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Treating substance abuse is not enough: Comorbidities in consecutively admitted female prisoners

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HIGHLIGHTS

- A majority of 62% of females have substance use disorders at admission to prison.
- Opiates are the most frequent substances of addiction in 35% of this population.
- Addictions are highly comorbid with affective, personality and anxiety disorders.
- Comorbidities do not differ between subgroups addicted to different substances.
- Interventions should be generic, robust and flexible to cover different disorders.

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ABSTRACT

Introduction: Several studies have pointed to high rates of substance use disorders among female prisoners. The present study aimed to assess comorbidities of substance use disorders with other mental disorders in female prisoners at admission to a penal justice system.
Methods: A sample of 150 female prisoners, consecutively admitted to the penal justice system of Berlin, Germany, was interviewed using the Mini-International Neuropsychiatric Interview (MINI). The presence of borderline personality disorder was assessed using the Structured Clinical Interview II for DSM-IV. Prevalence rates and comorbidities were calculated as percentage values and 95% confidence intervals (CIs).
Results: Ninety-three prisoners (62%; 95% CI: 54–70) had substance use disorders; n = 49 (33%; 95% CI: 24–42) had alcohol abuse/dependence; n = 76 (51%; 95% CI: 43–59) had illicit drug abuse/dependence; and n = 53 (35%; 95% CI: 28–44) had opiate use disorders. In the group of inmates with substance use disorders, 84 (90%) had at least one other mental disorder; n = 63 (68%) had comorbid affective disorders; n = 45 (49%) had borderline or antisocial personality disorders; and n = 41 (44%) had comorbid anxiety disorders.
Conclusions: Female prisoners with addiction have high rates of comorbid mental disorders at admission to the penal justice system, ranging from affective to personality and anxiety disorders. Generic and robust interventions that can address different comorbid mental health problems in a flexible manner may be required to tackle widespread addiction and improve mental health of female prisoners.

1. Introduction

The number of imprisoned women has been increasing faster than the number of male prisoners worldwide and it has been suggested that female prisoners may have specific health care needs (van den Bergh, Gatherer, & Moller, 2009; Walmsley, 2014). Despite this, most of the research so far has been conducted in male prisoners (Jordan, Schlenger, Fairbank, & Caddell, 1996). Existing evidence suggests that female prisoners have comparatively higher rates of addiction than male prisoners (Binswanger et al., 2010; Butler, Allnutt, Cain, Owens, & Muller, 2005; Fazel & Baillargeon, 2011; Steadman, Osher, Robbins, Case, & Samuels, 2009; von Schönfeld et al., 2006). However, prevalence estimates for female prisoners have only been reported from few countries so far (Fazel, Bains, & Doll, 2006). Moreover, they showed important variations between 10 and 24% for alcohol abuse/dependence

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and 30 and 60% for drug abuse/dependence for the one-year prevalence rates in a previous review (Fazel et al., 2006). The variations may be due to cultural and legal contexts. Drug abuse/dependence in consecutively admitted female prisoners might have been increasing over time. Different studies from the US reported lifetime prevalence rates of 26% in 1988 (Daniel, Robins, Reid, & Wilfley, 1988) and 44% in 1996 (Jordan et al., 1996). More recent research from Australia showed that 62% of female prisoners had used illegal drugs in the six months prior to arrest without specifying whether criteria for abuse or dependence were fulfilled (Johnson, 2006). A study of newly committed female prisoners conducted in Ireland had reported 48% prevalence of drug use disorders (Wright et al., 2006). Heroine had been identified as the most frequent substance causing dependence in female prisoners in the UK (Brooke, Taylor, Gunn, & Maden, 1998; Maden, Swinton, & Gunn, 1990). However, the types of illegal drugs of addiction were frequently not further specified in previous research. In all, the prevalence rates of drug associated disorders in female prisoners were estimated to be 13 times higher than those in the general population (Fazel et al., 2006).

Addiction frequently co-occurs with other mental disorders in the general population (Compton, Thomas, Stinson, & Grant, 2007; van Emmerik-van Oortmerssen et al., 2014). The description of such comorbidities for prison populations had been identified as research necessity in a recent meta-analysis (Fazel & Seewald, 2012). The priority is then to develop adequate treatments, which acknowledge the primary substance of addiction and comorbidities with other mental disorders, the so called 'dual disorders' (Mundt et al., 2013). Previous research has demonstrated, with respect to nicotine addiction of prisoners, that treatment was superior to mere forced abstinence in smoke free jails, which by itself had hardly any affect on the addiction after release (Clarke et al., 2013). Most previous prison mental health studies have been conducted with samples from all existing prisoners with varying times spent in imprisonment. Research should assess addiction and comorbidities in newly received prisoners using structured clinical interviews to assess states of addiction prior to admission. At a later stage of imprisonment, reduced access to substances inside penal justice systems may lead to negative scores on the standardized interview schedules resulting in missed diagnoses. Studies sampling from newly received prisoners will include mainly people with short-term and repeat sentences, among them people with addiction. In contrast, studies of all existing inmates tend to include a larger proportion of long-term prisoners, for many of whom the addiction may not be the most relevant problem.

Previous prison mental health studies from Germany recruited already existing prisoners at varying stages of imprisonment and they included all male or mixed gender samples with relatively small numbers of females (Dudeck et al., 2009; von Schönfeld et al., 2006). The severity of traumatic experiences was significantly related with the prevalence of substance use disorders in a study from Germany (Driessen, Schroeder, Widmann, von Schönfeld, & Schneider, 2006). The present study conducted in Berlin, Germany, aimed to assess the prevalence rates of substance use disorders and their comorbidities with other mental disorders in female prisoners newly committed to the penal justice system.

2. Methods

This was a cross-sectional study of a sample of consecutively admitted female prisoners in Berlin, Germany.

2.1. Sample

The sample was recruited from the central prison admission facility for females, which serves the state of Berlin, Germany, an urban area with 3.5 million people, including the open, semi-open and closed systems. The facility does not serve women regarded to have reduced legal responsibility due to mental disorders in terms of §20 or §21 of the German Criminal Law. We aimed to recruit a total sample of 150 participants. The sample size was expected to yield percentage estimates with reasonable 95% confidence intervals (CIs) for the total sample, i.e. 10% (95% CI: 5–15) or 20% (95% CI: 14–26). Prisoners with all types of verdict such as people in detention, remand prisoners and convicted prisoners were included in the study. The interview was usually scheduled within a week after imprisonment and always within the first month of imprisonment. Exclusion criteria for the study were the inability to communicate in German and a lack of capacity to provide informed consent.

2.2. Measures

Age, marital and employment status and educational and income levels were assessed on structured questions. The variables were dichotomized as living alone or with partner, education as low (comprising the categories 0–2 of the International Standard Classification of Education [ISCED] with all levels of education up to lower secondary levels of education) and high educational level (comprising the categories 3–6 of the ISCED with all educational levels from upper secondary level and higher (UNESCO Institute for Statistics, 2011)). Employment status was dichotomized to employed (including people in training under the age of 28 years) and unemployed (including people in training of 28 years or older and retired people). This classification is in accordance with German legislation which requires the long term unemployed to take part in trainings to continuously qualify for social benefits (Mundt et al., 2014). The income level was dichotomized to € < 990 and € ≥ 990 per month, which was the line of relative poverty for a single person household in 2010 (http://www.diw.de/de/diw_01.c.411565.de/presse/diw_glossar/armut.html). The background of migration was assessed using an instrument developed by Schenk et al. (2006). The type of criminal offense was recorded.

2.3. Mini-International Neuropsychiatric Interview

The fully structured Mini-International Neuropsychiatric Interview (MINI) 6.0 [German version] was conducted to assess mental health and substance use disorders. The MINI was developed by Sheehan and Lecrubier (Sheehan et al., 1998) to categorize mental disorders according to the fourth version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). The concordance between the MINI and longer interview schedules such as the Structured Clinical Interview for DSM-IV (SCID) is characterized by good or very good kappa values for most diagnoses (Sheehan et al., 1997). The inter-rater reliability of the MINI is characterized by kappa coefficients above 0.75 for all diagnoses and 0.9 for the majority of the diagnoses (Sheehan et al., 1997). The test–retest reliability introducing a second clinician for the rating was very good with kappa values above 0.75 for most diagnoses and below 0.40 for only one diagnosis (current mania) (Sheehan et al., 1997).

2.4. Structured Clinical Interview for DSM-IV

The MINI covers the antisocial personality disorders as only axis II diagnosis. Therefore, the interview schedule was supplemented by the module for borderline personality disorder (BPD) of the SCID (Fydrich, Renneberg, & Schmitz, 1997). The inter-rater reliability of the borderline module in the SCID-II was shown to have a kappa value of 0.78 (Arntz et al., 1992). The 1–3 week test–retest reliability of the borderline module was shown to have a kappa value of 0.48 (First et al., 1995).

2.5. Fagerström Test of Nicotine Dependence

Current smoking and the degree of nicotine dependence were assessed using the Fagerström Test of Nicotine Dependence (FTND) (Heatherton, Kozlowski, Frecker, & Fagerström, 1991). Reliability