

## Suicidality in DSM IV cluster B personality disorders. An overview.

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**Summary.** - Personality disorders are a considerable risk factor for suicidal behavior. In psychological autopsy studies, individuals with personality disorders are frequently found among suicide victims. Suicidal attempts (which are a major risk factor for completed suicide) are also an important issue among affected patients. We performed careful MedLine, Excerpta Medica, PsycLit and PsycINFO searches from 1980 to 2004. Search terms were "suicide", "personality disorders", "mortality", "follow-up". We identified studies dealing with suicide and the following areas of interest: borderline personality disorder, narcissistic personality disorder, antisocial personality disorder, comorbidity (especially with affective disorder and substance abuse disorder) and risk factors for suicide in personality disorders. Despite the fact that comorbidity with DSM-IV Axis I disorders often impairs a correct judgment of suicidality in personality disorders, this overview showed that some personality disorders have a stronger link to suicide and that identifiable risk factors may be used for the development of preventive measures. Given the fact that personality disorders have high prevalence in the general population, prediction and prevention of suicide among these individuals is a problem of public health.

*Key words:* suicide, personality disorders, risk factors.

**Riassunto** (*Suicidalità nei disturbi di personalità del cluster B del DSM IV. Una overview*). - I disturbi di personalità sono un fattore di rischio di rilievo per il comportamento suicidario. In studi di autopsia psicologica, gli individui con disturbi di personalità sono stati spesso identificati tra le vittime del suicidio. I tentativi di suicidio (che sono un fattore di rischio per il suicidio portato a termine) sono inoltre un problema importante tra questi pazienti. Abbiamo effettuato un'attenta ricerca tramite MedLine, Excerpta Medica, PsycLit e PsycINFO dal 1980 al 2004. I termini di ricerca sono stati "suicide", "personality disorders", "mortality", "follow-up". Abbiamo identificato studi riguardanti il suicidio e le seguenti aree di interesse: disturbo borderline di personalità, disturbo narcisistico di personalità, disturbo antisociale di personalità, comorbidità (soprattutto con i disturbi dell'umore e il disturbo da abuso di sostanze) e fattori di rischio per il suicidio nei disturbi di personalità. Nonostante il fatto che la comorbidità con i disturbi di Asse I del DSM-IV spesso impedisce un corretto giudizio della suicidalità nei disturbi di personalità, questa *overview* dimostra che tali disturbi hanno una forte connessione con il suicidio e che i fattori di rischio identificati possono essere usati per lo sviluppo di misure preventive. I disturbi di personalità hanno un'alta prevalenza nella popolazione generale e la prevenzione e la predizione del suicidio tra questi individui è un problema di sanità pubblica.

*Parole chiave:* suicidio, disturbi di personalità, fattori di rischio.

### Introduction

Suicide is a tragic and potentially preventable public health problem that is currently among the ten leading causes of death in most western countries. Despite intensive efforts, effective prediction and preventive strategies have remained elusive, suggesting that our understanding of the interplay of factors that result in suicide remains incomplete. Previous psychological

autopsy studies have shown that individuals who commit suicide have had several contributing factors, including mental disorder. The death expectancy for psychiatric patients is higher than that for age and sex matched control in the general population [1].

The prevalence of personality disorders in the general population has been estimated at 6-13% [2, 3]. At least one-third (31-62%) of people who have committed suicide [4-9] and up to 77% of suicide

attempters [10-13] have suffered from personality disorders. Suicide attempters with personality disorders have the highest level of repetition. Comorbidity of personality disorders with other psychiatric disorders contributes to suicidality and may markedly elevate suicide risk [14].

Personality disorders are psychiatric disorders characterized by chronic patterns of inner experience and behavior that are inflexible and present across a broad range of situations. They have a marked impact on patients' interpersonal relationships, and social and occupational functioning, and can lead to problematic interactions in the medical setting. These disorders are coded on DSM-IV axis II, which is used to record personality disorders, personality traits, and mental retardation. Personality disorders are heterogeneous in their clinical features and etiology. Their symptom complexes are caused by combinations of hereditary temperamental traits, and environmental and developmental events. The relative percentages of genetic and environmental factors vary with each specific disorder. The treatment of medical and psychiatric disorders is more complicated in patients with comorbid personality disorders.

Personality disorders are a considerable risk factor for suicidal behavior [15, 16, 6], predicting completed suicide in follow-up [17-19]. In post-mortem retrospective interview studies of suicide, personality disorders has been found to be present in as many as 57% of suicide victims, more often among young victims and when multi-axial diagnostic assessment has been employed [6, 20].

Modestin *et al.* [21] reported that sexual abuse, physical abuse and the witnessing of violence were found to be associated with self-destructive and suicidal behavior of different kinds, including suicide attempts. Virtually all kinds of childhood traumatic experiences were found to be associated with a history of suicide attempts, even though the strongest association was found with sexual abuse. The results of this study confirm these findings in women; only rarely were such associations found in men.

In Samuels *et al.* [3], sample subjects with personality disorders were more likely to report a history of suicidal thoughts or attempts. They were also more likely to report suicidal behavior in their first- and second-degree relatives. The relationship between personality disorders in the subjects and suicidal behavior in their relatives remained strong even when subjects' histories of suicidal thoughts or attempts, major depression, and alcohol use disorders were evaluated in a logistic regression model.

The rates of personality disorders among adolescents who died by suicide have been studied [22]. In the comprehensive Psychological Autopsy Study in Finland, Marttunen *et al.* [23] estimated that 17% of

the adolescents aged 13 to 19 years who died by suicide met criteria for conduct disorder or antisocial personality disorder. When these authors [23] examined adolescents with nonfatal suicidal behavior, approximately 45% of male adolescents and 33% of female adolescents were characterized by antisocial behavior. Beautrais *et al.* [24] studied individuals who made medically serious suicide attempts and compared them with subjects in the community. After checking the data for the intercorrelation among mental disorders, these researchers found that the risk of a serious suicide attempt was 3.7% times higher for individuals with antisocial personality disorder than for those without the disorder. When they examined men under 30 years, the risk of a serious suicide attempt was almost 9 times higher among individuals with antisocial personality disorder than in those without the disorder. For women, the risk of a serious suicide attempt was 2.3 times higher in individuals with antisocial personality disorder than in those without. In a 5-year follow-up of a small sample of persons with antisocial personality disorders (n=59), Maddocks [25] estimated a 5% lifetime risk of suicide in patients with antisocial personality disorders.

The incidence of completed suicide in borderline personality disorder has been unknown until recently [26]. In two long term follow-up studies of borderline patients treated in residential settings, McGlashan [27] and Stone [18, 28] found that 3% and 9%, respectively, of borderline patients go on to complete suicide. These figures are lower than those reported for schizophrenia or major affective disorder. To our knowledge a broad overview outlining the topics linked to suicide in personality disorders which are included in this study has never been performed.

## Materials and methods

We performed careful MedLine, Excerpta Medica, PsycLit and PsycINFO searches from 1980 to 2004. The following search terms were used: "personality disorders", "suicid\*", (which comprises suicide, suicidal, suicidality, and other suicide-related terms), "mortality", "follow-up". In addition, each category was cross-referenced with the others using the MeSH method (Medical Subjects Headings). Selection of papers suitable for this study allowed the inclusion only of those articles published in English peer-reviewed journals. Included were those studies that added an original contribution to the literature. We excluded studies that mentioned data about suicide but were not clear about follow-up times, method of statistical analysis, diagnosis criteria and number of

patients analyzed. A total of 190 articles were located through our search; the most relevant articles were selected for this overview. We avoided a systematic review of the literature prior to 1980 because of diagnostic criteria heterogeneity. Individuals analyzed in this study received a diagnosis of personality disorders according to various diagnostic criteria, mostly according to DSM-III or IV criteria and were followed up or were studied retrospectively. By reviewing selected articles we identified some specific fields of interest in the analysis of suicide among patients with personality disorders. We will therefore review studies dealing with suicide and the following fields of interest: borderline personality disorder, narcissistic personality disorder, antisocial personality disorder, comorbidity with affective disorder and substance abuse disorder and risk factors for suicide in personality disorder.

## Results

### *Borderline personality disorder*

Patients with borderline personality disorder represent 9% to 33% of all suicides [29, 30]. Bongar *et al.* [31] studied patients with chronic suicidality who made 4 or more visits in a year to a psychiatric emergency room; most often, these patients met criteria for borderline personality disorder. Paris *et al.* [32] indicated that this diagnosis significantly increases the risk of eventual suicide. Those at higher risk appeared to be young, ranging from adolescence into the third decade [33, 28], which probably reflects a decrease in symptom severity later in adulthood for most patients. The high rates of suicidal behavior in patients with borderline personality disorder are reflected by the inclusion of recurrent suicidal behavior, gestures, threats, or self-mutilating behavior as diagnostic criteria in the DSM IV. Runeson *et al.* [34] found that 44% of suicides by patients with borderline personality disorder were witnessed compared with 17% of suicides by patients with other diagnosis.

### *Narcissistic personality disorder*

Few data exist regarding the risk of suicide in individuals with narcissistic personality disorder. It is infrequently identified in samples of suicide victims studied according to the psychological autopsy method [35]. According to Apter *et al.* [36], in their sample of 43 consecutive suicide that occurred among Israeli males aged 18 to 21 years, during compulsory military service, through psychological autopsy it was observed that the most common Axis II personality disorders

were schizoid personality disorder in 16 out of 43 subjects observed (37.2%) and narcissistic personality disorder in 10 subjects. (23.3%). Stone [18], in a 15-year follow-up, observed that subjects suffering from narcissistic personality disorder or traits were significantly more likely to have died by suicide, compared with patients who did not have narcissistic personality disorder or traits.

According to Stone [18] narcissistic features in borderline personality have been associated with a heightened risk for suicide. Narcissism might contribute to suicide through the vulnerability associated with intense pride (justifiable or inflated): scandal or sudden drop in social position may affect such a person more drastically than someone who values survival ahead of his place in the hierarchy.

### *Antisocial personality disorder*

The diagnosis of antisocial personality disorder does not include past suicide attempts as a criterion. Studies have revealed antisocial personality disorder or criminal behavior to be a predictor of subsequent suicide attempts [37, 38]. These findings of suicide attempts contrast with those of completed suicides. Garvey and Spoden [39] found that 72% of their patients with antisocial personality disorder attempted suicide. Woodruff [40] reported suicide attempts in 23% of 35 outpatients diagnosed with antisocial personality disorder. Robins [41] found 11% of a group of 94 sociopaths had attempted suicide. Nevertheless, it is possible that some suicide attempts are reported whose true purpose is some secondary gain (e.g. hospital admission). If this were true, one would expect a difference between those patients admitted to the hospital and those seeking outpatient treatment. Problems with marriage or love affair are generally more frequent in suicide attempters. This association is in agreement with Garvey and Spoden's [39] findings that most non-serious attempts were almost exclusively related to problems with a significant other. It is interesting to note that for most suicide attempts drug overdose was used most frequently (71% of attempters). The finding that male sociopaths use nonviolent suicide methods (e.g., drugs) almost twice as frequently as a diagnostically heterogeneous group of psychiatrically ill male suicide attempters, suggests that sociopaths prefer the apparent "safety" of drugs as opposed to more violent and dangerous methods. The almost total lack of seriousness of the 63 attempts further suggests that sociopaths have no real intention of killing themselves. The finding in this study would support the notion that sociopaths use suicide attempts to manipulate others or to act out their frustration.

### Comorbidity with affective disorders

Mehulum *et al.* [16] pointed out that a lack of control of high intensity affects such as depression, anxiety or anger may increase the tendency towards suicidal behavior; which emphasizes the notion of borderline personality disorder as “the suicidal personality disorder”. On the other hand, the self-destructive tendency in subjects with borderline personality disorder may be not primarily due to the personality disorder syndrome itself, but rather be caused by some secondary or coexisting Axis I mental disorder, such as a mood disorder, anxiety disorder or substance abuse. Or it may be viewed as a result of a complex interplay between state and trait dimension. These patients systematically scored less favorably than their non-suicide-attempting borderline personality disorder counterparts on dimensions such as social adjustment and activity, employment, mental symptom level and global level of mental health.

Comorbidity with major depression is highly prevalent in borderline personality disorder [42]; however, the effect of this comorbidity on suicidal behavior is unclear. Yen *et al.* [43] reported on the association between each DSM-IV borderline personality disorder criterion and suicidal behavior. These authors found that affective instability is the borderline personality disorder criterion most strongly associated with suicidal behavior. They observed that depressive disorder did not significantly predict suicidal behavior and suicide attempts. Comorbidity with major depressive episode has been associated with an increased mortality rate in some [36, 27] but not all [26, 29, 44, 45] studies of suicidal behavior in borderline personality disorder. Comorbidity with major depressive episode has also been associated with an increase in the seriousness and frequency of suicide attempts among inpatients with borderline personality disorder [46]. Other studies have found that comorbidity with major depressive episode is not predictive of a history of suicide attempts with borderline personality disorder [47] and have found no relationship between comorbid major episode and measures of suicidal intent, lethality or risk [48].

Soloff *et al.* [49] found that patients with borderline personality disorder or comorbid disorders attempted suicide for the first time earlier in life than the depressed patients; no significant difference in age at first suicide attempt was found in patients with borderline personality disorder and patients with comorbid disorders. The suicide intent of the pooled group of patients with borderline personality disorder had a greater lifetime level of lethality than those of the depressed patients. In this study, the patients with borderline personality disorder differed from the depressed patients in having an earlier onset of suicidal

behavior, consistent with the natural history of the disorder, and a higher lifetime number of attempts. Comorbidity of personality disorder and major depressive episode was associated with an increased number of suicide attempts. Also, among patients with borderline personality disorder, impulsivity, assessed as a diagnostic criterion, is associated with the number of suicide attempts independent of comorbid depression or substance use disorder. In this study, hopelessness predicted the lifetime number of suicide attempts and the degree of lethal intent. Hopelessness may contribute to the seriousness of suicidal behavior in borderline personality disorder, especially in patients with comorbid depression, by increasing the number of attempts, the level of subjective intent, and the degree of objective planning. A diagnosis of borderline personality disorder, with or without major depressive episode, predicted the number of suicide attempts but not the specific attempt characteristics. Similarly, a diagnosis of major depression episode did not predict attempt characteristics.

### Substance abuse disorder

A relationship has been found between increased suicidal behavior and comorbidity of substance abuse disorder with borderline personality disorder [45, 28]. Links *et al.* [22] examined the prognostic significance of comorbid substance abuse in patients with borderline personality disorder. These patients were followed prospectively over a 7-year period. The researchers found that patients with comorbid substance abuse and borderline personality disorder perceived themselves to be at significantly more risk for suicide than did the comparison groups of patients having borderline personality disorder without comorbidity, patients having substance abuse without borderline personality disorder and patients having borderline traits only. Evidence also indicates that comorbidity of substance abuse disorder and conduct disorder increased the risk for suicidal behavior in youth [49].

The literature on substance abuse as a risk factor in suicide completion among borderline patients is also inconclusive, despite strong evidence linking alcoholism and substance abuse to suicide in general. In their prospective study, Shearer *et al.* [46] found that a family history of substance abuse but not a history of substance abuse in the study of patients themselves, nor use of sedatives or alcohol within 24 hours of a suicide attempt, characterized high medical lethality in female patients with borderline personality disorder who attempted suicide. Fyer *et al.* [42] reported that a comorbid diagnosis of DSM-III substance abuse disorder in patients with borderline personality

disorder was associated with higher a number of serious suicide attempts than borderline personality alone and produced the highest rates in combination with affective disorder. Stone [18] suggested that "persistent alcohol abuse doubles the suicide rate" in borderline personality disorder. Kullgren [44] found that borderline patients who committed suicide had more substance abuse than control subjects in Sweden, while Kjelsberg *et al.* [43] who used similar methods, were unable to confirm the finding in Norway. Soloff *et al.* [45] found that a comorbid diagnosis of alcoholism and drug abuse disorder was highly prevalent and significantly associated with medical lethality but did not distinguish between attempter and nonattempter suicidal behavior, self-destructive behavior, either genuine or manipulative, is an integral parts of the clinical picture of some personality disorders such as borderline or histrionic. In other personality disorders, such as dependent and avoidant, depression and suicidal behavior are infrequent complications

#### **Risk factors for suicide in personality disorders**

Paris *et al.* [26] found that the strongest clinical predictor of completed suicide was previous attempts, although very often these gestures are manipulative. These authors also observed that higher education was strongly associated with completed suicide which was explained by the crushed expectations of educated persons with severe psychopathology. Suicides occurred in the first few years of illness and while patients were still young [26].

Past studies have found that previous suicide attempts, impulsivity, older age, antisocial personality, higher education and depressive mood are risk factors for further suicidal behavior among subjects with borderline personality disorder [26, 45, 50]. In the sample of this study, suicide attempters with personality disorders had more often attempted suicide previously than suicide attempters without personality disorders. Furthermore, they more often had a history of lifetime psychiatric treatment than those without personality disorders. Suominen *et al.* [2] found that suicide attempts among subjects with or without personality disorders did not differ significantly in terms of suicide intent as measured by the Suicidal Intent Scale (SIS), in hopelessness measured by the Beck Hopelessness Scale (BHS), in somatic severity (lethality) of the index attempt, and in terms of impulsiveness. In the present study suicide attempts of patients with personality disorders were associated with current Axis I depressive syndromes, psychoactive use disorders, or both, in 98% of cases. Suicide

attempts of subjects with personality disorders were more commonly associated with psychoactive use disorders and depressive disorder not otherwise specified and, less commonly, with a major depression than suicide attempts among those without personality disorders.

Modestin [51] found that personality disorder suicides were significantly older. They had more frequently been living in a dependent situation (with parents or in various kinds of institutions) and their occupational situation corresponded less frequently to their original occupation level. They came for index admission more frequently because of endangering of self or others, or because of social problems, and, less frequently, for diagnostic and therapeutic reasons. On the whole they spent more time as inpatients; as there were no differences with regard to the number of the previous hospital stays, their hospitalizations were generally of longer duration. A relatively high number of patients in both groups had attempted suicide in the past (69% of suicides vs. 50% of controls, NS); however, more serious suicide attempters and more suicide attempt repeaters were noted in the suicide group. Uncontrolled life events were surprisingly more frequently encountered in the control group; on the other hand, no differences were found in the overall number of life events with a higher degree of stress. There was some tendency in personality disorder suicides to have been less frequently hospitalized in the past and to have experienced an index hospitalization of a shorter duration. Personality disorder suicides most frequently came for index hospitalization admission because of the endangerment of self or others, or because of social problems. These patients experienced more life events in the last years preceding their index admission, in some way probably reflecting more instability in their lives.

According to Modestin (1989), compared with the personality disorder controls, the personality disorder suicides in this study were significantly older and less well adapted socially and spent more time in psychiatric hospitals. Also, as a group they presented more serious suicidal behavior in the past and more serious suicidal behavior during their index hospitalization. Kullgren [44] found that suicides spent more time under hospital treatment, made more frequent suicide attempts in their earlier years, and presented more frequent suicidal behavior at index admission. Suicide attempts during inpatient treatment were identified among suicides exclusively. The higher suicide proneness of older age categories in the general population is well known; however, in contrast to the areas of social adjustment and suicidal behavior, the relationship of suicide frequency to age could not be demonstrated in psychiatric inpatients, neither globally nor within the individual diagnostic group [52].

According to Soloff *et al.* [47] putative risk factors for attempted or completed suicide in borderline personality disorder derived from clinical reports and longitudinal follow-up studies include: 1) comorbidity with affective disorder; 2) alcohol and substance abuse; 3) impulsivity, aggression, and hostility; 4) repeated attempts; 5) antisocial traits; and 6) severity of borderline personality disorder

Lesage *et al.* [6] pointed out that the following events had occurred significantly more often among the suicide subjects with high prevalence of borderline personality disorders: separation from wife or girlfriend, sexual difficulties, problems with in-laws, changes in habits, moving and change in social activities.

Adverse life events may push high-risk patients into actual suicidal crisis. Kelly *et al.* [49] studied the impact of recent life events and the level of social adjustment in patients with major depression, patients with borderline personality disorder and patients with comorbid major depression and borderline personality disorder. They found that the suicide attempters within this sample had experienced more adverse life events recently, particularly in the area of stressful events at home, with the family or financially.

### Discussion

Suicidal behavior is identified as a major public health problem and a considerable drain on resources in both primary and secondary health care settings in many countries world-wide. Suicidality is one of the most difficult and challenging issues in psychiatry today. Comorbidity of psychiatric and personality disorders is increasingly recognized as a major factor for suicide.

DSM-IV subdivides personality disorders into three clusters: A, B and C. Cluster A includes paranoid personality disorder, schizoid personality disorder and schizotypal personality disorder. Cluster B includes borderline personality disorder, histrionic personality disorder, narcissistic personality disorder and antisocial personality disorder. Cluster C includes avoidant personality disorder, dependent personality disorder, obsessive-compulsive personality disorder and personality disorder not otherwise specified. The analysis of the literature showed that individuals with cluster B personality disorders have a greater risk of dying by suicide. In fact, in our survey on suicide in personality disorders, we have found that most studies in the international literature deal with borderline personality disorder antisocial personality disorder and narcissistic personality disorder, all three belonging to cluster B. Behavior of cluster B personality disorder patients outlines the role of impulsivity as a key background symptom in the DSM-IV diagnostic

criteria. These individuals always look for a fast and drastic resolution of their unbearable conflicts. Moreover, the need to be admired and to manipulate others adds important weight to the risk of suicide. In fact, if the environment does not provide enough support for their needs, they may use suicidality as a drastic cry for help. Suicide attempts, which often result in completed suicide, are heavily represented in individuals with one or more cluster B personality disorders.

The problem of comorbidity is, without any doubt, a great challenge in the assessment of suicide risk. Most individuals with a diagnosis of a personality disorders also have an Axis I diagnosis, especially an affective disorder, which is a major risk factor for suicide. Other important risk factors for suicide in personality disorders are: previous suicide attempts, substance abuse disorder, impulsivity, family history of suicide, endured sexual or physical violence and the comorbidity of borderline personality disorder and antisocial personality disorder.

Our study has a number of limitations. Firstly, papers included in this overview of the international literature may be only a part of the literature available on the subject. In fact, other search engines for scientific works could provide more papers for a more detailed analysis of the subject. Secondly, DSM IV diagnostic criteria for personality disorders are usually most commonly used for the assessment of patients, but sometimes other diagnostic criteria are preferred, as in the case of the ICD classification or in the case of the Diagnostic Interview for Borderlines. Also, comorbidity with affective disorders makes it difficult to ascertain whether suicidality is caused by an Axis I or Axis II disorder, or both.

Dealing with autolesionistic and suicidal personality disorder patients is an onerous task for the clinicians. The relationship with these patients is loaded, even more intensely with respect to other types of patients, with transference and countertransference feelings. A therapeutic approach which should be taken into account is one oriented to the reduction of impulsivity, which is a main target for the prevention of suicidality in such subjects. An example of psychotherapeutic approach to these patients is the dialectic behavioral therapy of Linehan [53], which combines behavioral techniques and teaching of standard ability with the goal of controlling impulsive behaviors. In dialectic-behavioral therapy patients are positively reinforced to communicate their suicidal intent as a problem to resolve. Psychotropic drugs may have positive effects on personality disorders, especially when comorbid with Axis I disorders; these drugs may influence clusters of psychopathologic symptoms (such as: cognitive perception, affective instability, impulsivity and anger) [54].

There are few guidelines for pharmacological treatment of personality disorders; drugs in each medication class have some potential utility against specific symptoms in patients with BPD. Mood stabilizers such as divalproex, SSRI, MAO and Neuroleptics have documented efficacy in treating aggression and affective instability in impulsive patients [55]. Schizotypal personality disorder may respond to neuroleptic agents, while BPD subjects with depressed mood may respond best to antidepressants [56]. The hypothesis that biological and behavioral dimensions underlie the psychopharmacologic response to treatment in personality disordered subjects, proposed over the past decade, is now being tested. The most salient example of this is the testing of serotonin-specific agents (e.g., fluoxetine) for potential antiaggressive efficacy in personality disordered subjects with prominent histories of impulsive aggressive behavior and putative reduced serotonin system function [56]. Pharmacotherapy of BPD should be directed at the severity of the symptoms in each of the following groups: affective, impulsive, ego-interpersonal, and psychotic. MAOIs, SSRIs and venlafaxine provide the widest spectrum of affective treatment for the symptoms of BPD [57]. Treatment with antipsychotics is a common approach for personality disorder. Atypical antipsychotics are increasingly used in clinical practice in the management of borderline personality disorder (BPD), and a small but growing body of literature supports their efficacy. Conventional antipsychotics may be efficacious particularly against psychoticism, but less against other symptoms in these patients. They are, furthermore, associated with adverse drug reactions poorly tolerated by patients with personality disorder. Atypical antipsychotics have a more convenient pharmacological profile with a lower risk for extrapyramidal symptoms and a broader therapeutic profile, showing some efficacy against impulsivity, aggressivity and affective symptoms. Most molecules belonging to the antipsychotics categories appear to be safe and effective agents, especially in the treatment of borderline personality disorder, which in turn may contribute to the reduction of suicidality among these patients [59-65].

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#### REFERENCES

- Harris EC, Barraclough B. Suicide as an outcome for mental disorders. A meta-analysis. *Br J Psychiatry* 1997;170:205-28.
- Weissman MM. The epidemiology of personality disorders: a 1990 update. *J Pers Disord* 1993;7(Suppl 1):44-62.
- Samuels JF, Nestadt G, Romanoski AJ, Folsstein MF, McHugh PR. DSM-III personality disorders in the community. *Am J Psychiatry* 1994;151:1055-62.
- Henriksson MM, Aro HM, Marttunen MJ, Heikkinen ME, Isometsa ET, Kuoppasalmi KI, Lonnqvist JK. Mental disorders and comorbidity in suicide. *Am J Psychiatry* 1993;150:935-40.
- Brent DA, Johnson BA, Perper J, Connolly J, Bridge J, Bartle S, Rather C. Personality disorder, personality traits, impulsive violence, and completed suicide in adolescents. *J Am Acad Child Adolesc Psychiatry* 1994;33:1080-6.
- Lesage AD, Boyer R, Grunberg F, Vanier C, Morissette R, Menard-Buteau C, Loyer M. Suicide and mental disorders: a case-control study of young men. *Am J Psychiatry* 1994;151:1063-8.
- Cheng AT, Mann AH, Chan KA. Personality disorder and suicide. A case-control study. *Br J Psychiatry* 1997;170:441-6.
- Foster T, Gillespie K, McClelland R. Mental disorders and suicide in Northern Ireland. *Br J Psychiatry* 1997;170:447-52.
- Foster T, Gillespie K, McClelland R, Patterson C. Risk factors for suicide independent of DSM-III-R Axis I disorder. Case-control psychological autopsy study in Northern Ireland. *Br J Psychiatry* 1999;175:175-9.
- Suominen K, Henriksson M, Suokas J, Isometsa E, Ostamo A, Lonnqvist J. Mental disorders and comorbidity in attempted suicide. *Acta Psychiatr Scand* 1996;94:234-40.
- Engstrom G, Alling C, Gustavsson P, Orelund L, Traskman-Bendz L. Clinical characteristics and biological parameters in temperamental clusters of suicide attempters. *J Affect Disord* 1997;44:45-55.
- Nimeus A, Traskman-Bendz L, Alsen M. Hopelessness and suicidal behavior. *J Affect Disord* 1997;42:137-44.
- Ferreira de Castro E, Cunha MA, Pimenta F, Costa I. Parasuicide and mental disorders. *Acta Psychiatr Scand* 1998;97:25-31.
- Suominen KH, Isometsa ET, Henriksson MM, Ostamo AI, Lonnqvist JK. Suicide attempts and personality disorder. *Acta Psychiatr Scand* 2000;102:118-25.
- Tanney BL. Psychiatric diagnosis and suicidal acts. In: Maris RW, Berman AL, Silverman MM (Ed.). *Comprehensive textbook of suicidology*. New York: Guilford; 2000. p. 311-41.
- Mehlum L, Friis S, Vaglum P, Karterud S. The longitudinal pattern of suicidal behaviour in borderline personality disorder: a prospective follow-up study. *Acta Psychiatr Scand* 1994;90:124-30.
- Allebeck P, Allgulander C, Fisher LD. Predictors of completed suicide in a cohort of 50,465 young men: role of personality and deviant behaviour. *BMJ* 1988;297:176-8.
- Stone MH. Long-term follow-up of narcissistic/borderline patients. *Psychiatr Clin North Am* 1989;12:621-41.
- Paris J. The treatment of borderline personality disorder in light of the research on its long term outcome. *Can J Psychiatry* 1993;38(Suppl 1):s28-s34.
- Rich CL, Runeson BS. Similarities in diagnostic comorbidity between suicide among young people in Sweden and the United States. *Acta Psychiatr Scand* 1992;86:335-9.

21. Modestin J, Oberson B, Erni T. Possible correlates of DSM-III-R personality disorders. *Acta Psychiatr Scand* 1997;96:424-30.
22. Links PS, Heslegrave RJ, Mitton JE, van Reekum R, Patrick J. Borderline personality disorder and substance abuse: consequences of comorbidity. *Can J Psychiatry* 1995;40:9-14.
23. Marttunen MJ, Aro HM, Henriksson MM, Lonnqvist JK. Antisocial behaviour in adolescent suicide. *Acta Psychiatr Scand* 1994;89:167-73.
24. Beautrais AL, Joyce PR, Mulder RT, Fergusson DM, Deavoll BJ, Nightingale SK. Prevalence and comorbidity of mental disorders in persons making serious suicide attempts: a case-control study. *Am J Psychiatry* 1996;153:1009-14.
25. Maddocks PD. A five year follow-up of untreated psychopaths. *Br J Psychiatry* 1970;116:511-5
26. Paris J, Nowlis D, Brown R. Predictors of suicide in borderline personality disorder. *Can J Psychiatry* 1989;34:8-9.
27. McGlashan TH. The Chestnut Lodge follow-up study. III. Long-term outcome of borderline personalities. *Arch Gen Psychiatry* 1986;43:20-30.
28. Stone MH, Stone DK, Hurt SW. Natural history of borderline patients treated by intensive hospitalization. *Psychiatr Clin North Am* 1987;10:185-206.
29. Runeson B, Beskow J. Borderline personality disorder in young Swedish suicides. *J Nerv Ment Dis* 1991;179:153-6.
30. Kullgren G, Renberg E, Jacobsson L. An empirical study of borderline personality disorder and psychiatric suicides. *J Nerv Ment Dis* 1986;174:328-31.
31. Peterson LG, Bongar B. Repetitive suicidal crises: characteristics of repeating versus nonrepeating suicidal visitors to a psychiatric emergency service. *Psychopathology* 1990;23:136-45.
32. Paris J, Zweig-Frank H. A 27-year follow-up of patients with borderline personality disorder. *Compr Psychiatry* 2001;42:482-7.
33. Friedman RC, Corn R. Suicide and the borderline depressed adolescent and young adult. *J Am Ac Psychoanal* 1987;15:429-48.
34. Runeson BS, Beskow J, Waern M. The suicidal process in suicides among young people. *Acta Psychiatr Scand* 1996;93:35-42.
35. Links PS, Gould B, Ratnayake R. Assessing suicidal youth with antisocial, borderline or narcissistic personality disorder. *Can J Psychiatry* 2003;48:301-310.
36. Apter A, Bleich A, King RA, Kron S, Fluch A, Kotler M, Cohen DJ. Death without warning? A clinical postmortem study of suicide in 43 Israeli adolescent males. *Arch Gen Psychiatry* 1993;50:138-42.
37. Bunglass P, Horton J. The repetition of parasuicide: a comparison of three cohorts. *Br J Psychiatry* 1974;125:168-74.
38. Morgan HG, Barton J, Pottle S, Pocock H, Burns-Cox CJ. Deliberate self-harm: a follow-up study of 279 patients. *Br J Psychiatry* 1976;128:361-8.
39. Garvey MJ, Spoden F. Suicide attempts in antisocial personality disorder. *Compr Psychiatry* 1980;21:146-9
40. Woodruff RA Jr, Guze SB, Clayton PJ. The medical and psychiatric implications of antisocial personality [sociopathy]. *Dis Nerv Syst* 1971;32:712-4.
41. Robins LN. *Deviant children grown up*. Baltimore: Williams & Wilkins; 1966.
42. Fyer MR, Frances AJ, Sullivan T, Hurt SW, Clarkin J. Comorbidity of borderline personality disorder. *Arch Gen Psychiatry* 1988;45:348-52.
43. Yen S, Shea MT, Sanislow CA, et al. Borderline personality disorder criteria associated with prospectively observed suicidal behavior. *Am J Psychiatry* 2004;161:1296-8.
44. Kullgren G. Factors associated with completed suicide in borderline personality disorder. *J Nerv Ment Dis* 1988;176:40-4.
45. Kjelsberg E, Eikeseth PH, Dahl AA. Suicide in borderline patients-predictive factors. *Acta Psychiatr Scand* 1991;84:283-7.
46. Fyer MR, Frances AJ, Sullivan T, Hurt SW, Clarkin J. Suicide attempts in patients with borderline personality disorder. *Am J Psychiatry* 1988;145:737-9.
47. Soloff PH, Lis JA, Kelly T, Cornelius J, Ulrich R. Risk factors for suicidal behavior in borderline personality disorder. *Am J Psychiatry* 1994;151:1316-23.
48. Shearer SL, Peters CP, Quaytman MS, Wadman BE. Intent and lethality of suicide attempts among female borderline inpatients. *Am J Psychiatry* 1988;145:1424-7.
49. Kelly TM, Cornelius JR, Lynch KG. Psychiatric and substance use disorders as risk factors for attempted suicide among adolescents: a case control study. *Suicide Life Threat Behav* 2002;32:301-12.
50. Brodsky BS, Malone KM, Ellis SP, Dulit RA, Mann JJ. Characteristics of borderline personality disorder associated with suicidal behavior. *Am J Psychiatry* 1997;154:1715-9.
51. Modestin J. Completed suicide in personality disordered patients. *J Pers Disord* 1989;3:113-21.
52. Modestin J. Three different types of clinical suicide. *Eur Arch Psychiatry Neurol Sci* 1986;236:148-53.
53. Linehan MM, Heard HL, Armstrong HE. Naturalistic follow-up of a behavioral treatment for chronically parasuicidal borderline patients. *Arch Gen Psychiatry* 1993;50:971-4.
54. Kapfhammer HP, Hippus H. Special feature: pharmacotherapy in personality disorders. *J Pers Disord* 1998;12:277-88.
55. Hollander E. Managing aggressive behavior in patients with obsessive-compulsive disorder and borderline personality disorder. *J Clin Psychiatry* 1999;60(Suppl 15):38-44.
56. Coccaro EF. Clinical outcome of psychopharmacologic treatment of borderline and schizotypal personality disordered subjects. *J Clin Psychiatry* 1998;59(Suppl 1):30-5.
57. Hirschfeld RM. Pharmacotherapy of borderline personality disorder. *J Clin Psychiatry* 1997;58(Suppl 14):48-52.
58. Markovitz PJ. Recent trends in the pharmacotherapy of personality disorders. *J Personal Disord* 2004;18:90-101.
59. Zullino DF, Quinche P, Hafliger T, Stigler M. Olanzapine improves social dysfunction in cluster B personality disorder. *Hum Psychopharmacol* 2002;17:247-51.



60. Bogenschutz MP, George Nurnberg H. Olanzapine versus placebo in the treatment of borderline personality disorder. *J Clin Psychiatry* 2004;65:104-9.
61. Hilger E, Barnas C, Kasper S. Quetiapine in the treatment of borderline personality disorder. *World J Biol Psychiatry* 2003;4:42-4.
62. Rocca P, Marchiaro L, Cocuzza E, Bogetto F. Treatment of borderline personality disorder with risperidone. *J Clin Psychiatry* 2002;63:241-4.
63. Frankenburg F, Zanarini M. Clozapine treatment of borderline patients: a preliminary study. *Compr Psychiatry* 1993;34:402-5.
64. Chengappa KN, Ebeling T, Kang JS, Levine J, Parepally H. Clozapine reduces severe self-mutilation and aggression in psychotic patients with borderline personality disorder. *J Clin Psychiatry* 1999;60:477-84.
65. Benedetti F, Sforzini L, Colombo C, Maffei C, Smeraldi E. Low-dose clozapine in acute and continuation treatment of severe borderline personality disorder. *J Clin Psychiatry* 1998;59:103-7.