


Chapter 1


SUBSTANCE MISUSE IN PSYCHOSIS: CONTEXTUAL ISSUES

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Jake's story

At around 15 years of age Jake began using drugs occasionally with his friends. During his late teenage years, he wanted to become a DJ and spent a lot of time at clubs, where he used amphetamine and ecstasy. His use of alcohol and cannabis also increased at this time, as he found these substances would "calm his nerves" and help him "chill out". When Jake was 21, his parents started to put pressure on him to get a "proper job", and he moved out of their home to live with his girlfriend, who occasionally used crack-cocaine. Eventually Jake tried crack-cocaine himself. Substance use was very common among Jake's friends, and he enjoyed the way it made him feel. His drug and alcohol use continued to increase to the point where, at the age of 22, Jake was spending all his money on alcohol/drugs, and his use was causing arguments with his girlfriend. Around this time, Jake began to experience auditory hallucinations. He noticed that following a period of intense drug use the voices became "worse" and more "intense" but found that if he continued to use the drugs he felt good again. He was admitted to an acute psychiatric inpatient unit, and on his discharge the voices had stopped. A few months later he began using crack-cocaine again, and whenever he had the money or could get credit from dealers, he would spend about £60 over one or two days on this. He was also spending about £30 per week on cannabis and drinking up to three cans of extra-strong lager every day. Simultaneously, Jake's auditory hallucinations became more intense and commanding, telling him that his next-door neighbour was "evil". Acting on the instructions of the voices, Jake tried to set fire to his next-door neighbour's flat. As a result of this, Jake was admitted to hospital for a second time.

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Since the early 1980s, the high rate of co-occurring severe mental health and substance use problems, such as those experienced by Jake, and the range and number of problems associated with these joint difficulties have been increasingly recognized. This chapter attempts to provide some context for the rest of the book by discussing definitions of severe mental health and substance use problems, prevalence rates of substance use problems among those with severe mental health problems and the difficulties associated with the experience of these joint problems.

DEFINITIONS

Despite several attempts to designate a single label for the phenomenon of co-occurring severe mental health and substance use problems (e.g., comorbidity, dual disorders), no consensus has emerged around a single term. The term “*dual diagnosis*” is most commonly used, although it is not officially recognized in either DSM or ICD nomenclature (First and Gladis, 1993). It has been suggested that the term “*dual diagnosis*” is inadequate for a number of reasons. First, it could apply to any two coinciding difficulties; indeed, the term has been used for a number of years in relation to mental health problems and learning difficulties before its current definition became popular. Secondly, the term focuses too narrowly on medical problems when the client group often have a number of other needs, such as housing, social, physical, psychological and financial (Barker, 1998; Bean, 1998). Some authors argue that our lack of understanding of this client group is related to our “tendency to medicalize human problems” (Hodge and Thomas, 1998: 13), an approach which may be particularly inappropriate for substance use and mental health problems. Thirdly, definitions of dual diagnosis vary considerably in terms of both the type and severity of mental health problems and the type and pattern of substance use problems. Lehman et al (1994), for example, argue that “the range of definitions for dual diagnosis includes persons with addictions who have some psychiatric symptoms, persons with serious mental illness who use psychoactive substances, persons with co-occurrent psychiatric (either Axis I or Axis II) and substance use diagnosis, as well as persons who have experienced both types of disorders during their lifetime, but not necessarily concurrently” (p. 106). Many researchers and clinicians now argue that a collective term for all clients with combined severe mental health and substance use problems may obscure considerable clinical heterogeneity among those it is intended to help. Indeed, Weiss (1992) refers to the typical dual diagnosis patient as a “mythical creature”, and states that even those using the same substance and with the same mental health diagnosis do not constitute a homogeneous group due to the many other risk factors present within such subgroups.

Those experiencing combined severe mental health and substance use problems are frequently classified as having either a primary mental health problem and a secondary substance use problem or vice versa. The terms “*primary*” and “*secondary*”, however, have multiple variations with either meaning that are often dependent on the perception of the user. Primary may mean “to cause”, i.e., determining, or “to be central”, i.e., overriding a secondary condition that is a direct or indirect consequence (Miller, 1993). While one condition may precede another, there is no direct or obligatory causal relationship (see Chapter 2). More recently, clinicians have accepted that many individuals meet criteria for both a primary mental health and a primary substance use problem (Barker, 1998). Ultimately, adapting a biopsychosocial model to the understanding of combined severe mental health and substance use problems is likely to provide the most helpful basis for building treatment programmes. This approach avoids setting one problem against another in terms of primacy, and its explanation of causality in terms of multiple factors provides the basis for an integrated, flexible and targeted approach to treatment that is more likely to meet the varied needs of each individual (Manley, 1998).

The terminology adopted throughout this book is “substance misuse” and “psychosis”. For the purposes of this chapter, the term “*psychosis*” is replaced by the term “*severe mental health problems*”, which covers the full range of psychotic disorders and major mood disorders as defined by the American Psychiatric Association’s *Diagnostic and Statistical Manual of the Mental Disorders* (DSM-IV) (APA, 1994) and the World Health Organization’s *International Classification of Diseases* (ICD-10) (WHO, 1994). The term “*substance misuse*” is replaced by the term “*substance use problems*”, which encompasses not just DSM-IV/ICD-10 classifications of substance use disorders, but any experience of problems (social, psychological or physical) associated with the use of substances. The word “*substance*” is used in reference to any drug that alters thoughts, moods or behaviours, whether legal or illegal.

It has been suggested that those with certain severe mental health problems may show a preference for particular types of substances. If this were the case, it might be expected that alcohol, for example, would be preferred by those experiencing anxiety and cocaine by those experiencing depression, but no such patterns appear. In a survey of 263 briefly hospitalized psychiatric inpatients with a diagnosis of schizophrenia, schizo-affective disorder, bipolar disorder or major depression, Mueser et al (1992) found little difference in the choice of substances used. Ultimately, choice may be largely determined by availability factors. Some substances, however, are more frequently used than others, specifically alcohol, cannabis, and stimulants (amphetamine, cocaine and crack-cocaine) (Buckley, 1998; Cuffel, 1996). Nevertheless, problematic use across the full range of substances, including

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over-the-counter medicines, prescribed substances, caffeine and nicotine, does occur, and polydrug use is extremely common. Rates of cigarette consumption among people with severe mental health problems are three to four times that of the general population. Lyons (1999) reports that studies across different mental health populations show those with a diagnosis of schizophrenia to be most likely to be heavy smokers, i.e., to smoke more than one and a half packs a day and to smoke high-tar cigarettes.

PREVALENCE OF SUBSTANCE USE PROBLEMS

To some extent, increased rates of combined mental health and substance use problems in clinical settings are due to enhanced awareness of these difficulties existing jointly. In addition, de-institutionalization and increased social acceptance of and experimentation with substances are two factors that have contributed to a real increase in the prevalence of combined problems among treated populations (Drake et al, 1991). Studies looking at prevalence have now been conducted around the world, but presentation of prevalence rates is not straightforward because of several methodological issues that influence the results of studies and contribute to the diverse range of prevalence rates cited. Osher and Drake (1996), for example, cite prevalence rates across studies ranging from 10% to 65%. Methodological issues include differences in sampling methods, populations, diagnostic systems, definitions of substance use problems and severe mental health problems, assessment tools, time frames, and demographic characteristics, and failure to assess polydrug use (El-Guebaly, 1990; Mueser et al, 1995). These will be discussed in more detail later.

The study most widely cited in relation to prevalence is the National Institute of Mental Health Epidemiological Catchment Area (ECA) study (Regier et al, 1990), which includes 20 291 people spread over five countries, resident in the community, in institutional settings (including mental hospitals, nursing homes, and prisons) and in community treatment settings. This provides an ideal sampling method for studying the prevalence of combined problems. Using a structured diagnostic interview, 1-month, 6-month and lifetime prevalence rates were assessed for a number of disorders. Lifetime prevalence rates of 22.5% were found for mental disorder alone, 13.5% for alcohol disorders alone and 6.1% for other drug disorders. Of those participants with a diagnosis of schizophrenia, however, 47% also had a lifetime prevalence of some form of substance use disorder. Consequently, for those with a diagnosis of schizophrenia, the odds of having an alcohol disorder were three times higher, and the odds of having another drug disorder were six times higher than in the general population. Those participants with a diagnosis of bipolar disorder had a substance use disorder prevalence rate of 56.1%. Consequently, for those with this

diagnosis, the odds of having an alcohol disorder were five times higher and the odds of having another drug disorder were eight times higher than in the general population.

Examples of treatment setting studies assessing prevalence rates in different countries are summarized in Table 1.1. Most prevalence research has been conducted in the USA (e.g., Cohen and Henkin, 1993; Mueser et al, 1990, 2000; Rosenthal et al, 1992; Safer, 1987; Test et al, 1989) and findings from treatment settings are largely consistent with those of the ECA study. Mueser et al (2000), for example, examined lifetime substance use prevalence across a range of different diagnostic categories. Alcohol use disorder was most common across the different diagnoses (43% schizophrenia, 61% schizo-affective, 52% bipolar and 48% major depression), followed by cannabis (26% schizophrenia, 29% schizo-affective, 26% bipolar and 16% major depression) and cocaine (12% schizophrenia, 7% schizo-affective, 8% bipolar and 12% major depression). Concurrent alcohol and drug use disorders were also common within the group (23% schizophrenia, 26% schizo-affective, 27% bipolar and 23% major depression).

In Australia, Fowler et al (1998) found 6-month and lifetime prevalences of substance abuse/dependence to be 26.8% and 59.8%, respectively, with alcohol (18.1%), cannabis (12.9%) and amphetamines (2%) being the most commonly abused substances over the previous 6 months. Participants were divided into those with no current or past history of abuse/dependence, those reporting a history but no current abuse/dependence and those with current abuse/dependence. The groups with either current or past history of abuse/dependence were younger, more likely to be male, less likely to have been married and more likely to be smokers than the no-abuse/dependence group. Studies of prevalence rates have also been conducted in Taiwan (Lin et al, 1998), France (Launay et al, 1998) and Germany (Krausz et al, 1996; Soyka et al, 1993). Soyka et al (1993) assessed prevalence rates of substance use among patients with a diagnosis of schizophrenia admitted to two psychiatric facilities in Munich, over a 6-month period. Lifetime prevalence for substance abuse was estimated at 42.9% at the mental state hospital, where participants were considered to be a more "chronic" group (in terms of higher rates of past psychiatric admissions and longer duration of psychosis), and 21.8% in the university hospital. Alcohol was the substance most commonly abused with prevalence estimates of 34.6% and 17.4%, respectively, across facilities. Cannabis, amphetamines and cocaine were the most frequently abused illegal drugs, followed by opiates and hallucinogens.

UK studies (Bernadt and Murray, 1986; Brown, 1998; Duke et al, 1994; Glass and Jackson, 1988; Graham et al, 2001; Menezes et al, 1996; Smith et al, 1994; Virgo et al, 1998; Wheatley, 1998) show lower prevalence rates than

Table 1.1 Examples of prevalence rate studies

Authors (listed alphabetically)	n	Population and location	Mental health diagnosis	Substance use criteria / screen	Time frame for substance use problems	Results
Brown, 1998	185	Rehabilitation Psychiatry Service, Southampton, UK	Chronic psychosis (schizophrenia, affective illness, other)	Abuse/dependence rating by keyworker interview using Barry et al, 1995. Lifetime use identified from case notes	6-month and lifetime	6-month = 22% any substance, 18% alcohol, 10% illicit drugs, 15% prescribed drugs. Lifetime = 29% alcohol, 17% drugs
Fowler et al, 1998	194	Community mental health service, New South Wales, Australia	Schizophrenia	Participant assessment for abuse/dependence DSM-III-R criteria, case manager ratings (Drake et al, 1990)	6-month and lifetime	6 month = 26.8% any substance, 18.1% alcohol, 12.9% cannabis, 2% amphetamine, 0% cocaine. Lifetime = 59.8% any substance
Graham et al (2001)	1369	Community mental health and substance misuse services, Birmingham, UK	Psychotic disorders, bipolar and major depression	Abuse/dependence rating by keyworker using CRS (Drake et al, 1996)	12 months	24% any substance
Krausz et al, 1996	99	Psychiatric clinic, Hamburg, Germany	Schizophrenia spectrum	Participant assessment for abuse/dependence ICD-9 criteria plus other methods	Lifetime	47.5% any substance

Menezes et al, 1990	171	Inpatient, outpatient and community mental health services, London, UK	Any form of functional psychosis	Participant assessment using Duke et al, 1994, DAST (Skinner, 1982) and abuse/ dependence rating by keyworker using Drake et al (1989)	12 months	31.6% alcohol, 15.8% other drugs
Mueser et al, 1990	149	Psychiatric inpatients, Pennsylvania, USA	Schizophrenia spectrum	Participant assessment for abuse/dependence DSM-III-R criteria	Lifetime	47% alcohol, 42% cannabis, 25% stimulants, 18% hallucinogens, 7% sedatives, 4% narcotics
Mueser et al, 2000	325	Psychiatric inpatients, New Hampshire, USA	Schizophrenia (SZ), schizo-affective (SA), bipolar (BP) and major depression (MD), and other	Participant assessment for abuse/dependence DSM-III-R criteria plus case manager ratings using CRS (Drake et al, 1996)	Lifetime	Alcohol = 43% SZ, 61% SA, 52% BP, 48% MD. Cannabis = 26% SZ, 29% SA, 26% BP, 16% MD. Cocaine = 12% SZ, 7% SA, 8% BP, 23% MD
Soyka et al, 1993	a) 183 b) 447	Psychiatric inpatients, Munich, Germany	Schizophrenia spectrum	Participant assessment for abuse/dependence ICD-9 criteria	Lifetime	a) 21.8% any substance and 17.4% alcohol b) 42.9% any substance and 34.6% alcohol

Notes: CRS: Clinician Rating Scales; DAST: Drug Abuse Screening Test.

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those cited in US studies. Menezes et al, (1996), for example found 1-year prevalence rates of 36.3% for any substance use problem (31.6% for alcohol problems and 15.8% for drug problems, with cannabis, amphetamines and LSD being the most frequently used substances) among psychosis patients in London. The study by Graham et al (2001) assessing prevalence across both community mental health and substance misuse services in Birmingham, UK, found that 24% of clients with a diagnosis of severe mental illness were identified by their keyworkers as having used substances problematically in the previous 12 months. Problem use among the identified group was mainly of alcohol (61%), cannabis (43%), stimulants (21%) and opiates (9%), with 30% of the sample being polydrug users.

A number of demographic characteristics appear to correlate with substance use problems among those with severe mental health problems, specifically being male, young, single, less educated and having a family history of substance use problems (Menezes, 1996; Mueser et al, 1995). Other studies conducted in mental health settings report mixed findings in relation to the rates of men and women experiencing combined problems (Alexander, 1996). While some studies show significantly more men than women with combined problems (e.g., Cuffel et al, 1993; Westreich et al, 1997), others find no significant differences between the sexes (e.g., Dixon et al, 1991; Watkins et al, 1999). Demographic profiles may also vary, however, according to the type of substance used (Mueser et al, 1990; 1992).

Racial/cultural group has also been related to differences in prevalence rates, although the number of relevant studies that include data on or analysis of these factors is very small (Westermeyer, 1995). Westermeyer (1995) points out that racial and cultural groups may differ in their rates of problem substance use and severe mental health problems for many reasons, which include the type of substances and pattern of use that are prescribed, approved of or permitted by the group; behavioural norms in the group regarding types of psychoactive substances and approved patterns of use; availability of psychoactive substances in the community; access of people in the community to the substance; symbolic meaning of the substance in the group, as related to the group's identity, world view and values; and the economic role of the substance to the group. In addition, treatment access and efficacy for either problem can differ across ethnic and cultural groups, a delay in which could affect the prevalence of combined problems.

As mentioned previously and as highlighted in Table 1.1, differences between studies in diagnostic criteria for mental health and substance use problems make results difficult to compare. Some studies, for example, focus on substance use, abuse, dependence or alternative definitions of problem use. The methods used to determine diagnosis, whether by self-report ratings, structured/non-structured clinical interviews or examination of medical records, also influence findings. In addition,

establishing diagnosis may be problematic because the symptoms of substance use and withdrawal may mimic those of the severe mental health problem. In a review of 14 papers citing prevalence rates of combined severe mental health and substance use problems, where participants were diagnosed as a result of standardized interviews, Weiss et al (1992) found a substantial degree of variability in three areas. These were the timing of the participant interviews, how the diagnoses were made and what abstinence criteria were utilized. The location from which samples are drawn also has a bearing on prevalence rates. Those with severe mental health problems who are homeless, in jail, or in emergency or acute care settings are more likely to have substance use problems than others (Galanter, 1988). Mueser et al (1998) note that most estimates of combined problems are probably inflated by sampling bias because samples are usually drawn from treatment settings, and having either disorder increases the likelihood of receiving treatment.

A number of methodological refinements that would enable comparisons between prevalence studies have been suggested by Mueser et al (1990). These include the use of standardized instruments to diagnose mental health and substance use problems, information to assess problem substance use gathered from multiple sources, evaluation of both history of substance use and current use, assessment of problem substance use prevalence in more than one diagnostic group, matching of patient and non-patient groups on demographic variables and assessment of the problematic use of specific types of substances. Multiple methods of assessment of substance use problems may also increase the reliability of prevalence study results. One difficulty with relying on self-report information alone is that clients with severe mental health problems may deny substance-related problems or the use of any substances at all, for a number of reasons, including "psychological defences, neuropsychological impairments that decrease their ability to perceive the relationships between drinking and adjustment difficulties, and the tendency to provide socially desirable answers" (Drake et al, 1990: 64). They may also be concerned about how an admission of substance use might affect the support they receive. A combination of urine screening, and interviews with clients, their service providers and family members is reported to provide the most accurate and usually the highest estimates of substance use (Ananth et al. 1989).

In summary, prevalence studies show a range of rates depending on the type of methodology adopted. However, substance use problems are clearly common among those with severe mental health problems and appear to occur more frequently in this group than within the general population. Research suggests that approximately 50% of people with severe mental health problems have experienced problems related to their substance use at some time in their lives, and between a quarter and a third are experiencing current substance use problems.

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CORRELATES OF SUBSTANCE USE

Many studies have shown additional consequences, specific to those with severe mental health problems, over and above the usual adverse social, health, economic and psychological consequences associated with problem substance use. Mueser et al (1998) argue that there is some evidence to suggest that substance use simply exacerbates all the negative outcomes that frequently occur among those with severe mental health problems. An early study by Drake et al (1989) examined patterns of alcohol use among 115 participants diagnosed with schizophrenia who were participating in an aftercare programme. Heavy alcohol use (meeting DSM criteria for abuse/dependence) was related to medication non-adherence, homelessness, financial problems and not eating regular meals. In terms of mental health symptoms, hostile, threatening behaviour and disorganized, incoherent speech were the symptoms most strongly related to heavy alcohol use. Rehospitalization was associated with alcohol use with 27% of abstainers, 48% of mild users and 68% of heavy users being rehospitalized during the 1-year course of the study. Table 1.2 summarizes difficulties as they occur within three broad areas: social functioning, mental and physical health and treatment outcome. In spite of a substantial number of negative associations, however, many substance users report positive effects from their use, and these will be discussed in relation to each area.

Table 1.2 Correlates of substance use

Social functioning

- Reduced social contact/competence (Drake et al, 1998)
- Housing instability/homelessness (Drake et al, 1991; Koegel and Burnam, 1988; Soyka et al, 1993)
- Increased family conflict (Clark, 1996; Dixon et al, 1995; Mueser and Gingerich, 1994)
- Violent behaviour (Cuffel et al, 1994; Scott et al, 1998; Smith et al, 1994)
- Financial difficulties (Drake et al, 1989)

Mental and physical health

- Earlier onset of mental health problems (Kovaszny et al, 1997)
- Psychotic relapse (Linszen et al, 1994)
- Exacerbation of mental health symptoms (Noordsy et al, 1991; Shumway et al, 1994)
- Increased risk of HIV (Carey et al, 1995; Mahler, 1995)
- Risk of sexual and physical abuse (Alexander, 1996; Bellack and Gearon, 1998)

Treatment outcome

- Increased hospitalization (Cuffel and Chase, 1994; Drake and Wallach, 1989)
 - Medication adherence problems (Owen et al, 1996)
 - Reduced effect of antipsychotics (Lyons, 1999; Ziedonis et al, 1994)
 - Increased use of services (Bartels et al, 1993; Hipwell et al, 2000)
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Effects on social functioning

In general, the literature supports the view that those with combined problems, at least before their substance use becomes too chronic, tend to have better social competence and more social contacts than those who have severe mental health problems alone (Drake et al, 1998). It is possible that those who are more socially competent and active are at increased risk of developing problems with their substance use, perhaps due to their increased exposure to substances through social relationships. The use of alcohol is reported to reduce social anxiety (e.g., Noordsy et al, 1991), and alcohol, cannabis and cocaine have all been associated with the relief of depression (e.g., Dixon et al, 1991). Thus, the use of substances may be driven by a desire to reduce anxiety and depression and improve social facilitation (Mueser et al, 1995). Drake et al, (1998) state that "there appears to be a reciprocal relationship between social functioning and substance abuse in schizophrenia. More socially active patients with schizophrenia use substances, and substance use in turn promotes greater social activity by virtue of the social context in which substances are used" (p. 283). As substance use progresses, however, social competence and social networks can be destroyed as relationships diminish and the possibility of housing instability or homelessness emerges.

People with combined problems appear particularly vulnerable to housing instability and homelessness (Drake et al, 1991; Soyka et al, 1993). Koegel and Burnam (1988), for example, found that the rate of schizophrenia was nine times higher in homeless alcohol-dependent persons than in a household sample of alcohol-dependent persons in the ECA study (Regier et al, 1990). Similarly, bipolar disorder was seven times more prevalent in homeless alcohol-dependent individuals than in their housed counterparts. Homeless persons with combined problems are more likely to be older, to be male, to be unemployed, to have greater health difficulties and to receive more services than homeless persons with one or no diagnosis (Fischer, 1990). They are also more likely than other homeless groups to suffer from psychological distress and demoralization, to grant sexual favours for food and money, and to be picked up by the police and imprisoned; are less likely to receive help from their families; and are highly prone to victimization (Koegel and Burnam, 1987).

Homelessness may occur as a direct result of family conflict, which is a common experience in this group (Clark, 1996; Mueser and Gingerich, 1994). As Clark (1996) notes, those with combined problems often rely heavily on their families for assistance because of difficulties in managing the tasks of daily living. Indeed, a study by Clark (1994) showed that the parents of adult children with combined problems spent significantly more time caring for them (e.g., cooking, cleaning, providing transport, interacting with health-care workers, and creating structured leisure activities) and

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gave them significantly more financial support than parents of children who had no such problems. Although living with a relative who has combined problems does not always lead to conflict or burden, it can lead to increased levels of stress, and family members may find themselves feeling frustrated, anxious, fearful, angry, helpless and desperate (Mueser and Gingerich, 1994). Those with combined problems themselves report feeling significantly worse about their families than clients with severe mental health problems alone, in spite of no differences in objective indicators of family contact (Dixon et al, 1995). A stressful family atmosphere can in turn lead to increased relapse rates (Kavanagh, 1992), weakened family ties, increased possibilities of homelessness and increased rates of substance use for those with combined problems.

Substance use has also been associated with an increased risk of violence among those with severe mental health problems. Smith et al (1994) looked at 33 consecutive admissions for predominantly violent behaviour to a regional secure unit in the UK. They found that in 54% of admissions, drug or alcohol abuse was implicated, but that among those with a diagnosis of schizophrenia, 73% had such a history. A study by Cuffel et al (1994) of 103 patients with a diagnosis of schizophrenia reviewed substance use and violent behaviour through medical records. The use of alcohol and drugs was associated with increased odds of concurrent and future violent behaviour (e.g., verbal and non-verbal threats to harm others, physical assaults or altercations, brandishing a weapon or starting fires), and there was an increased likelihood of violence among those who were polysubstance users. Smith and Hucker (1994) found strong links between psychotic disorders and problem substance use leading to increased rates of violence. It has been speculated that intoxication accounts for increased rates of violence, but, as studies have shown violence frequently occurring without intoxication, other factors need to be considered. Social factors may account for the apparent association, particularly as severe mental health problems and substance use problems can often lead to considerable social disadvantage (Smith and Hucker, 1994).

Effects on mental and physical health

Problem substance use has been associated with an earlier onset of schizophrenia and poor clinical functioning (Kovaszny et al, 1997). In a prospective study comparing those with a diagnosis of schizophrenia or a related disorder, divided according to whether they were cannabis abusers or non-abusers, Linszen et al (1994) found that significantly more and earlier psychotic relapses occurred in the cannabis-abusing group. The association became stronger when mild and heavy cannabis use was

distinguished. Not only has alcohol been shown to exacerbate psychosis but it may also accelerate the appearance of tardive dyskinesia (Dixon et al, 1992).

Although numerous studies report negative effects of substance use on clinical symptoms, Dixon et al (1990) review a number of experimental, clinical and self-report studies that show positive effects on clinical symptoms. All substances appear to have the potential to exacerbate psychosis, but reductions of depression levels, anxiety and negative symptoms have been observed in subgroups of experimentally medicated schizophrenic patients. Clinical studies have also produced a varied pattern of results, and it appears that drug response is heterogeneous among those with a diagnosis of schizophrenia, with both favourable and unfavourable subjective effects reported. In a study by Dixon et al (1989), 83 consecutively admitted inpatients with a diagnosis within the schizophrenia spectrum and a lifetime diagnosis of drug or alcohol abuse were asked to indicate the direction in which selected symptoms and effects changed during acute drug intoxication. The results focused on alcohol, cannabis and cocaine, and the majority of participants reported that all three drugs decreased levels of depression. Reported effects on anxiety, energy levels and psychotic symptoms differed for the three drugs. For example, participants reported that cannabis and alcohol reduced feelings of anxiety, but cocaine increased them.

A common self-reported reason for substance use among those with severe mental health problems is to cope with symptoms and the effects of medication (Mueser et al, 1995). It is possible, however, that the use of substances might cause the difficulty that the person is using substances to cope with. In a study of 75 outpatients with a diagnosis of schizophrenia by Noordsy et al (1991), over half the sample reported that alcohol reduced social anxiety, tension, dysphoria, apathy, anhedonia and sleep difficulties. Participants were also asked to state whether they had experienced each of nine common psychotic symptoms (such as auditory hallucinations and paranoia) and whether alcohol reduced or increased that symptom. The rate of reported symptom relief was between 5% and 30% for individual symptoms, but 7% to 32% of participants reported that alcohol increased psychotic symptoms. Improvements in negative symptoms have also been demonstrated among cigarette smokers who report feeling more relaxed and less anxious after smoking (Ziedonis et al, 1994).

In addition to exacerbation of mental health symptoms, those with combined problems may also be at increased risk of other physical health problems, including HIV (Mahler, 1995). Carey et al (1995) reviewed nine studies, nearly all conducted in New York City, which assessed the prevalence of HIV infection among those with severe mental health problems. Prevalence rates ranged from 4% to 23%, and collapsing data across all studies yielded

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an overall rate of 8%. The authors state that this rate exceeds the rate found in the US general population, which is estimated to be between 0.3% and 0.5% (Steele, 1994).

For women with combined problems, additional risks have been reported, specifically in relation to sexual and physical abuse (Alexander, 1996; Bellack and Gearon, 1998). Alexander (1996) reports studies showing that women with combined problems are more likely to have experienced childhood physical and sexual abuse than women with severe mental health problems alone (e.g., Brown and Anderson, 1991). Women are also more likely than men to report having been victims of crime (e.g., Brunette and Drake, 1997; Westreich et al, 1997).

Effects on treatment outcome

A number of studies have shown increased hospitalization rates among those with combined problems (e.g., Cuffel and Chase, 1994; Drake and Wallach, 1989; Graham et al, 2001), although other studies have found no such differences (e.g., Fowler, 1998). It has been suggested that increased hospitalization may be directly related to the type of substance used (Mueser et al, 1990; 1992). In addition, medication adherence problems have been highlighted as a factor in rehospitalization and as being common among those using substances. In a study by Owen et al (1996), for example, participants with a diagnosis of schizophrenia were interviewed during their hospital stay and 6 months later to obtain information on demographic characteristics, medication non-adherence, substance abuse, symptom severity and medication side effects. Participants were asked about their medication adherence within the 30 days before hospital admission and the 30 days before the follow-up interview. Those with current substance abuse were substantially more likely to report medication non-adherence. A combination of current substance abuse, medication non-adherence and no outpatient contact was associated with significantly worse symptom severity at follow-up. There are a number of reasons that might account for medication adherence problems. Some clients stop taking medication because they have been told it should not be combined with other substances. In other cases, the effects of using substances lead clients to neglect their medication. Even when medication is taken, its effects might be compromised by the use of substances. For example, cigarette smokers metabolize antipsychotics faster than non-smokers (Lyons, 1999), and smoking has been shown to lower the blood levels of some antipsychotics by up to 50% (e.g., Ziedonis et al, 1994).

As a consequence of the clinical and social effects of combined severe mental health and substance use problems, clients appear to utilize more

services than those with severe mental health problems alone. Bartels et al (1993) prospectively examined service utilization and costs across a range of institutional and outpatient services, including psychiatric and substance abuse hospitalization, incarceration, psychosocial rehabilitation, emergency services, case management, other outpatient services and housing support. They studied three groups of schizophrenic patients: current substance abusers, past substance abusers and those with no history of substance abuse. Current substance abusers accounted for all episodes of incarceration and substance abuse hospitalization and had a greater rate of psychiatric hospitalization. They were also approximately twice as likely to use emergency services over the study period than past abusers or those who had never abused. Otherwise, there were no significant differences in the use of non-institutional services, including psychosocial rehabilitation, outpatient treatment (case management, psychotherapy and psychiatric visits) and residential support services. An estimate of total economic costs between the three groups showed a trend toward greater total costs for current abusers, followed by past abusers and those who had never abused, due to greater use of hospital and emergency services. A study by Hipwell et al (2000), among attendees at a community mental health day centre in the UK, compared 16 clients with a diagnosis of schizophrenia/schizo-affective illness and problem substance use and 16 clients with a diagnosis of schizophrenia/schizo-affective illness alone. Clients with combined problems were more likely to miss appointments at the day centre and to fail to attend on the days they had been expected. They had also been admitted to an inpatient facility significantly more times in the previous year because of psychotic relapse and were more likely to have had multiple inpatient stays.

CONCLUSION

In spite of many adverse consequences of substance use among those with severe mental health problems, it is clear that many do make positive changes to their substance use patterns (Bartels et al, 1995; Cuffel and Chase, 1994), and that substance use does not necessarily impair functioning (Shumway et al, 1994). Bartels et al (1995) followed a cohort of participants with severe mental health problems over 7 years, and over this period their substance use behaviour was rated by their case managers. Rates of substance use in the cohort as a whole were consistent over time, but there was considerable variation in the substance use behaviour of individuals. Although 41% of those meeting criteria for alcohol dependence at baseline remained dependent at the 7-year follow-up, there were also a number of participants who made positive changes to their substance use patterns. The remission rates for alcohol abuse and alcohol dependence

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were 67% and 33%, respectively. The remission rates for drug abuse (other than alcohol) and drug dependence were 54% and 31%, respectively. Risk status for the negative outcomes associated with substance use problems has been shown to reduce when use stabilizes in terms of both symptoms and service utilization (Bartels et al, 1993; Dixon et al, 1991; Zisook et al, 1992).

The high prevalence, significant risk factors and high use of resources associated with combined severe mental health and substance use problems logically means that this client group merit the degree of attention paid to them over the last two decades. Clinicians and researchers now face the challenge of developing and evaluating appropriate treatment and services for this client group, and a number of innovative approaches from around the world are presented in subsequent chapters.

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