

Review

Comorbidity of Personality Disorders with Alcohol Abuse

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Abstract. *There is high comorbidity of alcohol dependence with mood, anxiety, substance abuse and personality disorders. Personality disorders, in particular, are considered to be an important contributing and/or predisposing factor in the pathogenesis, clinical course and treatment outcome of alcohol dependence. According to clinical and epidemiological studies, the prevalence of personality disorders in alcoholism ranges from as low as 22-40% to as high as 58-78%. The literature has focused primarily on antisocial and borderline personality disorders; however, almost the whole spectrum of personality disorders can be encountered in alcohol dependence, such as the dependent, avoidant, paranoid and others. A number of factors, such as sampling methods, diagnostic criteria used or assessment procedures applied, may explain this wide variation. The quest of a distinct 'alcoholic personality' dates from the first half of the 20th century but failed to reveal consistent and strong substantiation. However, renewed efforts provided evidence for the importance of impulsivity/ disinhibition and neuroticism/negative affectivity in the development of alcohol dependence; the role of other personality traits such as extraversion/sociability is still unclear. These findings led to a number of typologies, some of the most popular and influential being those of Cloninger, Babor, and Lesch.*

In principle, there is a prevalent belief among clinicians that alcoholics with comorbid axis II pathology present with more severe alcohol use disturbances, have a poor social functioning, have low rates of treatment retention and an increased risk of relapse, and consequently have a poor treatment outcome.

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Key Words: Alcohol abuse, personality, personality disorders, comorbidity, review.

However, during the last decade this attitude has been challenged because a number of studies have shown that substance and alcohol-abusers may be equally motivated to change their addictive behaviour or poorer treatment outcomes compared to individuals without personality pathology. Studies pertaining to the treatment (either pharmacological or psychological) of samples of alcohol dependent individuals with comorbid personality disorders are scarce. Dual focus schema therapy and dialectical behaviour therapy are the only types of psychotherapy that have been evaluated for cases with comorbidity. Whatever their efficacy may prove to be, treatment of alcoholics with personality pathology should be long-term by using a variety of settings, therapeutic techniques and skills.

Alcoholism is a prevalent complex disorder of clinical, genetic and neurophysiological heterogeneity, which has extensive comorbidity with other mental disorders (1-2). Numerous clinical and epidemiological studies indicate that alcohol-related disorders are associated in particular with mood, anxiety, other substance abuse and personality disorders (1, 3-4). Personality disorders are approximately four times more prevalent in psychiatric and addicted patients than in the general population (5). In samples of patients admitted with drug and alcohol problems, prevalence figures for personality disorders have been reported to be over 70% (6-8).

Extensive evidence has clearly demonstrated the role of personality pathology in the aetiology and development of alcoholism (9, 10). However, the quest of a distinct 'alcoholic personality' in the first half of the 20th century failed to reveal consistent and strong substantiation, and eventually the effort was given up (10, 11). Interest on the subject resurfaced during the past two to three decades and consequently issues such as the identification of specific personality traits associated with alcohol abuse and/or dependence, as well as the potential causal relationship between personality disorders and alcohol dependence, have drawn considerable attention anew (12).

As both alcohol-related disorders and personality disorders are difficult to treat, individuals with comorbidity represent a

challenging population for treatment providers (6). When there is pathology of personality this is more often associated with difficulties in the therapeutic relationship, poorer compliance and increased drop-out rates (5, 13-15). However, the largely held opinion that alcohol-dependent patients with comorbid personality disorders have a poorer treatment outcome and prognosis is still controversial and findings are inconclusive (5, 15-17).

The intention of this brief review is to present up-to-date knowledge on the topic of comorbidity between personality characteristics, personality disorders and alcoholism, and discuss relevant findings from the standpoint of epidemiology, causality and treatment of dually diagnosed individuals.

A Brief Retrospective

During the last century a number of aetiological models have been proposed in order to explain addictive behaviour. These models have been influenced by various psychological schools of thought, as well as by social and public views (18).

The most influential contemporary scientific view about the causes of addiction can be best described by the biopsychosocial model that was first articulated by George Engel in 1977 (19). This model attempts to unify competing addiction theories into an integrated conceptual framework taking into account the complex and diverse interactions between the biological, psychological and social aspects of addiction (18, 20). The biopsychosocial model recognizes that there are multiple pathways to addiction and that the respective significance of each pathway depends on any single individual (9).

Personality was thought to be the main aetiological factor in the 'moral' model of addiction, wherein it was postulated that an 'immoral' or 'bad' character was involved in the problems of addiction and the ensuing behavioural deviations. Although the concept of character pathology according to this model is not supported by the current scientific views, the idea of a 'weak character' is still widely held among the public (18).

The important role of personality in the addictions has been also assumed by the 'symptomatic' and 'cognitive-behavioural' model of addiction (18, 21). According to the symptomatic model, which dominated the psychiatric literature during the first half of the 20th century, drug and alcohol abuse is considered to be a symptom of an underlying psychiatric disorder, especially associated with personality pathology.

The cognitive-behavioural model considers alcohol abuse and dependence as a disorder of behaviour, beliefs and core beliefs or cognitive schemata to which the individual is strongly predisposed by underlying personality pathology (18, 21). According to other aetiological models of addiction, such

as the classical disease model, the pharmacological model, and the social model of addiction, the role of personality pathology appears to be of minor importance (9, 18, 20).

Personality Traits and Alcohol Abuse

As the idea of a distinct alcoholic personality subsided, interest gradually focused on specific behavioural characteristics related to alcohol problems (10). For instance, during the 1960s and 1970s, several investigators reported that hyperactive children or children with conduct disorders were prone to becoming alcoholics (22-23). In the 1980s, the explosion of the phenomenon of addiction, the distinction of alcohol-dependent individuals into those who either abused or did not abuse other substances, and the advancement of genetic and biological research in the field of alcoholism, renewed interest in the personality-based explanations of addictions (10, 24-27).

In general, there are two types of approach regarding personality assessment. In the first, personality pathology is conceptualized in the context of categorically defined personality disorders, with most studies focusing on antisocial and borderline personality disorders (DSM cluster B personality disorders). In the second, a dimensional approach of normally distributed personality measures is used (10). The personality traits most often found to be related to excessive alcohol consumption are impulsivity/disinhibition and neuroticism/negative affectivity, whereas the significance of other personality characteristics such as extraversion/ sociability remains inconclusive (10, 28-29).

Impulsivity/disinhibition is a broad dimension of personality which incorporates traits such as sensation seeking, aggressiveness, impulsivity and psychoticism (10, 26, 29). High scores on measures of these traits are associated with alcohol-related problems, as individuals with high impulsivity scores are more likely to be diagnosed as alcoholics. Moreover, impulsivity, antisocial behaviours, conduct disorders and hyperactivity in childhood and adolescence are putatively reliable predictors of future alcohol dependence (26, 28-34). Various researchers have found a positive correlation between alcohol use and scores on the sensation-seeking scale, especially the subscales of disinhibition and novelty seeking (35). In this context, it is not surprising that high rates of comorbidity are observed between alcoholism and personality disorders of the impulse dyscontrol spectrum, such as antisocial and borderline personality disorder (4-6, 10, 28, 31, 36, 37).

The second personality trait which has often been associated with alcohol dependence is neuroticism/negative affectivity; it describes the tendency to experience psychological distress and negative mood states (9, 28-29, 38). Research findings indicate that alcoholic patients score

significantly higher than control subjects on measures of these traits and frequently suffer from depressive and/or anxiety symptomatology (26, 29, 38). Consequently, it has been proposed that alcohol use may be an attempt to self-regulate symptoms of distress, such as anxiety, fear or feelings of depression.

Recent neurobiology findings suggest that behavioural disinhibition may be related to abnormalities in serotonergic function, whereas neuroticism-negative affectivity is related to GABA-glutamatergic system deficiencies (5, 39-40). Based on the close relationship between these two personality traits and alcohol abuse, researchers argue that there are at least two different pathways to alcohol problems: a negative effect pathway wherein alcohol is used to relieve psychological distress, and a deviance proneness pathway wherein compliance with the cultural standards related to alcohol use is compromised by possession of a difficult character (5, 26).

It should be noted that all aforementioned data put forward the predominance of the primary personality pathology model, in which personality traits contribute to the development of a substance or alcohol use disorder (18, 45). Further research is needed in order to investigate the role of other causal models of alcohol use disorders and axis II comorbidity, such as the primary substance use disorder model, *i.e.* that substance use contributes to the development of personality pathology, and the common factor model, *i.e.* that both disorders are linked to a common underlying factor (18, 46-47). Finally, it has been advanced that in any individual case, more than one model could be applied in order to explain the different stages of addictive behaviour. This model is often referred to as the bi-directional model (18).

Studies on the pathology of personality and alcohol use have suggested that drinking motives can be mediators of the relationship between various personality traits and alcohol consumption (34, 44-46). According to the motivational model of alcohol use, proposed by Cox and Klinger, people decide either to drink or not to drink by expecting certain valued outcomes (45-47). These decisions rely on a combination of emotional and rational processes, so that drinking motives represent a subjectively derived decisional framework based on personal experience, situation and expectancies (47-49).

Enhancement and coping motives are the two types of motives considered to be most relevant for explaining the relationship between Cluster B personality disorders and alcoholism (50). Drinking to enhance positive emotional states has been shown to be associated with high levels of extraversion and sensation seeking, impulsivity and aggression, and low levels of conscientiousness. Enhancement drinkers are likely to be males and to consume alcohol excessively (50). On the other hand, drinking in order to cope with negative emotions is related to high levels of neuroticism and sensitivity to anxiety, low level of agreeableness and a

negative self-image (49-50). Accordingly, coping motives are the most likely to lead to negative consequences from drinking, whereas enhancement motives tend to have the highest associations with heavy drinking, which in turn leads to alcohol-related problems (50).

Typologies of Alcoholism

In line with the previously mentioned pathways to alcohol abuse and dependence, Cloninger proposed a typology of alcoholism (subtypes I and II) in which personality traits along with dependence characteristics are of cardinal significance (18, 41-43). In this typology, Type I is characterized by late onset of alcohol abuse and by the strong influence of social milieu factors; it is found equally in both sexes and it is not related to severe criminal activities. Type I alcoholics are characterized by passive-dependent traits, low novelty seeking, high harm avoidance, and high reward dependence (18, 41). Type II or male-limited alcoholism is thought to have an early onset and it is usually associated with antisocial traits (*i.e.* impulsivity, low harm avoidance) and criminal behaviour (18, 28, 41). In Type II alcoholism, there is a high familial risk for the disorder, suggesting a strong genetic influence, and it also appears to have a poor response to treatment (18, 45).

Although Cloninger's typology is well-known, quite popular and influential, a number of other typology models of alcoholism have been also proposed, starting with the Jellinek classification in the 1960s (45). These typologies range from binary models to five or even more alcoholic type classifications [Babor *et al.*, Kendler, Schuckit, Lesch *et al.*, Del Boca & Hesselbrock, and recently Moss *et al.*] (41, 45).

Babor proposed a two cluster solution (Type A/Type B) derived from 17 domains that included personality traits, dependence characteristics, comorbid psychiatric disorders, family history of alcoholism and physical and social consequences of alcohol use (44-45). Schuckit *et al.* have replicated the Type A/Type B approach focusing on a smaller subset of five variables extracted from the 17 domains. These included quantity of alcohol consumption, the relief from drinking, and the medical, physical and social consequences of alcohol abuse (46). However useful and accepted they are, dichotomous typologies of alcoholism obviously cannot provide an exhaustive description of the alcoholic population (37, 45, 49).

Starting with Zucker in 1986, a number of more complex alcoholic typologies have been proposed that take into account the considerable heterogeneity of alcohol use disorders (48, 50-51). Recently, Moss *et al.* presented a five cluster model using data from the 2001-2002 National Epidemiological Survey on Alcohol and Related Conditions (NESARC) (52). This model seems to be a promising classification because several features such as age, antisocial behaviour,

multigenerational familial patterns, rates of comorbidity and other factors have been included and analysed (52). In overall, it can be concluded that although the usefulness of the typologies of alcoholism remains controversial, its primary goal, which is to match patient subtype with a most effective and targeted treatment strategy, is worth pursuing (45, 49-50).

Epidemiological Considerations

Despite the growing interest in alcohol-related issues, it remains difficult to accurately estimate the extent of comorbidity between alcohol abuse/dependence and personality disorders. Thus, the reported prevalence of personality disorders in alcoholism ranges from as low as 22-40% to as high as 58-78% (1-2, 4, 36, 53-54). The relevant literature has focused primarily on antisocial and borderline personality disorders; however, almost the whole spectrum of personality disorders can be encountered in alcohol dependence, such as the dependent, avoidant, paranoid and others (1-2, 4, 36, 53-55). Another important issue is the extent and the nature of the overlap between different axis II disorders in this population. In the study of DeJong *et al.*, 78% of the subjects had at least one personality disorder and the average number of personality disorders was 1.8 per patient (36).

The variation of prevalence rates and type of personality disorders in alcohol-dependent individuals can be accounted for by a number of reasons, which can be classified as either sampling factors, diagnostic criteria applied or assessment procedures used (56). In general, findings suggest that in inpatient samples there is higher occurrence of personality disorders than either outpatient or non-patient samples (56). In addition, self-report questionnaires (*e.g.* Millon Clinical Multiaxial Inventory, MCMI) and fully structured interviews (*e.g.* Diagnostic Interview Schedule, DIS) produce a higher prevalence than semi-structured interviews (*e.g.* Structured Clinical Interview for DSM-III-R, SCID-II) or clinical assessments.

In community-based samples, high rates of co-occurrence of personality and alcohol-related disorders have been reported. Data from the Epidemiological Catchment Area Study (1980-1985) showed that 14.3% of people with alcohol problems also had a personality disorder, with antisocial personality having the strongest correlation with alcoholism (57). Patients with antisocial personality disorder have an earlier age at onset of alcohol use, a more rapid and serious course of illness, and more occupational and/or social consequences because of drinking (57). Findings from another large study, the National Comorbidity Study (1990-1992), showed that anxiety and mood disorders were the most prevalent comorbid disorders among female alcoholics, whereas drug abuse and antisocial personality disorder were more frequent among male alcoholics (58). The National

Comorbidity Survey – Replication (2001-2003) also revealed that the associations between all measures of the six assessed personality disorders and alcohol abuse/dependence were consistently positive and much higher for cluster B (OR=10.3) than either cluster A (OR=2.0) or cluster C (OR=1.9) (58-59).

The National Epidemiological Survey on Alcohol and Related Disorders (NESARC) is the most recent epidemiological survey conducted in the United States (2001 – 2002), which provides an accurate and comprehensive assessment regarding the prevalence and co-occurrence of personality disorders and alcoholism. According to the NESARC data, 28.6% of individuals with a current alcohol use disorder diagnosis had at least one personality disorder, and *vice versa*, 16.4% of individuals with at least one personality disorder had a current alcohol use disorder (60-61). The prevalence of antisocial personality disorder (12.3%), obsessive compulsive disorder (12.1%) and paranoid personality disorder (10.1%) were the highest among respondents with an alcohol use disorder (61, 63). The correlation between obsessive-compulsive, histrionic, and antisocial personality disorder, and alcohol dependence was significantly higher for women than for men. Moreover, any alcohol use disorder was more prevalent for respondents with histrionic, antisocial, dependent and paranoid personality disorders (61). The Wave 2 NESARC covered the DSM-IV alcohol and specific drug use disorders, as well as mood and anxiety disorders, which had been assessed in the 2001-2002 Wave 1 NESARC; in addition, narcissistic, schizotypal and borderline personality disorders and posttraumatic stress disorder were included. Results of the Wave 2 NESARC revealed that the prevalence of lifetime narcissistic personality disorder among individuals with any lifetime alcohol use was 9.1%, whereas prevalence of borderline personality disorder was 14.7% and that of schizotypal personality disorder was 8.4% (62-64).

Unfortunately, studies of clinical populations have shown a striking divergence regarding the prevalence of personality disorders (24-78%) in alcohol-dependent patients (53-56). Similarly, the types of personality disorders, including their combinations, found to be related to alcoholism are very heterogeneous. The most consistent have been: histrionic/dependent, paranoid, dependent/paranoid/ obsessive-compulsive, narcissistic/avoidant, antisocial, borderline, and avoidant/borderline (54). Thus, one of the first studies to assess comorbidity of DSM-III-R based personality disorders in a sample of alcohol-dependent outpatients had shown that 64% of the sample had an axis II disorder, and that paranoid (44%), antisocial (20%), avoidant (20%), passive-aggressive (18%), and borderline (16%) personality disorders were the most prevalent (1).

In a comprehensive review concerning the prevalence of personality disorders among alcoholics and drug addicts, 52 studies were identified covering the 1982-1994 time span.

Based on this review, a range of 1-52% (median 18%) for antisocial personality disorder and 4-66% (median 21%) for borderline personality disorder was detected among alcoholics (6).

Several European studies, as well, have investigated comorbidity. In the UK, a cross-sectional study assessing personality disorders in a population treated for drug and alcohol problems, more than half of the alcoholic patients endorsed for at least one personality disorder type. Cluster C personality disorders were the most frequent, closely followed by cluster B disorders. This study also showed a clear association between the severity of the personality disorder and psychiatric (both psychotic and affective) and social morbidity (15). In another study from Spain, Echeburua *et al.*, using the DSM-IV-TR criteria for alcohol dependence, found that 44% of alcoholics and 21.7% of the psychiatric sample (*vs.* 6.8% of the normative sample) had at least one comorbid personality disorder. The most prevalent personality disorders among alcoholics were obsessive-compulsive (12%), followed by antisocial, paranoid and dependent personality disorders (7% each) (53). Finally, Preuss *et al.*, in Germany, investigated the prevalence of Axis II diagnoses in a sample of more than a thousand hospitalised alcohol-dependent individuals from three addiction treatment centres. Almost 60% of the total sample had at least one personality disorder, the most common being obsessive-compulsive, borderline, narcissistic and paranoid personality disorder; women received a diagnosis of borderline personality disorder, more often whereas men had higher rates of antisocial and narcissistic personality disorder than women (65).

Clinical and Treatment Implications

The connection between pathology of the personality and the severity, as well as the outcome of alcohol-related disorders, remains a complex and unresolved issue. It is generally acknowledged that when there is comorbid personality pathology then the course of alcohol use disorders is less favourable; this is reflected in an earlier onset of alcohol problems, increased alcohol consumption, and more delinquent, occupational and social consequences of drinking (40, 66-67).

For obvious reasons, most of the relevant literature has focused on cluster B personality disorders and consequently there are few available data in terms of the other personality disorders (67-69). In this context, it has been found by Hesselbrock *et al.* that a comorbid diagnosis of antisocial personality disorder was associated with earlier onset of substance use, more rapid progression of symptoms and greater likelihood of relapse after treatment (66, 68). Similarly, Rounsaville *et al.* argue that antisocial personality disorder is associated with the recurrence of alcoholism, while borderline personality disorder is associated with

treatment improvements (67). Morgenstern *et al.* reported that alcoholics with antisocial, borderline or paranoid personality disorder had more severe symptoms of alcohol or other drug use problems, but that only borderline or paranoid personality disorder was significantly related to more psychiatric distress. Furthermore, antisocial and borderline personality disorders were related to various course variables (2). Also, in a recent Danish study, alcoholics with personality pathology had significantly more psychosocial problems in almost all areas covered by the Addiction Severity Index scale. Alcoholics with Cluster B personality disorders were significantly younger at the onset of alcohol abuse and exhibited more violent behaviour (12). As far as suicidal behaviour among alcoholics is concerned, Preuss *et al.* found that individuals with personality disorders of any type had a higher rate of suicide attempt history and reported depressive episodes more often; also, suicidal behaviour was more frequent in borderline individuals and alcoholics who lived alone (70).

In principle, there is a prevalent belief among clinicians that alcoholics with comorbid Axis II pathology present with more severe alcohol use disturbances, have a poor social functioning, have low rates of treatment retention and an increased risk of relapse, and consequently have a poor treatment outcome (12, 14-15, 41, 65, 71-72). This opinion is partly due to the influence of the relevant literature from the 1980s. However, during the last decade this attitude has been challenged because a number of studies have shown that substance and alcohol abusers with comorbid Axis II pathology do not necessarily have less motivation to change their addictive behaviour or poorer treatment outcomes compared to individuals without such features, suggesting that no definite conclusions can be drawn as yet (5-6, 12, 15-16, 73-75).

Treatment of alcohol use disorders consists of a combination of psychotherapeutic, pharmacological and psychosocial interventions in order to modify the attitudes and the behaviour of the alcohol dependent individual towards alcohol. Although pharmacotherapy is becoming increasingly important in the clinical management of alcohol dependence, there are a limited number of pharmacotherapy trials in alcohol dependence with comorbid Axis II pathology (76-77). One such large-scale pharmacotherapy study by Ralevski and colleagues investigated the impact of personality pathology on alcohol use outcomes. Naltrexone and disulfiram alone, and in combination, were given in a sample of 254 alcoholics; diagnosis of antisocial and borderline personality disorders did not adversely affect alcohol use outcome and individuals with a comorbid personality disorder did not have a poorer response to medication compared to the control group (72).

Psychotherapy is the core therapeutic approach for both alcohol related problems and personality disorders (76-78). The Mesa Grande meta-analysis reviewed 361 controlled studies of

99 different treatment modalities for alcohol use disorders and concluded that there is strong evidence for the effectiveness of various psychotherapeutic approaches. Motivational interviewing, community reinforcement approach, cognitive-behavioural therapy, marital and family therapy, brief interventions and coping skills training are the main types providing significant benefits for alcohol use disorders (79). Of these, only two psychotherapeutic techniques have been systematically evaluated in cases of comorbidity of substance abuse with personality disorders: the Dual Focus Schema Therapy (DFST) and the Dialectical Behaviour Therapy targeting substance abuse (DBT-S) (80-86).

DFST is a 24-week manualized individual therapy consisting of a set of symptom-focused relapse prevention and coping skills techniques and schema-focused techniques for maladaptive schemas and coping styles; these interventions are specifically focused on addictive behaviours and personality disorder symptoms (80-82, 84, 86). The effectiveness of DFST has been evaluated in drug addicts but not in alcohol dependence as yet (84). DBT-S is a 12-month treatment, which combines weekly individual cognitive/behavioural psychotherapy sessions with weekly skills training groups. Two randomized clinical trials in outpatient poly-substance abusers showed that DBT-S compared with Treatment as Usual and Comprehensive Validation Therapy with 12 steps, had significant positive treatment outcomes (87-88). Although DFST and DBT-S seem to be helpful for patients suffering from both addictive and personality problems, these therapeutic approaches need to be further studied (84, 86). Some studies suggest that a highly structured treatment programme during hospitalization based on cognitive techniques is recommended for alcoholic individuals with antisocial personality pathology, whereas dialectical behaviour therapy is recommended for the treatment of comorbid borderline pathology (12, 89-90).

Finally, Nielsen *et al.* investigated the efficacy of the Personality-Guided Treatment for Alcohol Dependence (PETAD) in a sample of 108 hospitalised alcoholics with comorbid personality disorders (91). The PETAD as a therapeutic approach has been inspired in particular by the Dual Focus Schema Therapy but it also draws on Millon's concepts about Personality-Guided Therapy and Retzlaff's tactical MCMI-based psychotherapy (91-93). This study showed that the PETAD approach was superior to standard cognitive therapy in terms of treatment retention and alcohol use following treatment, although differences were not statistically significant (91).

Clinicians treating alcohol-dependent patients with comorbid personality disorders have to deal with a number of specific and multifaceted issues. These patients tend to exhaust the resources of the therapeutic staff and evoke feelings of anger, frustration and tiredness in therapists. Therefore, therapists dealing with such conditions should be

highly skilled professionals with extensive education and training on psychopathology and psychotherapy of both personality disorders and addiction. Continuous supervision or consultation is extremely helpful for those providing treatment for this group of patients (84, 94-95). Treatment of alcoholics with personality pathology should be long-term by using a variety of settings, therapeutic techniques and skills (94, 96). It is useful to remember Vaillant's statement that "as addiction and personality are dynamic, addicts with personality disorders can overcome their difficulties with time and appropriate help" (97).

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Received March 7, 2010

Revised June 8, 2010

Accepted June 14, 2010