Borderline personality disorder

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Borderline personality disorder is characterised by a pervasive pattern of instability in affect regulation, impulse control, interpersonal relationships, and self-image. Clinical signs of the disorder include emotional dysregulation, impulsive aggression, repeated self-injury, and chronic suicidal tendencies, which make these patients frequent users of mental-health resources. Causal factors are only partly known, but genetic factors and adverse events during childhood, such as physical and sexual abuse, contribute to the development of the disorder. Dialectical behaviour therapy and psychodynamic partial hospital programmes are effective treatments for out-of-control patients, and drug therapy can reduce depression, anxiety, and impulsive aggression. More research is needed for the understanding and management of this disabling clinical condition. Current strategies are focusing on the neurobiological underpinnings of the disorder and the development and dissemination of better and more cost-effective treatments to clinicians.

Borderline personality disorder is a serious mental disorder with a characteristic pervasive pattern of instability in affect regulation, impulse control, interpersonal relationships, and self-image. It affects about 1–2% of the general population—up to 10% of psychiatric outpatients, and 20% of inpatients.[1–3] The disorder is characterised by severe psychosocial impairment[4] and a high mortality rate due to suicide—up to 10% of patients commit suicide, a rate almost 50 times higher than in the general population.[5] Because of substantial treatment use, patients with borderline personality disorder require more mental-health resources than do individuals with other psychiatric disorders.[6,7]

Epidemiology

In epidemiological studies of adults, the weighted prevalence of borderline personality disorder ranges from 0·7% in Norway to 1·8% in the USA.[1,2] Additionally, findings from these studies showed that the disorder was more common in women than in men (about 70% and 30%, respectively), indicating the sex difference that is typical in treated-patients.[3] In a community-based sample of children and adolescents, the prevalence of borderline personality disorder was 11% at age 9–19 years and 7·8% at 11–21 years. This disorder was also more common in girls than boys,[8] but whether it is more frequent in children than adults is unknown because of the study's reliance on a suboptimum assessment of symptoms.

Diagnosis

The panel lists the nine diagnostic and statistical manual of mental disorders (DSM) IV criteria for borderline personality disorder—which in the international classification of diseases 10th revision is a subtype of emotionally unstable personality disorders. Here, we have organised these criteria into four sectors of psychopathology because patients who manifest symptoms in all four areas simultaneously can be successfully discriminated from those with other forms of personality disorder.[9]

The first area is affective disturbance. Patients with borderline personality disorder have a range of intense dysphoric affects, sometimes experienced as aversive tension, including rage, sorrow, shame, panic, terror, and chronic feelings of emptiness and loneliness. These individuals can be distinguished from other groups by the overall degree of their multifaceted emotional pain.[10,11] Another aspect of their affective disturbance is their tremendous mood reactivity;[12] patients often move from one interpersonally reactive mood state to another, with great rapidity and fluidity, experiencing several dysphoric states and periods of euthymia during the course of one day.

Second is disturbed cognition. Patients show three levels of cognitive symptomatology:[13] (1) troubling but non-psychotic problems, such as overvalued ideas of being bad, experiences of dissociation in terms of depersonalisation and derealisation, and non-delusional suspiciousness and ideas of reference; (2) quasi-psychotic or psychotic-like symptoms—ie, transitory, circumscribed, and somewhat reality-based delusions and hallucinations; and (3) genuine or true delusions and hallucinations. The last category mostly happens in the context of psychotic depression.[13,14] Serious identity disturbance is thought to be in the cognitive realm because it is based on a series of false beliefs—eg, one is good one minute and bad the next.

Third is impulsivity. Patients engage in two types: deliberately physically self-destructive, and more general forms of impulsivity. Self-mutilation, suicidal communication, and suicide attempts are the constituent elements of the first type of impulsivity, and common forms of the second are substance abuse, disordered eating, spending sprees, verbal outbursts, and reckless driving.

Fourth is intense unstable relationships, which are characterised by two separate but interlocking types of

Search strategy and selection criteria

We searched MEDLINE for articles with the main search term "borderline personality disorder". We chose articles relevant to the topics epidemiology, diagnosis, pathophysiology, psychotherapy, and pharmacotherapy, with special emphasis on randomised controlled trials.

Panel: **DSM-IV criteria for borderline personality disorder***

Affective criteria

- Inappropriate intense anger or difficulty controlling anger—eg, frequent displays of temper, constant anger, recurrent physical fights
- Chronic feelings of emptiness
- Affective instability due to a marked reactivity of mood—eg, intense episodic dysphoria, irritability, or anxiety usually lasting a few hours and only rarely more than a few days

Cognitive criteria

- Transient stress-related paranoid ideation or severe dissociative symptoms
- Identity disturbance: striking and persistent unstable self-image or sense of self

Behavioural criteria (forms of impulsivity)

- Recurrent suicidal behaviour, gestures, or threats, or self-mutilating behaviour
- Impulsivity in at least two areas that are potentially self-damaging that do not include suicidal or self-mutilating behaviour

Interpersonal criteria

- Frantic efforts to avoid real or imagined abandonment that do not include suicidal or self-mutilating behaviour
- A pattern of unstable and intense interpersonal relationships characterised by alternating between extremes of idealisation and devaluation

*Five of nine criteria needed to diagnose borderline personality disorder

problem. The first is a profound fear of abandonment, which tends to manifest itself in desperate efforts to avoid being left alone—eg, calling people on the phone repeatedly or physically clinging to them. The second is a tumultuous quality to close relationships, which are marked by frequent arguments, repeated breakups, and reliance on a series of maladaptive strategies that can both anger and frighten others—eg, highly emotional or unpredictable responses.

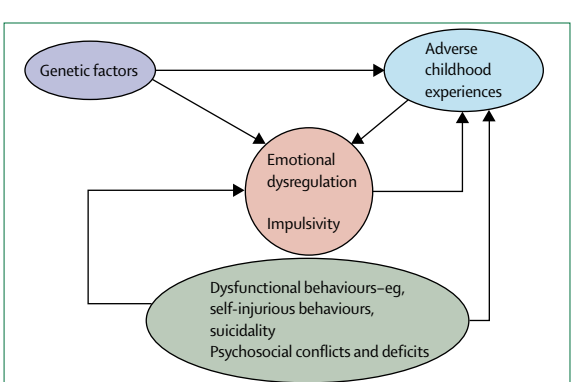

Figure: **Neurobehavioural model of borderline personality disorder**

Patients with borderline personality disorder generally meet DSM criteria for other psychiatric illnesses. In terms of axis I disorders, major depression, substance misuse, post-traumatic stress disorder, other anxiety disorders, and eating disorders are all common in these individuals.[15–18] 41–83% of patients with borderline personality disorder report a history of major depression,[16–18] and lifetime prevalence of other common axis I disorders was 12–39% for dysthymia, 10–20% for bipolarity, 64–66% for substance misuse, 46–56% for post-traumatic stress disorder, 23–47% for social phobia, 16–25% for obsessive-compulsive disorder, 31–48% for panic disorder, and 29–53% for any eating disorder. In terms of axis II disorders, avoidant, dependent, and paranoid personality disorders are the most frequently diagnosed comorbid conditions.[15,18,19] Prevalence of these three disorders was 43–47%, 16–51%, and 14–30%, respectively.[18,19]

Careful clinical assessment of borderline personality disorder and possible comorbid conditions is important at the beginning of a patient's treatment. Semistructured diagnostic interviews are becoming more usual. Several measures are highly reliable in the care of these patients.[20,21]

Causal factors

The cause of borderline personality disorder is complex with several factors, which interact in various ways wtih each other (figure). Genetic factors and adverse childhood experiences might cause emotional dysregulation and impulsivity leading to dysfunctional behaviours and psychosocial conflicts and deficits, which again might reinforce emotional dysregulation and impulsivity.[22] Data for the role of genetic factors are sparse. In one twin study, based on DSM-IV criteria, concordance rates were seen for borderline personality disorder of 35% and 7% in monozygotic and dizygotic twin pairs, respectively, suggesting a strong genetic effect in the development of the disorder.[23] Multivariate genetic analyses of personality disorder traits have identified four factors, with the main one labelled as emotional dysregulation and describing labile affects, unstable cognitive functioning, an unstable sense of self, and unstable interpersonal relationships. This main factor resembles borderline personality disorder in many aspects, and heritability can be estimated at 47%.[21,22,24]

Various types of adverse events during childhood, including ongoing experiences of neglect and abuse, are reported by many patients.[25–27] The most frequent of these is childhood sexual abuse, which is reported by 40–71% of inpatients with borderline personality disorder.[25–33] The severity of borderline psychopathology has also been linked to severity of childhood sexual abuse.[34,35] Taken together, these findings have led some clinicians to view borderline personality disorder as a form of chronic post-traumatic stress disorder. However, no evidence is available that childhood sexual abuse is

either necessary or sufficient for development of this disorder. Other childhood factors have been judged important in development of the disorder, particularly difficulties attaining stable attachments.[36] However, a study of attachment styles of patients with borderline personality disorder noted that these individuals reported increased concern about losing their primary attachment figure.[37] In view of this slight empirical evidence, whether these attachment difficulties are causal or a result of the emotional turbulence and impulsivity associated with borderline personality disorder is not clear.

Neurobiological findings

The neurobiological factors of borderline personality disorder, such as impulsivity and affect dysregulation, are poorly understood. In view of the heterogeneity of the disorder, workers have investigated distinct subgroups in search of different endophenotypes.[21,22,38] Furthermore, sex seems to have an important role in the neurobiology of this disorder. Several researchers have recorded substantial[39–41] differences between male and female patients with respect to serotonergic function.

Structural and functional neuroimaging has revealed a dysfunctional network of brain regions that seem to mediate important aspects of borderline personality disorder symptomatology. This dysfunctional fronto-limbic network consists of the anterior cingulate cortex (ACC), the orbitofrontal and dorsolateral prefrontal cortex, the hippocampus, and the amygdala. Findings of fluorodeoxyglucose-positron-emission-tomography studies have shown altered baseline metabolism in prefrontal regions including the ACC.[42–44] These brain areas also seem to have a role in dysfunctional serotonergic neurotransmission,[45] which has been associated with disinhibited impulsive aggression in patients with borderline personality disorder. Furthermore, a reduction of frontal and orbitofrontal lobe volumes[46,47] and N-acetyl-aspartate, a marker of neuronal integrity,[48] has been reported. In challenge studies with emotional and stressful stimuli, deactivation, or failure of activation, of the ACC has been shown in patients with borderline personality disorder.[49,50] Since the ACC can be viewed as a brain region mediating affective control, dysfunction in this area might be related to affective dysregulation, which is characteristic of the disorder.

Work in animals has established that the amygdala has a central role in emotional regulation.[51] In a study with an emotional stimulation paradigm combined with functional MRI (fMRI), an enhanced signal in the amygdala was recorded bilaterally in patients with borderline personality disorder compared with matched controls.[52] Donegan and colleagues[53] reported increased left amygdala activation in response to facial expression of negative emotions with fMRI. Results of structural imaging studies indicate reduced hippocampal and amygdala volumes in patients with borderline personality disorder.[47,54,55] This finding of reduced hippocampal volume is consistent with many studies of post-traumatic stress disorder. Amygdala volume reduction, however, sets borderline personality disorder apart from post-traumatic stress disorder, in which the amygdala seems to be structurally unaffected. In the context of diminished volumes of stress-sensitive brain regions, such as the hippocampus, the cortisol system deserves attention. Rinne and co-workers[56] noted a hyper-responsiveness of the hypothalamic-pituitary-adrenal (HPA) axis in patients with borderline personality disorder and a history of sustained childhood abuse, lending support to the hypothesis of a relation between early traumatisation and increased HPA axis function in adulthood.

These neuroimaging findings seem to indicate that a weakening of prefrontal inhibitory control could contribute to amygdala hyperactivity. Simultaneous limbic and prefrontal disturbances suggest dual brain pathology as a neuropathological correlate of hyper-arousal-dyscontrol syndrome, seen in patients with borderline personality disorder. However, whether the observed neurobiological dysfunctions are pre-existing—ie, due to genetic, pre-postnatal factors, or adverse events during childhood—or the consequence of the disorder itself, is unknown.

Treatment

Over their lifetime, 97% of patients with borderline personality disorder presenting for treatment in the USA receive outpatient care from an average of six therapists;[57,58] 95% receive individual therapy, 56% group therapy, 42% family or couples psychotherapy, 37% day treatment, 72% psychiatric hospitalisation, and 24% treatment in a halfway house. 9–40% of frequent users of inpatient psychiatric services are diagnosed with the disorder.[3,59–62]

Analyses of outcomes measured 2–3 years after treatment suggest that treatments-as-usual are marginally effective at best.[63,64] Even in those receiving a lot of psychosocial treatment and pharmacotherapy, there is probably severe impairment in employment, global satisfaction, social adjustment, and overall functioning.[4] Because public mental-health outpatient services have traditionally focused on the needs of patients with schizophrenia and bipolar disorder, these facilities might not meet the needs of individuals with borderline personality disorder, which could account for poor treatment compliance and subsequent hospitalisation.[61,65] The association of this disorder with attempted and completed suicide makes psychosocial interventions mandatory for severe cases, even when concomitant pharmacotherapy is applied. Between 40% and 65% of individuals who commit suicide meet criteria for a personality disorder, with borderline personality disorder being the most commonly associated.[66]

Psychosocial interventions

Very few randomised controlled trials have assessed psychosocial interventions for borderline personality disorder, especially compared with the number of trials for other psychiatric disorders. Over the past 10 years, however, two structured psychotherapeutic programmes have emerged as effective interventions for this disorder. Both treatments target the highly dysfunctional and out-of-control patient. Of the two, a variation of cognitive behavioural therapy—dialectical behaviour therapy (DBT)—has the most empirical support from seven well-controlled trials (table 1).[67–79] Six non-randomised controlled studies have also been undertaken comparing DBT with ongoing treatment-as-usual.[80–85] DBT is based on a combined capability deficit and a motivational model of borderline personality disorder, which states that: individuals with this disorder do not have important interpersonal, self-regulation (including emotional regulation), and distress tolerance skills; and personal and environmental factors sometimes block and inhibit use of behavioural skills that patients have, and at times reinforce dysfunctional behaviours. DBT addresses five functions of comprehensive treatment: (1) it increases behavioural capabilities by teaching specific skills to regulate emotions, to tolerate emotional distress when change is slow or unlikely, to be more effective in interpersonal conflicts, and to control attention in order to skilfully participate in the moment; (2) it improves motivation to change by intensive behavioural analyses, application of exposure-based treatment procedures, and management of reinforcement contingencies; (3) it ensures that new capabilities are useful for day-to-day life by various strategies, such as use of the telephone; (4) it structures the environment, particularly the treatment network, to reinforce patients' skilful behaviours; and (5) it enhances therapist capabilities and motivation by including a weekly meeting of therapists for support and consultation.

A psychodynamic long-term partial hospital programme has also been shown to be effective in a controlled study, although the results have not been replicated in a second trial nor tested by an independent research team.[78,79] Several other treatment approaches, such as transference-focused therapy,[86] are promising but in need of controlled trials.

Patients with borderline personality disorder enter treatment at various levels of severity: most serious are those who have severe behavioural dyscontrol. In these individuals the first priority is to increase behavioural control and reduce severely dysfunctional behaviours; the goal is to get the patient functioning and productive. With suicidal individuals, the first priority is to decrease life-threatening behaviours, particularly suicidal behaviours, and the level of suicidality should be actively and consistently monitored. Once the patient has achieved adequate behavioural control their intense dysphoria and difficulties managing emotional experiences emerge as the central target of therapy. Treatment at this stage will

Treatments (number of patients)	Inclusion criteria	Length of study	Main effects	Reference
DBT (n=24) versus community mental health TAU (n=22)	BPD + suicide attempt in last 8 weeks + one other in last 5 years Female	1 year	Frequency, medical risk, parasuicide (suicide attempts and intentional self-injury); treatment retention; use of emergency and inpatient treatment; anger, social and global adjustment	Linehan et al, 1991[67] Linehan et al, 1993[68] Linehan et al, 1994[69] Linehan et al, 1993[70]
DBT (n=12) versus community drug misuse/mental health TAU(n=16)	BPD + current drug dependence Female	1 year	Illicit drug use, social and global adjustment	Linehan et al, 1999[71]
DBT + LAAM (n=11) versus comprehensive validation treatment (DBT without change strategies) + 12-step facilitation and 12-step group + LAAM (n=12)	BPD + current opiate dependence Female	1 year	Opiate use	Linehan et al, 2002[72]
DBT (n=12) versus client-centred therapy (n=12)	BPD + referral from Emergency services for suicide attempt	1 year	Parasuicide (suicide attempts and self-injury), impulsiveness, anger, depression, global adjustment, use of inpatient treatment	Turner, 2000[73]
DBT (n=10) versus veterans administration mental health TAU (n=10)	BPD Female	6 months	Parasuicide (suicide attempts and self-injury) frequency (trend), suicide ideation, hopelessness, depression, anger expression	Koons et al, 2001[74]
DBT (n=31) versus community drug abuse/mental health TAU (n=33)	BPD Female	1 year	Frequency of self-mutilation and suicide attempts (trend), treatment retention, self-damaging impulsivity	Verheul et al, 2003[75] Van den Bosch et al 2002[76]
DBT (n=52) versus community treatment by psychotherapy experts in suicide and BPD (n=51)	BPD + parasuicide (suicide attempt or self-injury) in last 8 weeks + one other in last 5 years Female	1 year	Suicide attempts, suicidality, medical risk and risk/rescue rating of parasuicide (suicide attempts and self-injury), treatment retention, emergency and inpatient treatment, anger directed outward	Linehan et al, 2002[77]
Psychoanalytic partial hospitalisation (n=19) versus TAU (no psychotherapy) (n=19)	BPD	1·5 years	Self-mutilation, suicide attempts, use of inpatient services, anxiety, depression, social and global adjustment	Bateman, Fonagy, 1999[78] Bateman, Fonagy, 2001[79]

DBT= dialectical behaviour therapy; BPD=borderline personality disorder; TAU=treatment-as-usual; LAAM=levo-alpha-acetylmethadol

Table 1: **Summary of randomised controlled trials of psychotherapy studies for treatment of borderline personality disorder**

focus most typically on reduction of experiential avoidance. The suggestion that borderline personality disorder patients do not make medically serious suicide attempts is untrue and, as noted above, the suicide rate in these individuals is very high. Pharmacotherapy or hospitalisation should not be assumed to be the treatment of choice for suicidality in these patients. Evidence that medication will reduce the risk of suicide or attempted suicide is scarce. Findings of randomised trials of DBT suggest that an intervention that emphasises treatment of suicidal behaviours on an aggressive outpatient basis, and only rarely hospitalises, can still show lower rates of suicide attempts than standard treatments that frequently refer patients to emergency services and for inpatient treatment.[67,74,75,77] Substantial evidence suggests that cognitive behavioural treatments focused on active problem solving, together with high therapeutic outreach and availability, will reduce the risk of suicidal behaviours.[87]

Patients with borderline personality disorder usually start their treatment meeting criteria for multiple axis I disorders, which vary over time in their severity and urgency. Effective treatment, therefore, integrates the full range of evidence-based behavioural treatments for axis I disorders. However, maintenance of a consistent focus on multiple serious maladaptive behaviour patterns without frequent changes in priorities can be difficult. With the more severe patients, in particular, the clinician must engage the patient in setting clear and explicit goals for therapy, prioritise their importance, and adhere to these treatment targets. Both DBT and Bateman and Fonagy's[78,79] treatments are multimodal; every modality of treatment targets a specific aspect of the patient's overall difficulty. In DBT, the individual psychotherapist serves as the primary therapist managing, with the patient, the application of other treatment modalities. These treatments also balance the focus on change and the patient's responsibilities to actively engage in problem solving, with a corresponding focus on empathy, validation, and active therapeutic support. Finally, every treatment provides support for the therapists treating the patient. High suicidality in these patients and the difficulty in forming and maintaining a therapeutic alliance, together with a need to coordinate care among a diverse set of therapists and settings, sometimes creates enormous stress for therapists. Thus, therapists treating individuals with severe borderline personality disorder must also receive on-going supervision or consultation and honestly communicate their own personal limits to those they treat.

Pharmacotherapy

High proportions of patients with this disorder are continuously taking medication, and rates of intensive polypharmacy are not uncommon and do not decline with time.[88] Results of placebo-controlled trials (table 2)[89–100] suggest that pharmacotherapy for borderline personality disorder could be used to target certain aspects, such as cognitive-perceptual symptoms, emotional dysregulation, or impulsive-behavioural dyscontrol.[101,102] In many patients, medication might not only calm the patients but also allow them to reflect before acting. This treatment might be relevant to psychosocial interventions, providing the possibility to discontinue medication once patients have learned to manage themselves.

Neuroleptics could be effective against cognitive-perceptual symptoms, such as suspiciousness, paranoid ideation, ideas of reference, or transitory (stress-related) hallucinations. Although placebo-controlled trials have reported mixed results, especially for haloperidol (table 2),

Drug	Number of patients given drug/placebo	Mean dose per day mg (SD)	Weeks of treatment	Main effects	Reference
Amitriptyline	20/20	148 (14)	5	Depression	Soloff et al, 1986[89]
Tranylcypromine	16/16*	40 (fixed dose)	6	Depression, anger, impulsivity, suicidality	Cowdry, Gardner, 1988[90]
Phenelzine	38/34	60·5 (10)	5	Anger/hostility	Soloff et al, 1993[91]
Fluvoxamine	38/19	166 (27)	12	Rapid mood shifts	Rinne et al, 2002[92]
Fluoxetine	9/8	20–60	12	Global measures, anger, anxiety	Markovitz, 1995[93]
Fluoxetine	13/9	40	13	Anger	Salzman et al, 1995[94]
Trifluoperazine	16/16*	7·8	6	Depression, anxiety, suicidality	Cowdry, Gardner, 1988[90]
Thiothixene	25/25	8·7	12	Psychotic cluster symptoms, anxiety, obsessive-compulsive symptoms	Goldberg et al, 1986[95]
Haloperidol	21/20	7·2 (3·2)	5	Depression, anxiety, hostility, psychoticism	Soloff et al, 1986[89]
Haloperidol	36/34	3·9 (0·7)	5	..	Soloff et al, 1993[91]
Olanzapine	19/9	5·3 (3·4)	26	Anxiety, anger/hostility, paranoia, interpersonal difficulties	Zanarini, Frankenburg, 2001[96]
Carbamazepine	16/16*	820	6	Behavioural dyscontrol	Cowdry, Gardner, 1988[90]
Carbamazepine	10/10	6·4–7·1 µg/mL†	4	..	De la Fuente, Lotstra, 1994[97]
Valproic acid	12/4	..	10	Global measures (CGI-I)	Hollander et al, 2001[98]
Valproic acid	20/10	850 (249)	26	Interpersonal sensitivity, aggression, anger/hostility	Frankenburg, Zanarini, 2002[99]
Omega-3-fatty acid	20/10	1000	8	Aggression, depression	Zanarini, Frankenburg, 2003[100]

*Double-blind cross-over trial with placebo, tranylcypromine, trifluoperazine, carbamazepine, and alprazolam. †Blood concentration range.

Table 2: **Summary of placebo-controlled trials in the treatment of borderline personality disorder**

severity of schizotypal symptoms, hostility, and suspiciousness were predictors for a favourable response.[95,102,103] Atypical neuroleptics have been tested in the latest trials because of the risk of extrapyramidal side-effects including tardive dyskinesia. Open studies for clozapine,[104,105] risperidone,[106] and olanzapine[107] show good tolerability and efficacy of these substances. In a placebo-controlled trial, the atypical neuroleptic olanzapine was superior to placebo in the treatment of all four core sectors of borderline psychopathology.[96] Haloperidol had no effect in a 16-week continuation therapy.[108]

The prominence of emotional dysregulation, including rapid mood shifts, depressive symptoms and anxiety, dysphoria, intense anger, and chronic emptiness, suggests a role for antidepressants. Whereas early studies reported moderate effects of antidepressants, such as the tricyclic antidepressant amitriptyline[89] or the monoamine-oxidase-inhibitor phenelzine[91] (table 2), later placebo-controlled studies have provided evidence for the efficacy of selective serotonin reuptake inhibitors (SSRIs) on rapid mood shifts, anger, and anxiety.[92–94,109] The possible toxic effects (eg, after overdose), the potential worsening of cognitive-perceptual symptoms by tricyclic anti-depressants,[89] and the difficulties in managing borderline patients on monoamine-oxidase inhibitors could lead clinicians to consider SSRIs as first-line agents in the treatment of the depressed, anxious, labile, and angry patient.[102] Another option is mood stabilisers. Four placebo-controlled studies of these drugs have reported mixed results for carbamazepine and valproic acid (table 2). Valproic acid could especially be suited for patients with a comorbid bipolar disorder[99] and for those with impulsive aggression in cluster B personality disorder.[110] For lamotrigine, no controlled trials are available, although, a case series has shown promising effects.[111] In a study of omega-3 fatty acids for the treatment of borderline personality disorder[100] the treatment seemed to be as effective as commercial mood stabilisers, and better compliance was achieved (low dropout rate) owing to the low side-effect burden and lack of stigma.

Although the impulsive-behaviour symptom domain, consisting of suicidal and parasuicidal behaviours, impulsive-aggression, and binge behaviours, might respond to psychotherapy SSRIs can be given as an adjuvant.[112] The latest approaches have focused on pharmacotherapy for specifically defined single symptoms, such as inner tension and dissociation, and preliminary evidence in open studies has shown efficacy of clonidine[113] and naltrexone.[114]

Interpretation of results from pharmacological studies should take into account several limitations. Drugs have mostly been tested in moderately ill outpatients, thus, to relate these study results to the most severely ill patient population is difficult. Moreover, studies are hampered by high drop-out rates because of difficulty in keeping patients with borderline personality disorder on medication for sustained periods.[96,98,115] In several psychosocial and pharmacological treatment trials only female patients were investigated[90,92,96,99,100] making generalisation of effects to male patients difficult. Owing to low symptom stability over time in borderline personality disorder,[116] pharmacological studies are especially prone to high placebo response rates.[94] Results from open studies should, therefore, be interpreted with caution.

Course and prognosis

Research suggests that borderline personality disorder, or at least some of its symptoms, begins in the late latency period of childhood but that treatment is typically not sought until late adolescence.[6] The disorder has a better prognosis than other serious mental illnesses, such as bipolar disorder.[117,118] In two large-scale prospective studies of the course of borderline personality disorder, symptoms have been noted to be less stable than previously recognised.[116,119] After 6 years' follow-up, about 75% of patients with the disorder, all of whom were hospitalised at the start of the study, achieved remission (according to Revised Diagnostic Interview for Borderlines [DIB-R] and DSM-III-R criteria).[119] Additionally, only 6% of those who achieved remission had a later recurrence. 4% of the patients committed suicide within the 6-year study period, despite the fact that about 80% had a history of suicide attempts at the time of their index admission. Notably, two earlier retrospective studies of the course of borderline personality disorder recorded suicide rates of 9–10%.[120,121] Additionally, no prospective data are available on outcome in borderline patients who are middle-aged or older.

Many factors are associated with poor outcome, including: affective instability and increased length of previous hospitalisations;[122] presence of dysphoria, family history of mental illness, younger age when first in treatment, and presence of maternal psychopathology;[123,124] and history of parental brutality.[121] Conversely, few factors are associated with a good outcome, including: high IQ (intelligence quotient);[121,122] absence of narcissitic entitlement or of parental divorce; and presence of self-destructive acts during the index admission.[125]

Future prospects

Much still needs to be learned about borderline personality disorder. If the prodromal condition or the actual disorder first manifests itself in childhood or adolescence, early intervention and prevention strategies need to be developed. Irrespective of when the disorder first develops, current treatments are suboptimum, and better and more cost-effective treatments are needed. Until now, the most broadly effective treatments are the psychosocial interventions, especially DBT, which not only has a solid empirical basis but also has been widely accepted by both mental-health consumers and clinicians. As Swenson and colleagues have noted,[126] however,

despite DBT's appeal, implementation frequently requires acquisition of new skills. Very little research has been done on how to disseminate effective psychosocial interventions to the community of clinicians. With respect to pharmacotherapy, additional randomised controlled treatment trials are necessary. Such studies should investigate the potential usefulness of mood stabilisers, such as lamotrigine, new-generation antidepressants, or atypical neuroleptics. Furthermore, the benefits of polypharmacy should be tested since it is commonly used but has no empirical support. Also, possible additive effects of pharmacotherapy and psychotherapy, and treatment options for borderline personality disorder associated with comorbid axis I disorders, should be assessed. Clinicians have been reluctant to inform patients with borderline personality disorder of their diagnosis. This attitude is beginning to (and should) change since it allows such patients to become informed consumers of mental-health services. Finally, psychoeducation of the patients' families is very important since it enables them to become allies in the treatment of this disabling disorder.

Conflict of interest statement
None declared.

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