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# Violence and Substance Abuse in Psychotic Patients: A Forensic Psychiatric Perspective **21**

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## Abstract

In this chapter, a forensic psychiatric perspective on violent behaviour and substance abuse in psychotic patients will be described. First of all, the prevalence of substance abuse in schizophrenia and other psychotic disorders will be discussed. Next, some clinically important issues will be highlighted, such as the

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relationship between substance abuse and violence in psychotic disorders, and the impact of the type of substance on violent behaviour. Co-morbidity of substance abuse and a personality disorder in psychotic offenders will be discussed. Psychiatric services tend to separate mental illness and addiction services, despite evidence that more than half of the patients with a psychotic disorder have problems with alcohol and drug use and dependence. That is why substance abusing forensic patients need special attention. This could be achieved by joined-up working together between forensic and addiction services, and by further broadening forensic psychiatry training to include specialism in substance abuse, and vice versa. Finally we will summarize treatment possibilities. In conclusion, substance abuse has an aggravating effect on criminogenic behaviour, depending on the age at first conviction and the diagnosis.

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## 21.1 Introduction

Professionals in mental health care are more and more often being held responsible for the behaviour of the mentally ill patients that they are treating, some of who turn out to be violent (Goethals 2008). The possibility of violent behaviour among psychotic patients is especially a subject of discussion because of its unpredictability and the diverse responsibilities of public mental health care and the police. A large variety of personal, circumstantial, and environmental factors seem to play a role here (Monahan and Steadman 1994). Some of these patients are less violent than the average of the population, while others are significantly more violent. A study by Swartz et al. (1998) showed that the combination of co-morbid substance abuse and poor compliance with medication increased the risk of violent behaviour in psychotic patients. Differences in studies are probably due to intermediary factors that result in a confounding bias in epidemiological studies of violent behaviour in psychotic patients. Munkner et al. (2003) analysed the records of all Danish patients with schizophrenia born after 1 November 1983. A substance abuse-related diagnosis was associated with a younger age at the time of first contact with a psychiatric hospital (but had no effect on the age at the diagnosis of schizophrenia). Lindqvist and Allebeck (1990) found that patients who had been ill for many years, but had never been hospitalized, committed the most offences. These results underline among others the role of substance abuse and social disintegration in the violent behaviour of patients with schizophrenia.

Do psychotic patients more often show violent behaviour in the presence of substance abuse as co-morbidity? In this chapter correlations will be examined between drug use (in DSM-5 mentioned as Substance-related and Addictive Disorders) and other criminogenic factors (Andrews and Bonta 2010) in their relationship with schizophrenia and personality disorders as co-morbid disorders. Having a psychotic or a personality disorder as such is already a risk factor for

criminal conduct (e.g. listed in the HCR-20), but what influence does substance use have on the antisocial behaviour of these patients? In this regard, can anything be said about preventive factors in order to assure more control on their behaviour?

Since 1990, research has revealed considerable variation in the prevalence of substance abuse in schizophrenic patients. The primary risk factors in this connection are male gender and young age. In a sample of schizophrenic patients, Cantor-Graae et al. (2001) found a lifetime prevalence of substance abuse of 48.3 %, mainly alcohol, alone or in combination with other agents. Significant associations were also found between substance abuse and male gender, criminal behaviour, more frequent hospitalization, and a family history of substance abuse.

When looking at assessment and selection for treatment in this dual diagnosis forensic population, we find some issues in the identification of substance use problems, patient's motivation to engage, patient's mental health status, cognitive impairment, polydrug use, timing of assessment, and individual differences. Assessment measurements must be relevant to the dual diagnosis population if used for treatment evaluation (Long and Hollin 2009).

Proposals for treatment programmes in detained patients depend largely on laws and possibilities in different countries, and are frequently elaborated in cooperation with law defenders and justice. Motivation is different from dual diagnosis patients in the community, since external justicial motivation is often the case. It is a real interesting and special field for realizing an effective treatment programme.

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## 21.2 Co-morbidity of Substance Abuse and Violence in Psychotic Disorders

Swanson et al. (1997) found violent behaviour in psychiatric patients to be related to co-morbid substance abuse, the absence of recent contact with psychiatric services, and psychotic symptoms such as a feeling of being threatened and cognitive disorganization. In 96 adult schizophrenic patients from general psychiatry, greater numbers of misdemeanour convictions were linked to more severe drug and alcohol abuse histories and greater levels of disorganized symptoms, whereas a greater number of felony convictions was only associated with more severe drug abuse histories (Fukunaga and Lysaker 2013). Both the severity of severe drug abuse histories and levels of disorganized symptoms contributed to predicting 24 % of the variance in the number of reported lifetime misdemeanour offences. Soyka (2000) emphasized the importance of recurrent intoxication, so that the increased risk of aggression cannot be interpreted simply as the result of poor social integration. In a systematic review and meta-analysis, Fazel et al. (2009) identified 20 individual studies reporting data from 18,423 individuals with schizophrenia and other psychosis. Patients with schizophrenia and other psychosis were associated with violence and violent offending, particularly homicide. Co-morbidity with substance use disorders substantially increased the risk, with increased OR's between 3 and 25. The increased risk of violence in these disorders with co-morbid substance abuse was not different than the risk of violence in

individuals with diagnoses of substance use disorders. A recent systematic review and meta-regression analysis of 110 studies reporting on 45,533 individuals revealed that 18.5 % of whom were violent (Witt et al. 2013). A total of 39,995 (87.8 %) were diagnosed with schizophrenia, 209 (0.4 %) with bipolar disorder, and 5,329 (11.8 %) with other psychoses. Dynamic or modifiable risk factors included recent drug misuse, among others ( $p$  values  $< 0.0001$ ), and higher impulse control scores, recent substance misuse, and recent alcohol misuse ( $p$  value  $< 0.01$ ). In relation to premorbid factors, violence was moderately associated with parental history of alcohol misuse (OR = 1.8). Finally, Tengström et al. (2001) emphasized the importance of substance abuse in early starters (those schizophrenic patients with first conviction before the age of 18), due to both the presence of a diagnosis of substance abuse and the fact that most early starters were intoxicated at the time of the offence. Moreover, early starters differed from late starters in the prevalence of substance abuse by the parents, low grades at school, and a conduct disorder at an early age.

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### 21.3 Intoxication During Offending

Our own study (Goethals et al. 2008) revealed that violent male psychotic offenders with a substance abuse-related disorder were significantly younger at the time of their first conviction, but they had not committed more violent, sexual offences or offences against property and had not spent more months in prison prior to the index offence than psychotic offenders without a co-morbid diagnosis of substance abuse. However, the prior criminal history was no more serious in those that were intoxicated at the time of the index offence than in those that were not intoxicated. We concluded that the role of substance abuse in psychotic offenders was related directly to the psychotic disorder and less to the criminal environment in which these patients find themselves. Recently, Kraanen et al. (2012) compared different types of offenders in forensic outpatient treatment, such as offenders of general violence, intimate partner violence, sex offences, and other offences such as drug trafficking and property crimes, regarding the prevalence of substance abuse disorders at the time of the offence. However, the principal diagnosis in all these offenders remained unclear. More general violence offenders and less sex offenders fulfilled diagnostic criteria for a substance use disorder. About 30 % of the offenders were intoxicated by substances at the moment they committed the offence. More general violence offenders were intoxicated during the offence. Finally, van Panhuis and Dingemans (2000) compared three Dutch cohorts of mainly male psychotic TBS detainees. This comparison also showed that the use of alcohol and drugs could aggravate violent behaviour in patients with psychosis.

## 21.4 Type of Substance and Violent Behaviour

In Finland, the likelihood of committing a violent offence was 25 times as high in male schizophrenic patients who used alcohol as in mentally health persons, compared to 3.6 times for patients with schizophrenia who did not use alcohol and 7.7 times for patients with other psychosis (Räsänen et al. 1998). In this study, patients with schizophrenia who did not use alcohol did not have relapses, in contrast to those who did use alcohol. In a New Zealand birth cohort, Arsenault et al. (2000) investigated the relation between mental illness and violence. Individuals with alcohol dependence, cannabis dependence, and a schizophrenic disorder had a 1.9, 3.8, and 2.5 times greater chance, respectively, of displaying violent behaviour. The individuals with at least one of these three disorders constituted one-fifth of the study population but were responsible for half of all violent offences. In persons with alcohol dependence, their violent behaviour could best be explained by the use of alcohol prior to the offence. In persons with cannabis dependence there was an association with a conduct disorder in childhood.

The assumption that substance abuse precedes violence in society was investigated by Cuffel et al. (1994). The chance of displaying violent behaviour was especially high in patients with a pattern of multiple drug use, including illegal drugs; Miles et al. (2003) reported that 34 % of their psychotic patients used alcohol, 22 % alcohol and cannabis, 12 % cannabis alone, and 24 % stimulants. A history of violent behaviour was seen significantly more often in the users of stimulants. There were hardly any other differences between the various subgroups of patients with various types of substance abuse. Corbett et al. (1998) found no indication that patients with schizophrenia prefer a particular type of drugs compared to patients with a personality disorder. Drug-abusing male inpatients with a personality disorder were significantly more likely than patients with schizophrenia to have consumed alcohol at the time of the violent offences. Case series of homicide offenders with schizophrenia show high levels of substance abuse co-morbidity (between 40 % and 71 %) according to Putkonen et al. (2004) and Bennett et al. (2011), which increases the odds ratio to 21 (Schanda et al. 2004). A survey based on a 3-year (1996–1999) consecutive sample of people convicted of homicide ( $n = 1,594$ ) in England and Wales showed that more than one-third (42 %) occurred in people with a history of alcohol misuse or dependence and 40 % in people with a history of drug misuse or dependence (Shaw et al. 2006). Alcohol or drug misuse played a contributory role in two-fifths of homicides. Forty-two homicides (17 %) were committed by patients with severe mental illness and substance misuse. In the forensic outpatient sample of Kraanen et al. (2012) more general violence offenders and less other offenders were diagnosed with alcohol dependence, and more general violence dependence offenders were diagnosed with cannabis dependence at the time of the offence. Some authors have postulated that increasing substance use (particularly cannabis, cocaine, and amphetamines) was responsible for the increase of homicides committed by offenders with acute psychotic symptoms in England and Wales between 1997 and 2006 (Swinson et al. 2011).

## 21.5 Substance Abuse as Mediating Factor

What is the effect of substance abuse on the relation between violence and a psychotic disorder? The relationship between substance abuse and violence in psychotic disorders may be mediated by personality features and/or social problems, and is unlikely to be a simple additive effect (Mullen 2006). According to Smith and Hucker (1994), substance abuse was more prevalent among psychiatric patients than previously supposed. Schizophrenic patients, especially, were more susceptible to the negative effects of substance abuse, such as antisocial and violent behaviour. Philips (2000) arrived at a comparable conclusion: the prevalence of violent behaviour was higher in patients with both a psychiatric disorder and comorbid substance abuse than those with a single diagnosis. Such a dual diagnosis was a significant predictor of violent behaviour. Male schizophrenic patients in a large Finnish birth cohort were also found to be at high risk of committing a violent offence (Tiihonen et al. 1997). The prevalence of registered offences was highest among schizophrenic patients with co-morbid alcohol abuse and patients with an alcohol-induced psychosis. Steinert et al. (1996) compared a group of violent male schizophrenic patients with nonviolent schizophrenic patients; substance abuse was seen in 70 % of the aggressive male schizophrenic patients versus 13 % of the patients who had no history of violent behaviour. This is in agreement with the results of a study by Blanchard et al. (2000). According to them, substance abuse was seen in half of the violent schizophrenic patients, especially in young men.

A large retrospective study of hospitalized Swiss patients and a matched control group from the total Swiss population (Modestin and Ammann 1995) revealed that the number of criminal convictions was significantly higher among users of alcohol and drugs, independent of socio-demographic factors. The chance of a criminal record was twice as high among schizophrenic male patients with co-morbid substance abuse as in schizophrenic male patients without substance abuse (Modestin and Würmle 2005). In comparison with the rest of the population, however, the chance of having committed a violent offence was greater in schizophrenic patients without substance abuse.

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## 21.6 Substance Abuse, Personality Disorder, and Psychosis: Double Trouble

First of all, we can consider the impact of substance abuse in patients with a personality disorder. Howard et al. (2013) followed up 53 male offenders after release from a secure hospital unit and after they had returned to society. Patients with antisocial/borderline co-morbidity took significantly less time to re-offend compared to those without this co-morbidity. Both Psychopathy Checklist Revised factor 2, which is strongly associated with affective dysregulation, disinhibition, and inability to plan (Skeem et al. 2011), and the tripartite risk measure (borderline and antisocial personality disorders in the context of drug/alcohol dependence and

severe childhood conduct disorder) significantly predicted time to re-offence. More in particular, Lewis (2011) examined a group of 41 mid-sentence female felons with a diagnosis of antisocial personality disorder to determine associations with substance abuse and dependence. Substance dependence was highly prevalent (i.e. alcohol dependence, 56.1 %; opiate dependence, 48.8 %; cocaine dependence, 61.0 %). In this study, symptom severity (i.e. age of onset, symptom count, co-morbidity) was associated with violent behaviour in women dependent on opiates, alcohol, and cocaine. With regard to co-morbidity, the mean number of psychiatric diagnoses, other than substance dependence, was 2.2 (most commonly a major depressive disorder and a post-traumatic stress disorder).

Next, let us examine the effect of a combination of substance abuse and a personality disorder in psychotic offenders. The prevalence of a co-morbid personality disorder and substance abuse in male psychotic patients convicted for (attempted) murder was investigated by Putkonen et al. (2004). A lifetime prevalence of substance abuse was found in 74 % and especially alcohol abuse in 72 %. Half of the group had a co-morbid personality disorder, including 47 % with an antisocial personality disorder. It is striking that substance abuse was seen in all offenders with a personality disorder. Only 25 % of the patients did not have a co-morbid disorder. Steele et al. (2003) compared schizophrenic patients with and without substance dependence. Those with substance dependence more often had a criminal history and were more often intoxicated prior to hospitalization. Moreover, they more often had an antisocial personality disorder. In a study by Baxter et al. (1999), schizophrenic patients were followed for 10 years after their discharge from a medium-security treatment facility. Prior to treatment, the patients had a history of frequent intramural psychiatric care, violent offences, substance abuse, alcohol abuse to a lesser degree, and a conduct disorder. Compared to patients with only schizophrenia, those with a co-morbid conduct disorder or problematic use of alcohol had twice as high a risk of violent behaviour. The chance of a relapse was increased by young age, multiple drug, use or a conduct disorder. In our own study of TBS detainees (Goethals et al. 2008), early starters were intoxicated more often, started with substance abuse at an earlier age and more often had a diagnosis of substance abuse at the time of the index offence than late starters. Personality disordered offenders were intoxicated more often and more often had a prior diagnosis of substance abuse at the time of the offence than psychotic offenders. To a limited extent, psychotic offenders with a diagnosis of a substance-related disorder or intoxication at the time of the offence had a more extensive criminal history than personality disordered offenders. We conclude that substance abuse has an aggravating effect on all criminogenic behaviour, depending on the age at first conviction and diagnosis.

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## 21.7 Assessment for Treatment and Risk Assessment

In the introduction we already mentioned some issues concerning assessment. There are several instruments for screening/detection of substance abuse, for the pattern of use, severity of dependence, substance misuse-related problems, and functional assessments and analysis (Long and Hollin 2009). Baseline assessment measures for treatment are self-efficacy, motivation for change, biological markers of substance use, craving, coping skills, problem solving, impulsivity, quality of life, and co-occurring psychopathology. Especially in forensics, it is useful to look at social desirability scales. Risk of violence can be evaluated using HCR-20 (Historical Clinical Risk management measure), Clinical Inventory of Dynamic Reoffending Risk Indicators, the Short-Term Assessment of Risk and Treatability (START), or the Alcohol-Related Aggression Questionnaire.

All taken together, there is a paucity of purpose made, clinically useful, and research-based assessment instruments for assessing the effectiveness of treatment interventions for substance use-related problems in detained psychiatric patient groups.

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## 21.8 Recommendations for Treatment in Drug-Abusing Offenders

Different stages of motivation, active treatment, and relapse prevention are not easy to distinguish in detained dual diagnosis patients. In detention, external motivation to involve in treatment is often the first step. In stages of active treatment and relapse prevention, internal motivation becomes gradually more important to move on to active treatment and relapse prevention. Psycho-educational interventions can stress the influence of substance abuse on the life of the client, also their criminal behaviour to feed their addiction. Psychosocial rehabilitation is an indirect approach on substance abuse by developing compensating abilities and activities that reduce the need and desire to use drugs. So in prison, special attention must go to screening of mental health, working on trust and safety, and preparation for peer group treatments in community (Mueser et al. 2011).

We can synthesize the main components of such a prison dual diagnosis treatment programme as follows:

- Strongly structured programme
- Strategies for psycho-education, self-help, behaviour therapy, and relapse prevention
- Phased treatment: assessment and orientation, intensive treatment, and relapse prevention and transfer
- Smaller caseloads than in substance use disorders alone
- Shorter, simpler meetings, regarding psychotic symptoms and cognitive deficits
- Working on “criminal thinking” and values (CBT)
- Education on medication and drugs



- No confronting
- Specialized training in treatment of dual diagnosis for institute caregivers
- Planning of follow-up care

Empathy, unconditional positive valuing, and intensive care are essential for development of motivation, while discipline and structure are necessary for self-control. This can be done in a “shared decision-making” strategy, where client and caregivers are able to make a treatment plan together.

Follow-up treatment in the community lacks the reachability, the time, and the sober condition that are available in prison. Hence it is essential to make a treatment network and focus again on the contemplation stage, with a lot of persuading treatment work. The role of substance use in the criminogenesis must be taken into account, and plans should be made for dealing with risky situations. Peer group treatment programmes (Alcoholics Anonymous, Dual Recovery Anonymous) can already be started in prison and continued afterwards.

One can also focus on the organizational characteristics of programme, to further understand treatment processes and outcomes (Grella et al. 2007). Community-based treatment programmes are more likely to be specialized in substance abuse treatment, more trained staff, and more commitment to and importance of drug abuse treatment. There is also a broader range of wrap-around services, in addition to core components of drug abuse treatment. Assertive community treatment with an integrated dual diagnosis treatment decreased nuisance acts and stabilized convictions in the following 12 months (Staring et al. 2012). On the contrary, correctional programmes have longer planned treatment durations, more types of patient populations, using more written treatment protocols, no dedicated drug abuse treatment, and a smaller proportion of staff with specialized training in this area, and more Therapeutic Community-based treatment.

Typical for offenders with psychiatric co-morbidity is the two-armed approach from medical and judiciary teams, both with other agendas (Marlowe 2003). In this light, elements of successful programmes are treatment in the community, opportunity to avoid a criminal record or incarceration, close supervision, and certain and immediate consequences. Confidentiality guidelines for integrated approaches depend on the laws of the country you work in.

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## 21.9 Discussion

We can conclude that, compared to late starters, early starters more often have a diagnosis of substance abuse, and more often intoxicated at the time of the offence, and more often have parents that abuse alcohol or drugs. The distinction between early and late starters is important because early starters start criminal behaviour younger, in a more severe fashion, and go on for a longer time (Tengström et al. 2001; Moffitt and Caspi 2001; Van Dongen et al. 2012). Schizophrenic patients that abuse alcohol or drugs have a higher number of criminal convictions

and a greater chance of a criminal record. In schizophrenic offenders, the combination of substance abuse and a personality disorder increases the chance of a relapse.

With regard to the differences found between psychotic and personality disordered offenders, we can conclude that substance abuse in personality disordered offenders fits in with their criminal history. In contrast, the role of substance abuse in psychotic offenders is related directly to the psychotic disorder and less to the criminal environment in which these patients find themselves. Reports in the literature have repeatedly demonstrated that substance abuse can be resorted to by psychotic patients as a kind of self-medication for the frightening symptoms of the psychotic disorder (Dixon et al. 1991; Noordsy et al. 1991; Addington and Duchak 1997; Baigent et al. 1995).

Psychiatric services tend to separate mental illness and addiction services, despite evidence that more than half of the individuals with schizophrenia have problems with alcohol and drug use and dependence (Pickard and Fazel 2013). As they stated, alcohol and drug abusing forensic patients need special attention. This could be facilitated by joined-up working between existing forensic and addiction services, and by further broadening forensic mental health training to include specialism in substance abuse.

### Conclusion and Recommendations

In summary, we can state that substance abuse has an empirically proven aggravating effect on all kinds of criminal behaviour by psychiatric patients, depending on the age at first conviction and the diagnosis. Special attention to substance abuse must be given in vulnerable people, to be recognized by the early symptoms of a psychosis or a personality disorder. One might wonder whether such early starters first have their first conviction before the age of 18, and then start with substance abuse, or whether the chronology is the opposite (first the start of substance abuse and then the first conviction). National factors, like drug laws and the availability of drugs, e.g. between the United States and the Netherlands, play also an important role. In any case, substance abuse seems to be also an important offence-maintaining factor in these early starters. Also, we cannot exclude that early substance abuse is one of the factors that contributed to the onset of the psychosis itself. Surely substance abuse has participated in the continuous isolation, confused behaviour, and social malfunctioning of these patients.

For the future, we recommend that a prospective study to be carried out with a population cohort with and without substance abuse, and offending behaviour and onset of psychosis as dependent variables. With regard to the detection of early risk factors then it would be useful to put less highly correlated criminogenic variables in a predictive logistic regression model. A checklist of prodromal symptoms of people with an ultrahigh risk of deterioration from substance abuse, psychosis, and personality disorder is urgently needed to improve primary mental health care and patient empowerment.

As for treatment, the forced condition of detention can be also an opportunity to treat these patients. In-prison dual diagnosis programmes and assertive

community treatment can both be of help when specific needs are addressed. It is a unique cooperation between health care and judiciary workers. The right attention must go to risk factors for relapse, as well as in delict and as in substance abuse. Outcome must be evaluated not only in recidivism, but also in psychiatric symptoms.

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