

REVIEW ARTICLE

Early intervention for bipolar disorder in adolescents: A psychosocial perspective

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Aim: Early intervention in bipolar disorder (BD) has received increasing attention in recent years. The identification of risk factors has improved, but researchers continue to struggle to find an effective treatment once the illness has become established. The aetiology of BD and feasibility of early intervention present a challenge, making it difficult to decide who to target, as well as how.

Methods: This essay seeks to address the lack of guidance for managing patients with a possible emerging bipolar illness, by presenting a rough roadmap to psychological care. The psychological techniques currently showing the most potential for this challenging group are reviewed. Markers of risk and supplementary clinical targets, such as anxiety and sleep disruption, are also discussed.

Results: While research in this group remains in its infancy, various avenues of enquiry show promise, such as family-based approaches, CBT that targets features beyond the core illness, psychoeducation, and interventions that consider physical health. However, clearer pathways for establishing the course and stage of the illness are required to inform the intensity and type of treatment.

Conclusion: It is argued that treating early, indistinct symptoms of psychological distress, that may or may not signify prodromal BD, is valuable beyond its utility as an early intervention tool, as it has the capacity to improve help-seeking behaviour, quality of life and the likelihood of functional recovery in those who go on to develop the illness as adults.

KEYWORDS

adolescence, bipolar disorder, early intervention, functional recovery, staging

1 | INTRODUCTION

The premise of early intervention is that as illnesses progress, the utility of treatment decreases, and acting quickly can help maximize outcomes for the patient. Many mental illnesses first emerge during adolescence, making early intervention particularly powerful given that the brain continues to mature until around 25 years of age. When targeting at-risk groups, the benefits of early intervention can range from total prevention, to minimizing symptoms or disability, or to facilitating adjustment to the illness and its associated burden. This might involve the application of evidence-based treatments, such as cognitive behavioural therapy (CBT), at a lower dose than for established cases of mental illness; psycho-education for the patient, family and friends; implementation of health-maintaining practices such as

sleep hygiene and exercise; increased monitoring of warning signs; or a combination of the above.

Early intervention is particularly important for those at risk of bipolar disorder (BD). This particularly debilitating illness can interrupt or prevent the attainment of social skills, occupational functioning, financial security, physical health, independence, healthy romantic relationships and a stable sense of self (Sanchez-Moreno et al., 2009), partly due to its age of onset commonly falling in the formative years (Macneil et al., 2012). For most, a diagnosis of BD is lifelong, requires prophylactic medication (Malhi, McAulay, Das, & Fritz, 2015) and can worsen over time (Malhi et al., 2009).

Early intervention in BD can potentially reduce the impact of the illness significantly, especially as treatment response is thought to decline with successive episodes (Kessing et al., 2014); unfortunately,

Early prevention/intervention — Indicated intervention — Early treatment

ACTION FEATURES STAGE

Moderate risk PRIMARY	High risk SECONDARY	(Prodrome) Emergent TERTIARY
One or more risk factors <ul style="list-style-type: none"> Genetics Environmental stressors Family setting Substance use Temperament Trauma/stress history Psychological symptoms <ul style="list-style-type: none"> Euthymic High emotionality Anxious temperament Sleep disturbance 	One or more risk factors <ul style="list-style-type: none"> Psychological symptoms <ul style="list-style-type: none"> Dysthymia or depression Clinical anxiety Other mental illness e.g. Eating disorder Emotion dysregulation above and beyond that of peers 	One or more risk factors <ul style="list-style-type: none"> Psychological symptoms <ul style="list-style-type: none"> Mania or hypomania Psychosis Suicidality Dysthymia or depression Clinical anxiety Other mental illness e.g. Eating disorder Emotion dysregulation above and beyond that of peers
<ul style="list-style-type: none"> Screen Psychoeducate Monitor for mood, anx and BD sx Promote physical health 	<ul style="list-style-type: none"> Treat non-BD mental illness Psychoeducate Monitor for BD sx Promote physical health Caution before using medication 	<ul style="list-style-type: none"> Treat BD and comorbidities Psychoeducate Involve family Promote physical health Cautious use of medication

FIGURE 1 Staging considerations for emerging bipolar disorder.

diagnosis is commonly delayed, by 10 years on average (Lish, Dime-Meenan, Whybrow, Price, & Hirschfeld, 1994). Many people first show symptoms of the illness from 15 to 19 years of age (Malhi et al., 2009), * but no consensus has yet been reached regarding best practice for prodromal adolescents. One key barrier is that the prodromal state does not necessarily resemble the established form of the illness (Mao & Findling, 2007; Vieta, 2015). In the absence of an unequivocal biomarker, diagnosis and identification of early BD is fraught with challenges (Berk et al., 2007). Depression is usually the first episode, and first-line treatments for unipolar depression are contraindicated for bipolar depression, but substantial delays in the presentation of hypo/mania interfere with appropriate diagnosis and management (Berk et al., 2007). In addition, the trials and tribulations of adolescence—mood disruption, substance use, sleep changes—can often overlap with clinically significant symptoms (Pfennig et al., 2014). Supportive adult bystanders without experiences of mental illness may struggle to decide when professional help is needed, and to what extent, given the lack of clarity in the literature about what constitutes low, medium and high risk for the illness. Medication plays a key role for many patients with established forms of the illness, whereas evidence for benefits of medication during the prodrome phase is limited (Vieta, 2015). Psychosocial interventions may warrant greater consideration during the prodromal stage, as these interventions may reduce the likelihood of transition to established illness. They may also reduce the risk of relapse among individuals with established illness by increasing adherence to medication (Vieta, 2015).

This essay seeks to provide a roadmap for health professionals working with possible early cases of BD, or those at risk of developing this illness. It builds on the work of Scott and Meyer (2007), providing an update on the evidence base and novel directions. It will identify the broad stages of adolescent BD, review current evidence-based psychological treatments that can be implemented as indicated prevention, and specify additional clinical targets for those at varying levels of risk. It hopes to support clinical decision-making and maximize therapeutic utility in this population, by outlining the benefits and risks of different approaches, as well as additional treatment considerations in this heterogeneous group.

2 | STAGES OF BD

At present, no established staging model for BD exists (Vieta, 2015) despite recent developments in neuroprogression theories (Macneil et al., 2012) and efforts to synthesize current evidence (Duffy, 2014). However, adolescents who will likely have BD in adulthood can be roughly divided into 3 categories based upon the level of intervention required, as defined by Scott and Meyer (2007) (see Figure 1). Primary prevention is oriented towards adolescents with a high-risk loading for the illness, which can include having as one or more first-degree relatives with BD, significant early environmental stressors, or temperaments characterized by rumination, perfectionism and mood and emotional dysregulation. For this group, intervention is two pronged, first being oriented around the prevention of the illness, through psychoeducation and management of risk factors. Second, the imbueing of healthy life skills such as sleep hygiene, protecting against alcohol and substance abuse, and increased awareness of inner states through techniques such as mindfulness can be

*Due to considerations of scope and the controversy surrounding diagnoses of paediatric bipolar disorder (e.g. Duffy, 2007), this essay's discussion of early prevention will be limited to adolescents, considered to be aged 13–19.

considered potentially beneficial on a population-level but especially so for this group (Goldstein et al., 2014).

Secondary prevention is targeted towards averting or delaying the full realization of the illness (Mao & Findling, 2007). This is appropriate for adolescents, with risk factors as above, who also present with acute symptoms such as anxiety or depression. Symptoms of anxiety and depression can be severe, less responsive to typical medications and often predate more classic symptoms of BD such as milder mood fluctuations (Goodwin, 2009). Findling et al. (2005) have designated sub-syndromal BD as “cyclothaxia,” given that it involves symptoms of mania and labile mood that do not yet meet diagnostic criteria.

Finally, tertiary prevention is concerned with treating adolescents who meet full criteria for BD which will likely endure into adulthood. Intervention in this group aims to ameliorate the severity of and disruption associated with the illness (Scott & Meyer, 2007), and in some cases adolescents may escape future mood episodes (Miklowitz et al., 2013). Lithium monotherapy remains the gold-standard first-line treatment (Malhi et al., 2015), with its neuroprotective effects particularly impactful (Berk et al., 2007). Anti-epileptic mood stabilizers or antipsychotics are also commonly prescribed, but as argued by Vieta (Vieta, 2015), caution should be exercised before prescribing medication when the diagnosis is still under consideration.

3 | WHAT INCREASES RISK FOR BD?

There are a number of well-established factors associated with an elevated risk of developing BD which have been reviewed in depth elsewhere (e.g. Perich et al., 2015). In accordance with the biopsychosocial model, these stem from external or environmental roots, internal processes and the interplay between the 2.

The heritability of BD is well known, and although estimates vary, offspring of adults with BD have an elevated risk of developing any psychiatric diagnosis (Mesmen, Nolen, Reichart, Wals, & Hillegers, 2013). Family environment is also highly relevant, especially given the chance of another member of the family suffering from BD or another mental illness. Perich et al.'s (2015) findings suggested that a stable household was a protective factor for adolescents at risk of BD.

The impact of early trauma in the development of BD is also widely reported. Duffy, Jones, Goodday, and Bentall (2016) explored how early trauma in the form of neglect or abuse can attenuate the HPA axis, impacting cortisol response and subsequently eroding emotional regulation skills. They also hypothesized based on clinical experiences that the key factor could be the degree to which the parent experiences mental ill-health during the child's formative years. This is associated with more emotionally labile temperaments, and in turn may be implicated in atypical impulsivity, reward sensitivity, rumination and cognitive styles (see Duffy et al., 2016 for a review). Disrupted sleep in childhood is also a predictor of BD. Furthermore, although the course of both illnesses is debated, substance abuse is commonly comorbid with BD, and while its shared pathways have not yet been conclusively uncovered, its presence may increase the likelihood of activating a dormant mental illness (Verduin, Tolliver, & Brady, 2005).

4 | SIGNS OF FUTURE BD IN ADOLESCENTS

When considering the possibility of emergent BD in an adolescent, it is not sufficient to screen for symptoms of BD, given the limitations of the DSM (Kowatch et al., 2004) and non-specificity of common symptoms such as irritability and impulsivity (Pfennig et al., 2014). Furthermore, various factors can trigger mania without a diagnosis of BD being appropriate, such as substance use, sleep deprivation and thyroid conditions (Kowatch et al., 2004). Therefore, associated symptoms should be assessed and considered as treatment targets, especially before the onset of any major mood episodes. Early positive experiences of psychotherapy may also build faith in the process, and facilitate future engagement with clinical psychologists (Macneil et al., 2011).

Anxiety is one strong predictor of the illness in those at risk, and can present in prepubescent children (Pfennig et al., 2014). Although relatively common, anxiety and sleep disturbance predict a greater risk of mood and psychotic disorders in adulthood (Duffy et al., 2016). Similarly, having BD significantly increases the risk of having an anxiety disorder (Perich et al., 2015). Although clinicians are becoming more aware of screening for BD when patients present with depression and other risk factors, comorbid anxiety should also be considered a warning sign, as well as a domain that deserves treatment to reduce distress and disability.

Substance use in at-risk adolescents is particularly deserving of scrutiny, both from a diagnostic and risk-management perspective. In particular, heavy marijuana use can not only contribute to the development of psychotic illness, but also be employed to regulate distress, depressive symptoms, manic symptoms such as racing thoughts and agitation, and positive psychotic symptoms such as voices (Macneil et al., 2011). Stimulants can induce manic behaviours in even healthy adults and teenagers, but mania is in itself a predictor of risky behaviour and drug-taking, further muddling the question of which preceded what.

Suicidal ideation is another devastating feature of the illness, and should be routinely screened given the additional risk in adolescents (Macneil et al., 2011). In a teenager presenting with depression with comorbid suicidal ideation, BD should be screened for given the higher loading and increased danger of attempts during manic or mixed episodes (Goodwin, 2009).

Adolescent presentations of depression should be screened, as around 20% to 30% of adolescents presenting with a major depressive episode will go on to develop BD (Scott & Meyer, 2007). Furthermore, the quality of low mood should receive scrutiny, as bipolar depression is arguably quite distinct from unipolar depression (Berk et al., 2007). It is more likely to fit an “atypical” profile, characterized by hypersomnia, hyperphagia, irritability, seasonal patterns and psychomotor slowing (Berk et al., 2007; Scott & Meyer, 2007).

5 | EARLY INTERVENTION FOR POSSIBLE AND EMERGENT BD

Given the high rate of false positive symptoms in those at risk of BD (Vieta, 2015), interventions are typically limited in their intensity, and

often involve only psychoeducation and monitoring. Psychoeducation about BD can involve the family, close peers, school staff and other people of importance for the individual. This is particularly valuable given the stigma surrounding and misunderstanding of BD, which is typically less often targeted in universal awareness programs. It typically includes an introduction to the biopsychosocial model of BD, features of the illness, and most appropriate treatments. Adolescents are also encouraged to monitor their mood fluctuations, sleep schedules, and other health behaviours such as diet and caffeine intake, both to implement healthier habits, and also detect early signs of an imminent mood episode.

Interventions such as Interpersonal and Social Rhythms Therapy (IPSRT; Frank, 2005) also include a module on social interactions, with a view to improving interpersonal functioning and buffering against social isolation that characterises BD. Goldstein and colleagues' (Duffy, 2014) pilot study of IPSRT targeted teenagers at risk of BD due to having a first degree relative with the illness. They found moderate improvements in sleep schedules, but also encountered limited engagement with treatment, particularly in recruitment and attendance. Many participants had a comorbid mood, anxiety or behavioural disorder, and receiving primary care for these conditions before considering prevention for BD would have perhaps been more appropriate. This study also argued that the same factors that elevate risk of developing BD—that is, having first-degree relatives with BD—may also interfere with treatment seeking, engagement and uptake. For example, difficulty attending sessions may be partly due to a parent's illness, and the concomitant strain on other family members, meaning preventative treatment cannot be prioritized (Duffy, 2014).

CBT has demonstrated some efficacy for BD in general (Mitchell, 2004), with studies suggesting that it is at its most efficacious before the illness becomes chronic (Scott et al., 2006), while a systematic review by Lam, Burbeck, Wright, and Pilling (2009) suggested that treatment can reduce relapse rates regardless of previous number of episodes. However, insufficient research has been conducted in adolescent populations to draw strong conclusions regarding its efficacy (Feeny, Danielson, Schwartz, Youngstrom, & Findling, 2006; Knutsson, Bäckström, Daukantaite, & Lecerof, 2017), although there is recent promising data for those in the early stages (Jones et al., 2015). However, given high comorbidity rates with anxiety and eating disorders, CBT could arguably be used at least to target these conditions and reduce overall burden on quality of life.

6 | WHAT ROLE SHOULD THE FAMILY PLAY IN EARLY INTERVENTION FOR ADOLESCENT BD?

The involvement of parents, family and friends is arguably essential to assist with monitoring, help-seeking and limit-setting. Unfortunately, this also has the potential to contribute to the disabling effects of BD. A diagnosis in adolescence can stymie the development of a stable identity (Macneil et al., 2011). Increased reliance on parents for monitoring and support can be considered a regression in functioning and self-efficacy, and is potentially experienced as a loss of age-appropriate, recently-gained independence, especially for older

teens (Goldstein et al., 2014). This has been hypothesized to partially account for the persistence of disrupted functioning and occupational and academic attainment over the long term. Macneil et al. (2011) argue that 1 key goal of psychotherapy is to balance these concerns, alongside the objective need for family and friends to provide support, especially during early phases of the illness. Hypervigilance is one understandable response to bipolar mood episodes, and clients and their families require additional training to identify warning signs vs normal boundary-testing characteristic of this age group. For those who do receive a confirmed diagnosis, fostering acceptance of this may also be important to facilitate treatment adherence (Goldstein et al., 2014).

As individual therapy can involve multiple relationships and opposing goals of different parties, family therapy may be best-placed to navigate these challenges (Pfennig et al., 2014). Family-based treatments can involve communication skills training, fostering closer relationships through positive activities, and supporting joint decision-making as children become more independent. A recent RCT of Family-Focused Therapy adapted for adolescents (FFT-A) showed mixed results (Sullivan, Judd, Axelson, & Miklowitz, 2012). While it found that depression scores were associated with measures of family functioning, treatment response was limited. However, it did identify that FFT-A was superior to usual care in families with high, but not low levels of conflict. This finding was corroborated in a subsequent study (Miklowitz et al., 2013). An earlier study by Miklowitz et al. (2011) in somewhat younger adolescents at risk of BD found that patients improved in depressive and manic symptoms, as well as psychosocial functioning. This suggests that systemic approaches may be appropriately employed, depending on certain features of the client and their family environment's level of conflict.

7 | THE INTERPLAY OF PHYSICAL AND MENTAL HEALTH AND THE ROLE OF THE CLINICIAN

One area where early intervention is well-positioned to improve outcomes is in protecting physical health. BD is associated with high levels of physical ill-health, particularly metabolic problems such as obesity and cardiovascular disease (McElroy & Keck, 2012). As well as the associated risks of second-generation antipsychotics (SGAs), which are routinely prescribed despite typically inducing weight gain (Malhi, Mitchell, & Caterson, 2001), those with BD are more likely to smoke, be physically inactive, have poor fruit and vegetable intakes, and be overweight. Health risk behaviours such as these have been linked to worsened psychiatric status (Cerimele & Katon, 2013; Melo, Daher, Albuquerque, & de Bruin, 2016; Sylvia et al., 2014), and obesity is associated with poorer response to psychotherapy (Peters et al., 2016). In addition, binge eating disorders and symptoms are overrepresented and underdiagnosed in this population (Krüger, Shugar, & Cooke, 1996; Wildes, Marcus, & Fagioli, 2008).

While the evidence is not yet clear, with many studies being cross-sectional rather than interventions, studies have suggested lower rates of exercise in adolescents with BD compared to controls (Melo et al., 2016). The association of poor physical health in BD is

under-addressed in primary care, and given that the risk of poor outcomes may be less obvious in adolescents, it follows that they may receive even less attention in this regard. Physical health problems respond best to early intervention, especially weight changes (Lawlor & Chaturvedi, 2006). Clinical psychologists and other health professionals should therefore consider physical health outcomes in adolescents with likely BD by screening for risk factors, promoting exercise as having direct and indirect effects on wellbeing (Melo et al., 2016), assisting with making healthy food choices, and identifying barriers to healthy habits. Recent research is pointing to the effectiveness of such efforts. For example, Curtis et al.'s (2016) recent controlled trial involved a multi-modal lifestyle intervention to prevent weight gain in adolescents following an episode of psychosis. Their results were promising in that the intervention group showed significantly lower rates of clinically significant weight gain. For adolescents with comorbid eating disorders, augmented treatments such as enhance Cognitive Behavioural Therapy (CBT-E; Fairburn, 2008) should be considered before making changes to lifestyle, diet or physical activity.

Recent innovative approaches for adults with BD should also be considered, and perhaps tailored to adolescents through involvement of family to guide habit formation. Sylvia's (2015) "The Wellness Workbook for Bipolar Disorder" is a particularly informative self-help guide, providing a clear rationale for targeting physical health in diagnosed BD. It can also facilitate appropriate goal-setting and anticipate likely challenges, such as how to manage goals when mood symptoms interfere. This may be the case where a manic state promotes excessive exercise, and needs to be curbed (Wright, Armstrong, Taylor, & Dean, 2012). Collaborating with medical professionals to ensure regular monitoring of metabolic and cardiovascular status should be adopted as the minimum standard. The engagement of allied health practitioners, such as dietitians, exercise physiologists, or occupational therapists, may be appropriate where regiments need tailoring, due to comorbid health conditions, cognitive complaints, or specific dietary needs. The benefits vs costs of such efforts are sizeable, even in teenagers who may never develop the illness.

8 | CONCLUSION

Although identifying and treating adolescent BD can seem daunting for clinicians, consideration of the above factors can make these waters appear somewhat less muddled. There is clear utility in early psychological intervention in adolescents at risk of BD, whether it serves to prevent, delay, or reduce the impact of the illness, and future exploration of these approaches will help clarify what is best practice for this group. Considering additional targets such as anxiety, family functioning and physical health may improve outcomes such as quality of life and occupational functioning, even in those who do go on to develop BD. Until identifying exactly who those are becomes possible, health professionals should feel secure in intervening with adolescents who are "false positives" for the illness. The gains associated with early intervention in prodromal cases arguably outweigh the costs of providing support and self-care skills to distressed young people for whom severe mental illness is not inevitable.

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