Clinical Description of Psychoactive Substance Induced Psychosis versus Primary Psychosis

Thesis
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LIST OF ABBREVIATIONS

2-AG	**:**	2-arachidonoyl glycerol
5-HT	**:**	5-hydroxytryptamine
AIPD	**:**	Alcohol Induced Psychotic Disorder
APA	**:**	American Psychiatric Association
BPRS	**:**	Brief Psychiatric Rating Scale
CB1	**:**	Cannabinoid Receptor 1
CB2	**:**	Cannabinoid Receptor 2
CBT	**:**	Cognitive Behavioral Therapy
CIPD	**:**	Cannabis-Induced Psychotic Disorder
COMT	**:**	Catechol-O-methyl transferase
DSM-IV	**:**	Diagnostic and Statistical Manual of Mental Disorders, 4^{th} edition
DUP	**:**	Duration of Untreated Psychosis
ECG	**:**	Electrocardiography
ECT	**:**	Electroconvulsive therapy
EI	**:**	Early Intervention
EPS	**:**	Extrapyramidal side effects
FEP	**:**	First Episode Psychosis
FGAs	**:**	First generation antipsychotics
GABA	**:**	Gamma-aminobutyric acid
GAF	**:**	Global Assessment of Functioning
GPS	**:**	General Psychopathology scale
ICD10	**:**	International Classification of Diseases 10
MA	**:**	Methamphetamine
MI	**:**	Motivational Interviewing
MMSE	**:**	Mini mental state examination
MRI	**:**	Magnetic resonance imaging

NMDA	**:**	N-methyl-D-aspartate
OCD	**:**	Obsessive compulsive disorder
PANSS	**:**	Positive and Negative Syndrome Scale
PRISM	**:**	Psychiatric Research Interview for Substance and Mental Disorders
PPD	**:**	Primary Psychotic Disorder
RCT	**:**	Randomized Clinical Trials
SCID-I	**:**	Structured Clinical Interview for DSM-IV
SGAs	**:**	Second generation antipsychotics
SIPD	**:**	Substance Induced Psychotic Disorder
THC	**:**	9-tetrahydrocannabinol

INTRODUCTION

Substance use and misuse is common among individuals with first- episode psychosis, with between 40 and 70% meeting criteria for a co-occurring substance use disorder, excluding tobacco dependence ***(Lambert et al., 2005)***. Cannabis, LSD, alcohol, amphetamine, cocaine etc. can induce psychotic symptoms. Cannabis and alcohol misuse have been found to be consistently higher among patients with first episode psychosis ***(Chand et al., 2014)***.

Substance-induced psychosis is a common clinical presentation in hospitals, crisis centers, and other emergency settings, but research on its treatment and longitudinal course is much less extensive than for primary psychosis ***(Robert et al., 2011)***.

The distinction between a substance-induced psychosis and a primary psychotic disorder that co-occurs with the use of alcohol or other drugs is critical for understanding illness course and planning appropriate treatment, particularly when the psychotic disorder is of recent onset ***(Carol et. al., 2005)***. So, The differentiation of substance-induced psychotic disorders from primary psychotic disorders is particularly challenging ***(Fraser et al., 2012).***

The psychosis-producing properties of several ingested substances have been known since prehistorical times, and numerous studies have confirmed the existence of drug-induced psychotic states that persist beyond the physiological presence of the substance in otherwise nonpsychotic individuals, especially with cannabis, amphetamines, and other stimulants **(Harris and Batki, 2000).**

In persons with mental illness and at risk for mental illness, substance abuse is associated with a host of negative outcomes. Although the rate of psychosis among people with a substance use disorder is not known, clinical reports suggest that substance-induced psychoses can also be chronic and disabling ***(Swanson et al., 2002).***

Substance-induced psychoses can be serious illnesses that put patients at considerable risk for chronicity and disability. It has been reported that episodes of psychosis can become more frequent even with ingestion of smaller amounts of drugs or can occur even without subsequent drug use **(Bowers et al., 1995)**.

Based on a comprehensive review, ***On 1996, Boutros and Bowers*** concluded that the literature strongly suggests that a number of drugs of abuse, specifically psychostimulants,

hallucinogens, and cannabis, alone or in combination, can cause or enhance susceptibility for a state of chronic psychosis. Substance-induced psychoses have been associated with violent behavior, suicidality, the need for hospitalization and arrests, thus can be as dangerous as a primary psychotic disorder.

The association of drug induced psychoses with free base and intravenous drug use suggests that such persons may also be at greater risk for exposure to HIV infection. Substance abuse is a common condition antecedent to a first psychotic episode, suggesting that it may be a risk factor for the onset of a primary psychosis ***(Muntaner et al., 1998).***

There is continuing interest among researchers in the relationship between cannabis use and schizophrenia. This has revived interest in the nature of the conditions that attract the clinical diagnosis of drug induced psychosis. The concept of drug-induced psychosis has been criticized and it remains unclear whether the diagnosis reflects a valid diagnostic category or whether it is based on arbitrary assumptions regarding the causation of symptoms ***(Komuravelli et al., 2011).***

Early assessment and treatment of comorbid psychosis and substance use is important. Regardless of diagnostic subtype, psychotic patients who use drugs need treatment for their

substance abuse problem. Treatment of substance abuse in general has been found to be effective in reducing drug consumption, improving social and occupational functioning, and lessening criminal activity. Although there is variability among treated individuals in the degree of improvement and the extent of symptom remission, greater length of time in treatment has been found to be an important predictor of clinical and functional improvement ***(French et al., 1993).***

The issues of assessment and treatment planning are particularly important in the early stages of psychotic disorder, because this is a time when the symptom picture is often unclear and a proper match of diagnosis with treatment may be critically important for outcome ***(Caton et al., 2000).***

Hypothesis of the work

Patients with Substance Induced Psychosis have considerable differences in clinical characteristics from patients with primary psychosis.

AIM OF THE WORK

I- The aim of the review part is to compile data available in literature:

- To highlight the link between Substance Use and Psychosis.
- To detect differences between substance induced psychosis and primary psychosis as regard clinical picture.
- To demonstrate outline of treatment for each type especially on the first episode.

II- While the aim of the practical part is:

To compare the clinical picture between a sample of patients with Substance Induced Psychosis and patients with Primary Psychosis.

SUBSTANCE USE AND PSYCHOSIS

In Egypt, The lifetime prevalence of substance use varies between 7.25% and 14.5%. One-month prevalence varies between 5.4% and 11.5% when adjusted to different population parameters. The prevalence of substance use in males is 13.2% and 1.1% in females. Prevalence increases significantly in males of Bedouin origin, in seaside governorates, with lesser levels of education, and in certain occupations. The 15–19 age group showed the highest onset of substance use. Cannabis is the drug mostly misused in Egypt ***(Hamdi et al., 2013).***

There is an extensive literature on the link between psychosis and substance use in general, and cannabis in particular. Previous studies show an association between substance use or abuse and schizophrenia ***(Kavanagh et al., 2004).*** The nature of this association has been a matter of controversy for the last two decades, especially the possible cause effect relationship that may be involved in this association. An alternative explanation to the self-medication hypothesis is the primary addiction hypothesis, which implies a dysregulated neural signaling drug reward patients with schizophrenia would show an addictive behavior as a primary disease symptom ***(Chambers et al., 2001);*** the heavy use of drugs that enhance dopamine function, such as amphetamines,

cocaine or cannabis, would precipitate or exacerbate psychotic symptoms. ***(Williams et al., 2006).***

There is evidence to suggest that certain illicit substances may actually cause the emergence of schizophrenia in susceptible individuals. Why, therefore, is substance misuse so prevalent among those with psychotic illnesses and what do we know about the relationship between the two? it is important to understand the evidence underpinning our understanding of the complex relationship between substance misuse and psychotic illness ***(Williams et al., 2006).***

Some substances are more psychogenic than others and significantly aggravate psychotic disorders ***(Williams et al., 2006).***

This is consistent with growing evidence that substance use increases the risk of psychosis in the absence of a family history ***(Verdoux et al., 2003).*** Substance use may result in neuro-chemical alterations, which precipitate the onset of psychosis in the absence of genetic vulnerability ***(Bowers et al., 1995; Caton et al., 2006).*** Therefore, Substance Induced Psychotic Disorder and Primary Psychotic Disorder may have different etiological mechanisms. ***(Williams et al., 2006).***

Substance abuse in First Episode Psychosis (FEP):

Substance abuse, which includes alcohol and street drugs is common among First-Episode Psychosis (FEP) patients but the prevalence of cannabis abuse is particularly high. Estimates of the prevalence of cannabis abuse among patients with FEP range from 13.0% to 75.0% ***(Hambrecht and Häfner, 2000).*** Later studies which have calculated SIPD rates as a percentage of patients presenting with first episode psychosis have reported rates ranging from 7 to 25% ***(Schanzer et al., 2006; Crebbin et al., 2009).***

Cannabis is the most commonly abused substance among younger people with FEP ***(VanOs et al., 2004)***. In contrast, alcohol is the most commonly abused substance among older people with chronic schizophrenia ***(Akvardar et al., 2004).***

Participants with comorbid substance abuse and FEP had significantly higher hospital admission rates than FEP participants who did not abuse substances ***(Wade et al., 2006).***

Epidemiological studies have shown an earlier age of onset of psychosis among regular cannabis users. Further-more, epidemiological studies have also shown that adolescents who use cannabis on a weekly basis compared with nonusers, show a