

Psychiatric Disorders and Criminal History in Male Prisoners in Greece

Giorgos Alevizopoulos^a and Artemis Igoumenou^b

^a. Professor of Psychiatry, National and Kapodistrian University of Athens,
Greece

^b.Clinical Lecturer in Forensic Psychiatry, Violence Prevention Research Unit,
Barts and the London School of Medicine and Dentistry, Queen Mary
University, London, UK

Correspondence concerning this article should be addressed to Artemis
Igoumenou, Clinical Lecturer in Forensic Psychiatry, Tel: +44 (0) 20 3465
7142, Fax: +44 (0) 20 3465 6940
Email: a.igoumenou@qmul.ac.uk

Abstract

Objectives: To explore the psychopathology of the Greek male prisoner population and the relationship between the psychiatric disorders and the criminal history of the subjects.

Methods: The Iowa Structured Psychiatric Interview and the Personality Disorders Questionnaire were administered. The prevalence of the most common mental disorders was analyzed separately and in relation to the criminal history. SPSS was used for the statistical analysis.

Results: 495 male prisoners were interviewed. Overall, 223 (45.06%) were diagnosed with a psychiatric disorder. Non-violent crimes were the most prevalent reason for imprisonment (40.7%). One third (30.3%) of the sample was convicted with drug related crimes, and 28.0% with violent crimes.

Discussion: The prevalence of mental disorders in Greek prisoners was higher than in the general population. Personality disorder was the most common type of mental disorder and the only psychiatric diagnosis related to violent crime. This highlights the need for screening for mental disorders and the need for therapeutic provision within the prison setting.

Keywords: psychiatry; prisons; mental health; violent crimes

1. Introduction

The prevalence rates of mental disorders obtained for prisoners in various countries have shown considerable variation. There is robust evidence that the prevalence of mental disorders among prisoners is much higher than in the general population (Joukamaa, 1995; Gunn, 2000; Harrison & Karberg, 2004; Fazel & Seewald, 2012).

A review of 62 surveys by Fazel and Danesh (2002) concluded that one in seven prisoners suffers from psychosis or major depression and one in two male prisoners have personality disorders. In our study, we attempted to find the respective rates for the Greek male imprisoned population.

The possible relationship between psychiatric illness and violence has been subject to considerable debate throughout history. Evidence that personality disorder, particularly psychopathic traits, is strongly related to violence and criminality has been well documented in recent studies (Nestor, Kimble, Berman & Haycock, 2002; Diamond, 2003; Campbell, Porter & Santor, 2004). Many studies support that there is a moderate but significant association between psychotic disorders and violence (Appelbaum, Robbins & Monahan, 2000; Walsh, Buchanan & Fahy, 2002).

The assumptions of dangerousness and unpredictability of behaviour can form distorted public attitudes on mental illness (Eronen, Angermeyer & Schulze, 1998). Additionally, the public fear towards the assumed dangerousness of mentally disordered offenders can increase the stigmatization and victimization of mentally ill individuals (Alevizopoulos, 2003).

Fazel and Danesh (2002) found in their systematic review that substance abuse and dependence were more common in prisoners at the time they presented to custody than in the general population. There is therefore evidence to suggest a relation between substance abuse or dependence and criminal activity. In a Greek prison population it has been suggested that 27.5% of the prisoners were dependent on opiates, 26.3% on alcohol, 73.8% admitted to using cannabis and 13.8% were abusing both drugs and alcohol (Fotiadou & al, 2004). In the same study a relation between history of substance abuse before the imprisonment and mental illness was examined. It was found that 31.2% of these prisoners had depression and 37.5% antisocial personality disorder.

Another study by Fotiadou, Livaditis, Manou, Kaniotou, & Xenitidis (2006) on Greek prisoners found that mental disorder is more common in male prisoners than in the general Greek male population. In an attempt to replicate the results of this study regarding the psychopathology of Greek male incarcerated populations, we have employed different diagnostic tools for mental illness and personality disorder and recruited a larger sample from Judicial Prison Korydallos, the biggest central prison in Greece. In contrast with the study by Fotiadou, Livaditis, Manou, Kaniotou, & Xenitidis (2006) that recruited their sample in a small prison (capacity 200 prisoners; housed 180 at the time of the research) in Northern Greece, we recruited our sample in the biggest Central prison in Greece (capacity 640; housed 2102) (Council of Europe, 2006). Overcrowding in Greek prisons has been highlighted as a big problem in a report by the Council of Europe (2006), where it was indicated that in 2005 prisons were operating at 170% of their capacity (total prison

population in 2005 was 9,465, official prison capacity was 5,584). Our study differs from the one by Fotiadou, Livaditis, Manou, Kaniotou, & Xenitidis (2006) as it better depicts the prevalence of psychopathology at overcrowded Greek prisons. Our study will add to the existing literature as we report not only on prevalence of mental disorders in this large sample of the Greek male adult prison population, but we furthermore explore associations between psychopathology and crime history. Our aim therefore was to explore the psychopathology of the Greek male prisoner population and the relationship between psychiatric disorders and the criminal history of the subjects.

2. Method

2.1 Overview

At the time of this research, January to December 2006, there were 21 high security prisons in Greece. The general population of Greece at the time of the study was 10,964,020. The total prison population at that time was 9,979 (0.09% of the general population). 9,293 were men and 686 women. Since the majority, 93.1%, of the imprisoned Greek population were males; the authors decided to investigate the prevalence of mental disorders only in men at that point. This study was designed to obtain a large sample of the male prison population in Greece.

The Greek prison system functions under the auspices of the Ministry of Justice, Transparency and Human Rights. A central administrative body, the General Directorate for Penitentiary Policy, coordinates the operation of prison establishments. The Body of Inspection and Control of Custodial

Institutions, under the General Secretary of Crime Policy, monitors the penitentiary institutions. Prisons in Greece are divided in General (Types A, B and C), Special and Therapeutic. Type A prisons should house prisoners awaiting trial and those that received short-term custodial sentences, whilst Type B prisons should house prisoners that were sentenced with long sentences (including life). Type C is a department within Type B for prisoners that exhibit more challenging behaviors. Special prisons consist of juvenile institutions, rural units, semi-liberty centers (women center that never opened) and the central open productive unit (bakery). Therapeutic prisons have general and mental health hospital facilities and detoxification centers (Koulouris & Aloskofis, 2013).

There are no secure forensic psychiatric hospitals in Greece and forensic psychiatry is not yet a recognized psychiatric sub-specialty. Mental health hospital wings function within the Therapeutic prisons only. Prisoners that need psychiatric admission are transferred to the Korydallos Prison Psychiatric Clinic, or to general psychiatric hospitals. The length of stay depends exclusively on medical opinion. Individuals considered “criminally irresponsible” are not imprisoned and are treated considering their diagnosis and dangerousness (Koulouris & Aloskofis, 2013). Detoxification counseling programs exist in the majority of prisons. Only three prisons have a therapeutic program department for prisoners with drug-addictions. As recent as 2000, mental health specialists were employed in the first detoxification unit; one psychiatrist, psychologists, social workers and sociologists. In the central prison of the country, JP Korydallos, in 2000 a criminologist and a sociologist were appointed. Today, a total of 26 psychologists and 59 social

workers are employed in Greek prisons. Medical personnel, including the two psychiatrists, are only part time; in some prisons doctors offer their services for two hours per week, although this has improved recently. Therapeutic programs that take place in prisons are facilitated mainly by non-prison personnel.

This project was approved by the University of Athens Research Ethics Committee.

2.2 Subjects

Judicial Prison Korydallos is the biggest prison in Greece. It houses remand and sentenced prisoners that committed a variety of offences, from acquisitive to serious violent including terrorism. Due to overcrowding in Greek prisons for the last decade, the division of correctional facilities in low, medium and high security is artificial. Offenders from all over the country can be transferred and housed in any prison, depending on the proximity of the place the offence occurred and subsequently trialed, and mainly the availability of prison beds.

Every second prisoner, according to serial number, was invited in writing to participate in the survey. Potential participants were informed about the details of the study, as well as confidentiality issues. The participation in the survey was totally voluntary and the prisoners were reassured that their personal details would not be identifiable in any way. Finally the individuals that agreed to participate signed an informed consent form. In the event of refusal of participation the next number was selected, followed by the second in the series.

2.3 Data collection

The Iowa Structured Psychiatric Interview (ISPI) to identify mental illness (Tsuang, Woolson& Simpson, 1980) and the Personality Disorders Questionnaire-4th Edition (PDQ-4) to identify personality disorder were administered (Dowson, 1992).

The ISPI was chosen since is an instrument relatively easy to administer without any special training for the raters. It employs an interview format, designed for psychiatric epidemiological research in the general population. It additionally provides detailed information about important aspects of psychiatric, social and family history. This instrument is also designed to be administered by non-medical personnel (Tsuang et al., 1980).

Twenty senior medical students (sixth year; final year) from the School of Medicine University of Athens were recruited during their clinical practice in Forensic Medicine. All students involved with the study were trained in the administration of ISPI. A pilot study was conducted, and each trainee administered the instrument to ten other medical students, in order to confirm his or her familiarization to the instrument. Subsequently, a second pilot study (N = 60 prisoners) was carried out by twelve of these medical students as an additional part of the medical students' training and to verify the response of the prisoners to the instrument (the inter-rater reliability being 0.64). Finally, these twelve qualified medical students administered the ISPI to each consenting subject.

Individuals deemed as not having a mental illness were given the PDQ-4 in order to be assessed for a personality disorder. The choice not to

include prisoners with mental illness at the personality disorder assessment was based on clinical experience (GA) suggesting that assessment of personality disorders in individuals with active mental illness is challenging and could lead to over- or under-estimates of the prevalence of personality disorders.

The PDQ-4 is an easy to answer self-administered, true or false questionnaire that yields personality diagnoses. The information is sufficient to make the diagnosis of personality disorder (Reich, 1987). PDQ-4 has been validated for use in prison populations, showing good screening properties for presence or absence of a personality disorder (Davison, Leese & Taylor, 2001). The paper version of the questionnaire was self-administered by participants.

The supervisor of the survey (GA) checked the quality of the data, resolved any diagnostic uncertainties - including uncertainties regarding primary diagnosis- after discussing the interviews with the medical students, inputted the data in the statistical package and reviewed the criminal records of the subjects. The criminal records of the participants were retrieved by the participants' prison records.

The prevalence of the most common mental disorders (personality disorder, substance misuse, depression, anxiety disorder and psychosis) was analyzed separately in relation to the criminal history. Offenders were classified according to the type of their index offence in three major crime categories: non-violent, violent, and drug related crimes.

Offences involving violence ranged from violence against the person (assault, attempted murder, murder) to violence against property (malicious

and criminal damage and arson), according to the Greek penal definition (Dragatsis, 1997). Drug related crimes manifested with violence were recorded as violent crimes.

2.4 Statistical analysis

SPSS version 20 was used for the statistical analysis. Chi-square test was employed to compare differences in cross-tabulations of two variables.

3. Results

A total of 495 subjects were interviewed, representing 5.3% of the adult male prisoners in Greece. Only 4% declined participation in the survey (19 subjects). Socio-demographic and criminological information for those that declined participation was not collected. None of them had a diagnosed mental disorder. The mean age of the sample was 26.9 years (range 20-72 years). Overall, 32.9% were married and 51.7% had a stable occupation prior the incarceration. More than half (58.4%) had no previous history of prison sentences, while 18.8% had a history of more than four sentences.

3.1 Prevalence of mental disorders and crime categories

Psychiatric disorders were diagnosed in 223 (45.1%) of the subjects. Table 1 shows the prevalence of the different diagnoses made. Substance misuse involved the misuse of controlled substances, alcohol or both.

Non-violent crimes (theft, financial crimes, etc) were clearly the most prevalent reason for imprisonment, being 40.7% of all investigated criminal

records. Overall, 30.3% of the sample was convicted with drug related crimes, whilst 28.0% of the investigated population was convicted of violent crimes.

3.2 Association between psychiatric disorders and criminality

Associations between psychiatric disorders and criminal history are presented in Table 2.

We found that personality disorders were significantly associated with violent crimes ($p<0.05$). There was also a significant association between substance misuse and drug related crimes ($p<0.05$). Finally we found that depression was related to drug related crimes $p<0.05$. We did not find any other mental disorder to be related significantly to any of the crime categories.

4.Discussion

We recruited a large sample of 495 prisoners from the biggest prison in Greece. (National Service of Statistics, 2000)

We found that nearly half of our participants had at least one diagnosis of mental disorder. The total prevalence of mental disorders found in this study was at least 3 times higher than the rate obtained in epidemiological surveys of the general Greek adult population (Mavreas, Kontea, Dikeos & Stefanis, 1995; Skapinakis et al., 2013). Personality disorder was the most common type of mental disorder in Greek prisoners, with prevalence of 15.9%, followed by substance misuse disorders, with a prevalence of 14.5%. Serious mental illness, namely schizophrenia-like psychosis and mood disorders, were recognized in 2.6% and 5.5%, of our population, respectively.

The prevalence rates of mental disorders obtained for prisoners in various countries have shown to vary widely. These differences are probably due to differences in the methods used and the poor comparability of the samples. However, there is robust evidence that the prevalence of mental disorders, among prisoners, is much higher than in the general population (Joukamaa, 1995; Gunn, 2000; Harrison & Karberg, 2004; Fazel & Seewald, 2012). A review of 62 surveys by Fazel and Danesh (2002) concluded that one in seven prisoners suffers from psychosis or major depression and one in two male prisoners have personality disorders. Our results indicate that although the prevalence of psychotic disorders (3.6% had schizophrenia-like psychosis or mania) is comparable with that in the Fazel and Danesh systematic review (3.7% for male prisoners), the prevalence of major depression among Greek prisoners is much less (4.4% compared to 10.0%). This probably reflects the overall smaller prevalence of depression in the Greek population (2.9%) (Skapinakis et al., 2013), compared to other countries (Kessler et al, 1994; Jenkins et al., 1997). A previous study by Fotiadou et al. (2006) on Greek prisoners supports our findings that mental disorder is more common in male prisoners than in the general Greek male population. The sample in our study is six times larger than that of previous research, hence it could be expected that our results represent more accurately the psychopathology of the male prison population (Fotiadou et al. 2006; n=80). Comparing our findings with this study we found different overall psychiatric morbidity (Fotiadou et al., 2006). This might be due to differences in the methodology used (diagnostic instruments) as well as the difference in the population sizes and the fact that our sample came from an overcrowded prison (which is the norm rather than

the exception in Greece). Previous research in Greek prisoners has used MINI International Neuropsychiatric Interview as a diagnostic tool, which carries the risk of overestimating lifetime prevalence of psychiatric disorders and has the disadvantage that some of the modules (psychosis and major depression) seem to cause confusion among researchers that administer them (Black et al., 2004). We used ISPI to identify mental illness which is a tool designed for epidemiological research in the general population; hence our results may underestimate or overestimate the prevalence of mental illness in a somehow different population such as prison. To add to this limitation, we only considered primary diagnosis hence we did not include prevalence of secondary diagnoses in our results.

The prevalence rate of personality disorders obtained in the present study is probably underestimated. The diagnosis of personality disorders in prisoners brings in particular methodological problems. For example studies in which psychiatrists did the interviews, reported significantly higher prevalence rates than self-reported ratings. The use of a self-report instrument for a diagnosis of personality disorders also comes with problems especially in a population with relatively high proportion of illiteracy; as 15.0% of the prisoners in the Fotiadou et al. study (2006) were illiterate. This percentage of illiteracy may have affected the rate of personality disorders reported in the presenting study. Furthermore, we only considered diagnosis of personality disorders in prisoners without mental illness, due to challenges associated with diagnosing personality disorders in individuals with an active mental illness, hence our results did not include prisoners with comorbidity of mental illness and personality disorders.

The prevalence of substance misuse, in our study, was similar to that found in other studies (Brooke, Taylor, Gunn & Maden, 1998; Morrison & Gilchrist, 2001). Nevertheless, it was rather low compared to the prevalence of substance misuse found in a self-reported study conducted in one prison in northern Greece (Fotiadou et al., 2004). Probably the variation found was due to the different diagnostic criteria and instruments used to diagnose substance misuse.

The prevalence of anxiety disorders (3.6%) differed little from the figures obtained in general population surveys in Greece (Mavreas et al., 1995). In fact it was the only form of mental illness that was less prevalent among prisoners than among the general population. The explanation for this could lie on the tendency towards conflict resolution that characterizes anxious individuals and make criminal behaviour rather unlikely (Joukamaa, 1995).

The possible relationship between violence and psychiatric illness has been subject to considerable debate throughout history. The question as to whether people with mental illness are more prone to commit violent acts than members of the general population has been both politically controversial and complex to assess from an empirical point of view. Dangerousness and unpredictability of behaviour are central ingredients of public attitudes on mental illness (Eronen, Angermeyer & Schulze, 1998). Furthermore, the fear of the public towards the assumed dangerousness of mentally disordered offenders, can lead to stigmatization and victimization of mentally ill individuals (Alevizopoulos, 2003).

In our study, personality disorder was the only mental diagnosis related to violent crime. Evidence that personality disorder, particularly if

accompanied by psychopathic traits, is strongly related to violence and criminality has been well documented in other studies (Nestor et al., 2002; Diamond, 2003; Campbell et al., 2004). In our study, there was no relation between schizophrenia-like psychosis and violence. However, many studies support the hypothesis that there is a moderate but significant association between psychotic disorders or psychotic symptoms and violence (Appelbaum et al., 2000; Walsh et al., 2002; Coid et al., 2006; Keers, Ullrich, DeStavola & Coid, 2014). We suggest that this was one of the limitations of this study. Since the number of subjects recognized as having a schizophrenia-like psychotic illness was small, 13 offenders, it would be rather unexpected to find any statistical significance. Apart from power issues related to our sample size, the lack of association between schizophrenia-like psychosis and violence could reflect the prospect that acutely psychotic violent offenders may have been diverted to psychiatric facilities for assessment and treatment, especially as prison mental health in-reach services are very limited. Although there are no secure forensic psychiatric hospitals in Greece, prisoners from Judicial Prison Korydallos that need psychiatric admission are transferred to the Korydallos Prison Psychiatric Clinic, or to local general psychiatric hospitals. It is therefore likely that offenders with acute psychotic symptoms, especially those that committed a violent offence or pose risk of violence, may have been transferred to psychiatric facilities. Another important factor to consider when interpreting our results is that according to the Greek Criminal Justice system, individuals considered “criminally irresponsible” are not imprisoned and are treated according to their diagnosis and dangerousness (Koulouris & Aloskofis, 2013).

Our findings suggest a significant association between substance misuse and drug-related criminality. Another study in a male Greek prison found that benzodiazepine use was more common in prisoners that committed theft compared to other crimes (Lekka, Paschalis, Papadourakis & Beratis, 2003). The explanation for the observed association between substance misuse and drug-related crimes could be multifactorial. Environmental factors could play an important role; people involved with drug use may be exposed to or create more opportunities for drug related criminality, due to the need to fund their addiction, peer pressure or encouragement or simply by being in high-risk environments. From the opposite perspective the interactions between a person and a “substance-equipped” social environment can elicit conditions that exacerbate the risk for substance misuse (White, Loeber, Stouthamer-Loeber & Farrington, 1999).

Concerning the association between depression and drug related crimes, there are a few possible explanations. Drug related crime might be related to drug use which can be in turn related to depressive symptomatology. Depressive symptoms can be present either as a side effect of the substance/s abused, or lack of substance availability. On the other hand, individuals with depression might seek relief from their symptoms in substance misuse; hence then potentially get involved in drug related crime.

In conclusion it can be noted that the prevalence of mental disorders among Greek prisoners is considerably higher than that found in the general population of the country. This difference is mainly due to personality and drug misuse disorders. Psychosis is also over-represented among prisoners. The diagnosis of a personality disorder is significantly associated with violent

offences. Depression and substance misuse are associated with increase in drug-related crime. These findings support the need for better training of prison staff on recognizing symptoms of mental disorders and indicate the need for increased therapeutic requirements within the prisons (Konrad, Vollm & Weisstub, 2013). It also highlights the need for screening of prisoners for mental disorders, not only on reception but at different times during imprisonment. Diagnosing and treating mental illness within prisons will hopefully have positive effects on prisoners' quality of life, rehabilitation and reduction of recidivism in those crimes related with mental illness.

We recognize that the data we present were collected nearly a decade ago. To our knowledge there is no more recent research in Greek prisons; this being mainly due to financial restrictions, as research funding has been eliminated following the economic crisis in Greece. However, we believe that our data still bear relevance as they are the most recent data available. They provide an insight into the Greek prison mental health situation and they could prove helpful as a comparison if future research in Greece was to be conducted.

With the changes in Greek society, especially the economic crisis that resulted in increased prevalence of depression in the general population (Economou et al., 2013) and financial cuts in all aspects of service provision, it is evident in media publicity that the prison population has been affected as well, although official data are lacking. The increase in the prison population that follows the global trends (Fotiadou et al., 2006) has resulted in overcrowding in Greek prisons that were not prepared for that (Koulouris & Aloskofis, 2013). Overcrowding combined with minimal health care provision

in correctional facilities (Cheliotis, 2012; Koulouris & Aloskofis, 2013), requires the attention of researchers, clinicians and policy makers. The ever growing immigrant population in Greek prisons requires the consideration of their characteristics and needs in both research and service provision. The need for further research on the prevalence and clinical correlates of mental and physical illness in Greek prisons is urgent.

Acknowledgments

The authors gratefully acknowledge the very helpful comments and suggestions of Dr. Marios Skondras. This research was partially supported by the Special Account for Research Grants of the National and Kapodistrian University of Athens.

References

Alevizopoulos, G.A. (2003). The mentally disordered offenders as victims: From the classic Greek poetry to the modern Psychiatry. *American Journal of Psychiatry and Law*, 31, 110-116

Appelbaum, P.S., Robbins, P.C., & Monahan, J. (2000). Violence and delusions: data from the MacArthur Violence Risk Assessment Study. *American Journal of Psychiatry*, 157, 566-572

Black, D.W., Arndt, S., Hale, N., & Rogerson, R. (2004). Use of the MINI International Neuropsychiatric Interview (MINI) as a screening tool in

prisons: results of a preliminary study. *J Am Acad Psychiatry Law.* 32, 158-162

Brooke, D., Taylor, C., Gunn, J., & Maden, A. (1998). Substance misusers remanded to prison-a treatment opportunity? *Addiction*, 93, 1851-1856

Campbell, M.A., Porter, S. & Santor, D. (2004). Psychopathic traits in adolescent offenders: an evaluation of criminal history, clinical and psychosocial correlates. *Behavioural Science and Law*, 22, 23-47

Cheliotis, L.K. (2012). Suffering at the hands of the state: conditions of imprisonment and prisoner health in contemporary Greece. *European Journal of Criminology*. 9(1), 3-22

Coid, J., Yang, M., Roberts, A., Ullrich, S., Moran, P., Bebbington, P., Brugha, T., Jenkins, R., Farrell, M., Lewis, G. & Singleton, N. (2006) Violence and Psychiatric Morbidity in a National Household Population—A Report from the British Household Survey. *American Journal of Epidemiology*, 164 (12), 1199-1208.

Council of Europe. (2006) Report to the Government of Greece on the visit to Greece carried out by the European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment (CPT) from 27 August to

Davison, S., Leese, M., & Taylor, P.J. (2001). Examination of the screening properties of the personality diagnostic questionnaire 4+ ((PDQ-4+)) in a prison population. *Journal of Personality Disorders*. 15(2), 180-194

Diamond, S.A. (2003). Violence as secular evil: Forensic evaluation and treatment of violent offenders from the viewpoint of existential depth psychology. *Journal of Applied Psychoanalytic Studies*, 5, 21-45

Dowson, J.H. (1992) Assessment of DSM-III-R personality disorders by self-report questionnaire: The role of informants and a screening test for co-morbid personality disorders. *British Journal of Psychiatry*, 161, 344-352.

Dragatsis, J. (1997) Penal Code. Athens-Komotini.Ant. Sakkoula Publications.

Economou, M., Madianos, M., Peppou, L.E., Patelakis, A., & Stefanis, C.N. (2013). Major depression in the Era of economic crisis: a replication of a cross-sectional study across Greece. *Journal of Affective Disorders*. 145, 308-314

Eronen, M., Angermeyer, M.C. & Schulze, B. (1998). The psychiatric epidemiology of violent behaviour. *Social Psychiatry and Psychiatric Epidemiology*, 33, S13-S23

Fazel, S. & Danesh, J. (2002). Serious mental disorder in 23000 prisoners: a systematic review of 62 surveys. *Lancet* 359, 545-550

Fazel, S. & Seewald K. (2012). Severe mental illness in 33 588 prisoners worldwide: systematic review and meta-regression analysis. *British Journal of Psychiatry*, 200, 364-373

Fotiadou, M., Livaditis, M., Manou, I., Kaniotou, E., & Xenitidis, K. (2006). Prevalence of mental disorders and deliberate self-harm in Greek male prisoners. *International Journal of Law and Psychiatry*, 29, 68-73

Fotiadou, M., Livaditis, M., Manou, I., Kaniotou, E., Samakouri, M., Tzavaras, N. & Xenitidis, K. (2004). Self-reported substance misuse in Greek male prisoners. *European Addiction Research*, 10, 56-60

Gunn, J. (2000). Future directions for treatment in forensic psychiatry. *British Journal of Psychiatry*, 176, 332-338.

Harrison, P. & Karberg, J. (2004). Prison and jail inmates at midyear 2003. In *Bulletin of the Bureau of Justice Statistics*. US Department of Justice, Washington, DC, NCJ 203947

Jenkins, R., Lewis, G., Bebbington, P., Brugha, T., Farrell, M., Gill, B., & Meltzer, H. (1997). The National Psychiatric Morbidity Surveys of Great

Britain- initial findings from the Household Survey. *Psychological Medicine*. 27, 775-789

Joukamaa, M. (1995). Psychiatric morbidity among Finnish prisoners with special reference to socio-demographic factors: results of the health survey of Finnish prisoners (Wattu Project). *Forensic Science International*, 73, 85-91

Keers, R., Ullrich, S., DeStavola, B.R., & Coid, J.W. (2014). Association of violence with emergence of persecutory delusions in untreated schizophrenia. *American Journal of Psychiatry*, 171, 332-339.
doi:10.1176/appi.ajp.2013.13010134

Kessler, R.C., McGonagle, K.A., Zhao, S., Nelson, C.B., Hughes, M., Eshleman, S., Wittchen, H.U., & Kendler, K.S. (1994). Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States. *Arch Gen Psych.* 51, 8-19

Konrad, N., Vollm, B., & Weisstub, D.N. (2013) Ethical issues in prison psychiatry. Springer, Dordrecht.

Koulouris, N.K., & Aloskofis, W. (2013). Prison conditions in Greece. European Prison Observatory, Detention Conditions in the European Union. Rome. www.prisonobservatory.org

Lekka, N.P., Paschalis, C., Papadourakis, N. & Beratis, S. (2003). Characteristics of inmates receiving prescribed benzodiazepines in a high-security Greek prison. *Comprehensive Psychiatry*, 44(5), 409-414

Mavreas, V., Kontea, M., Dikeos, D. & Stefanis, C. (1995). Results from the Athens Centre. In T.B. Ustun, and N. Sartorius N. (Eds), *Mental Illness in General Health Care* (pp.57-78). New York, Wiley.

Morrison, D.S. & Gilchrist, G. (2001). Prison admission health screening as a measure of health needs. *Health Bulletin*, (Edinb.) 59, 114-119

National Service of Statistics, Statistics of Justice. (2000). In National Service of Statistics. Athens, National Printing Office.

Nestor, P.G., Kimble, M., Berman, I. & Haycock, J. (2002). Psychosis, psychopathy, and homicide: A preliminary neuropsychological inquiry. *American Journal of Psychiatry*, 159, 138-140

Reich, J.L. (1987). Instruments measuring DSM-III and DSM-III-R personality disorders. *Journal of Personality Disorders*, 1, 220-240.

Skapinakis, P., Bellos, S., Koupidis, S., Grammatikopoulos, I., Theodorakis, P.N., & Mavreas, V. (2013). Prevalence and sociodemographic associations of common mental disorders in a nationally representative sample of the general population of Greece. *BMC Psychiatry*, 13, doi:10.1186/1471-244X-13-163

Tsuang, M.T., Woolson, R.F. & Simpson, J.C. (1980). The Iowa structured psychiatric interview: Rationale, reliability, and validity. *Acta Psychiatrica Scandinavica*, 62 (Suppl 283), 1-58.

Walsh, E., Buchanan, A. & Fahy, T. (2002). Violence and schizophrenia: examining the evidence. *British Journal of Psychiatry*, 180, 490-495

White, H.R., Loeber, R., Stouthamer-Loeber, M. & Farrington, D.P. (1999). Developmental associations between substance use and violence. *Developmental Psychopathology*, 11, 785-803

Tables

Table 1

Prevalence of psychiatric disorder among 495 male prisoners in JPK

Diagnosis	Number of subjects (%)
No psychiatric disorder	272 (54.94)
Personality disorder	79 (15.96)
Substance misuse	72 (14.54)
Depression	22 (4.44)
Anxiety disorders	18 (3.64)
Schizophrenia-like psychosis	13 (2.63)
Organic mental disorder	7 (1.41)
Mania	5 (1.01)
Dual diagnosis ^a	7 (1.41)

^aDual diagnosis: substance misuse + major psychiatric disorder

Table 2

Prevalence of psychiatric disorders and crime history (%)

Crime category	Personality disorder	Substance misuse	Depression	Anxiety disorders	Psychosis^a
Non-violent	11.41	31.00	4.81	3.80	3.00
Violent	30.87*	35.89	2.24	2.11	1.53
Drug related	10.95	44.62*	5.84*	3.71	3.46

* = P <0.05

^aPsychosis: Schizophrenia-like psychosis