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PSYCHIATRIC COMORBIDITY IN FORENSIC PSYCHIATRY

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SUMMARY

For the past several years a numerous studies in the field of forensic psychiatry confirmed a close relationship between violent offenders and comorbid substance abuse. The comorbid substance abuse in violent offenders was usually unrecognized and misdiagnosed. Furthermore, comorbidity in forensic psychiatry describes the co-occurrence of two or more conditions or psychiatric disorder known in the literature as dual diagnosis and defined by World Health Organization (WHO). In fact, many violent offenders have multiple psychiatric diagnoses. Recent studies have confirmed causal relationship between major psychiatric disorders and concomitant substance abuse (comorbidity) in 50-80% of forensic cases. In general, there is a high level of psychiatric comorbidity in forensic patients with prevalence of personality disorders (50-90%), mood disorders (20-60%) and psychotic disorders (15-20%) coupled with substance abuse disorders. Moreover, the high prevalence of psychiatric comorbidities could be found in mentally retarded individuals, as well as, in epileptic patients. Drugs and alcohol abuse can produce serious psychotoxic effects that may lead to extreme violent behavior and consequently to serious criminal offence such as physical assault, rape, armed robbery, attempted murder and homicide, all due to an altered brain function and generating psychotic-like symptoms. Studies have confirmed a significant statistical relevance in causal relationship between substance abuse and violent offences. In terms of forensic psychiatry, the comorbidity strongly contributes in the process of establishing psychiatric diagnosis of diminished mental capacity or insanity at the time of the offence in the course of clinical assessment and evaluation of violent offenders. Today, the primary focus of forensic psychiatry treatment services (in-patient or community) is management of the violent offenders with psychiatric comorbidity which requires a multilevel, evidence based approach to the patient. Forensic treatment service effectiveness appears to be associated with individual case management and approach including psychotherapy, pharmacotherapy and occupational therapy in order to achieve optimal rehabilitation, prevention of recidivism and stability in social functioning of the patient in the community.

Key words: *forensic psychiatry – comorbidity - substance abuse – violence - criminal offence*

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INTRODUCTION

In the recent years, a numerous studies in the field of forensic psychiatry have confirmed a close causal relationship between violent offenders, unrecognized psychiatric disorders and comorbid substance abuse (Fortuna 2009, Davies 2009, Curran et al. 2008, Klötz et al. 2007, Hatters-Friedman et al. 2005, Snowden 2001, McKenna & Jasper 1999, Drake et al. 1998). Comorbidity in forensic psychiatry describes the co-occurrence of two or more conditions or psychiatric disorders known as dual diagnosis and defined by World Health Organization (WHO 1995, www.who.int). Recent studies have confirmed causal relationship between multiple psychiatric disorders and concomitant substance abuse (comorbidity) in 50-80% of cases (EMCDDA 2008, Brady & Sinha 2005). In fact, the majority of violent offenders have multiple psychiatric diagnoses. Numerous studies have also confirmed causal relationship between major psychiatric disorders and concomitant substance abuse (comorbidity) in 50-80% of cases. A high level of psychiatric comorbidity in

terms of personality disorders (50-90%), mood disorders (20-60%) and psychotic disorders (15-20%) are associated with substance abuse disorder (Rueve & Welton 2008, Marshall & Farell 2007, Kertesz et al. 2006). In general, drugs and alcohol abuse can produce psychotoxic effects that may lead to extreme violent behavior and criminal offence (physical assault, rape, armed robbery, attempted murder, homicide) due to psychotic-like symptoms and caused by acute intoxication and altered brain function. It should be pointed out that there is a significant statistical relevance in causal relationship between substance abuse and violent offences. In the past few years a series of epidemiological studies have quantified ratio between increased risk of criminal offending, mental disorders and substance abuse (Flanagan & Fischer 2008, Fazel & Grann 2006, Bennet et al. 2004, Boles & Miotto 2003). The estimated percentage of substance abuse among psychiatric patients was 44% although the estimated prevalence of comorbidity tends to be much higher as the majority of psychiatric patients are usually either unrecognized or misdiagnosed (EMCDDA 2008). The prevalence of substance abuse, mainly illegal drug abuse or misuse of prescription drugs and alcohol abuse, among diagnosed psychiatric patients is 85% showing a high level of comorbidity (Davies 2009, Curran et al. 2008, EMCDDA 2008). Those individuals are often showing high risk behavior and are prone to self-medication by using either drugs (illegal or prescribed drugs) or alcohol or combination of both. For the last few decades forensic psychiatry is mainly concerned and focused on violent offenders with history of psychiatric disorder, usually psychotic or personality disorder. The importance of dual diagnosis and/or comorbidity for forensic psychiatrist would be presented in "typical" forensic case - a violent offender, previously diagnosed with schizophrenia or an offender with premorbid dissocial personality who had committed a violent crime (Snowden 2001). In fact, many violent offenders usually have history of multiple psychiatric diagnoses which is very important in the course of cinical forensic evaluation and violence risk assessment according to HCR-20 (Webster et al. 1997). It has been confirmed previously that positive psychiatric history greatly contributes to increased risk of concomitant substance abuse related disorders (Davies 2009, Fortuna 2009, Fountoulakis 2008). Considering all the facts, a greater understanding and knowledge in the field of neuroscience and basic pharmacological effects and mechanisms of alcohol and drug action (psychopharmacology) should be fundamental for forensic psychiatrist. Drugs and alcohol can produce an acute psychotoxic effect that may lead to violence or as a result of long term abuse, withdrawal and dependence. Generally speaking, it has been confirmed in numerous epidemiological studies that alcohol abuse is still a major risk factor for violent offending, particularly in cases of domestic violence, because of causal relationship between "socially accepted" alcohol intoxication and aggressive behavior (Lysova & Hines 2008, Bye 2007, Chalub & Telles 2006).

COMORBIDITY IN FORENSIC PRACTICE

The role of psychoactive substances in violent behavior

In the majority of criminal offences such as attempted murder and homicide, which are causally related to polysubstance abuse, the psychiatric evaluation and assessment often results in establishing multiple psychiatric diagnoses in offenders with statistically significant prevalence of antisocial personality disorder. The most frequent comorbid psychiatric diagnoses classified according to ICD-10 (2004) and DSM-IV-TR (2000) international diagnostic criteria are belonging to a broad range of personality disorders (antisocial, borderline, paranoid, schizoid, schizoaffective, passive-dependant, dissocial), affective disorders (bipolar, depressive, anxiety, PTSD), Attention Deficit Hyperactivity Disorder (ADHD), paranoid psychosis and schizophrenia (Fortuna 2009, Rueve & Welton 2008, Marshall & Farell 2007, Kertesz et al. 2006). Furthermore, a large group of epileptic disorders (Van Elst et al. 2000) and mental retardation is of no less importance in comorbidity associated with various psychiatric disorders and substance abuse, which all play an important role in establishing a diagnosis of diminished mental capacity or insanity at the time of the offence in the course of the evaluation of mental capacity in violent offenders (Kovač et al. 2008). Finally, a rare condition such as psychosis due to structural brain abnormalities in violent offenders could be found in the course of clinical assessment in forensic psychiatry (Radeljak et al.

2009, Webber 2008). However, it should be emphasized that substance abuse related disorders or dependence are rarely isolated psychiatric disorders, rather they are incorporated within a broad spectrum of unrecognized or sometimes misdiagnosed psychiatric disorders or true mental illnesses (Fortuna 2009, Junginger et al. 2006). Various studies in the filed of criminology and criminal behavior have been shown a close causal relationship between psychiatric disorders, substance abuse and criminal behavior. Among large group of criminal offenders with positive history of severe drug and alcohol abuse, either before the criminal offence or at the time of the offence, the antisocial personality disorder is the most common psychiatric disorder (Weber 2008, Rueve & Welton 2008, Mueser et al. 2006). Furthermore, the relationship between antisocial personality disorder, history of drug and alcohol abuse and previous criminal offences are strong predictive factors for violence risk assessment (HCR-20) among group of violent offenders (Webster et al. 1997). In the extensive study presented by Williams and Cohen in 2000, the detailed causal relationship between multiple psychiatric disorders, substance abuse and extreme violent behavior in criminal offenders has been shown (Williams & Cohen 2000). The comprehensive data from extensive studies conducted by American National Institutes for Drug Abuse revealed a close relationship between posttraumatic stress disorder (PTSD) and substance abuse. Studies have confirmed that 30-60% of individuals diagnosed with substance abuse disorder or dependence are also suffering from PTSD as associated comorbid diagnosis (NIDA; NIAAA; SAMSHA; CASA 2001-2007). The basic neuroscientific and psychopharmacological approach to the forensic case, which is closely associated with substance abuse, should be observed as a direct consequence of acute or chronic toxic effect of drugs and/or alcohol on brain function which consequently leads to violent behavior and criminal offence (Davies 2009, Fortuna 2009, Rueve & Welton 2008). A clear example of "cause and effect" in forensic psychiatry is metamphetamine toxicity, which is often clinically presented as acute paranoid psychosis with auditory and visual hallucinations and could lead to homicide offence as a direct consequence of psychotic symptoms (Bender 2007, Reid et al. 2007). The extensive studies of Williams, Cohen (2000) and Snowden (2001) are clearly showing a strong causal relationship in regard to short time or long time drug abuse (specifically stimulant and hallucinogenic drugs), associated with psychiatric comorbidity and various stress triggers as common contributing factors in forensic case with elements of violent crime. The annual report, issued by European Monitoring Center for Drug Abuse (EMCDDA) in 2008, emphasizes the underestimated and usually unrecognized problem of psychiatric comorbidity related to drug abuse (EMCDDA 2008). Data issued in EMCDDA annual report are showing the prevalence of 20-50% of substance abuse disorder among psychiatric patients within the European Union. The most frequent form of substance abuse among this group of patients appears to be alcohol, followed by sedatives (benzodiazepines), cannabis, stimulants (amphetamine, methamphetamine, cocaine) and opiates (heroin, methadone). Recent review comprising 22 world studies on psychiatric comorbidity related to drug abuse in adolescents within EU showed prevalence of 60% in established comorbid psychiatric diagnosis according to diagnostic criteria in young abusers or addicts (EMCDDA, 2008). Finally, the new trends are clearly showing that forensic psychiatry of the 21st century should follow the new scientific developments, particularly in the field of modern neuroscience, psychopharmacology and criminology, as it relates to complex phenomenon of crime and violence associated with alcohol and drugs, more than traditional psychiatry of substance abuse (Davies 2009, Aharoni et al. 2008, Fountoulakis et al. 2008, O'Shaughnessy & Andrade 2008, Mossman et al. 2007, Bufkin & Luttrell 2005, Layde 2004, Snowden 2001).

The relationship between substance abuse, psychiatric disorder and violence

Despite the general public opinion on close relationship between psychiatric disorders and violence, early scientific data are showing that majority of psychiatric patients are not violent and mental illness tends to be a moderate risk factor for violent behavior (Monahan & Arnold 1996). In the study of Bladn and Orn high domestic violence rate was observed in individuals diagnosed with comorbid psychiatric diagnoses, mainly antisocial personality disorder, alcoholism and depression, as well as, in patients with frequent suicide attempts (Bladn & Orn 1986). The prevalence of psychiatric

morbidity in survey of domestic violence offences, conducted at the Department of Forensic Psychiatry in Croatian Psychiatric hospital "Vrapče" showed that majority of offenders were diagnosed with schizophrenia, alcoholism and major affective disorder (Mužinić et al. 2008). The American extensive studies (Compton et al. 2007, Teplin et al. 2005) which reviewed the cases of 1272 convicted offenders in American prisons explains close triangular relationship between three major elements that are presented in the majority of forensic cases; substance abuse, psychiatric disorder and violent behavior. Triangular relationship between elements in the forensic case was found in more then 80% of violent offenders. By comparing epidemiological data with healthy prison population in the same study, Teplin et al. found that among 1272 prisoners with a history of substance abuse 75% (954) of them committed violent crimes solely due to a drug and alcohol abuse and without clear history of mental illness. The rest of the offenders (25%) were having positive psychiatric history (psychotic disorders, schizophrenia, bipolar illness) and were under influence of drugs and/or alcohol at the time of the offence. Comparing the prison population with psychiatric comorbidity (psychiatric disorder and substance abuse) to the general population in the psychiatric facilities, the authors found that substance abuse were twice as likely present among prison population. The explanation lies in the fact that individuals with psychiatric disorders in the general population are receiving better mental health care. Similar data were brought by Vaughn at al. pointing to triangular causal relationship between substance abuse, psychiatric condition and violence among youth population in juvenile detention centers across the USA (Vaughn et al. 2008). The Australian survey (DUCO survey), published by Australian Institute of Criminology and conducted on 2861 prisoners during the period of 25 years (1975 - 2000) is emphasizing a causal and time - related relationship between changing the policies of the mental health care system in the 1980s, (cutting the public mental health services and general psychiatric hospitals) with sudden increase in violent criminal offences committed by psychiatric patients and related to comorbid substance abuse (AIC 2006). With a vast number of psychiatric patients who were completely excluded from mental health system and treatment within the system, the number of violent crimes committed by mental patients treated in the outpatient services has linearly growing with time spent outside the inpatient mental health service and with an increase in substance abuse especially among schizophrenic patients (Wallace at al. 2004). American federal crime statistics, published as annual reports by Drug Enforcement Agency (DEA) and US Department of Justice (USDOJ) are showing high prevalence of alcohol and metamphetamine related violent crimes. In 40% of convicted offenders, the combination of acute alcohol and metamphetamine intoxication at the time of crime, mainly in homicide offences, was significant (DEA 2008, USDOJ 2008, 2007). On the other hand, a Swedish survey conducted in the capital town of Stockholm (1988-2000) showed that 10% of all violent crimes committed in Stockholm are related to substance abuse (Fazel & Grann 2006, Grann & Fazel 2004). The high prevalence of comorbidity, mainly between schizophrenia and alcohol abuse is very well known. One third of all schizophrenic patients are diagnosed with alcohol dependence, and half of schizophrenic patients are addicted to various psychoactive substances (Drake & Mueser 2002). In general, the long time prognosis in alcohol and drug dependant schizophrenic patients is far worse then in those with no history of substance abuse. Moreover, these patients are having more psychotic relapses, prolonged hospitalizations, more pharmacologic treatments and poor social functioning. The survey on domestic homicide offenders conducted in Croatia in period between years 2000 and 2007, showed that more then half of all domestic homicides (64.3%) are closely related to alcohol abuse (Kovačević et al. 2008).

Psychiatric comorbidity and substance abuse

The most common psychiatric comorbidity related to substance abuse belong to large group of personality disorders, affective and psychotic disorders (Davis 2009, Fortuna 2009, Fountoulakis et al. 2008) according to DSM-IV-TR (2000):

- Antisocial personality disorder characterized by aggressiveness, low tolerance to frustration, problems with authorities (previous involvement in felony and crime), lack of empathy, remorse and insight toward offence;

- Borderline personality disorder characterized by impulsivity, unpredictable behavior, emotional instability, manipulative behavior (false multiple attempts of suicide) lack of insight, resulting in high risk behavior with possible harmful consequences;
- Dissocial personality disorder, previously known as *multiple personality disorder;*
- Bipolar affective disorder (manic-depressive);
- Adult ADHD (*Attention-Deficit Hyperactivity Disorder)*. Undiagnosed individuals with ADHD are having chaotic life style with disorganization on multiple levels and high impulsivity. ADHD is often associated with anxiety, depression, bipolar disorder and substance abuse/dependence;
- Posttraumatic Stress Disorder; PTSD;
- Depression;
- Paranoid psychosis;
- Schizophrenia;
- Mental retardation;
- Epilepsy;

Violence risk assessment in individuals with psychiatric comorbidity

The forensic psychiatrist will be particularly involved in cases where there is a combination of a psychiatric disorder, substance absuse and violence (Mossman et al. 2007, Quanbeck 2006). The "typical" forensic case could now be described as a violent offender with a personality disorder that predated the development of a mental illness, and further complicated by polysubstance abuse. The assessment of violence risk in these cases must consider the triangular relationship between the mental illness, violence and substance abuse (Snowden 2001, Webster 1997).

Factors in assessment of risk for dual diagnosis (comorbidity) in violent offenders

- -Nature and severity of the offence
- -Past history of offending

Substance abuse

- Substance of choice – alcohol, drugs
- Nature and extent of harmful substance abuse and dependence
- Treatment compliance
- Early identification of relapse

Mental illness

- Nature of the illness, treatment compliance, insight, early identification of relapse of illness

Relationship of violence to

- Substance abuse, withdrawal or dependence
- Mental illness and alcohol/drug abuse
- Relationship between substance abuse, comorbidity and violence
- Mental illness and its relationship toward substance abuse

TREATEMENT IN FORENSIC PSYCHIATRY

In general, comorbidity is a poor predictive factor in the course of treatment in the secure psychiatric units (forensic psychiatry treatment services) and in the management of violent offenders. Individuals with psychiatric comorbidity or dual diagnosis, which are undergoing treatment in the forensic psychiatry services, requires special, multilevel approach in pharmacotherapy, psychotherapy and occupational therapy in order to obtain optimal results in medical treatment, rehabilitation and future social functioning (Mossman et al. 2007, Quanbeck 2006). Establishing the valid psychiatric diagnosis and making rational, informed decisions in regard to violent offenders, early in the course of assessment and later in the course of treatment, should be of fundamental value in modern forensic psychiatry. Furthermore, a careful planning of treatment, as well as development of different programs of treatment on individual basis, associated with accurate violence risk assessment before and after treatment for each individual (offender) is of crucial importance in the forensic psychiatry service. Moreover, by recognizing co-occurrence of more than one psychiatric diagnosis or comorbidity is of fundamental value for forensic psychiatrist in the course of psychiatric evaluation of violent offenders, particularly in the clinical assessment of mental state competence in the offender at the time of the offence and in violence risk assessment. Finally, by making the right decision, based on the most accurate medical, scientific and legal data collected in the course of the clinical assessment, forensic psychiatrists should be able to decide whether an individual could be harmful to his own physical, mental and

social well-being or eventually pose a threat to the community and, if so, whether an individual should be placed in the secure psychiatric unit in order to prevent recidivism.

CONCLUSION

Numerous studies on various different factors that are contributing to criminal behavior showed a close causal relationship between mental disorders, substance abuse and criminal offence (Fortuna, 2009, Davies, 2009, Curran et al., 2008, Klötz et al., 2007, Hatters-Friedman et al., 2005, Snowden, 2001.; McKenna and Jasper, 1999, Drake et al., 1998). The forensic psychiatrist of the 21st century would be particularly involved in complex forensic cases where there is a presence of combination of more then one factor in triangular relationship that includes various psychiatric disorders (comorbidity), substance abuse disorder and criminal offence (Snowden, 2001). Such cases usually pose a question on causal relationship between psychiatric disorder, substance abuse and criminal offence in terms of cause and effect; whether an acute intoxication with alcohol or drug was cause of the offence or a long term effect of harmful substance abuse complicated with undiagnosed mental disorder which was all contributed to criminal offence. Comorbidity plays an important and complex role in clinical assessment of mental state competence (diminished metal capacity, temporary insanity and insanity) in the offenders at the time of the offence in the majority of forensic cases determining all possible options in future treatment of violent offenders. The assessment of risk in these cases must consider all the facts in triangular relationship between the mental disorder, violence and substance abuse. In some forensic cases, a period of assessment in secure forensic treatment units will be necessary in order to improve the clinical risk assessment and make proper decision on future treatment, based on individual approach to each particular case, in order to prevent recidivism in violent offenders (Mossman et al., 2007, Quanbeck, 2006).

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