Prevalence of Mental Health problems in sentenced men in prisons from Andalucía (Spain)

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ABSTRACT

Objectives: To estimate the prevalence of different mental health problems in men serving prison sentences in Andalusia.

Methods: Descriptive, cross-sectional study of a random sample of 472 men interned in two prisons located in Andalusia. We collected socio-demographic and general criminal and penitentiary data, and we identified mental health problems with two validated instruments for epidemiological research in mental health: the SCID-I interview to diagnose Axis 1 disorders of the DSM-IV and the self-applied questionnaire IPDE to estimate personality disorders.

We analyzed the data (proportions and confidence intervals) with the SPSS-18 statistical package.

Results: 82.6% of the sample had a history of having suffered some type of mental health problem throughout their life (prevalence-life) and 25.8 have suffered from them in the past month (month prevalence). The most common disorders of the Axis I (DSM-IV) are related to abuse of and dependence on psychoactive substances (prevalence life of 65.9% and month prevalence of 6.6%), with an important but less frequent presence of affective (31.4%-9.3%), anxiety (30.9%-10, 4%) and psychotic disorders (9.5%-3, 4%). As regards personality disorders, the estimated probable prevalence lies between the 56.6% ("5" cut-off point) and the 79.9 ("4" cut-off point).

Conclusions: The male inmate population in prisons in Andalucía shows a high prevalence of mental health problems, similar to that found in other Spanish and international prisons, but their care needs should take into account the different pathologies that they present.

Keywords: prisons; mental health; mental disorders; Spain; epidemiology; prevalence; risk factors; personality disorders.

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INTRODUCTION

An important issue of growing professional and social interest is the high prevalence of mental disorders detected within the imprisoned population of several countries[1-4], in the context of a strong and generalized growth of these populations [5, 6]. An overview supported on the revision of professional healthcare and legal-correctional literature allows the identification of several interesting implications for Public Health. Therefore, the assessment of the health situation and need for assistance of a population at risk of inequality and social exclusion [1, 4, 7], the identification of potential causes of that high prevalence and in particular, of the role that emerging forms of mental health care is playing[2, 4, 8], or the role of mental disorders as risk factors for the commission of crimes, especially violent ones[9, 10] is especially relevant. Moreover, the identification, development and implementation of appropriate strategies to face this issue[11, 12] in an international context of assessment diversity and specific programs[4, 13] are essential.

Something which should be previously addressed is the identification of the kind of mental disorder and a thorough determination of their quantitative profile. Taking into account that in order to specify these problems it is necessary to abandon the supposedly unitary concept ("mental health problems") to define problems which are diverse regarding their magnitude, relevance, possibilities and intervention strategies: common mental disorders, severe mental disorders, personality disorders, substance abuse

and dependence, etc. The aforementioned significantly nuances a general situation of predictable and generalized deficiencies regarding the provision of care[2, 4, 5, 7, 8, 11-13].

In Spain we are beginning to know have some information in this respect. Thus, after the first study of the Correctional Department, carried out in 2006 and based on administrative information[14], between 2007 and 2008 a prevalence study was executed (PRECA study) on a randomized sample of 750 males serving their sentence in 5 different facilities of 3 Autonomous Communities (Aragon, Catalonia and Madrid) with epidemiologic research validated instruments[15]. In order to understand the situation of Andalusia in this context we have carried out a study, with the same methodology that allows for broader information including data from two facilities located in our Community and enable comparisons with the aforementioned study and others implemented in nearby countries whose results we include herein.

MATERIAL AND METHODS

In accordance with the General Directorate of the Correctional Department it was decided that the methodology of the PRECA study be reproduced to obtain the appropriate official authorizations and enable the comparability of the information. To that end, on the basis of 17495 people imprisoned in correctional facilities in Andalusia by the end of 2009 and taking into account that it mostly (80%) consisted of male inmates, a random sample of 500 individuals was selected, as to obtain data with an accuracy of 2% and a 95% confidence level and given the possibility that the final number was lower due to predictable refusal to participate. In accordance with the General Directorate of the Correctional Department it was decided that the sample be selected from two facilities: one in Eastern Andalusia and the other in the Western region (Albolote in Granada and Moron in Seville) according to representativeness, ease of access and cooperation between management teams.

The selection of participants within these facilities was randomly made, including all modules with an also randomized list of potential substitutes in case of refusal, interrupting it in case of two consecutive refusals. The total number of people who refused to participate was 45, 29 of which could finally be substituted and interviewed. Finally, complete valid data was obtained from 472 inmates, a number which grants the aforementioned levels of confidence and accuracy.

According to the PRECA study methodology a series of instruments with validated Spanish versions were used[15]. We hereby offer information on three of them:

- An interview on socio-demographic and correctional data specifically designed for this study.
- The SCID-I structured clinical interview for DSM-IV Axis I disorders.
- The IPDE self-administered screening questionnaire for the identification of personality disorders.

For its implementation eight psychologists were chosen, four per facility, half of whom had previous experience in the correctional field. They were properly trained by the main researcher and another member of the PRECA research team. Furthermore, throughout the process they were directly coordinated by means of control and case discussion sessions by one of the study technicians.

The information was collected in the facilities throughout the second semester of 2010, by ensuring participants' informed consent and information confidentiality. It was exported to a specific database with no personal identification information whatsoever and analyzed by means of SPSS-18 statistical software. For the information included in this general article proportion calculus were used (prevalence in the past month and throughout life) with corresponding Confidence Intervals (95% confidence level), estimating p values in comparisons with other studies by means of Epidat-4.1 (aggregated data analyzed by means of z-values).

RESULTS

Sociodemographic features of the 472 participants (male inmates) are collected in Table 1, which enables comparisons with the corresponding PRECA alternatives. It is a relatively young population (65% between 18 and 40 years old) with an overrepresentation of single individuals (52% before imprisonment and 68% after), low educational levels (80% have not completed their primary education) mainly Spanish (81%) and original from Andalusia (70%). 63% were employed before imprisonment but only 16% had a stable job.

With regard to correctional features, the Table also includes the type of crimes included in three main groups: robbery (53.8%), violence against other people (28.2%) and drug trafficking classified as "crime against public health" (24.6%). The largest

group (violent robbery, which accounts for 30% of all crimes) participates however in the first two groups but we have included it in the first for its purpose. Almost all the sample (98%) was on a second-degree regimen and over 50% had a personal (53%) or family (43%) record of imprisonment.

These features are very similar to that of the PRECA study, and only differ significantly in the greater proportion of Spanish participants, a lower education level and a lower prevalence of crimes against property.

In terms of the prevalence of mental health problems, Table 2 depicts the main results of DSM-IV Axis I diagnoses. SCID-I the instrument used, allows obtaining two prevalence figures, one referred to the last month another throughout life: that of whom have suffered any of these disorders in the last month and at some point throughout their life. As we can see the figures are important, including one out of every four in the last month and three times that figure if we consider at least once throughout their life.

This overall figure includes specific disorders which greatly differ as far as clinical features, need for assistance and presumable reasons for their high prevalence in the correctional setting are concerned. So we can see that the vast majority have a record of mental disorders associated to substance use (66% throughout their life and over 6% in the last month even inside prison) and that the prevalence of functional disorders (regardless of substance abuse or

Table 1 Main features of the sample and comparison with the PRECA study.

Variables	Present study	PRECA study	"p" value *
Age			
Mean and Standard D.	37.2 (10.3)	36.8 (9.9)	
Range	18-76	19-67	NS
18-30 years	29.9%		
31-40 years	35.1%		
41-60 years	33.1%		
➢ 60 years	1.9%		
Place of birth			
Spain	81.8%	72.5%	p<0.001
Level of education			
Illiteracy	3,6%	1,8%	NS
Reads and writes but no former education 5.5%	5,5%	3,4	p=0,03
Primary education	72,0%	63,2%	p>0,02
Secondary education	15,0%	26,3%	p=0,001
University education	1,7%	5,0%	p=0,003
Marital status			
Single	47.0%	44.0%	NS
Married or stable partner	31.4%	30.6%	NS
Divorced	20.3%	22.6%	NS
Widower	1.1%	2.8%	p=0.008
Previous employment			
Employed	63.1%	62.4%	NS
Unemployed	31.4%	30.3%	NS
Type of crime			
Against people	28.2%	25.3%	NS
Against property	53.8%	64.1%	p<0.001
Against public health	24.6%	23.0%	NS
Criminal record			
Yes	53.0%	54.2%	NS

* The exact value is included when ≥0.01 and <0.05. When >0.05 it is considered non-significant (NS).

somatic diseases) even reaches over 50% in terms of throughout life prevalence and 20% in the last month.

By closely looking at functional disorders we can see how they are mainly associated to depression and anxiety disorders, which correspondingly afflict approximately 30% in terms of throughout life prevalence and 10% in the last month. Last, approximately 12% have suffered at some point throughout their life and 4% in the last month some kind of psychotic disorder, mainly those associated to schizophrenia.

A central feature is the high "comorbidity" (the addition of partial percentages is over 100). Table 3 depicts de coincidence of functional disorders and those derived from drug use. As we can see it mainly affects throughout life prevalence figures and to a lesser extent prevalence in the last month (due to the logical decrease of the later within prison with almost 40% of participants having a record of both types of disorders).

With regard to personality disorders (DSM-IV Axis II), the instrument used does not allow an accurate diagnosis but an estimation of the prevalence, which dramatically ranges according to the cut-off point. Commonly[16], we use point 4 (4 or more positive answers) when used for screening purposes, although with the risk of obtaining too many false positive results, especially as far as some particular disorders[17] are concerned. This is why Table 4 also depicts the data with a 5 cut-off point (5 or more positive answers), with lower sensitivity but greater specificity. Anyhow we can see how most of the participants (80% according to the 4 cut-off point and 57% with the 5 cut-off point) present symptoms compatible with some kind of personality disorder: the most common being: "avoidant", "borderline", "narcissistic" and "histrionic". Here too we find a high level of comorbidity (60% meet criteria for over one disorder and 45% for over two disorders, according to the 4 cut-off point).

DISCUSSION

The study has some limitations alike the PRECA study which we have reproduced to enable the relationship with the Correctional Department and its comparison potential. They mainly concern two issues.

The first concerns the selection of male inmates, who are representative of the majority of the imprisoned population but leaves aside two minority groups which should be researched in other studies: female

Table 2: Current and lifetime prevalence of DSM IV Axis I mental disorders identified by SCID I interview (n=472).

Type of disorder	Lifetime prevalence			Last month prevalence		
	Nº	%	(95%) CI	Nº	%	(95%) CI
At least one disorder	390	82.6	78.9-85.9	122	25.8	21.9-30.0
At least one functional disorder	261	55.3	50.7-59.8	96	20.3	16.8-24.3
Psychotic D.	56	11.9	9.1-15.1	18	3.8	2.3-6.0
Affective D.	148	31.4	27.2-35.7	44	9.3	6.8-12.3
Anxiety D.	146	30.9	26.8-35.3	49	10.4	7.8-13.5
Abuse or dependence	311	65.9	61.4-70.2	31	6.6	4.5- 9.2
Induced D. (Substances or Medical conditions)	92	19.5	16.0-3.1	33	7.0	4.9-9.7

Table 3. Comorbidity between functional disorders and substance abuse or dependence (n=472).

	None			Only functional			Mixed			Only substance		
	Nº	%	(75%) CI	Nº	%	(75%) CI	Nº	%	(75%) CI	Nº	%	(75%) CI
Lifetime prevalence	82	17.4	(14.1-21.1)	79	16.7	(13.5-20.4)	182	38.6	(34.1-43.1)	129	27.3	(23.4-31.6)
Last month prevalence	350	74.1	(69.9-78.0)	91	19.3	(15.8-23.1)	5	1.1	(0.3-2.4)	26	5.5	(3.6-8.0)

Table 4. Prevalence of personality disorders according to the IPDE self administered screening module cut-off points (n=470).

Type of disorder	Cut-off point "4"			Cut-off point "5"		
	Nº	%	(95%) CI	Nº	%	(95%) CI
Paranoid	111	23.6	19.8-27.7	55	11.7	8.9-15.0
Schizoid	94	20.0	16.5-23.9	36	7.7	5.4-10.4
Schizotypal	94	20.0	16.5-23.9	52	11.1	8.4-14.3
Histrionic	161	34.3	30.0-38.7	84	17.9	14.5-21.6
Antisocial	126	26.7	22.7-30.7	56	11.9	9.1-15.2
Narcissistic	165	35.0	30.8-39.6	82	17.5	14.1-21.2
Borderline	168	35.6	31.4-40.3	107	22.8	19.0-26.8
Obsessive-compulsive	101	21.5	17.9-25.5	43	9.1	6.7-12.1
Dependent	60	12.8	9.9-16.1	27	5.7	3.8-8.2
Avoidant	181	38.5	34.1-43.1	123	26.2	22.2-30.4
At least one disorder	377	79.9	76.3-83.7	266	55.6	52.1-61.1

inmates and preventive inmates (both male and female). It does not include information on individuals admitted to correctional psychiatric hospitals[4] either.

The second instrument used presents both specific advantages and inconveniences regarding other instruments which can be used in this setting. SCID-I allows DSM-IV Axis I diagnoses but the self-administered IPDE questionnaire which works for screening purposes and is easy to administer in comparison with other available diagnostic interviews, is quite inaccurate to estimate directly the prevalence of personality disorders[17].

In spite of these limitations, the results, which show an overrepresentation of individuals with a wide range of mental health problems in comparison with the general population, are concordant with available international information and encourage the data obtained in our country.

So even if there are minor differences partly due to the use of different instruments to estimate the prevalence, important revisions and specific studies published show a high prevalence of mental health problems in nearby countries and particular profiles among which we can mainly highlight those associated to drug use, personality disorders, anxiety and depression and to a lesser extent yet with an increased representation in comparison with the general population psychotic disorders included in the Severe Mental Disorders group[1-3, 15, 16].

As we have already mentioned, in Spain there are two studies we can make comparisons with. One carried out by the Corrections Department (*Instituciones Penitenciarias*) in 2006 on a national sample of 1009 individuals (928 men and 81 women) and based on the available information from prisons[14] and the PRECA study[15] carried out in 2008 over 700 inmates from 5 correctional facilities in Aragon, Catalonia and Madrid, with the same methodology than ours. We agree with both (Table 6) in the detection of high prevalence rates with similar profiles, except for personality disorders in the first study, since according to the information included in clinical records very few cases are detected. With regard to the PRECA study we basically agree on the general profile of the disorders and overall figures of throughout life prevalence but we have obtained significantly lower prevalence figures for last month and throughout life prevalence rates regarding anxiety, depression and psychoactive drug abuse and dependence disorders. On the other hand, we have concluded a higher prevalence of psychotic disorders throughout life. It is hard to determine the reasons for these differences, common to several international studies, in view of the cross-sectional nature of the study, in different settings and regardless of the particularities of facilities and territories. Therefore, the lower presence of a record of psychotic disorders concluded by the PRECA study may be due to its presence in specific modules which

Table 5. Comorbidity between Axis I Disorders (SCID I) and potential personality disorders (4 cut-off point in IPDE screening module).

Axis I disorders:	No disorder			Only functional D.			Substance D.		
	Nº	%TP*	IC	Nº	%TP	IC	Nº	% TP	IC
Lifetime prevalence	82	69.5	(58.3-79.2)	79	77.2	(66.4-85.9)	311	84.9	(80.4-88.7)
Last-month P.	350	76.0	(71.2-80.4)	91	96.7	(90.7-99.3)	31	90.3	(74.2-98.0)

* Percentage with potential personality disorder.

Table 6. Prevalence of mental disorders in correctional facilities (%). Comparison with other national studies.

Type of disorders	Current study (N: 472)		PRECA (N: 707)		D. G I P (N: 1.009)
	MP	LP	MP	LP	
Axis I disorders					
Psychotic	3.8	11.9	3.2 NS *	10.7 0.001	3.4
Affective	9.3	31.4	14.9 0.005	41.0 0.001	12.8
Anxiety	10.4	30.9	23.3 <0.001	45.3 <0.001	
Abuse or Dependence	6.6	65.9	17.5 <0.001	76.2 <0.001	36.1
At least one d.	25.8	82.6	41.2 <0.001	84.4 NS	49.6
Personality disorders **					
Paranoid	23.6		37.2 <0.001		
Antisocial	26.7		23.3 NS		
Borderline	35.6		44.0 0.004		
Narcissistic	35.0		32.8 NS		
At least one d.	79.9		82.3 NS		9.4

* p values in superscript in comparison with the results of our study.
** Only the types mentioned in the presentation article of the PRECA study are compared[15].
MP: month prevalence; LP: lifetime prevalence.

were not studied[15], or beyond prisons, with the existence of other institutions which still perform "social control" functions in the Autonomous Communities where the PRECA study was implemented.

With reference to other studies there is also agreement with international data, despite difference regarding methodology and instruments used in diverse studies[1, 3]. The results are closer in line in those where similar instruments have been used: SCID-1[18-23], and self-administered IPDE questionnaire [16]. All of them have found high prevalence rates especially disorders associated to drug abuse [24] which are overrepresented in comparison with the general population[25, 26] as we can particularly see in the scarce numbers obtained with the same methodology[27, 28].

This article presents overall data on prevalence, as a first approximation to the issue. Complementary analysis to determine to what extent this information is useful regarding the issues that we outlined in the introduction as determinant for Public Health remain outstanding.

First, the need for mental health care among the imprisoned population. To this regard, the study shows a high prevalence of problems classified in groups of different transcendence and completes the information available in the PRECA study with data

from another Autonomous Community. Although the results obtained in prevalence studies (in this case last month prevalence rates which express current situation) do not translate into direct needs for care[29, 30], they enable a better identification of problems, even in comparison with the general population. To this regard it is worth considering that in the aforementioned population the rate of individuals pursuing and receiving care is significantly lower than that of individuals who present some kind of identifiable problem, especially with regard to more prevalent disorders[26, 30], and that there are serious doubts on this representing a need for assistance[30], as it is sometimes excessively simplified.

Anyhow we can see that there are at least 4 groups of different problems: the vast majority is that derived from drug abuse and those included in the Common Mental Disorders groups (combinations of affective and anxiety disorders) with a lower number of particularly vulnerable of individuals who suffer from Severe Mental Disorders (schizophrenia, bipolar disorder and psychotic depressions, the later are a minority[31] but impossible to differentiate by means of the SCID in the group of Major Depressions) and a significant number of personality disorder with less accurate profiles and which imply serious doubts on the need and possibility of managing them with the available healthcare technologies. It is worth noting that the association of different diagnoses, commonly known as "comorbidity", leaves serious doubts on it being due to the coexistence of different types of disorders or to an artifact of insufficient diagnostic systems[32].

The second issue is the relationship between suffering from mental disorders and criminal behaviors leading to imprisonment, something which seems to be more associated with throughout life prevalence rates. The main factors seem to be drug abuse and personality disorders, which afflict the vast majority of participants. If we translated our results into an estimation of the people that could suffer different types of disorders in the overall imprisoned population of Andalusia and we compared that figure with the number of individuals assisted in mental health public services we would see that they only account for a minimal part, with figures that agree with those of international studies on criminal risk[9, 10, 33]. However this analysis requires an effort which shall be made later.

This increased risk for criminal behaviors among those who suffer from some type of personality disorder and use drugs, among other sociological variables more or less well known yet also detected in the study (young males with low cultural levels living in problem settings) is probably a key factor in this overrepresentation of mental disorders among the imprisoned population[3, 33], beyond the simple explanation of the problem being due to the closure of Psychiatric Hospitals. The fact that these increased figures are found in countries with both old and new systems of mental health care and in the case of Spain, in regions with and without that kind of hospitals[34], gives relative importance to that role, commonly pointed out [4, 35, 36] but increasingly discussed[8, 37-39].

Last, with regard to the key issue that is the implementation of strategies to control the problem[4, 11-13, 36, 40-43], including not only the provision of care to those hosted in the correctional system but also the interruption of their admission to the later, this study is a more accurate starting point for their design implementation and discussion including the aforementioned aspects, and again by making a difference between the types of problems identified.

These issues obviously require additional work to get returns from the obtained data and additional research which should promptly be initiated.

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CONFLICT OF INTEREST

None

REFERENCES:

1. Andersen HS. Mental health in prisons populations. A review- with special emphasis on study of Danish prisoners on demand. Acta Psychiat Scand. 2004; 110 Suppl 424:5-19.
2. Arboleda-Florez J. Mental patients in prisons. World Psychiatry. 2009; 8 :187-9.
3. Fazel S, Seewald K. Severe mental illness in 33.588 prisoners worldwide: systematic review and meta-regression analysis. Br J Psychiatry. 2012; 200:364-73.
4. Hernández M, Herrera R (Coord.). La atención en salud mental de la población reclusa. Madrid: AEN; 2003.
5. Dumont DM, Brockmann B, Dickman S, Alexander N, Rich JD. Public Health and the epidemic of incarceration. Annu Rev Public Health. 2012; 33:325-39.
6. Walmsley R. World Population List. London: International Centre for Prison Studies; 2011.
7. Fraser A, Gattherer A, Hayton P. Mental health in prisons: great difficulties but are there opportunities? Public Health. 2009; 13:410-4.
8. Lurigio AJ. People with serious mental illness in the criminal justice system: causes, consequences, and correctives. The Prison Journal. 2011; 91Suppl 3:66S-86S
9. Harris A, Lurigio. Mental illness and violence: a brief review of research and assessment strategies. Aggression Violent Behav. 2007; 12:542-51.
10. López M, Laviana M, López A. Estigma social, violencia y personas con trastornos mentales graves. En Márkez I, Fernández A, Perez-sales P (Ed). Violencia y Salud Mental. Salud mental y violencia institucional, estructural, social y colectiva. Madrid: AEN; 2009. P. 187-207.
11. Earthrowl M, O'Grady J, Birmingham L. Providing treatment to prisoners with mental disorders. Development a policy. Selective literature review and expert consultation exercise. Br J Psychiatry. 2003; 182:299-302.
12. Reed J. Delivering psychiatry care to prisoners: problems and solutions. Adv Psychiat Treat. 2002; 8:117-127.
13. Dressing H, Salize H-J. Pathways to psychiatric care in European Prisons System. Behav Sci Law. 2009; 27:801-10.
14. Dirección General de Instituciones Penitenciarias. Estudio sobre Salud Mental en el medio penitenciario. Madrid: DGIP; 2007.
15. Vicens E, Tort V, Dueñas RM, Muro A, Pérez-Arnau F, Arroyo JM, et al. The prevalence of mental disorders in Spanish prisons. Crim Behav Ment Health. 2011; 21(5):321-32.
16. Slade K, Forrester A. Measuring IPDE-SQ personality disorders prevalence in pre-sentenced and early stage prisons populations, with sub-type estimates. Int J Law Psychiat. 2013; 36:207-12.
17. Alvaro-Brun E, Vegue-Gonzalez M. Validez del Cuestionario International personality Disorder Examination (IPDE) en una muestra de población penitenciaria. Rev Esp Sanid Penit. 2008; 10:35-40.
18. Brink JH, Doherty D, Boer A. mental disorder in federal offenders: a Canadian prevalence study. Int J Law Psychiat. 2001; 24:339-56.
19. Herrman H, McGorry P, Mills J, Singh B. Hidden severe psychiatric morbidity in sentenced prisoners: an Australian Study. Am J Psychiat. 1991; 148:236-9.
20. Piselli M, Elisei S, Murgia N, Quartesan R, Abram KM. Co-occurring psychiatry and substance use disorders among male detainees in Italy. Int J Law Psychiat. 2009; 32:101-7.
21. Stalenheim EG, Von Knorring L. Psychopathy and Axis I and Axis II psychiatric disorders in a forensic psychiatric population in Sweden. Acta Psychiat Scand. 1996; 94:217-23.
22. Steadman HJ, Osher FC, Robbins PC, Case B, Samuels S. prevalence of serious mental illness among jail inmates. Psychiatr Serv. 2009; 60:761-5.
23. Trestman RL, Ford J, Zhang W, Wiesbrock V. Current and lifetime psychiatric illness among inmates not identified as acutely mentally ill at intake in Connecticut's jails. J Am Acad Psychiatry Law. 2007; 35:490-500.
24. Fazel S, Bains P, Doll H. Substance abuse and dependence in prisoners: a systematic review. Addiction. 2006; 101:181-91.
25. Haro JM, Palacín C, Vilagut G, Martinez M, Bernal M, Luque I, et al. Prevalencia de trastornos mentales y factores asociados: resultados del estudio ESEMeD-España. Med Clín (Barc). 2006; 126 (12):445-51.
26. Wittchen HU, Jacobi F, Rehm J, Gustavsson A, Svenson M, Jönsson B, et all. The size and burden of mental disorders and other disorders of the

brain in Europe 2010. Eur Neuropsychopharmacol. 2011; 21:635-79.
27. Butler T, Andrews G, Allnutt S, Sakashita C, Smith NE, Basson J. Mental disorders in Australian prisoners. A comparison with a community sample. Aust N Z J Psychiatry. 2006; 40:272-6.
28. Brugha T, Singleton N, Meltzer H, Bebbington P, Farrell M, Jenkins R, et all. Psychosis in the community and in prisons: a report from the British National Survey of Psychiatric Morbidity. Am J Psychiatry. 2005; 162:774-80.
29. Mechanic D. Is the prevalence of mental disorders a good measure of the need for services? Health Aff. 2003; 22(5): 8-20.
30. Sareen J, Henriksen CA, Stein MB, Afifi TO, Lix LM, Enns MW. Comon mental disorders diagnosis and need for treatment are not the same: findings from a population-based longitudinal survey. Psychol Med. 2013; 43:1941-51.
31. Gaudiano BA, Dalrymple KL, Zimmerman M. Prevalence and clinical characteristics of psychotic versus nonpsychotic major depression in a general psychiatric outpatient clinic. Depress Anxiety. 2009; 26:54-64.
32. Maj M. "Psychiatric comorbidity": an artefact of current diagnostic systems? Br J Psychiatry. 2005; 186(3):182-4.
33. Constantine R, Andel R, Petrila J, Becker M, Robst J. Characteristics and experiences of adults with serious mental illness who were involved in the criminal justice system. Psychiatr Serv. 2010; 61(5):451-7.
34. López M, Laviana M, García-Cubillana P.- Los Hospitales Psiquiátricos en la(s) Reforma(s). Notas para orientar una investigación necesaria. En Pérez F (Coordinador). Dos décadas tras la Reforma Psiquiátrica. Madrid: AEN; 2006.
35. Lamb HR, Weinberger LE. Some perspectives on criminalization. J Am Acad Psychiatry Law. 2013; 41:287-93.
36. Arroyo-Cobo JM. Estrategias asistenciales de los problemas de salud mental en el medio penitenciario. El caso español en el contexto europeo. Rev Esp Sanid Penit. 2011; 13:100-11.
37. Large M, Nielsen O. The Penrose hypothesis in 2004: patient and prisoners numbers are positively correlated in low-and-middle income countries but are unrelated in high-income countries. Psychol Psychother. 2009; 82:113-9.
38. Prins SJ. Does transinstitutionalization explain the overrepresentation of people with serious mental illnesses in the criminal justice system? Community Ment Health J. 2011; 47:716-22.
39. Raphael S, Stoll MA. Assessing the contribution of the deinstitutionalization of the mentally ill to growth in the U. S. incarceration rate. J Legal Stud. 2013; 42:187-222
40. Osher FC, Steadman HJ. Adapting evidence-based practice for persons with mental illness involved with the criminal justice system. Psychiatr Serv. 2007; 58:1472-8.
41. Draine J, Wilson AB, Pogorzelski W. Limitations and potential in current research on services for people with mental illness in the criminal justice system. J Offender Rehabil. 2007; 45:159-77.
42. Olley MC, Nicholls TL, Brink J. Mentally ill individuals in Limbo: obstacles and opportunities for providing psychiatric services to corrections inmates with mental illness. Behav Sci Law. 2009; 27:811-31.
43. Skeem JL, Manchak S, Peterson JK. Correctional policy for offenders with mental illness. Creating a new paradigm for recidivism reduction. Law Hum Behav. 2011; 35:110-26Skeem JL, Manchak S, Peterson JK. Correctional policy for offenders with mental illness. Creating a new paradigm for recidivism reduction. Law Hum Behav, 2011, 35:110-126.