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## WPA Section on Dual Disorders/Pathology

### Flyer

#### 10 basic points on dual Pathology: Addiction and other Mental illness

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##### **What is Dual Pathology: Addiction and other Mental illness?**

Most people with an addictive disorder are also diagnosed with mental disorders and vice versa. A number of different terms have been applied to refer to the vast population of patients with both an addictive disorder and another mental illness, including comorbidity, dual diagnosis, dual disorders, mentally ill chemical abusers, chemically addicted mentally ill, co-occurring disorder, or comorbid disorder. However, the operational definitions of these different terms vary significantly and vary within distinct clinical and social settings. Furthermore, these terms have different connotations, and some of them have been applied to diverse groups of patients with a variety of two or more coexisting conditions such as learning disability and mental health problems, personality disorder with an additional psychiatric illness, or sexual dysfunction and an associated mental disorder. To address this terminologic conundrum, this WPA Section proposes and, therefore, has chosen to use the term 'dual pathology' (Casas 2000).

It is also important to clarify that the concept of duality does not solely refer to the existence of two disorders in a given patient, but rather to the presence of at least one addictive disorder with at least another mental disorder.

A report released by the Institute of Medicine (US) in 2006 emphasizes the need to improve services for "co-occurring" mental health/substance use problems and one component of this effort is increased understanding of the etiologic relationship between substance use disorders and other psychiatric disorders.

A new approach is needed to enable clinicians, researchers and managers to offer adequate assessment and evidence-based treatments to patients with dual pathology, who cannot be adequately and efficiently managed by cross-referral between

psychiatric and addiction services as currently configured and resourced (Weaver et al, 2003).

### **Comorbidity in Psychiatry**

Current nosological approach does not provide a framework for internal (sub-threshold symptoms) or external (comorbidity) heterogeneity of the different diagnostic categories. (Szerman et al 2012) The prevailing “Neo-Kraepelinian” diagnostic system solely accounts for a categorical diagnosis, therefore not allowing for the possibility of dual diagnosis . There has been substantial criticism to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), due to problems of diagnostic overlap, lack of clear boundaries between normality and disease, a failure to take into account findings from novel research and the lack of diagnostic stability over time (Zimmerman et al, 2011).

### **How to distinguish dual pathology from substance induced disorders?**

The identification of substance-induced versus independent psychiatric symptoms or disorders has important treatment implications and often constitutes a challenge in daily clinical practice. Similar patterns of comorbidity and risk factors in individuals with substance induced disorder and those with independent non-substance induced psychiatric symptoms suggest that the two conditions may share underlying etiologic factors (Blanco et al, 2012)

Prospective epidemiological studies do not support the hypotheses that comorbidity of substance use disorders with other psychiatric illnesses is primarily a consequence of substance abuse or dependence or that increasing comorbidity is largely attributable to increasing use of substances (Fisher et al, 2005). Yet emphasis is often on the effects of substances on the brain creating the impression that dual disorders are a natural consequence of these substances. However addictive drugs or exposure to gambling will not lead to addictive behaviors or drug dependence in most individuals but only in vulnerable ones, although, according to some researchers, neuroadaptation or regulation of neuronal plasticity, and molecular changes, may alter gene expression in some cases and subsequently lead to substance use disorders.

Research instruments are also often insufficiently sensitive to discriminate between independent, true dual pathology, and substance-induced symptoms. Structured instruments, as Global Appraisal of Individual Needs - Short Screener-GAIN-SS and Psychiatric Research Interview for Substance and Mental Disorders for DSM-IV-PRISM (Hasin et al 2006), have been developed to increase the diagnostic validity. While

structured instruments can help organize diagnostic information, clinicians must still make judgments on the origin of symptoms.

### **How common are Dual Pathology disorders?**

Comorbidity of addictive disorders and other psychiatric disorders, i.e., dual disorders, is very common (Adamson et al, 2006; Hasin et al, 2011) and a large body of literature has accumulated demonstrating that mental disorders are strongly associated with substance use disorders.

The inclusion of behavioral addictions like pathological gambling must change our way of understanding and dealing with addictions. Pathological (disordered) gambling has commonalities in clinical expression, etiology, comorbidity, physiology and treatment with substance use disorders (DSM-5). A challenge is to understand the development of compulsivity at a neurochemical level not only for drugs (Sellman, 2009).

It is rather unusual to encounter a person presenting to treatment solely with an addiction problem. On the other hand, several studies from acute psychiatric wards found that 45% of patients had substance-related problems (Langas et al, 2011), without regard to tobacco.

It is therefore extremely important to identify any psychiatric disorder in substance use disorder (SUD) patients and any comorbid SUDs in patients with mental disorders. Data show that most common “other” psychiatric illnesses are mood- (depression-bipolar), anxiety, ADHD, psychosis, eating and some personality disorders.

### **Are there common factors between addiction and other mental disorders?**

The most commonly cited explanations for comorbidity involve causal and shared etiologic models and research in basic neuroscience has demonstrated the key roles of biological and genetics/epigenetics factors in an individual’s vulnerability to these disorders.

Addictive behaviors associated with other psychiatric disorders -psychobiological traits or states- , conditions referred to as “dual pathology” are probably developmental disorders.

These are disorders that begin very early in development, possibly through the interaction of neurobiological and environmental factors, and may present with different phenotypes, such as addiction-related or other psychiatric symptoms at different stages of the lifespan.

In this view, addiction (compulsive loss of control, at times uncontrollable drug craving, seeking and use despite devastating consequences), is a behavioral disorder (with various addictive objects: substances, gambling, etc.) occurring in a vulnerable phenotype, in which an intrinsic predisposed state or trait determines the neuroplasticity that is induced by psychoactive substances. (Swensen and Le Moal, 2011)

### **Is it possible to explain complex mental and behavioral disorders as dual pathology, at the biological level?**

Genes, neural bases and environment are no longer viewed as separate entities but interconnected intimately as a continuum. Over the past decades, differing addiction theories have been proposed by researchers (Badiani et al, 2011) but we know that all psychoactive substances with abuse potential have a counterpart or correspond to some endogenous systems as the opioid system, the endocannabinoid system, the cholinergic/nicotinic system, the dopaminergic system, etc. An inherited or acquired deficiency of these neurobiological systems and circuits may explain addictive behavior and other psychiatric symptoms.

Both addiction disorders and other mental illnesses are likely caused by overlapping factors such as underlying brain deficits, genetic vulnerabilities, and/or early exposure to stress or trauma, possibly interacting with environmental disorders.

### **Will dual pathology lead to a new addictions paradigm?**

In the classic addiction perspectives (Swensen and Moal, 2011) the emphasis is often on the effects of substances on the brain creating the impression that dual disorders are a natural consequence of these substances (Nestler et al, 2005), and of the type and amount of substance consumed, although addictive drugs do not have to precipitate addictive behaviors or drug dependence in most individuals (Feltenstein and See, 2008). This model of addiction assumes that drugs of abuse “hijack” brain’s reward system, disrupting the normal behavioral responses to natural rewards. (Welberg, 2011).

We are going from the classic addiction paradigm based on drug-induced neuroplasticity and on acquired vulnerability, largely dominant in laboratory research, to the new paradigm “individual-centered” approach that places individual variation as the focus of interest: the strong association of addiction with certain personality traits (Volkow et al 2011) or comorbid mental disorders (Swensen and Moal, 2011). Basic

neuroscience research has demonstrated the key roles of biological and genetic/epigenetic factors in an individual's propensity to these disorders, including the propensity to behavioral addictions....

### **How can dual pathology be diagnosed?**

Diagnosis has always been challenging due to the complexity and heterogeneity of the symptoms. The high rate of dual pathology argues for a comprehensive approach to an intervention that identifies, evaluates and treats each disorder concurrently. The needed approach calls for broad assessment tools that are less likely to result in a missed diagnosis. In clinical practice, overlapping symptoms are often difficult to disentangle, particularly when the same symptoms are common across several disorders making diagnosis complex. Ignorance of, or failure to treat, a comorbid disorder, can jeopardize a patient's chances of success (Volkow, 2008).

### **How shall Dual Pathology be treated?**

Most randomized controlled trials conducted over the past 30 years assessing the efficacy of treatments for addictive disorders have excluded those patients with concurrent psychiatric disorders (Sellman, 2009)

A fundamental principle emerging from scientific research is the need to treat comorbid disorders concurrently. Prior to the beginning of the new discoveries from neuroscience research on dual disorders, treatment of addiction was dominated by psychosocial methods of intervention.

The optimal treatment of patients with addiction disorders requires awareness of their comorbid mental disorders and viceversa.

Certain pharmacological agents acting on specific neurobiological systems (mainly i.e. peptidergic, nicotinic, or cannabinoids agonists) may become particularly relevant for targeting some types of dual disorders and for facilitating the effects of other psychopharmacotherapies. Such as are the case opioid agonists in increasing the therapeutic alliance and potentiating the effects of other medications or psychotherapy in patients with borderline personality disorder.

Meanwhile treatments with agonists remain as the most effective specific interventions for people with opioid or nicotine dependence. Such treatments, when supplemented with promising psychosocial/behavioral therapies could help in restoring and mitigating the symptoms of dual pathology.

The view of dual pathology as a neurobiological systems failure should help refocus our general approach and should help us to develop more comprehensive intervention models that ought to optimize the ways in which we prevent and treat a complex, multi-factorial, likely neurodevelopmental disorder such as dual pathology (Szerman et al 2012).

To develop an explanatory framework for challenging behaviors, implement mechanisms for reflective practice, as well as learn skills to respond adequately to behaviors, which may jeopardize treatment retention (Lubman et al 2011) may be the cornerstone to successful outcome for many individuals with dual pathology.

### **Why is there still some reluctance to the concept of Dual Pathology?**

In most countries treatment systems address addiction disorders and other mental illnesses separately. Thus, neither system may be sufficiently prepared to adequately address the full range of problems presented by the individual patient.

Despite the scientific evidence, there are beliefs, political and professional interests and, as a result, certain resistance or barriers to incorporating this new knowledge.

#### **References:**

- 1- Adamson SJ, Todd FC, Sellman JD, et al. Co-existing psychiatric disorders in a New Zealand outpatients alcohol and other drug clinical population. *Aust NZ J Psychiatry* 2006;40:164-170.
- 2- Badiani A, Belin D, Epstein D, Calu D, Shaham Y. Opiate versus psychostimulant addiction: the differences do matter. *Nature Reviews. Neuroscience*. 2011, 12: 685-700.
- 3- Blanco C, Analucia A, Alegria BS et al Differences among major depressive disorder with and without Co-occurring Substance Use Disorders and Substance-Induced Depressive disorder: results from the NESARC. *J Clin Psychiatry* 2012; 73: 865-873.
- 4- Casas M. Trastornos duales. En: Vallejo Ruiloba J, Gastó Ferrer C (eds). *Trastornos afectivos: ansiedad y depresión* (2ª ed). Barcelona, Masson; 2000: 890-899.
- 5- Feltenstein MW, See RE. The neurocircuitry of addiction: an overview. *Br J Pharmacol* 2008;154:261-274.
- 6- Frisher M, Crome I, Macleod J, et al. Substance misuse and psychiatric illness: prospective observational study using the general practice research database. *J Epidemiol Community Health* 2005; 59: 847-850.
- 7- Hasin D, Samet S, Nunes E et al Diagnosis of comorbid psychiatric disorders in substance users assessed with the Psychiatric Research Interview for Substance and Mental Disorders for DSM-IV. *Am J Psychiatry* 2006; 163: 689-696.
- 8- Hasin D, Fenton MC, Skodol A, et al. Personality disorders and the 3-year course of alcohol, drug, and nicotine use disorders. *Arch Gen Psychiatry* 2011; 68:1158-1167.

- 9- Institute of Medicine of the National Academies. Improving the quality of health care for mental health and substance-use conditions. Quality Chasm Series. WashingtonDC. National Academies Press.2006
- 10- Langàs AM, Malt UF, Opjordsmoen S. Comorbid mental disorders in substance users from a single catchment area- a clinical study. BMC Psychiatry 2011; 11:25, 1-12
- 11- Love TM, Stohler CS, Zubieta JK. Positron emission tomography measures of endogenous opioide neurotransmission and impulsiveness traits in humans. Arch Gen Psychiatry 2009; 66: 1124-1134
- 12- Lubman DI, Hall K, Pennay A, Rao S. Managing borderline personality disorder and substance use - an integrated approach. Aust Fam Physician. 2011 Jun;40(6):376-81.
- 13- Nestler EJ Is there a common molecular pathway for addiction? Nat Neurosci 2005,8:1445-1449.
- 14- Sellman D. The 10 most important things known about addiction. Addiction 2009; 105: 6-13.
- 15- Swendsen J & Le Moal M. Individual vulnerability to addiction. Ann.N.Y. Acad. Sci. 2011; 1216: 73-85.
- 16- Szerman N, Martinez-Raga J, Peris L. et al. Rethinking Dual Disorders. Addictive Disorders & Their Treatment. Epub ahead August 2012
- 17- Volkow N. NIDA research report series: Comorbidity. 2008.
- 18- Volkow ND, Tomasi D, Wang GJ, et al Positive emotionality is associated with baseline metabolism in orbitofrontal cortex and in regions of the default network. Mol Psychiatry. 2011 Aug;16(8):818-25.
- 19- Weaver T, Madden P, Charles V, et al. Comorbidity of substance misuse and mental illness in community mental health and substance misuse services. Br J Psychiatry 2003;183:304-313.
- 20- Welberg L. Addiction: from mechanisms to treatment. Nature Reviews Neuroscience 2011 12: 621.
- 21- Zimmerman M, Chelminski I, Young D, et al. Does DSM-IV capture the dimensional nature of personality disorders?. J Clin Psychiatry 2011;72:1333-1339.