



## Mini Review

# Bipolar disorder in children and adolescents

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## Abstract

Bipolar Disorder (BD) in children and adolescents is poorly understood and underdiagnosed. We describe its clinical manifestations, its interweaving of comorbidity with frequent psychopathological manifestations, such as Attention Deficit Hyperactivity Disorder (ADHD), which allows us to outline the prodromes and risk indicators. Depending on the presentation of these indicators, several degrees of clinical risk can be established. Irritability, impulsivity, hyperactivity, frustration intolerance and sleep disturbances are among the most common symptoms. In the presence of a suicidality clinic, drug abuse (cannabis, alcohol), or psychotic symptoms, in a context of significant family history, the child psychiatrist should no longer hesitate to make the diagnosis of bipolar disorder and initiate a consequent treatment.

## Introduction

As early as the 19<sup>th</sup> century, the possible occurrence of what was then called "periodic and circular madness of exaltation and dejection" during childhood and adolescence was already mentioned by French authors (Falret, Sollier) and Germans (Kraepelin). In the 1930s, Barrett and Kasanin also reported cases of children and adolescents with cycles of euphoric hyperactivity and depression. Finally, in 1960, Anthony and Scott pointed out that it is possible to diagnose, albeit infrequently, states close to bipolar disease in young children, these states being able to be expressed in extreme forms of cheerfulness, hyperactivity and of negativism, or by fantasies of all power and grandeur. Despite these data, since the publication in 1947 of Kanner's Manual of Child Psychiatry, it was recognized that manic depression was hardly ever seen until late adolescence [1].

### Clinical signs of bipolarity in children and adolescents

Childhood and Adolescent Bipolar Disorder is a severe psychiatric condition, primarily hereditary in nature, which causes children to seriously impair their functioning at school, at home and with their peers [2]. It presents a variable and imprecise clinic, with an important comorbidity and symptoms which differ from the BD of the adults in a mainly quantitative way. One of the clinical difficulties arises from the fact that the current diagnostic criteria (DSM-5, ICD-10) do not include specific diagnostic categories [3].

Pediatric bipolar disorder is not uncommon but difficult to diagnose. A psychiatric disorder can be considered a valid diagnostic entity if it can be shown to have distinct characteristics, a reproducible response to treatment and a specific course [4]. The most frequent symptoms are: hyperactivity, mania or hypomania, ideas of grandeur, irritable mood, aggressiveness, risky behavior, substance abuse, reduced sleep (without fatigue during the day), tachylalia, tachypsychia, difficulty concentrating, hypersexuality, and in some cases auditory hallucinations.

The characteristic symptoms observed retrospectively in these children (aged 1 to 6 years) include mainly irritability and loss of control [5]. They are characterized by the following manifestations: temper tantrums, impulsivity, aggressions, reduced attention span, hyperactivity, irritability and low tolerance for frustration. In a more recent study, the most common symptoms in preschool children (3-7 years) were irritability (84.6%) and aggression (88.5%), with most children being referred like hyperactive children. Irritability should be chronic, non-episodic and severe, and aggression excessive [6].

Aggressivity is therefore a common feature of BD, especially in children and adolescents. It was shown that adolescents with mood disorders exhibit affective, reactive and defensive aggressiveness, not intermittently, but very often in the form of escalation [7]. There are many diagnostic scales, the most



relevant of which are currently being the Mood Disorder Questionnaire Adolescent Version (MDQ-A) [8].

A study of 263 bipolar children and adolescents, aged 7 to 17 (mean age 13), found it to be a chronic disease with a high rate (56%) of relapses [9]. Regarding suicidality, another study of 405 subjects of the same age showed that 32% of patients had a history of suicide attempts. It is likely that the frequency of bipolar disorder in adolescence is underestimated because it can begin as a depressive episode, with schizophrenic symptoms or as a dyssocial disorder (serious conduct disorders, vandalism) [10].

In offspring studies, both bipolar disorder 1 and bipolar disorder 2 have been observed that subjects with a history of bipolar have an earlier onset of disease [11]. Historically, Esquirol had referred in 1838 several cases of manic access in school-aged children, without forgetting that Kraepelin in turn described depressive and manic attacks in children and adolescents. Hypomanic arrays have been described in very young children, around four years old [12].

Some studies tend to show that prepubertal mania is underdiagnosed and that there can be up to 50% misdiagnosis [13]. However, it is in adolescence that the peak incidence occurs, 20 to 25% of the onset of the disease before the age of nineteen [14]. In addition, manic pictures are frequent in adolescence without constituting a complete clinical picture. These are closer to schizophrenic pictures, with first order symptoms, auditory or visual hallucinations, referral ideas and manic symptoms, with diagnostic errors reaching 40% of cases [15]. In the vast majority of cases, the clinic reports irritability and hyperactivity. BD presents a high risk of suicide attempts and substance abuse, the prognosis in adolescence being related to the evolution of these clinical pictures [16].

### Prevalence of bipolar disorder in children and adolescents

The lifetime prevalence of BD in children and adolescents is 1%, but that of BD sub syndromic is 5% [17]. In the majority of cases (85%), BD immediately presents as mixed episodes; 80% of cases start with rapid cycles, and up to 60% of patients have initial psychotic symptoms. Finally, a high rate of comorbidity with ADHD is noted. Other studies have found a prevalence of 0.5% for children aged 5 to 9 years, increasing to 7.5% among prepubertal and pubertal children (10 to 14 years).

Several retrospective studies have focused on the unexpected precocity of the first episodes in adult bipolar patients: two studies found that 20 to 40% of adults with bipolar thought their disease began in childhood. A depressive episode in adolescence is associated with a three times higher risk of BD than in the adult population (20–30% vs 10%) [18].

### Diagnostic difficulties

The study of BD has progressed well since 1986, when Weller, et al. reported that the condition was underestimated and misdiagnosed in children and adolescents [19]. At that time, psychiatrists assumed that depression and bipolar

mania did not exist in a child's psyche and that they rarely began until adulthood. Nonetheless, most European mental health professionals continue to believe that bipolar disorder rarely appears before adolescence. As a result, the first clinical manifestations may be misidentified. Aggression, mood swings, and irritability are often seen as symptoms of Attention Deficit Hyperactivity Disorder, or simply as conduct disorders. The main symptoms are manifested in the context of the school where academic difficulties, distractibility, hyperactivity become very significant for at least 90% of these children. They present considerable difficulties in dealing with criticism and overreact to bans and questioning of their behavior.

### The main points to built the diagnosis are

1. Genetic factors (history of BD in one or both parents). The risk of developing bipolar disorder is four times higher when it has been diagnosed in one of the parents. However, contextual elements (living with an affected parent) and early trauma must also be taken into account.
2. Second, vulnerability linked to pregnancy (smoking in the mother), childbirth (prematurity), as well as psychological trauma during childhood. It has also been shown that these determine a more serious course (suicides) and a higher incidence of BD. A family history with a history of a first-degree relative affected together with a perinatal history may increase the risk of developing BD. The presence of these factors, especially in the context of clinical signs of affect and behavior disturbances, should alert the clinician to the search for a BD.
3. Thirdly, the diagnosis of BD should be considered in the presence of a family history of BD or mood disorders occurring in the context of conduct disorders, ADHD, abuse of toxic substances (cannabis in particular) or a history of suicide attempts.
4. Last but not least, we currently know that the presence of certain prodromes, although not specific, constitutes the common background of many young people affected.

### Comorbidity of BD in children and adolescents

One of the essential characteristics of BD is that it presents a high degree of comorbidity with other clinical entities, moreover frequent in child psychiatry. A large proportion of children with bipolar disorder have two or more diagnoses. Some of the most common diagnoses include ADHD, oppositional disorder, conduct disorder, anxiety, and substance abuse [20].

- \* With clinical pictures presenting with irritability, the differential diagnosis includes OCD, major depression and Asperger's syndrome.
- \* With the recurring behaviors where aggression, irritability and explosiveness manifest themselves, BD must be differentiated from oppositional defiant disorder.



\* Finally, we must also think about borderline personality disorder in adolescents.

## Differential diagnosis

Due to a co-morbidity of up to 90% in children under 12-year-old, BD must be differentiated from the various presentations of ADHD, which presents a challenge for the child psychiatrist. Between 70 and 90% of bipolar children also suffer from comorbid ADHD [21]. On the side of ADHD, in a prospective research of mood disorders in hyperactive patients, Biederman, et al. found a 23% prevalence of bipolar disorder [22]. The difficulty of the differential diagnosis is twofold: if the diagnostic inflation of recent years around ADHD has masked many bipolar children and adolescents under this diagnosis, it is necessary to avoid labeling real hyperactive children with the diagnosis of BD [23].

## Prodromal symptoms of BD in children and adolescents

The first symptoms usually appear during adolescence, between 13 and 18 years old, with a peak incidence around the age of 14 [24]. They occur earlier in young people with a family history of BD, and especially in those with bipolar heredity.

## Discussion

Bipolar disorder in children and adolescents is poorly understood and underdiagnosed in the affected population.

We tried to define BD, then we located it in relation to comorbidities with frequent psychopathological manifestations, such as ADHD, which allowed us to outline the prodromes and risk factors. Arrived at the last point of this article, we are able to delimit the essential parameters which contribute to the early diagnosis of BD.

We can therefore say that the clinician should be particularly attentive when prodromal symptoms appear in children or adolescents from high-risk families (both parents), and this all the more so if the clinic also reports substance abuse and / or suicide attempts [25].

When children with a family history (genetic risk) and history of vulnerability exhibit these symptoms, the clinician should be alerted to the existence of BD. It is therefore desirable to initiate an appropriate pharmacological treatment with the psychotherapeutic and family support measures essential in these situations. Further studies are needed to determine more specific prodromes at the individual, family and contextual level.

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