

# Psychiatric Disorders in Crack and Cocaine Addicts

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**Abstract** Objective: The aim of the present study was to determine the most common psychiatric comorbidities among crack/cocaine users. Materials and Methods: Integrative review. The following guiding question was defined: What are the most common psychiatric comorbidities among crack/cocaine users? The controlled descriptors were “Crack”, “Cocaine” and “Dual Diagnosis”. SCOPUS, PUBMED, LILACS and COCHRANE databases were searched by two independent researchers during August of 2014. Results: The most common psychiatric disorders among crack/cocaine users were the following: mood disorders, including depression; bipolar disorder; anxiety disorders, accompanied (or not) by panic attacks; post-traumatic stress disorder; personality disorders, with an emphasis on antisocial personality disorder and schizophrenia. Conclusions: There is a high prevalence of psychiatric disorders among crack/cocaine users and one disorder effects the other. In addition, the present study demonstrated the importance of the impact of a psychopathological comorbidity on the therapeutic success of treatment of cocaine/crack users.

**Keywords:** nursing, psychiatry, dual diagnosis, cocaine, substance related disorders, mental health

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## 1. Introduction

Associations between the abuse of psychoactive substances, health and disease has been common throughout the history of humanity. This issue has led to different manners of facing the phenomena, based on the interests and knowledge of each distinct time period [1].

The history of drug use has shown that the reasons for consuming these substances are to experience pleasure, through an altered state of consciousness, and to escape from fears, trauma and tiredness [2]. For close to 2,000 years, cocaine has been used by the Incas to cure disease, prevent hunger, improve physical performance and provide dental pain relief [3].

Crack is a derivative of cocaine (benzoylmethylecgonine) that can stimulate the Central Nervous System (CNS) and is sometimes as much as six times stronger than cocaine. It is sold in the form of small stones and has a fast, short-term effect [4].

Users of these substances can suffer neurological (hallucinations), tactile, auditory and visual damage. In addition, they may experience psychosis, convulsions,

tremors, paranoia, violent and suspicious behavior [4], mood swings and cognitive problems that lead to impaired judgment, memory and concentration [5].

Therefore, when an individual exhibits a pathology concomitantly with another disease and mutual potentiation can occur between them, they are said to have a comorbidity [6,7]. When a psychiatric problem is associated with another disease, it is known as a psychiatric comorbidity [8]. Chemical dependence is considered a multifaceted phenomenon, which is associated with mental and behavioral disorders. Consequently, correlations between these diseases have been investigated since the 1980's [9].

Studies have shown that many young users of alcohol and drugs exhibit behavioral disorders and oppositional defiant disorder (ODD) as psychiatric comorbidities, followed by depressive disorders [10,11]. Anxiety disorders [7-12], panic disorders, phobia disorders, generalized anxiety [13] and mood disorders [14,15] have also been indicated as significant psychiatric comorbidities among drug users.

Drug users with a psychiatric comorbidity are commonly associated with the following: exacerbated symptoms associated with the consumption of psychoactive

substances; higher suicide rates; aggressiveness; detention for illegal acts; relapses; incarcerations; expenditure on treatment; homelessness; long periods of hospitalization and extensive use of health services [6].

In Spain, a study of 227 cocaine addicts undergoing treatment showed that more than 65% of the sample experienced a lifetime co-occurring psychiatric comorbidity. Substance-induced moods (21.6%) and psychotic (11.5%) disorders were more prevalent in this population than independent moods (12.3%) and psychotic (7.5%) disorders [16].

However, there remains a scarcity of data in the literature about the prevalence of psychiatric comorbidities among crack/cocaine users, given that there is a greater prevalence of multiple drug consumption. In addition, articles have addressed other themes, including: cognitive functioning in individuals with schizophrenia and co-occurring cocaine use [17]; neurocognitive impairment and medication adherence in HIV-positive cocaine users [18]; treatment adherence among cocaine users [19]; reasons for cocaine use among people with schizophrenia [20]; difficulties in treating cocaine users with a psychiatric comorbidity [21].

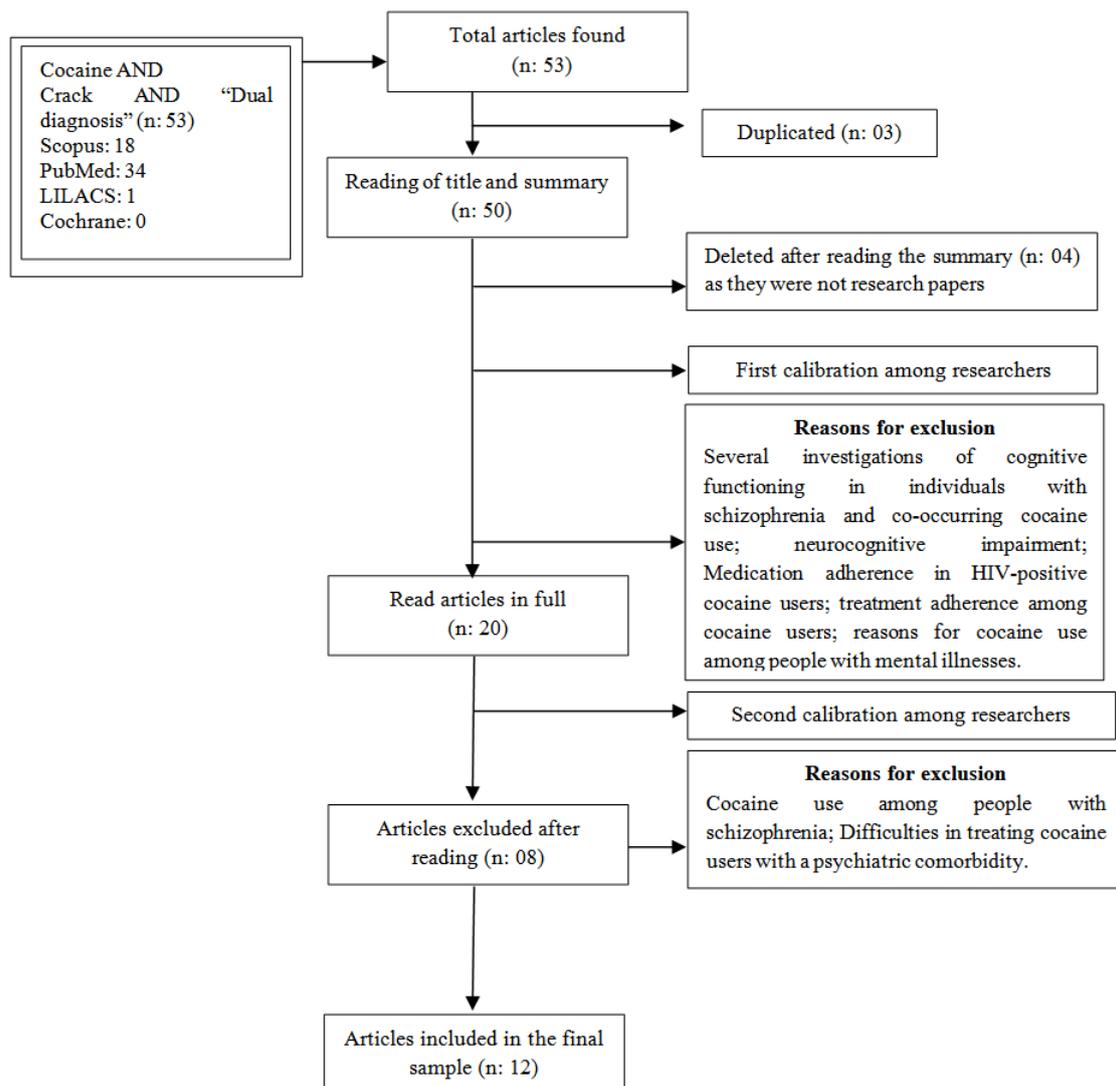
Thus, due to the high probability of psychiatric comorbidities among users of crack/cocaine and the importance of managing and planning adequate therapeutic

interventions for these users, the aim of the present study was to determine the most common comorbidities among crack/cocaine users and to understand the health-illness process inherent to the consumption of these substances.

## 2. Materials and Methods

This is an integrative literature review. The methodology sought to reunite and synthesize the results of studies on a determined theme. This synthesis should be systematic and should contribute to a greater knowledge of the theme investigated [22].

The following guiding question was used: What are the most common psychiatric comorbidities among users of crack/cocaine? The controlled descriptors were “Crack”, “Cocaine” and “Dual Diagnosis”. SCOPUS, PUBMED, LILACS and COCHRANE databases were searched by two independent researchers during August of 2014. The inclusion criteria were as follows: articles found in the databases consulted and articles that addressed the prevalence of psychiatric comorbidities among crack/cocaine users. The following were excluded: articles that did not address the theme; editorials; letters to editors; case studies and revision articles. Duplicated articles were only considered once.



**Figure 1.** Database search results, selection of articles by independent researchers and comparison of the selections to construct the final sample

Article selection from the databases was performed by two independent researchers, who read the titles and abstracts and then read the full text of articles selected for the final sample (Figure 1). Divergences between the researchers were settled by a third researcher, who was also the author of the present literature review.

An adaptation of a validated tool was used to enable the data extraction and study categorization. This tool contained the title, authors, periodical title, year and language of the publication, as well as the country in which it was conducted [23]. Since this is an integrative review, there was no need to submit it to the human rights ethics committee. However, we chose to organize the results in tables and texts to facilitate the analysis and summarization of scientific evidence, thereby fulfilling the objectives of this review.

### 3. Results

The final sample of this article contained 12 articles, of which two were randomized controlled clinical trials and 10 were exploratory-descriptive studies with a quantitative approach. The 12 articles included the following types of

publication: one article from a periodical that specialized in public health; four articles on psychiatry; one article on psychology; one article on behavior; one article on dependent behavior and four articles on chemical dependence. All of the participants were being treated for drug abuse. The majority were single males, with a low level of education.

The articles addressed the prevalence of comorbidities among crack/cocaine users using different tools and approaches. Nine articles included a general psychiatric examination and applied the tool to specific disorders, including depression, post-traumatic stress disorder and anxiety. Only five of the articles assessed drug consumption using the following specific tools: the Addiction Severity Index; the Alcohol Use Disorders Identification Test and the Semi-structured Assessment for Drug Dependence and Alcoholism. Only one article addressed the association between pathological gambling and crack/cocaine consumption. The most prevalent comorbidity in this article was depression.

In order to facilitate the comprehension of the data extracted from the articles in the final sample of this review, they are summarized in Table 1, Table 2 and Table 3.

**Table 1. Characterization of the SCOPUS data base's articles included in the sample**

Author/Year	Study design	Sample (♀/♂)	method of diagnosis of comorbidities and others diagnostics	Main Results
Singer et al., 1995 [24]	Descriptive, exploratory and quantitative study	(mothers) 99 cocaine-users 44 noncocaine-users	Beck Depression Inventory (BDI; Beck, Steer, & Garben, 1988) Brief Symptom Inventory (BSI; DeRogatis, 1992) Peabody Picture Vocabulary Test (PPVT; Dunn & Dunn, 1981)	Dual diagnosis because cocaine/crack use  All research participants were in treatment for substance abuse. Report elevated symptoms of psychological distress postpartum compared to noncocaine-using women of similar race, social class, and risk status. Cocaine-using women to having experienced more phobic anxiety symptoms and paranoid ideational symptoms. Alcohol use was also the strongest predictor of the total number of distress symptoms endorsed.
Galanter et al., 1998 [25]	Descriptive, exploratory and quantitative study	340 (137/203)	DSM-III-R criteria Addiction Severity Index Urinalyses for drugs of abuse were randomly obtained two or three times weekly	All research participants were in treatment for substance abuse. 246 patients had previously received substance abuse treatment. The most prevalent psychiatric comorbidities associated with consumption of cocaine /crack were personality disorder, with major affective disorders and schizophrenia
Falck et al., 2004 [26]	Descriptive, exploratory and quantitative study	313 (127/186)	Diagnostic Interview Schedule (DIS) for DSM-IV	All research participants were in treatment for substance abuse. 79 patients had cocaine dependence and psychiatric comorbidity in this order. Phobic and panic disorders and depression were most prevalent psychiatric comorbidities among women and Antisocial personality disorder among males.
Lejuez et al., 2006 [27]	Descriptive, exploratory and quantitative study	172 (59/113)	Structured Clinical Interview for DSM-IV (SCID-IV; First, Spitzer, Gibbon, & Williams, 1995). Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, DelaFuente, & Grant, 1993), Anxiety sensitivity index (ASI) Center for epidemiological studies—depression scale (CES-D; Radloff, 1977)	All research participants were in treatment for substance abuse. 66 were cocaine users only. Both the group of heroin users only, cocaine only and the user group of the two substances had higher levels of anxiety, Crack/cocaine users and users of both heroin and crack/cocaine also evidenced a higher mean AS score than the neither drug group, yet this difference was not statistically significant. This demonstrates the relevance in understanding anxiety-substance use comorbidity. Cocaine users to exhibit more "extroverted" patters such as impulsivity and engagement in risk taking behaviors. Anxiety-drug processes pertains to the potential bi-directional influences of affect and drug factors

The most commonly identified psychiatric comorbidities among users of crack/cocaine were the following: mood disorders, including depression; bipolar disorder; anxiety

disorders, accompanied (or not) by panic attacks; post-traumatic stress disorder and personality disorders, with an emphasis on antisocial behavior and schizophrenia.

Table 2. Characterization of the Pubmed data base's articles included in the sample

Author/ Year	Study design	Sample (♀/♂)	method of diagnosis of comorbidities and others diagnostics	Main Results Dual diagnosis because cocaine/crack use
Carvalho et al., 2005 [28]	Descriptive, exploratory and quantitative study	74 (8/66)	DSM-IV Short Alcohol Dependence Data- SADD. Self-Report Questionnaire-SRQ Center for Epidemiological Studies Depression Scale - CES-D.	All research participants were in treatment for substance abuse. 61.6% met the alcohol dependence criteria, 60.3% for cocaine/crack, and 34.2% for cannabis. According to the SOGS scale, the majority of drug addicts (70.3%) were classified as social gamblers, 10.8% as problem gamblers and 18.9% as pathological gamblers. Psychiatric and depression symptoms were found in the sample.
Kertesz et al., 2006 [29]	Descriptive, exploratory and quantitative study	141 (44/97)	DSM-III-R diagnoses of cocaine abuse/dependence. Symptoms Checklist 90-R scale.	All research participants were in treatment for substance abuse. Primary outcome: dependence Axis I psychiatric diagnoses (e.g. depression, anxiety, etc.). After 6 months of treatment interventions the authors were categorized into 1 of 4 diagnostic groups: first group: only anxiety related disorders (ARDs) (e.g. post-traumatic stress disorder, generalized anxiety disorder, and others). The second group consisted of individuals with only mood-related disorders (MRDs) (e.g. depression, dysthymia, and others). The third group consisted of individuals with both MRDs and ARDs. The remaining individuals had neither ARD nor MRD comorbid diagnoses. Treatment interventions, including systematic reinforcement for goal attainment, were behavioral in orientation.
Grella;Stein, 2006 [30]	Descriptive, exploratory and quantitative study	400 (187/ 213)	Structured Clinical Interview for the DSM-IV Axis I Disorders–Patient Edition (SCID-I/P, version 2.0) Diagnosis and Psychopathology Unit of the UCLA Center for Research on Treatment and Rehabilitation of Psychosis Brief Symptom Inventory (BSI) RAND Health Survey 36-item short form (SF-36)	260 (65 percent) were cocaine dependence. Psychological service use consisted of the number of family, psychological, and social service counseling sessions the patient attended during the six-month follow-up period and was assessed with the Treatment Services Review. All patients who received treatment that focused on drug use and comorbidity psiquiátrica showed more significant improvements than patients who received treatment for isolated disorder to mental disease or problem with drug use. The most prevalent psychiatric comorbidities associated with consumption of cocaine /crack were personality disorder, depression and anxiety disorders.
Magura, 2008 [31]	Descriptive, exploratory and quantitative study	310 (86/224)	Addiction Severity Index (McLellan et al., 1992)	All research participants were in treatment for substance abuse. The most prevalent psychiatric comorbidities among users of crack / cocaine were: schizophrenia (39%), major depression (21%) and bipolar disorder (20%).
Ford et al, 2009 [32]	Randomized controlled trial	898 (447/451)	Semi-structured Assessment for Drug Dependence and Alcoholism -SSADDA (Pierucci-Lagha et al., 2005. Pierucci-Lagha et al., 2007)	Bipolar disorder, antisocial personality disorder, major depressive disorder and posttraumatic stress disorder were associated with greater past heavy cocaine use.
Magidson et al., 2011 [33]	Randomized controlled trial	58 (20/38).	DSM IV Beck Depression Inventory (BDI-II; Beck, Steer, Ball, & Ranieri, 1996) Behavioral Activation for Depression Scale (BADDS; Kanter et al., 2007) Circumstances, Motivation, Readiness Scale (CMR; De Leon, Melnick, Kressel, & Jainchill, 1994) Environmental Reward Observation Scale (EROS; Armento & Hopko, 2007) Hamilton Depression Rating Scale – 7 item version (HAMD-7; Maier & Phillip, 1985)	The interventions were: Life Enhancement Treatment for Substance Use (LETS ACT); contact-time matched control condition; supportive counseling (SC). There were no significant differences between groups on changes in environmental reward from baseline to post-treatment. The results suggests that behavioral changes may precede cognitive changes. The changes in mood would indeed be expected to follow changes in behavior. All drug users have improved depressive symptoms
Gratz; Tull, 2012 [34]	Descriptive, exploratory and quantitative study	61 (29/32)	Clinician-Administered PTSD Scale (CAPS; Blake et al., 1990) Diagnostic Interview for DSM-IV Personality Disorders (DIPD-IV; Zanarini et al., 1996) Deliberate Self-Harm Inventory (DSHI; Gratz, 2001) Depression Anxiety Stress Scales (DASS; Lovibond and Lovibond, 1995)	This study focused on the functional relationship between PTSD and crack/cocaine use. Women reporting more frequente deliberate self-harm (DSH), depression symptom severity and anxiety symptom severity than men and there is evidence to support the role of PTSD symptoms in the development and maintenance of this behavior. Mood and anxiety disorders, and antisocial personality disorders co-occur at relatively high rates with PTSD, DSH and are associated with cocaine use.

Table 3. Characterization of the LILACS data base's articles included in the sample.

Author/ Year	Study design	Sample (♀/♂)	method of diagnosis of comorbidities and others diagnostics	Main Results Dual diagnosis because cocaine/crack use
Silva et al., 2009 [35]	Descriptive, exploratory and quantitative study	31 (5/26)	Mini International Neuropsychiatric Interview (M.I.N.I. Plus). CID-10 e DSM-IV	83.9% of the sample had another disorder in addition to chemical dependency. The most common comorbidities were Major Depressive Episode (25.8%) Disorder, Substance-Induced Mood (22.6%) and Specific Phobia (19.4%)

## 4. Discussion

The results obtained in the present study corroborate the findings [36], who reported that mood disorders, anxiety disorders and personality disorders were the most common psychiatric comorbidities among cocaine users. There have been reports that mental disorders are very common among chemical dependents [37,38,39]. Prevalence rates of 65-85% have been cited for mental disorders among drug users who are being treated [39,40], whereas 45% of disorders are induced by substance abuse [41].

Drug users report relief from psychopathological symptoms upon consuming the substance, confirming that there is a comorbidity between these disorders and that one pathology affects the other [42,43]. Attempted suicide and self-harm are also more common among users of psychoactive substances [44,45,46,47]. Furthermore, studies have shown that there are associations between time, the severity of the crack/cocaine addiction, the occurrence of psychiatric comorbidities and the exacerbation of symptoms [48]. The association between chemical dependence and pathological gambling is significantly related to the pleasure experienced when gambling and consuming drugs [49].

The results of the present review corroborate aspects related to the treatment of drug users described in the literature, in which there is a high prevalence (30-60%) of psychiatric comorbidities [50,51], associated with a worse response to treatment [52,53,54]. The results of the present review highlight the recommendation of the integral treatment model, based on the biopsychosocial paradigm, which addresses the problems of drug consumption and psychiatric comorbidities [43-55]. Furthermore, the focus of treatment needs is centered drug user in the family, as well as train professionals to care for this clientele [56].

## 5. Conclusion

The present integrative review confirmed the high prevalence of psychiatric comorbidities among users of crack/cocaine, as well as the fact that one disorder affects the other. In other words, a disorder can trigger the consumption of crack/cocaine and vice-versa.

The most common psychiatric disorders among crack/cocaine users were the following: mood disorders, including depression; bipolar disorder; anxiety disorders, accompanied (or not) by panic attacks; post-traumatic stress disorder; personality disorders, with an emphasis on schizophrenia, and antisocial personality disorder.

This review highlighted the association between the use of drugs, particularly cocaine, and pathological gambling,

confirming that there are other factors and situations that underlie the phenomenon of drug consumption.

The results of the present review demonstrated the importance of the impact of a psychopathological comorbidity on the therapeutic success of treatment of cocaine/crack users. Similarly, the early diagnosis of a psychiatric comorbidity among users of cocaine/crack is a determinant for planning appropriate interventions for users. Furthermore, these results suggest that early interventions to treat mental disorders might be effective in reducing the number of people who would otherwise become dependent on drugs.

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