Borderline Personality Disorder in Adolescence

This is the 4th in our series on Adolescent Health.

abstract

Borderline personality disorder (BPD) is a common and severe mental disorder that is associated with severe functional impairment and a high suicide rate. BPD is usually associated with other psychiatric and personality disorders, high burden on families and carers, continuing resource utilization, and high treatment costs. BPD has been a controversial diagnosis in adolescents, but this is no longer justified. Recent evidence demonstrates that BPD is as reliable and valid among adolescents as it is in adults and that adolescents with BPD can benefit from early intervention. Consequently, adolescent BPD is now recognized in psychiatric classification systems and in national treatment guidelines. This review aims to inform practitioners in the field of adolescent health about the nature of BPD in adolescence and the benefits of early detection and intervention. BPD diagnosis and treatment should be considered part of routine practice in adolescent mental health to improve these individuals' well-being and long-term prognosis. *Pediatrics* 2014;134:782–793

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KEY WORDS

borderline personality disorder, adolescence, self-injury, suicidal behavior, mental illness, early intervention

ABBREVIATIONS

AtR!Sk—outreach clinic for Adolescent Risk-taking and Self-harm behaviors
BPD—borderline personality disorder
CAT—cognitive analytic therapy
DBT—dialectical behavior therapy
DSM—*Diagnostic and Statistical Manual for Mental Disorders*
ERT—emotion regulation training
HPAA—hypothalamic-pituitary-adrenal axis
HYPE—Helping Young People Early
NSSI—nonsuicidal self-injury
RCT—randomized controlled trial

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BPD IN ADOLESCENCE

The Diagnosis of BPD

BPD is a severe mental disorder that is characterized by a pervasive pattern of instability in affect regulation, impulse control, interpersonal relationships, and self-image. BPD is defined by any 5 of the 9 criteria (see Table 1) in the *Diagnostic and Statistical Manual for Mental Disorders, Fifth Edition* (DSM-5).[1] The term "pervasive" indicates that these criteria should not be met exclusively in certain contexts or during periods of mental state disorder, such as depression. BPD has gained increased attention from the scientific and clinical communities and the public mainly because it is associated with a high risk of suicide, extensive use of mental health services, severe impairment in psychosocial functioning, and high social and economic costs.[2]

Diagnosing BPD in Adolescence

Despite long-standing general agreement that personality disorders have their roots in childhood and adolescence, diagnosing BPD before age 18 years has been controversial.[3] In many settings around the world, clinicians are still hesitant to diagnose BPD in youth, mainly because of 4 concerns: First, the diagnosis of BPD is not valid in adolescence. Second, typical features of BPD, such as affective instability or disturbed self-image, are normative among adolescents. Third, personality development is still in flux, and this precludes diagnosis. Fourth, and possibly most important, BPD is a pejorative term, and clinicians wish to protect their patients from stigmatizing and pessimistic attitudes. However, research over the past decade has disproven the first 3 assumptions, and greater knowledge of this has potential to influence the fourth.

There is increasing evidence in support of both diagnosing and treating BPD in adolescence. BPD has been found to be just as reliable and valid in adolescence as it is in adulthood,[4,5] it shows similar stability in adolescence compared with adulthood,[6] and it has incremental validity over and above common mental disorder diagnoses.[7,8] Most important, disorder-specific treatment is beneficial, including early intervention.[9] Thus, national treatment guidelines, Section 3 of the new DSM-5, and the proposed *International Classification of Diseases, 11th Revision*, personality disorder classification have all recently confirmed the legitimacy of the BPD diagnosis in adolescents.[1,10–12] This highlights the need to communicate this new knowledge about BPD in adolescence to health care professionals.

SIGNIFICANCE OF ADOLESCENT BPD

Prevalence and course

Epidemiologic data in adolescents are limited, with conservative point prevalence estimates ~0.9%.[13,14] Cumulative prevalence rates suggest that 1.4% of young people will meet diagnostic criteria for BPD by age 16 years, rising to 3.2% by age 22 years.[13] These data are comparable to adult prevalence data of 0.7% to 2.7%.[15,16] BPD is a common and important disorder in adolescent mental health settings, with an estimated prevalence of 11% in psychiatric outpatients[17] and up to 50% in inpatient settings.[18]

Although the female-to-male ratio in clinical settings is usually reported to be at least 3:1, population-based studies do not show substantial gender differences in the prevalence of BPD in adults[19,20] or children.[21] The reasons for the unequal gender distribution in clinical settings might be an artifact of sampling or diagnostic biases[22] or might reflect true biological, psychological, or social differences between males and females.

Longitudinal data show a normative increase in BPD traits after puberty (demarcating the onset of adolescence), reaching peak prevalence in early adulthood and subsequently declining in a linear fashion over subsequent decades.[23,24] The diagnostic stability of BPD has been found to be similar in adolescents and adults.[6] Ten years after initial diagnosis, 85% of adults with BPD will "remit" in terms of no longer meeting ≥5 BPD criteria[25]; this number rises up to 99% after 16 years.[26] These data confirm that BPD usually becomes clinically apparent during adolescence, peaks in young adulthood, and attenuates across the remainder of the life course.[27]

Risk Taking and Self-Harm

Young people's affinity to highly impulsive and self-damaging behavior places them at risk for adverse health outcomes. Both repetitive nonsuicidal self-injury (NSSI) and suicidal behavior are core features of BPD,[1] and most adults with BPD report a long-standing history of repetitive self-harm behaviors, dating

TABLE 1 DSM-5 Diagnostic Criteria for BPD[1]

- Frantic efforts to avoid real or imagined abandonment
- A pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation
- Identity disturbance: markedly and persistently unstable self-image or sense of self
- Impulsivity in at least 2 areas that are potentially self-damaging (eg, spending, sex, substance abuse, reckless driving, binge eating)
- Recurrent suicidal behavior, gestures, or threats, or self-mutilating behavior
- 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)
- Chronic feelings of emptiness
- Inappropriate, intense anger or difficulty controlling anger (eg, frequent displays of temper, constant anger, recurrent physical fights)
- Transient, stress-related paranoid ideation or severe dissociative symptoms

back to childhood or adolescence.[28] Among adolescents with BPD, "self-harm and suicidal behavior" (see Table 1) is the most frequently met BPD criterion. This differs from adulthood, when rates of self-harm and suicidal behavior decline.[28] In young people, BPD features best predict continued engagement in NSSI over 1 year,[29,30] and repetition of suicide attempts 6 months after hospitalization.[31] Patients with BPD represent 9% to 33% of all suicides,[32,33] and the lifetime suicide rate for BPD is estimated to be 8%.[34] Specific data for suicide among adolescents with BPD are lacking, and 1 unresolved issue is the timing of suicide in the course of BPD. Higher suicide rates are found in studies with shorter duration of follow-up,[34] suggesting that the early years after acute clinical care might be the period of highest risk. However, the study with the longest duration of follow-up (27 years) suggests that suicide occurs later in the course of BPD.[35]

Adolescents with BPD are more likely to engage in risk-taking behaviors because of their tendency to act impulsively in response to aversive emotional states, not taking into account the possible consequences. Substance use is a serious problem in adolescent BPD, and like NSSI, it is often used for the purpose of affect-regulation in unbearable, aversive emotional states. Inpatients with BPD show a significantly higher prevalence of substance use disorder compared with their clinical controls.[7] Additionally, adolescents with BPD are among the high-risk groups for sexual risk taking (eg, unprotected sexual intercourse, promiscuity) and consequent sexually transmitted diseases.[8] Findings from adults show that sexual risk taking is exacerbated when BPD is comorbid with substance use.[36]

Psychosocial Functioning and Mental Health Problems

When compared with their healthy peers, adolescents with BPD have substantial impairments in functioning, including social relationship problems and poor academic performance. In clinical studies, adolescents with a diagnosis of BPD also present with significantly reduced psychosocial functioning[7,8] and quality of life comparable to child and adolescent psychiatric patients with other mental disorders.[37]

Although BPD criteria tend to decline over time, functional impairment in adult BPD has been shown to be remarkably stable and more severe than for major depression.[25] This is supported by one study in young people, which found that adolescent BPD uniquely predicts poor outcomes up to 2 decades into the future, such as a future BPD diagnosis, increased risk for other mental disorders (especially substance use and mood disorders), interpersonal problems, distress, and reduced quality of life.[24,38,39]

Adult BPD is usually associated with a variety of comorbid mental health problems,[40] and recent studies have found that the frequency of comorbid mental disorders might be even higher among adolescents with BPD. In 2 studies, almost all outpatients and 100% of adolescent inpatients with BPD presented with comorbid mental disorders, most of them with 2 or 3 additional psychiatric diagnoses.[7,8] The most common comorbid mental disorders were mood disorders, followed by eating disorders, dissociative and posttraumatic stress disorders, other personality disorders and substance use disorders. When compared with patients with other mental disorders, the frequency of comorbid mental disorders was significantly higher among young people with BPD.[7,8]

The Clinical Picture of Adolescent BPD

In summary, adolescent BPD is a severe mental disorder that is associated with frequent risk-taking and self-harm behavior, a particularly high burden of psychiatric comorbidity, and severe psychosocial impairment. Chanen and colleagues previously argued that being diagnosed with BPD at young age might indicate a more severe form of borderline personality disorder and/or a poorer prognosis.[8] This clinical severity might also contribute to the high prevalence of service use among this group[41] and might predict a possible lifelong functional impairment, high rates of usage of mental health services (including various forms of therapy, day treatment, and inpatient care) and emergency services,[42] and increased mortality by both physical illness and suicide.[43,44]

THE DEVELOPMENT OF ADOLESCENT BPD

BPD is increasingly seen as a life-span developmental disorder[23] that exists on a dimensional continuum of severity.[45] Despite increasing knowledge of neurobiological and psychosocial risk factors for BPD over the past decade, a detailed understanding of the developmental pathways to BPD has not yet been achieved, and prospective developmental data on adolescent BPD are rare.

Neurobiological Findings

To demonstrate that abnormalities found in adult BPD are implicated in its etiology, they should already be present early in the course of BPD. Studying adolescent BPD is a means of decreasing the influence of "duration of illness" effects (eg, treatment, chronicity) on research findings.[46]

BPD is moderately heritable. However, no specific genes have been identified yet,[27] and genetic vulnerability is more likely to be linked to certain temperamental factors such as negative emotionality, impulsivity, and introversion.[47] Indeed, a BPD-specific temperamental pattern comprising opposing temperamental traits such as high novelty seeking and high harm avoidance has recently been found among adolescents with BPD,

even when compared with clinical controls.[48] Recent evidence from adults with BPD supports both gene–environment interaction and correlation in the development of BPD.[49] This means that individuals with a "sensitive" genotype are at greater risk of BPD in the presence of a predisposing environment. Furthermore, the genes that influence BPD features also increase the likelihood of being exposed to certain adverse life events. One study found that the stability of BPD traits from mid to late adolescence is largely influenced by a combination of genetic and nonshared environmental factors.[50] Recent research also focused on candidate genes from the serotonergic and dopaminergic systems but without stable and well-replicated findings.[27] The only genetic data on adolescent BPD suggests that polymorphisms in the serotonin transporter gene might be a developmental risk factor for BPD.[51]

Findings from structural imaging studies in adults consistently reveal volume reductions in the frontolimbic networks. Studies in adolescent BPD have only replicated findings for orbitofrontal cortex volumes[46,52] and anterior cingulate cortex volumes.[53,54] However, the common findings of volume reductions in the amygdala and hippocampus in adults with BPD do not seem to be present in the early course of BPD. Recent diffusion tensor imaging (DTI) studies of adolescents with BPD have revealed decreased fractional anisotropy in the inferior longitudinal fasciculus compared with healthy individuals[55] and decreased fractional anisotropy in the fornix compared with clinical control participants.[56] In the latter study, significant disorder-specific white matter alterations were found, including white matter pathways involved in emotion regulation as well as emotion recognition, suggesting that a large-scale network of emotion processing is disrupted in adolescent BPD.[56]

Acute dysfunctional behaviors characteristic of BPD often occur in reaction to stressful situations.[57] A specific vulnerability to stress (higher emotional intensity in response to stressors and a delayed return to baseline affect) has been proposed for individuals with BPD,[58] which might be associated with the hypothalamic-pituitary-adrenal axis (HPAA).[59] Adults with BPD show an attenuated cortisol response to acute stress,[60] and this has also been found in adolescents engaging in repetitive NSSI.[61] More numerous self-harm behaviors in adolescents with BPD were associated with increased pituitary volumes,[62] suggesting greater basal activation of the HPAA. Given these findings, it is possible that prolonged activation of the HPAA in BPD individuals might induce HPAA hyporesponsiveness.

Altogether, the extant neurobiological findings in adolescent BPD are preliminary and need replication. Future research is needed, for example, to better address developmental processes (eg, brain maturation),[63] or the interplay between different neurobiological systems and the environment.[64]

Neuropsychological Findings

Alterations in emotion information processing have commonly been found in adults with BPD and have been proposed to be a key mechanism in the etiology of BPD. However, findings in adolescents are inconsistent. One study revealed that adolescent patients with BPD show stronger orienting to negative emotional stimuli,[65] but a comparable study found no evidence of heightened sensitivity to emotional facial expressions.[66] Nonetheless, adolescent borderline pathology has been linked to an inability to disengage attention from negative facial expressions during attentional maintenance when in a negative mood.[67]

Adolescents with BPD have also been found to have impaired social perspective coordination and deficits in so-called theory of mind tasks.[68] This latter deficit appears to be due to overinterpretive mental state reasoning (hypermentalizing = social-cognitive process that involves making assumptions about other people's mental states that go so far beyond observable data that the average observer will struggle to see how they are justified), rather than the reduction or loss of theory of mind per se.[69,70] Finally, youth with BPD have a preference for immediate gratification and a tendency to discount longer term rewards, which appears to be related to trait impulsivity.[71]

Environmental Findings

Low family of origin socioeconomic status appears to be an independent prospective risk factor for BPD.[72] This is confirmed by clinical data, with adolescents with BPD having lower socioeconomic status compared with healthy and clinical control subjects despite similar level of intelligence.[7]

Strong associations between BPD and adverse childhood experiences have been found in clinical[73] and population-based adult samples.[74] The few studies including prospective data indicate that not only childhood maltreatment but also parenting variables such as attachment disorganization, maternal inconsistency and parental hostility are specifically associated with increased risk for BPD.[24,75,76] In a recent population-based study, early BPD symptoms, at the age of 11, could be predicted by adverse family backgrounds and suboptimal parenting.[77] A recent clinical study revealed that adolescent self-harm showed highest specific associations with maternal antipathy and neglect and only moderate associations with sexual abuse.[78] It is still commonly believed that BPD is mostly a consequence of severe sexual abuse. However, although childhood sexual abuse is common in the histories of individuals with BPD, it

is a rather weak and nonspecific risk factor.[79] Taken together, the precise role of childhood adversity in the etiology of BPD remains contentious because putative risk factors, such as childhood abuse, adverse familial environment, and a family history of psychopathology might all contribute to the development of BPD and are often highly intercorrelated.[80]

Although childhood experiences are predominantly influenced by parental relationships, peer relationships gain increasing importance during adolescent development. Difficulties with peer relationship might contribute to or accelerate the development of adolescent BPD.[81] A history of being bullied in childhood is associated with BPD in adulthood[82] and prospective data also show that being bullied during childhood is associated with BPD symptoms during early adolescence[83] and increases the risk of self-harm in late adolescence by exacerbating the effects of exposure to an adverse family environment.[84]

Recent research has increased our understanding of the developmental pathways to BPD. It is likely that individuals with a "sensitive" genotype are at greater risk of BPD in the presence of a predisposing environment, supporting the stress-diathesis model first proposed >30 years ago.[85] However, the complexity of this interaction is likely to be high because of multiple interactions among predisposing biology (eg, genes), early environment (eg, low socioeconomic status, childhood adversity), reactive neurobiological alterations (eg, alterations of the HPAA), and a reactive environment (eg, having a higher risk of being bullied or maltreated because of particular temperamental characteristics), and further details are beyond the scope of this review.

DIAGNOSING ADOLESCENT BPD

Early Detection

Diagnosing BPD is now justified and practical in adolescence[9] and is supported in national treatment guidelines for BPD.[10,11] Like most other disorders, there is likely to be a correlation between long duration of illness and worse prognosis for BPD. Early identification and treatment of young people with mental health problems is expected to reduce chronicity and related adverse health outcomes[86,87]; thus, early detection of adolescent BPD is a crucial goal for health care systems.

Despite strong evidence supporting early identification of individuals with BPD, stigma is a key lingering barrier to early diagnosis in day-to-day clinical practice.[9] BPD is highly stigmatized among professionals,[88] and it is also associated with patient "self-stigma."[89] Although concerns about stigma are genuine and the response is well intentioned, this practice runs the risk of perpetuating negative stereotypes, reducing the prospect of applying specific beneficial interventions for the problems associated with BPD, and increasing the likelihood of incorrect diagnoses, inappropriate interventions and iatrogenic harm (such as polypharmacy).[9]

Most individuals with early BPD symptoms will be seen by a general practitioner, a pediatrician, or other health care worker. Therefore, early detection relies on knowledge of clinical indicators of BPD (suggested in Table 2), and appropriate referral networks to mental health professionals. Although these clinical indicators can be used to identify adolescents who might be at risk for having BPD, it is important to understand that their sensitivity and specificity will varying (eg, repetitive self-harm is more indicative of BPD than anger outbursts).

Increasing knowledge about adolescent BPD and reductions in stigma among professionals are likely to make early detection of adolescent BPD feasible and maybe even routine. This would likely result in more timely and specific interventions that aim to reduce impairment of psychosocial functioning and reduce borderline and other psychopathology and consequently improve the prognosis for adolescents with BPD.

Diagnostic Characteristics

To date, the major diagnostic classification systems have not adopted developmentally focused criteria for BPD. Thus, adult BPD criteria are used for adolescents.[1] Although there are some differences between adolescents and adults in diagnostic-related phenomena associated with BPD, a review concluded that these differences can be explained by the principle of heterotypic continuity in development.[90]

Reported differences between adults and adolescents affect the dominance of diagnostic criteria at certain stages of development.[7] Compared with adults, adolescents are more likely to present with the more "acute" symptoms of BPD, such as recurrent self-harm and suicidal behavior, other impulsive and self-damaging behaviors, and inappropriate anger while long-standing characteristics, such as unstable relationships, idenbances, or fear of abandonment, seem to be more strongly represented among adults with BPD.[7,91] Because of this overrepresentation of acute symptoms in adolescent BPD, it is crucial to carefully distinguish acute mental states (that might occur during a mental state disorder or a developmental crisis) from features that indicate a more general pattern of maladaptive and dysfunctional behaviors.

Dimensional Diagnostic Approach

There is strong evidence from population and clinical studies supporting the notion that BPD is a dimensional construct,[45] and subthreshold presentations are clinically important.[92] An example of this appears in section 3 of the DSM-5 (conditions that require further research),[1] but at present there is no consensus among the field as to

TABLE 2 Warning Signs That May Indicate a Possible Diagnosis of Adolescent BPD

- Repetitive NSSI or suicide attempts
- Impulsive risk-taking behaviors (eg, binge drinking, substance abuse, risky sexual behavior)
- A mixture of high levels of both internalizing (depressive symptoms, anxiety) and externalizing problems (conduct problems, attention-deficit/hyperactivity disorder symptoms)
- Frequent anger outbursts and disruptive behavior
- Frequent interpersonal problems and fights (including unstable relationships)
- Very low self-esteem, insecure identity, lack of goals in life

which dimensional model should be adopted.[93] Potential advantages of a dimensional approach are that (1) adolescents with BPD can be described much more in detail than previously possible, (2) subthreshold conditions can be easily identified and classified, (3) changes in BPD symptomatology over the course of illness can be more sensitively detected, and (4) therapeutic interventions could be more individually targeted.[94]

Diagnostic Tools

Reliable diagnosis of BPD is essential and the use of a well-established diagnostic tool is highly recommended.[95] The official tools of the fourth edition of the DSM (DSM-IV; Structured Clinical Interview for DSM-IV Axis II Personality Disorders)[96] and *International Classification of Diseases, 10th Revision* (International Personality Disorder Examination)[97] are widely used in clinical and research settings and have also successfully been used in adolescents.[7,8,17,48,98] Recent developments in the field of adolescent BPD have also included the validation of the Childhood Interview for DSM-IV Borderline Personality Disorder,[99] which shows good reliability and validity[100] and is the first interview-based measure for adolescent BPD.

Self-report scales have been widely used in population-based studies of BPD and as screening measures in clinical settings. Examples from the adult population, which have also been successfully used in adolescent samples, are the BPD items of the Structured Clinical Interview for DSM-IV Axis II Personality Disorders Personality Questionnaire,[17,96] the Borderline Personality Questionnaire,[17,98,101] and the McLean Screening Instrument for BPD.[102] The Borderline Personality Features Scale for Children[103] has been developed specifically for children and adolescents and includes a newly developed parent report version.[104] Adolescent BPD features may also be assessed by using the Personality Assessment Inventory for Adolescents.[105] The Schedule for Nonadaptive and Adaptive Personality for Youth, a new self-report measure for the assessment of adolescent personality traits, relevant to both normal-range personality and the alternative DSM-5 model for personality disorder has recently been developed.[106] The Borderline Personality Disorder Severity Index, IV, adolescent and parent versions have recently been validated for the assessment of BPD severity in adolescents.[107]

Differential Diagnoses

Adolescents with BPD are characterized by a blend of externalizing (eg, impulsive-aggressive behavior, substance abuse) and internalizing (eg, anxiety, depression) symptoms.[48] This variety of psychopathology means that adolescent BPD can easily be confused with other psychiatric diagnoses, and a thorough understanding of differential diagnoses aids precision. One of the key tasks of differential diagnosis is to distinguish "state" from "trait" psychopathology. To make a diagnosis of personality pathology, the feature must remain present to some extent outside distinct periods of abnormal mental state. For example, "affective instability" is a prominent feature of adolescent BPD that can be difficult to distinguish from affective mental state disorders (eg, depression). Moreover, many adolescents with BPD present with a co-occurring major depressive episode. The diagnosis of borderline affective instability is made when this feature predates or persists beyond distinct periods when the person has depressed mood accompanied by other features of major depression.

Clinical differentiation of bipolar II disorder from BPD can be challenging because of co-occurrence of phenomenologic features such as affective lability, difficulty controlling anger, impulsivity, and suicidality.[108] This has previously led to the suggestion that BPD might in fact belong to the bipolar spectrum; however, this hypothesis is based largely on the observation of unstable mood, but there is little research to support this idea.[109] Clinical characteristics such as family history, phenomenology, longitudinal course, comorbidity, and treatment response do differ significantly between the 2 conditions.[110,111] Patients with BPD experience a higher and broader load of negative emotions (eg, anger, sadness, anxiety), and the fluctuation of their affective states is more rapid and chaotic, often in reaction to interpersonal events. Bipolar II disorder usually shows a sharp onset period in late adolescence or young adulthood, tends not to remit with age, and shows more agitated and autonomous mood episodes without interpersonal context. These episodes are rather cyclical and include sustained euphoric periods.[110,112] Distinguishing the disorders is clinically important, because of the marked differences in treatments for BPD or bipolar II.

Adolescents with BPD often report transient and stress-related dissociative symptoms (eg, feeling that the self is strange or unreal, detached from emotions, feeling like a robot) and paranoid symptoms as well as auditory hallucinations. Thus, psychotic disorders are important differential diagnoses of BPD

and require thorough differentiation because of the risk of unnecessary polypharmacy. Other diagnoses to be considered during the assessment of BPD include substance use disorders, which are common among youth with BPD. Although BPD can be diagnosed in the majority of adolescents with nonsuicidal self-injury,[113] it is important to note that not all self-harming adolescents have BPD. Given the strong association between trauma and BPD, posttraumatic stress disorder is common among individuals with BPD[114] and requires attention during assessment.

EARLY INTERVENTION FOR BPD

BPD is a reliable and valid diagnosis in adolescence that is associated with acute risks and impairment and serious long-term consequences including poor psychosocial functioning and high morbidity and mortality. Therefore, specifically tailored, evidence-based interventions are crucial for this group.

Prevention

BPD has been identified as a leading candidate for developing empirically based prevention and early intervention programs because it is common in clinical practice, it is among the most functionally disabling of all mental disorders, it is often associated with help-seeking, and it has been shown to respond to intervention, even in those with established disorder.[9] Data also suggest considerable flexibility and malleability of BPD traits in youth,[115] making this a key developmental period during which to intervene, and adolescent BPD features have been shown to respond to intervention.[116,117]

It has been strongly argued that standalone universal (whole population) prevention of BPD is not currently justified or feasible because the condition is not sufficiently prevalent, and it is unclear what form or dose of intervention would be appropriate.[9] Similarly, selective prevention (targeting those with risk factors for BPD) is currently impractical because of the lack of specificity of most risk factors (particularly environmental factors, such as childhood adversity) associated with BPD. Both approaches are scientifically impractical because they cannot be adequately powered to reliably detect treatment effects.[118] Indicated prevention is currently the only evidence-based form of prevention for BPD.[9] This approach targets those individual displaying signs and symptoms that resemble aspects of the BPD phenotype and which presage its later appearance in adolescence or emerging adulthood. Certain early temperamental and personality features, internalizing and externalizing psychopathology, and specific BPD criteria are all candidate precursor signs and symptoms.[27] Examples include features of disruptive behavior disorders, self-injury, substance use and depressive disorders, along with BPD diagnostic features. This approach is discussed in more detail elsewhere.[9]

High Quality Clinical Care

Chanen and McCutcheon, who have pioneered early intervention in BPD for the past 15 years, have recently published basic principles for early intervention (see Table 3). These principles are drawn from the work of the Helping Young People Early (HYPE) program in Melbourne, Australia[95] but are common to more recently established early intervention services for BPD, such as the Dutch emotion regulation training (ERT) program,[117] or the German outreach clinic for Adolescent Risk-taking and Self-harm behaviors (AtR!Sk).[119] Beyond these principles, the main differences among the programs are related to the model of individual psychotherapy that is practiced at each center.

Psychotherapy

Individual psychotherapy is a key component of early intervention for BPD in addition to the underpinning service delivery models. To date, there are several disorder-specific psychotherapy treatment manuals available for adolescent BPD, but only some of the commonly used disorder-specific psychotherapeutic approaches are described in more detail here.

Cognitive analytic therapy (CAT)[120] was the first individual therapy to be tested in a randomized controlled trial (RCT) in adolescent BPD. CAT has been adapted for early intervention in BPD and is used within the HYPE program in Australia.[95] CAT is a time-limited, integrative, and "transdiagnostic" psychotherapy that arose from a theoretical and practical integration of elements of psychoanalytic object relations theory and cognitive psychology, subsequently developing into an integrated model of development and psychopathology. CAT is practical and collaborative in style, with a particular focus on identifying, understanding, and revising the individual's problematic self-management and interpersonal relationship patterns and the thoughts, feelings, and behavioral responses that result from these patterns. A central feature in CAT is the joint (patient–therapist) creation of a shared understanding of the patient's difficulties and their developmental origins, using plain-language written and diagrammatic "reformulations." CAT has demonstrated effectiveness compared with "treatment as usual,"[121] and more rapid recovery but similar 2-year outcome, compared with structured high-quality care available in the HYPE service model.[116]

ERT[117] is an adaptation of Systems Training for Emotional Predictability and Problem Solving (STEPPS).[122] ERT is a 17-week, manual-based, cognitive-behavioral group treatment program for adolescent outpatients with borderline personality disorder. It combines cognitive behavioral elements and skills training with a systems component. In a recent RCT, ERT led to substantial improvement of adolescent BPD symptomatology but

TABLE 3 Basic Principles of Early Intervention in Adolescent BPD

- Rigorous diagnoses of BPD criteria
- Broad inclusion criteria, with limited exclusions for co-occurring psychopathology
- A dimensional view of BPD, which means treating both subsyndromal (indicated prevention) and syndromal (early intervention) BPD
- Assertive case management integrated with the delivery of individual psychotherapy and general psychiatric care
- Active engagement of families and carers
- A clear model of brief and goal-directed crisis and inpatient care
- Individual and group supervision of staff including a quality assurance program
- Access to support structures for social recovery

failed to demonstrate superiority over high qualitative treatment as usual.[123]

Mentalization-based therapy[124] has been developed in accordance to attachment theory and empirical research on psychotherapy. It is a psychodynamic approach that aims to improve the ability to make and use mental representations of their own and other people's emotional states ("mentalization"). Mentalization-based therapy has recently been successfully applied to self-harming adolescents in the United Kingdom within a RCT[125] but not yet proven effectiveness in a specific trial for adolescent BPD.

Other treatment approaches that have been successful in treating adults with BPD have been adapted for use in adolescents but have not been tested in RCTs in this age group. One of the most commonly used approaches for the psychotherapeutic treatment of adolescent BPD is dialectical behavior therapy for adolescents (DBT-A),[126] which has been developed from Linehan's DBT for adults[85] and combines elements of cognitive-behavioral therapy with awareness and relaxation techniques from the Zen Buddhism. DBT has become well known for its skills-training groups, which aim to convey practical skills for the improvement of stress tolerance, emotion regulation, interpersonal difficulties, and awareness to individuals with BPD. DBT-A consists of 20 weekly individual psychotherapy sessions, weekly participation in the skills group and rigorous supervision of the therapists. In addition to adult DBT, the integration of families is a central component of DBT-A. DBT-A is currently used within the German program AtR!Sk. So far, there are some promising follow-up data available,[127,128] and an RCT is under way.[129]

Transference-focused psychotherapy[130] is an analytic psychotherapeutic treatment approach that has been developed by Kernberg and his group in accordance with object relations theory. It combines classic analytic techniques with a more structured and presence-focused approach that fits the needs of adolescents with BPD. The transference-focused psychotherapy has been manualized and adapted for the treatment of adolescent BPD (adolescent identity treatment)[131] but has not been evaluated.

Research has only begun to evaluate effectiveness of these disorder-specific treatments and has revealed some promising results. It appears highly likely that structured interventions for BPD are superior to treatment as usual in mental health services. However, true evidence is still lacking for almost all treatment approaches, and several specialized treatments have been studied with mixed results.[132]

Pharmacotherapy

Recent meta-analyses for adult BPD concluded that there is no current evidence for any BPD specific pharmacotherapy.[133] So called symptom-focused pharmacotherapy is controversial in adults with BPD and, given its lack of efficacy or effectiveness, should not be extrapolated to adolescent BPD. One preliminary study exists for the use of omega-3 fatty acids in adolescents with BPD and ultra high risk for psychosis.[134] Overall, there is no current evidence for any specific pharmacotherapy as a first-line treatment of adolescent BPD, and the risks of polypharmacy and iatrogenic harm are high in these young people.[9] Comorbid disorders should be treated according to their respective clinical guidelines for adolescents, and this might sometimes involve pharmacotherapy.

CONCLUSIONS

BPD is a reliable and valid diagnosis among adolescents. Importantly, it is associated with severe psychopathology and high risks for affected individuals' health, development, and future. Adolescents with BPD benefit from early detection and intervention to alter the life-course trajectory of the disorder, reducing long-term adverse consequences of BPD, such as poor psychosocial functioning and high morbidity and mortality. Therefore, an important first step is to increase knowledge about adolescent BPD among clinicians in the field of child and adolescent health to reduce stigma and improve awareness with regard to adolescent BPD.

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