, our study concluded a prevalence 5.3 times higher. As for last-month prevalence, over half of our inmates presented some kind of mental disorder, a result which surpasses that of other European studies (32%)¹⁷, national publications (40%)⁴ and the FAISEM study (25.8%)¹⁴.

Regarding the type of disorder suffered throughout life, substance abuse or dependence disorder was the most common (72.3%) along with the results of Norwegian studies¹⁸, alcohol being the most common substance. This is in line with other studies^{4,19}. Nevertheless, other authors suggest that substance abuse disorder among inmates is over 50%^{3,21-24}, yet below our results²⁰, and the most common substances cannabis and heroin although this has now dropped by 30%²⁵. Although it is true that alcohol and drugs are frequently used in prisons²⁶, it is also associated to sociodemographic variables, typically related to imprisonment and psychiatric co-morbidity²⁷.

As for the other two most common disorders: mood and psychotic disorders, our data goes in line with other international publications^{3,8}, which also place them as frequent disorders after substance abuse disorder. It is worth noting though that our study concludes higher lifetime and last-month prevalence rates, alike other studies²⁸, which also raise awareness on the high risk of psychotic disorder in prison. This makes us believe that some of the reasons why these illnesses can go unnoticed during the criminal proceedings, are the features of the penitentiary environment itself and the lack of community resources for the implementation of their sentences, making prisons "a warehouse of severe mental patients"²⁹.

The available data comes mostly from other countries where researchers alert on the high number of inmates who suffer from mental disorders and a lack of monitoring³⁰. In Spain there is scarce literature on the issue. It is worth considering a longitudinal study³¹ which concludes a high rate of co-morbidity with substance abuse, personality, anxiety, depressive and psychotic disorders.

As for sociodemographic variables in our study, it is worth noting how all categories are higher than

in the general Spanish population and lower in the foreign population, especially in comparison with Latin Americans. This could be due to the "Latino Paradox" whereby Hispanic communities do better in a series of physical and mental health indicators despite socioeconomic disadvantages³². Although the specific causes for this have not yet been identified, some authors³³⁻³⁴ suggest that there are distinctive features among Latin Americans such as extensive social support networks, pleasing social interaction based on reciprocal and non-competitive relationships, solid family ties and their sense of religiosity which may act as protective factors against psychosocial stress.

Previous studies suggest that substance abuse and mental disorders are more common among young male offenders under poorer socioeconomic circumstances³⁵⁻³⁶. Our results run parallel with this by reporting that the probability of substance abuse or dependence is lower among married foreign or highly educated inmates, and higher among inmates ranged between 30 and 39 years.

In an enclosed setting where inmates face adverse social circumstances and impaired future prospects, mental health issues rise significantly. Imprisonment entails a constant effort for psychosocial adaptation and we have observed that there are a series of sociodemographic factors such as age, nationality, marital status, employment or education, which make a difference in suffering certain mental disorders in prison. It is essential to ensure continuing research, to go further into the role of social status among inmates, as it is already being done in other countries³⁷, and to translate results into real therapeutic and preventive actions, adapted to such status to reduce social inequality in this, a priority Public Health issue.

Our study has certain limitations, like the exclusion of female, senior and preventive inmates and those admitted to psychiatric units. On the other hand, the sample is somewhat limited although it contributes to know better this reality, by improving knowledge on the prevalence of mental disorders in Spanish prisons, such as the sociodemographic profile by replicating a previously validated methodology.

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