

PAPER**PSYCHIATRY & BEHAVIORAL SCIENCE**

Francisco Arnau ^{1,2} M.D., Ph.D.; Julio García-Guerrero,³ M.D., Ph.D.; Ana Benito ^{1,4} Ph.D.; Enrique J. Vera-Remartínez ³ R.N., M.Sc.; Abel Baquero ^{1,5} Ph.D.; and Gonzalo Haro ^{1,2} M.D., Ph.D.

Sociodemographic, Clinical, and Therapeutic Aspects of Penitentiary Psychiatric Consultation: Toward Integration Into the General Mental Health Services[†]

ABSTRACT: The characteristics of mental disorders, as well as deficiencies in their treatment, must be properly defined. This was a prospective, longitudinal, observational study, in which all men referred to a penitentiary psychiatric consultation of three penitentiary centers in Spain were invited to participate. Those who consented to participation (1328) were interviewed at the baseline timepoint and at intervals for up to 3 years. The presence of mental disorders was high: 68.2% had a cluster B personality disorder, 14% had an affective and/or anxiety disorders, 13% had schizophrenia, and over 80% had a dual disorder. Polypharmacy was the norm. Moreover, the health care received in prison did not match that provided in the community in terms of quantity and quality. These results should help to facilitate the design of mental healthcare provision for prisoners, focusing on both the most frequent patient profiles and equality of care.

KEYWORDS: forensic science, prison, mental health, dual pathology, health management, frequent users

The increase in the prevalence of mental health disorders among the inmates of penitentiary centers in Spain is a serious public health problem. Several European (1–4), American (5–7), and Australian (8) studies have found higher rates of mental disorders among the prison population than in the general population. In Spain, a study commissioned by the Health and Consumer Protection Directorate-General, as part of the Secretary General of Penitentiary Institutions (9), showed that 17.6% of inmates had a history of mental disorders, 25.6% had at least one current mental disorder, and 12% required a psychiatric referral. In particular, the PRECA study (10) carried out with 707 inmates showed that 76.2% of them had substance-use disorders, 45.3% had anxiety disorders, 41% had mood disorders, and 10.7% had psychotic disorders. The PRECA study has also been replicated in another three penitentiary centers, and this study found that the

monthly prevalence of mental disorders among its sample of inmates was 52.2% with the lifetime prevalence of 90.2% (11).

Health care (which includes psychiatric care) in Spain is delivered through two routes. The one most used is managed by the Ministry of the Interior and includes all the autonomous communities (regional governments) except the Basque Country and Catalonia. These two communities have devolved healthcare competencies, under the sixth additional Provision of Law 16/2003 of May 28, on the Cohesion and Quality of the National Health System, with the added peculiarity that the Autonomous Government of Catalonia (*Generalitat de Catalunya*) also has devolved powers to manage its own penitentiary matters. This combination of models is even more heterogeneous if we consider that the prisons dependent on the Ministry of the Interior have different agreements, depending on the autonomous community in question. Moreover, the penitentiary psychiatric consultation–liaison system in place in Spain currently allows inmates no more than four visits per month. This situation makes it difficult to provide the equity and equivalence of health care specified by different international and national legal frameworks (12,13). To minimize this disparity between models and mitigate deficiencies in care (especially in the context of the variation in power devolution throughout Spain), the Ministry of the Interior created PAIEM (translated as the “integrated program of attention to the mentally ill in penitentiary centers”). PAIEM, a penitentiary and psychiatric consultation–liaison, aims to identify inmates with mental illnesses and to initiate treatment and rehabilitation based on the severity of each case and the individual response to treatment.

This current study has two objectives: (1) to describe the problem of dealing with mental illness within prisons that are

¹Research Team TXP, Department of Medicine, Universidad Cardenal Herrera-CEU, CEU Universities, Calle Grecia 31, Castellón, 12002, España.

²Department of Psychiatry, Consorcio Hospital Provincial de Castellón, Avenida Dr. Clará, 19, Castellón, 12002, España.

³Castellón-I Penitentiary Centre, Carr. de l'Alcora, km 10, Castellón, 12006, Spain.

⁴Torrente Mental Health Unit, Plaza de la Concordia, 4, Torrente, 46900, Valencia, Spain.

⁵Fundación Amigó, Partida Sensal, 271, Castellón, 12005, Spain.

Corresponding author: Gonzalo Haro, M.D., Ph.D. E-mail: gonzalo.haro@uchceu.es

[†]Revision of the manuscript's English was funded by the Research Foundation at the Hospital Provincial in Castellón.

Received 21 Mar. 2019; and in revised form 25 June 2019; accepted 1 July 2019.

dependent on the Ministry of the Interior in Spain; and (2) to determine whether these results support the application of Law 16/2003 which establishes that prison health services should be integrated into the general mental health services of the different Spanish autonomous communities where they are located. To describe the problem, we evaluated: (a) the percentage of inmates with a mental health disorder and their criminal and sociodemographic profile from among a sample of inmates receiving penitentiary psychiatric consultation–liaison services; (b) the existence of criminal or sociodemographic profiles according to the mental illness diagnosis; and (c) if these variables are determining factors in patients who require closer monitoring.

Thus, we proposed the following hypotheses: (1) The percentage and type of mental disorders found among the prison population would be like that of other studies; (2) the prisoner sociodemographic and criminal report profiles would differ according to the different mental disorders diagnosed; and (3) the current shortcomings of specialized follow-up care would justify the need to transfer and integrate mental health care to the general mental health services: the autonomous health services in Spain.

Materials and Methods

This was a prospective observational study of the inmates of the Castellón-I, Castellón-II, and Valencia-II penitentiary centers. The same psychiatrist, business-as-usual, visited each center four times a month and assessed/treated 8–10 inmates at each consultation. Permission to undertake the study was received from the General Secretariat of the Penitentiary Institutions Support Unit and the Research and Ethics Committee at the Provincial Hospital Consortium in Castellon, Spain. The study was conducted between July 1, 2010, and October 31, 2013, and included a total sample of 1328 inmates. All the prisoners were informed that the data obtained from the interviews would be used for this work and they all gave their informed consent. The participants were consecutively included in the study. All the patients referred by the medical services at the three penitentiary centers and assessed and treated in the penitentiary psychiatry consultation–liaison during the study period were included. Inmates with no mental disorders identified during the monitoring (2.6%) were excluded from the study.

We analyzed sociodemographic, criminal conviction, clinical assessment, and longitudinal treatment and follow-up variables. To compare variables between the different diagnoses, they were clustered into three groups: cluster B personality disorder, schizophrenia, and affective and anxiety disorders; participants who presented other less frequent diagnoses (6.1%) were excluded from these comparative analyses. According to the psychiatrist's clinical judgment, patients evaluated on six or more occasions during our 3-year follow-up period were considered hyper-frequent users. This cutoff point was chosen based on the mean and standard deviation of the number of consultations per inmate. The data were collected in two ways: primarily via semi-structured clinical interviews carried out during the monitoring of each patient and, secondarily, from information detailed in each inmate's clinical history.

We created a database containing all these data and analyzed it with the SPSS statistical analysis package, version 21 (SPSS Inc., Chicago, IL). Pearson's chi-square test was used to compare qualitative variables, and the Kruskal–Wallis and Mann–Whitney *U* tests were applied to compare the means. We used a

binary logistic regression model to identify possible risk factors for becoming a hyper-frequent user and the Kaplan–Meier method to determine the probability of remaining in follow-up as a function of the mental illness diagnosis. The differences were determined by using the Mantel–Haenszel (log-rank) test. We also created a Cox regression model using the diagnosis as a prognostic variable.

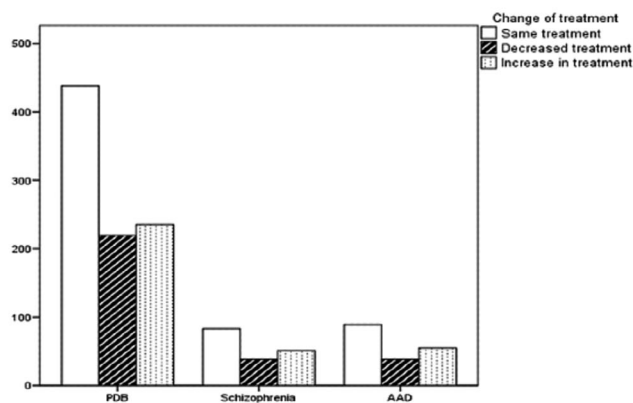
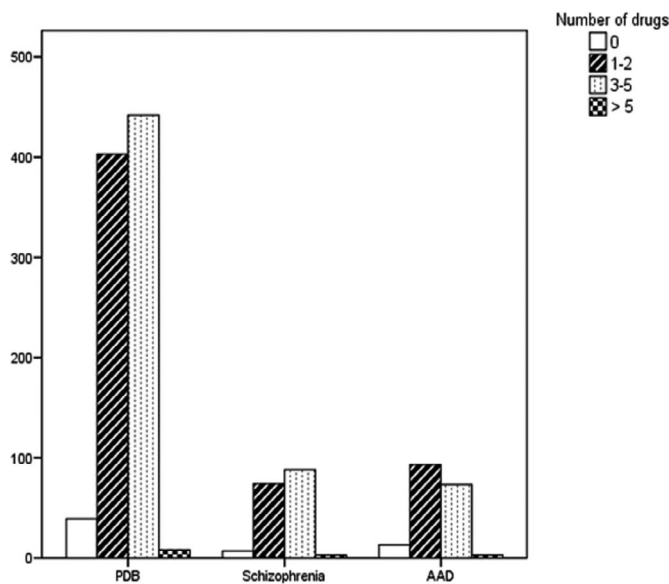
Results

Our results showed that 93% of the sample were men aged an average of 36.8 years; 88.1% were Spanish nationals, 5.1% were illiterate, and 55.6% had not finished primary school. There was a high level of unemployment (80.9%) among the sample and 4.9% had a recognized physical or mental illness disability. The average number of previous convictions per inmate was 1.75 (SD: 3.56, range: 0–47). Among the convicted prisoners, the sentence time applied ranged between 30 and 73 000 days, with an average of 2375.77 days (SD: 3173.70, mode: 1095 days). The most frequent crimes for which the inmates had been convicted were offenses related to property (57.5%) or against people (15.7%).

Many patients (37.7%) also had an organic pathology, the most frequent being hepatitis C virus (HCV) infection (16%), followed by HCV–HIV coinfection (13%). Regarding the substance-abuse problems among the participants, 81.4% had a dual pathology; in other words, they had a substance-use disorder in addition to a mental disorder. The most frequent condition profile (51.4%) was polytoxicomania (of three or more substances, always including heroin). The reasons for psychiatric referral included symptoms of anxiety (57%), clinical presentation of affective disorders (13%), and psychosis (10.5%). Regarding their diagnoses, the high percentage of patients with cluster B personality disorder (68.2%) and schizophrenia (13%) stood out.

Among the patients with cluster B personality disorder, the reasons for referral were symptoms of anxiety (68%), affective disorders (9.3%), or psychosis (6.7%). Furthermore, 5% had been referred to start monitoring in the context of clinical stability. Regarding patients with schizophrenia, the most frequent reasons for referral were active symptoms of psychosis (43.6%), anxiety (21%), or affective disorders (7.8%); 25% were referred in order to initiate follow-ups in the context of clinical stability. The mean number of drugs used was 2.45 (SD: 1.2; range: 0–7); no psychotropic drugs were prescribed in 6.6% of the patients. Polypharmacy was the norm, with 46.6% of patients on a regimen of 3–5 drugs. Figure 1 shows the number of drugs prescribed and changes according to the different mental disorders.

The average follow-up time per patient was 178.65 days (SD: 258,039 days; median: 60 days); 39.8% were assessed only on 1 day, 4.3% were followed up for 1–30 days, 15.8% for 31–120 days, and 40.1% for more than 120 days. Of note, patients with schizophrenia were monitored for longer (Fig. 2); they were 3.3-fold more likely to stay on the psychiatric follow-up register compared to the affective and anxiety disorders group ($p < 0.001$) and 3.4-fold more likely when compared with the cluster B personality disorder group ($p < 0.001$). A total of 3701 assessments were carried out during the study period, equating to an average of 2.79 per patient (SD: 2.8, 95% CI: 2.6–2.9, range: 1–23); 46.2% of patients were assessed once and 41.1% on 2–5 occasions. Patients with schizophrenia were followed up in penitentiary psychiatric consultation–liaison more often (4.56 vs. 2.79 assessment visits), which is equivalent to one visit every



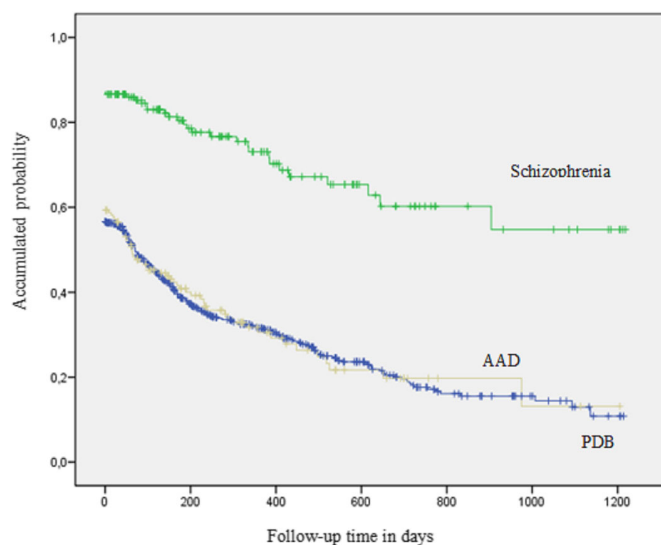
AAD: affective and anxiety disorders. PDB: cluster B personality disorders

FIG. 1—Number of drugs and treatment changes according to the diagnoses. AAD, affective and anxiety disorders; PDB, cluster B personality disorders.

64.8 days. Regarding hyper-frequent users, 9.9% were evaluated on 6–10 occasions, and 2.7%, 10 times or more.

Table 1 shows a comparison between the three penitentiary centers. In particular, the high number of personality disorders present in the Castellón-II penitentiary center stood out. Table 2 shows the differences between the profiles of the patients with each of the three diagnoses. The group with schizophrenia were more likely to include foreign nationals (19.8%; $n = 34$), have longer sentences, have committed crimes against individuals (24.8%; $n = 40$), be more frequently assessed, and have longer follow-up consultation periods. The affective and anxiety disorders group tended to have a higher level of education and lower unemployment rate, whereas the cluster B personality disorder group was the largest and had the most relapsing prisoners and highest number of associated medical pathologies.

Hyper-frequent users (as decided by clinicians) were aged between 18 and 40 years (OR: 1663, $p = 0.007$). The psychopathological variables associated with these patients were as follows: having a certified mental illness disability (OR: 3.976; $p < 0.001$), presenting psychotic symptoms at the time of referral (OR: 2.630; $p = 0.001$), having a sentence exceeding 731 days (OR: 1.939; $p = 0.008$), being on the suicide



AAD: affective and anxiety disorders. PDB: cluster B personality disorders

FIG. 2—Probability analysis in relation to the established diagnoses (diagnosis studied versus clinical decision that patient follow-up monitoring should continue). AAD, affective and anxiety disorders; PDB, cluster B personality disorders.

prevention protocol at the time of referral (OR: 3.416; $p < 0.001$), and especially, being diagnosed with schizophrenia (OR: 4.466; $p < 0.001$). Finally, regarding treatment, the psychiatrist visited patients on six or more occasions when stronger adjustments to pharmacological treatment were required because the number of psychotropic drugs had been decreased (OR: 6.850; $p < 0.001$), increased (OR: 3.025; $p < 0.001$), or because of the use of three or more drugs were required (OR: 1.820, $p = 0.007$).

Discussion

This article provides data on psychiatric consultation–liaison collected during a study performed in three penitentiary centers in Spain over 40 months. The sample included 1,328 patients and is one of the largest of this type carried out so far. Our results show that, in these three ordinary prisons, penitentiary and psychiatric consultation–liaison provides insufficient follow-up to inmates with serious mental disorders. Despite the efforts of the penitentiary and psychiatric consultation–liaisons to maintain prisoner–patients with schizophrenia in follow-up for longer periods, as shown in Fig. 2, we consider this time was still insufficient. This deficiency is even greater when compared to the treatments received within the general population mental health services, where one visit per month is recommended (14), and while the participants in our study were visited every 2 months; this breaches the required equality of care between prisoners and the general population, as specified by the UN (12). Thus, we propose changing the model so that both the penitentiary and psychiatric consultation–liaison and the mental health services are dependent upon the same healthcare bodies as the general population.

Following the APA Guidelines on Psychiatric Services in Jails and Prisons (15), as well as considering the sociodemographic and clinical characteristics of the sample studied, the model change we propose would imply the creation of a penitentiary mental health unit (PMHU). First, to achieve the close follow-up

TABLE 1—Sociodemographic, clinical, and incarceration variables of the patients assessed in the penitentiary psychiatric consultation, disaggregated by center

	Total	CPC I N (%)	CPC II N (%)	CPV II N (%)	Statistic	p
Sociodemographic variables						
Gender						
Male	1237 (93.1)	291 (93.2)	445 (100)	501 (87.7)	χ^2 53.6	<0.001
Female	91 (6.9)	21 (6.8)	— [†]	70 (12.3)		
Age	36.80	36.58	36.43	37.22	K-W 3.2	0.198
Nationality						
Spanish	1170 (88.1)	264 (84.6)	385 (86.5)	521 (91.4)	χ^2 10.0	0.007
Non-Spanish	158 (11.9)	48 (15.3)	60 (13.4)	50 (8.6)		
Academic level						
Illiterate	68 (5.12)	19 (6)	26 (5.8)	23 (4)	χ^2 9.8	0.129
Incomplete primary education	738 (55.5)	164 (52.5)	258 (57.9)	316 (55.3)		
Primary education	378 (28.4)	93 (29.8)	107 (24)	178 (31.1)		
Higher-level education	144 (10.8)	36 (11.5)	54 (12.3)	54 (9.45)		
Employment status						
Unemployed	1074 (80.8)	245 (78.5)	347 (77.9)	482 (84.4)	χ^2 10.1	0.038
Active employment	179 (13.4)	43 (13.7)	72 (16.1)	64 (11.2)		
Disability or similar	75 (5.6)	24 (7.8)	26 (5.9)	25 (4.39)		
Criminal conviction variables						
Previous convictions	1.75	1.82	1.99	1.53	K-W 9.3	0.009
Imprisonment time in days [‡]	2375.8	1908.8	3197.0	1897.0	K-W 158.1	<0.001
Clinical variables						
Diagnoses						
PDB	892 (68.9)	196 (64.4)	325 (73.8)	371 (67.5)	χ^2 21.6	<0.001
Schizophrenia	172 (13.3)	50 (16.4)	63 (14.3)	59 (10.7)		
Other diagnoses	22 (16.7)	58 (19.2)	52 (11.9)	119 (21.8)		
Substance						
No	247 (18.5)	68 (21.7)	73 (16.4)	106 (19.5)	χ^2 27.4	<0.001
One	234 (17.6)	60 (19.2)	66 (12.1)	108 (19.9)		
Two	164 (12.3)	35 (11.2)	38 (8.5)	61 (11.2)		
More than two	683 (51.6)	149 (47.9)	268 (63)	266 (50.6)		

[†]Women are not incarcerated at Castellón-II.

[‡]Only in convicted inmates (not those on remand).

[§]We excluded 35 patients who did not have a clinical diagnosis.

CPC I, Castellón-I Penitentiary Center; CPC II, Castellón-II Penitentiary Center; CPV II, Valencia-II Penitentiary Center; KW, Kruskal–Wallis; PDB, cluster B personality disorder; χ^2 , Chi-square.

of patients with severe mental disorders throughout their sentence, these units must be provided with sufficient human resources (16–18). Prisons with fewer than 1000 inmates would have two psychiatrists and two clinical psychologists performing daily visits, while the PMHU for penitentiary centers (housing more than 1000 inmates) would have three psychiatrists and three clinical psychologists. The remaining health team would comprise mental health nursing and nursing assistants in sufficient numbers to carry out daily tasks such as ensuring the administration of drugs in an effective and safe way, implementing health promotion programs, and forming an essential part of the case management process. We believe that such a team would be enough to address the profile of patients with personality disorders, schizophrenia, or affective disorders diagnosed by the penitentiary and psychiatry consultation–liaison, taking into account the differences found in our study. In addition, as we hypothesized, this patient profile coincides with that considered in other studies in different countries (10,19–24), making it possible to generalize the utility of PMHUs on an international scale.

Second, as also recommended by the APA guide (15), the high percentage of dual pathology (81.4%) found in our study suggests that these units must take an integrated approach to addressing substance-use disorders.

Third, also in agreement with findings from other national (25–27) and international studies (28–30), the average of 2.45 drugs consumed per patient indicates that polypharmacy is the

norm. In our study, clinical decision data for hyper-users showed that six or more visits are required to reduce polypharmacy, as also recommended by the APA guide (15). This could be achieved with the provision of the resources we propose by starting a PMHU.

Fourth and last, these units would reduce the percentage of patients left without specialized treatment, by (a) systematically screening for mental disorders upon entry into prison (15) and (b) reducing the premature discharge of patients with moderate or mild mental disorders (in our study, these accounted for 39.8% of discharges at their first visit). If these units directly coordinate with the general population mental health services before releasing prisoners, we could avoid leaving patients without a diagnosis and treatment and could also minimize relapses (31–34), which we have shown reaches 56.7% within the penitentiary and psychiatry consultation–liaison system. Taken together, all these factors appear to justify the need to remove penitentiary and psychiatric consultation–liaison by transferring and integrating it into the general population mental health services, similar to some regions in Spain (35) and other countries such as Italy and England (36,37).

We must also consider the limitations of this approach. This sample should not be considered a reference for the prevalence of these criteria among the population in the evaluated prisons because some patients may have been monitored by the penitentiary primary care physician and some may not have been diagnosed at this first level of healthcare provision. Another

TABLE 2—Differences in the main variables studied, according to the clinical diagnosis

	Total	PDB N (%)	Schizophrenia N (%)	AAD N (%)	Statistic	p
Sociodemographic variables						
Gender						
Male	1158 (92.9)	832 (93.7)	167 (97)	159 (87.3)	χ^2 13.2	0.001
Female	88 (7.1)	60 (6.3)	5 (3)	23 (12.7)		
Age	36.9	36.1	36.7	41.2	K-W 33.9	<0.001
Nationality						
Spanish	1106 (88.7)	818 (91.7)	138 (80.2)	150 (82.4)	χ^2 27.6	<0.001
Non-Spanish	140 (11.3)	74 (8.3)	34 (19.8)	32 (17.6)		
Academic level						
Illiterate	57 (4.5)	44 (4.9)	8 (4.6)	5 (2.7)	χ^2 106.9	<0.001
Incomplete primary education	704 (56.5)	567 (63.5)	90 (52.3)	47 (25.8)		
Primary education	351 (28.1)	212 (23.7)	50 (29)	89 (48.8)		
Higher-level education	134 (10.9)	69 (7.9)	24 (14.1)	41 (22.7)		
Employment status						
Unemployed	1012 (82.2)	776 (86.9)	128 (74.4)	108 (59.3)	χ^2 107.7	<0.001
Active employment	164 (13.1)	82 (9.2)	21 (12.2)	61 (33.5)		
Disability or similar	70 (4.7)	34 (3.9)	23 (13.4)	13 (7.2)		
Criminal conviction variables						
Previous convictions	1.79	2.19	1.29	0.27	K-W 166.2	<0.001
Imprisonment time in days [†]	2342.5	2399.4	2476.1	1906.5	K-W 8.7	0.012
Type of offence						
Against individuals	191 (15.6)	113 (12.8)	40 (24.8)	38 (21.1)	χ^2 19.4	<0.001
Others [‡]	1028 (84.4)	765 (87.2)	121 (75.2)	142 (78.8)		
Clinical variables						
Medical pathology						
No	759 (60.9)	490 (54.9)	124 (72)	145 (79.6)	χ^2 49.3	<0.001
Yes	487 (39.1)	402 (45.1)	48 (28)	37 (20.4)		
Substance						
No	211 (16.9)	82 (9.2)	41 (23.8)	88 (48.3)	χ^2 251.0	<0.001
One	214 (17.1)	126 (14.1)	41 (23.8)	47 (25.8)		
Two	155 (12.4)	105 (11.7)	23 (13.3)	27 (14.8)		
More than two	666 (53.6)	579 (65)	67 (39.1)	20 (11.1)		
Number of drugs	2.52	2.56	2.60	2.26	K-W 10.0	0.007
Variables related to monitoring						
Number of assessment visits	2.84	2.54	4.56	2.72	K-W 52.1	<0.001
Follow-up time in days	183.1	168.1	295.7	150.3	K-W 54.7	<0.001
Events affecting the end of the study follow-up						
Death	8 (0.6)	6 (0.6)	1 (0.5)	1 (0.5)	χ^2 130.7	<0.001
Release	148 (11.8)	79 (8.8)	46 (26.7)	23 (12.6)		
Psychiatric follow-up de-registration	798 (64)	629 (70.5)	46 (26.7)	123 (67.5)		
PC Transfer	115 (9.2)	73 (8.1)	25 (15.4)	17 (9.3)		
Maintenance on psychiatric follow-up register	177 (14.4)	105 (12)	54 (30.7)	18 (10.1)		

[†]Only in convicted inmates (not those on remand).

[‡]Patients who did not state their crime were excluded from the analysis.

AAD, affective and anxiety disorders; KW, Kruskal–Wallis; PC, penitentiary center; PDB, cluster B personality disorder; χ^2 , chi-square.

limitation of this study is that it did not use standardized psychometric tests, although the psychiatrist's clinical interviews and the patient's clinical history data did allow the diagnosis to be reached according to the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision (DSM-IV-TR) criteria (38). This limitation was minimized because the psychiatric consultations were carried out by the same psychiatrist in all three penitentiary centers and because they were evaluated an average of 2.79 times.

References

1. Brooke D, Taylor C, Gunn J, Maden A. Point of prevalence of mental disorder in unconvicted male prisoners in England and Wales. *BMJ* 1993;313:1524–7.
2. Falissard B, Loze JY, Gasquet I, Duburc A, Beaupaire C, Fagnani T, et al. Prevalence of mental disorders in French prisons for men. *BMC Psychiatry* 2006;6(1):33.
3. Marteau D, Pallás JR. Manejo clínico del abuso de drogas. Situación actual en las prisiones de Inglaterra y Gales [Clinical management of drug abuse. Current situation in the prisons of England and Wales]. *Rev Esp Sanid Penit* 2006;8(2):55–60.
4. Von Schönfeld CE, Schneider F, Schröder T, Widmann B, Botthof U, Driessen M. Prevalence of psychiatric disorders, psychopathology and the need for treatment in female and male prisoners. *Nervenarzt* 2006;77(7):830–41.
5. Arboleda-Florez J. Mental patients in prisons. *World Psychiatry* 2009;8(3):187–9.
6. Hinton M. Mentally ill offenders impact on the prison system. *Dis Mon* 2014;60(5):213–4.
7. Kerridge BT. Comparison of US jail inmates and the US general population with diagnostic and statistical manual of mental disorders IV alcohol use disorders: sociodemographic and symptom profiles. *Alcohol* 2008;42(1):55–60.
8. Buttler T, Indig D, Allnutt S, Mamoon H. Co-occurring mental illness and substance use disorder among Australian prisoners. *Drug Alcohol Rev* 2011;30(2):188–94.
9. Dirección General de Instituciones Penitenciarias [General Directorate of Penitentiary Institutions]. Estudio sobre salud mental en el medio penitenciario [Study on penitentiary mental health]. http://www.institucionpenitenciaria.es/web/export/sites/default/datos/descargables/saludpublica/Estudio_sobre_Salud_Mental_en_el_Medio_Penitenciario.pdf (accessed June 14, 2019).

10. Vicens E, Tort V, Dueñas RM, Muro Á, Pérez-Armau F, Arroyo JM, et al. The prevalence of mental disorders in Spanish prisons. *Crim Behav Ment Health* 2001;21(5):321–32.
11. Zabala-Baños MC, Segura A, Maestre-Miquel C, Martínez-Lorca M, Rodríguez Martín B, Romero D, et al. Prevalencia de trastorno mental y factores de riesgo asociados en tres prisiones de España [Prevalence of mental disorders and associated risk factors in three prisons in Spain]. *Rev Esp Sanid Penit* 2016;18(1):13–24.
12. General Assembly resolution 45/111 of 14 December 1990. <https://www.ohchr.org/EN/ProfessionalInterest/Pages/BasicPrinciplesTreatmentOfPrisoners.aspx> (accessed July 1, 2019).
13. General organic Spanish penitentiary law. Article 3.4. http://www.institucionpenitenciaria.es/web/export/sites/default/datos/descargables/publicaciones/SIS_PENITENCIARIO_2014_ING_acc_2.pdf (accessed June 14, 2019).
14. Sociedad española de Psiquiatría [Spanish Society of Psychiatry]. Consenso Español de expertos para recomendaciones de actuación en el tratamiento de la esquizofrenia [Spanish expert consensus recommendations for action in the treatment of schizophrenia]. Madrid, Spain: Spanish Society of Psychiatry, 2000.
15. Tamburello A, Kaldany Dickert J. Correctional mental health administration. *Int Rev Psychiatry* 2017;29(1):3–10.
16. Carr J, King P. The use of “tie down” in New Zealand prisons—what is the role of the health sector? *N Z Med J* 2019;132(1493):60–8.
17. Franke I, Vogel T, Eher R, Dudeck M. Prison mental healthcare: recent developments and future challenges. *Curr Opin Psychiatry* 2019;32(4):342–7.
18. Patel R, Harvey J, Forrester A. Systemic limitations in the delivery of mental health care in prisons in England. *J Law Psychiatry* 2018;60:17–25.
19. General Secretary of Penitentiary Institutions [General Directorate of Penitentiary Institutions]. Informe general de instituciones penitenciarias [General report on penitentiary institutions]. Madrid, Spain: General Secretary of Penitentiary Institutions, 2014.
20. Marín-Basallote N, Navarro C. Estudio de la prevalencia de trastorno mental grave en los centros penitenciarios de Puerto I, II y III del Puerto de Santamaría (Cádiz): nuevas estrategias en la asistencia psiquiátrica en las prisiones [Study of the prevalence of mental health disorders in the Puerto I, II and III prisons. Puerto de Santamaría (Cádiz): new strategies about psychiatric care in prisons]. *Rev Esp Sanid Penit* 2012;14:80–5.
21. Cloyes KG, Wong B, Lamiter S, Abarca J. Time to prison return for offenders with serious mental illness released from prison to survival analysis. *Crime Justice Behav* 2010;37(2):175–87.
22. Fazel S, Yunh R. Psychotic disorders and repeat offending: systematic review and meta-analysis. *Schizophr Bull* 2011;37(4):800–10.
23. Van Horn JE, Eisenber MJ, Van Kuik S, Van Kinderen GM. [Psychopathology and recidivism among violent offenders with a dual diagnosis. A comparison with other subgroups of violent offenders]. *Tijdschr Psychiatrie* 2012;54(6):497–507.
24. Baranyi G, Scholl C, Fazel S, Patel V, Priebe S, Mundt AP. Severe mental illness and substance use disorders in prisoners in low-income and middle-income countries: a systematic review and meta-analysis of prevalence studies. *Lancet Glob Health* 2019;7(4):461–71.
25. Algora-Donoso I, Varela-González O. Psicofármacos y gasto en la prisión de Madrid III (Valdemoro) [Psychotropic drugs and spending in the Madrid III (Valdemoro) prison]. *Hosp Pharm* 2008;32(6):331–8.
26. Cañas MA, Cañas J, Torre MA. Estudio de utilización de psicofármacos en el centro penitenciario de León [Study of the use of psychotropic drugs in penitentiary center of León]. *Rev Esp Sanid Penit* 2001;3(3):106–10.
27. Espinosa MI, Lliga A. Evolución del gasto farmacéutico en centros penitenciarios de Cataluña [Evolution of pharmaceutical expenditure in prisons in Catalonia]. *Rev Esp Sanid Penit* 2005;7:49.
28. Hartvig P, Ostberg B. Mental diseases and disorders among inmates in Norwegian prisons. *Tidskr Nor Laegeforen* 2004;124(16):2091–3.
29. Kjelsberg E, Hartvig P, Bowitz H, Kuisma I, Norbeck P, Rustad AB, et al. Mental health consultations in a prison population: a descriptive study. *BMC Psychiatry* 2006;6:27.
30. Torrey EF. Jails and prisons—American’s new mental hospitals. *Am J Public Health* 1995;85:1611–3.
31. Leutwyler H, Hubbard E, Zahnd E. Case management helps prevent criminal justice recidivism for people with serious mental illness. *Int J Prison Health* 2017;13(3–4):168–72.
32. Stewart LA, Farrell-MacDonalds S, Feeley S. The impact of a community mental health initiative on outcomes for offenders with a serious mental disorders. *Crim Behav Ment Health* 2017;27(4):371–84.
33. O’Neill C, Kelly B, Kennedy H. A 25-year dynamic ecological analysis of psychiatric hospital admissions and prison committals: Penrose’s hypothesis updated. *Ir J Psychol Med* 2018;15:1–4.
34. Grabert BK, Gertner AK, Domino ME, Cuddeback GS, Morrissey JP. Expedited Medicaid enrollment, service use, and recidivism at 36 months among released prisoners with severe mental illness. *Psychiatr Serv* 2017;68(10):1079–82.
35. Zulaika D, Etxeandia P, Bengoa A, Caminos J, Arroyo-Cobo JM. A new penitentiary assistance model: the experience of the Basque Country. [A new penitentiary assistance model: the experience of the Basque Country]. *Rev Esp Sanid Penit* 2012;14:91–8.
36. Ferracuti S, Biondi M. The reformation of the Penitentiary. A rivoluzione culturale che investe i Servizi di Salute Mentale [The reform of the penitentiary order. A cultural revolution that involves the Mental Health Services]. *Riv Psichiatri* 2018;53(1):1–4.
37. Mills A, Kendal K, editors. *Mental health in prisons: critical perspectives on treatment and confinement*. London, England: Palgrave Macmillan, 2018.
38. American Psychiatric Association (APA). *Diagnostic and statistical manual of mental disorders. DSM-IV-TR*. Barcelona, Spain: Masson, 2002.