

Children of Parents with Bipolar Disorder: A Metaanalysis of Risk for Mental Disorders

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Objective: To compare the prevalence rates of mental disorders among children of parents with bipolar disorder and of parents with no mental disorders.

Method: Seventeen studies, meeting specific selection criteria, were included in the metaanalyses. Risks for mental disorders among children were estimated by aggregating raw data from the selected studies.

Results: Results indicate that in comparison with children of parents with no mental disorders, children of parents with bipolar disorder are 2.7 times more likely to develop any mental disorder and 4.0 times more likely to develop an affective disorder. The metaanalyses indicate that during childhood and adolescence, the risks for any mental disorder and for affective disorders in children are consistently but moderately related to having a parent who suffers from bipolar disorder.

Conclusions: Risk factors that could account for the psychopathology observed in children of bipolar parents are explored.

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Key Words: review, children at risk, bipolar disorder

Familial studies have consistently documented higher rates of major depression and of bipolar disorder among the relatives of individuals suffering from bipolar disorder than among the relatives of nondisordered persons (1–6). These same investigations indicate that major depression is more common than bipolar disorder among the relatives of persons suffering from bipolar disorder (2,7–10) and that more of the female than the male relatives suffer from one or the other major affective disorder (11–13). The gender of the proband in these family studies appears to have no influence on the prevalence of mental disorders among the relatives (11,13–15).

These investigations of the first- and second-degree relatives of persons suffering from bipolar disorder provide evi-

dence of an elevated risk for major affective disorders among the adult offspring of parents suffering from bipolar disorder. Studies that focus on the adult offspring indicate that almost 1 in 2 will develop a major affective disorder by early adulthood (2,16).

It is now clear that genetic factors are involved in the morbid risk observed in offspring of bipolar parents. Twin studies have documented pairwise concordance rates for bipolar disorder among monozygotic and dizygotic twins estimated at 56% and 14%, respectively (17). The only adoption study to use strict diagnostic criteria for bipolar disorder supports the conclusion from the twin studies in confirming the role of hereditary factors in the development of bipolar disorder (18). Currently, however, there is no way of identifying which of the children of a bipolar parent, if any, have inherited a vulnerability for the disorder (19).

While some of the children of parents suffering from bipolar disorder are at increased risk for mental disorders because of an inherited vulnerability, all of them are exposed to detrimental psychosocial influences because they are being raised by a parent with a severe and chronic mental disorder. Indeed, contrary to what was believed at first, bipolar disorder is no longer considered a “good prognosis illness.” It has been estimated that less than one-third of adults suffering from bipolar disorder in the United States receive treatment (20,21). Among those who comply with treatment, relapse

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Table 1. Sample characteristics of the 17 studies included in the review

Authors	Age (years) ^a	Number of children per group	
		BP parents (N = 772)	NMD parents (N = 626)
Decina and others (38)	7 to 14	31	18
Gershon and others (39)	6 to 17	29	37
Grigoriu-Serbanescu and others (40)	10 to 17	72	72
Hammen and others (41)	8 to 16	12	35
Hammen and others (42) ^b	11 to 19	18	38
Kashani and others (43)	7 to 17	9	none
Klein and others (44)	15 to 21	37	none
Kuyler and others (45)	6 to 18	49	17
LaRoche and others (46)	8 to 18	17	none
LaRoche and others (47)	5 to 18	39	none
LaRoche and others (48) ^b	8 to 25	37	none
Numberger and others (49)	15 to 25	53	39
Radke-Yarrow and others (50)	5 to 11	44	74
Waters and Marchenko-Bouer (51)	15+	50	none
Weintraub (52)	18+	134	176
Carlson and Weintraub (53) ^b	18+	134	108
Zahn-Waxler and others (54)	5 to 6	7	12

^aAge range 5 to 25+.

^bFollow-up study.

BP = parents with bipolar disorder; NMD = parents with no mental disorder or with no major mental disorder.

rates are high, as are levels of psychosocial impairment (22–24). Suicide attempts and suicide (25–27), as well as substance abuse (28–30), are also frequently observed among adults with bipolar disorder. Not surprisingly, rates of separation and divorce among persons suffering from bipolar disorder are higher than in the general population (31). Consequently, some children of bipolar parents are exposed to a “double risk,” namely, heredity and detrimental psychosocial influences, while others are exposed only to the latter risk. Little is known, however, about the influence of this double risk on the development of mental disorders among the offspring of bipolar parents during childhood and adolescence.

In order to estimate the influence of having a parent suffering from bipolar disorder on the development of mental disorders in childhood, all published investigations that have compared rates of mental disorders among children of parents suffering from bipolar disorder and children of parents with no major mental disorder or no mental disorder were reviewed. The objectives were 1) to estimate the risk for various types of mental disorders among children of parents suffering from bipolar disorder as compared with children of parents with no mental disorder and 2) to estimate the consistency of these findings across studies using a metaanalytical procedure. This quantitative approach overcomes one of the major shortcomings in this area of research, namely, the small number of subjects assessed in each study. As larger samples are associated with more statistical power, pooling raw data provides more reliable estimates. It should be noted, however, that this procedure does not enable us to separate the respec-

tive contributions of genetic and environmental factors on the risk of mental disorders in children.

Method

Selection Criteria for the Review

All published studies that included diagnostic assessments of children of parents suffering from bipolar disorder were included. Parents with bipolar disorder and parents with no mental disorder were classified according to whether or not they had been diagnosed with a clinical interview such as the Schedule for Affective Disorders and Schizophrenia (32), the Structured Clinical Interview for DSM-IV (33), the Current and Past Psychopathology Scales (34), or by the Research Diagnostic Criteria (35), DSM-III (36), or DSM-III-R (37) criteria. As shown in Table 1, 17 studies met these selection criteria and were included in the review (38–54). Some of these studies also examined samples of children of parents suffering from a major depression. The results pertaining to these children are not presented here because of their small number and the limited possibilities for comparison with the children of parents with bipolar disorder (41,42,50,53). For the same reason, results are presented only for the comparison groups of children whose parents have no mental disorder or no major mental disorder, even if other comparison groups (for example, children of parents with a physical disorder) were included in the original investigations (41,42,44,53).

In those cases in which a study reported more than one prevalence rate for the same group of children (that is,

Table 2. Prevalence rates of mental disorders among children of bipolar parents and parents with no mental disorder

Types of disorders	Rates of mental disorders (%)		N	χ^2	RRE (95% CI)
	Children of BP parents	Children of NMD parents			
Any mental disorder	52.0	29.0	973	51.44 ^a	2.66 (2.02 to 3.48)
Affective disorders	26.5	8.3	614	30.58 ^a	3.96 (2.37 to 6.60)
Bipolar disorder	5.4	0	795	18.22 ^b	—
Unipolar disorder	8.5	7.5	350	0.12	—
Nonaffective disorder	20.6	20.4	505	0.006	—

^a $P < 0.00001$; ^b $P < 0.0005$.

BP = parents with bipolar disorder; NMD = parents with no mental disorder or with no major mental disorder; CI = confidence interval.

(—) = relative risk estimates could not be calculated because of the small number of subjects.

according to different diagnostic criteria or source of information), priority was given to the rate obtained from diagnoses determined through combined assessments (parent and clinician) and, failing that, to the rate obtained from the clinician's diagnoses. The prevalence rate obtained by Gershon and others (39) using DSM-III diagnostic criteria was included in preference to the rate obtained with the National Institute of Mental Health criteria in order to make their findings comparable to those from other investigations. For all the analyses, only independent samples of children were included: for prospective longitudinal investigations, the results of the most recent assessments were entered into the analyses.

Statistical Procedure

First, chi-squares and relative risk estimates (RRE) were calculated for each category of mental disorder observed among the children by pooling the raw data from each study. Following this, the metaanalytical procedure of Hunter, Schmidt, and Jackson (55) was employed in order to determine the strength and consistency of the relationship between the prevalence of mental disorders among the children and the mental status of the parents, either bipolar or no mental disorder. For this procedure, chi-squared analyses were computed for each study that included a comparison group of children of parents with no mental disorder. Following this, the phi coefficients (a measure of association equivalent to the Pearson correlation coefficient in a 2×2 contingency table) were calculated. The phi coefficients obtained for each study were then treated like an ordinary set of data with a mean, a variance, a standard deviation, and so on. The sampling error was then subtracted from the total variance so that the true variance could be isolated. When true variance was identified, studies could be divided into subgroups and then compared on variables that may act as mediators in the relationship under investigation, namely, bipolar disorder in the parents and mental disorder in the children. In this way, for example, the influence of such variables as the age of the children, the source of information used to make the diagnoses, and the subtype of bipolar disorder on the rates of mental

disorders in children could be evaluated. When no true variance remained, the conclusion that the variability across studies was due to sampling error could be made, and the mean phi coefficient was then considered as a good estimate of the strength of the relationship under investigation. In this case, the search for mediating factors in the relationship was not pursued because there was no variability left to explain once the sampling error had been accounted for.

Results

Risk for a Mental Disorder of Any Type

As can be observed in Table 2, 973 subjects were included in the present analyses. Fifty-two percent of the children of parents suffering from bipolar disorder met criteria for some type of mental disorder as compared to 29% of the children of parents with no mental disorder or no major mental disorder ($\chi^2[1, N = 973] = 51.44, P < 0.000$). The RRE indicates that the children of bipolar parents are more than 2.5 times as likely to develop a mental disorder as children of parents with no mental disorder.

Risk for a Mental Disorder within the Affective Spectrum

Among the 614 children examined, 26.5% of those with a parent suffering from bipolar disorder met criteria for an affective disorder as compared to 8.3% of children of parents with no mental disorder or no major mental disorder ($\chi^2[1, N = 614] = 30.78, P < 0.000$). The RRE indicates that the children of parents with bipolar disorder are approximately 4 times as likely to develop an affective disorder as children of parents with no mental disorder or no major mental disorder.

Risk for Bipolar Disorder

Among the 795 children examined, 5.4% of those with a parent suffering from bipolar disorder met criteria for a bipolar disorder as compared with none of the children of parents with no mental disorder or no major mental disorder ($\chi^2[1, N = 795] = 18.22, P < 0.000$). This result is especially noteworthy because most of these children had not even entered the age period of risk for bipolar disorder, for which the mean

Table 3. Association between any mental disorder in children and bipolar disorder in parents

Authors	N (children)	χ^2	ϕ_{xy}
Carlson and Weintraub (53)	220	17.82	0.28
Decina and others (38)	49	10.66	0.47
Gershon and others (39)	66	3.02	0.21
Grigoriou-Serbanescu and others (40)	144	19.14	0.36
Hammen and others (41)	47	14.39	0.55
Hammen and others (42)	56	8.17	0.38
Nurnberger and others (49)	92	15.16	0.40
Radke-Yarrow and others (50) (8 to 11 years sample)	56	2.52	0.21

Note: For the phi coefficients, x = presence/absence of mental disorder among the children and y = presence/absence of bipolar disorder in the parents. Total N = 730; mean correlation = 0.33; total variance = 0.009; error variance = 0.0078; true variance = 0.0012; $P > 0.05$.

Table 4. Association between affective disorders in children and bipolar disorder in parents

Authors	N (children)	χ^2	ϕ_{xy}
Grigoriou-Serbanescu and others (40)	144	4.76	0.18
Hammen and others (41)	47	10.50	0.47
Radke-Yarrow and others (50) (8 to 11 years sample)	56	5.71	0.32
Weintraub (52)	33	1.64	0.22

Note: For the phi coefficients, x = presence/absence of affective disorders among the children and y = presence/absence of bipolar disorder in the parents. Total N = 280; mean correlation = 0.35; total variance = 0.016; error variance = 0.011; true variance = 0.005; $P > 0.05$.

age of onset has been reported to be between 18 and 22 years old (31).

Risk for Major Depression

Among the 350 children examined, the risk for major depression was found to be similar for children of parents with bipolar disorder and with no mental disorder. Again, it is important to note that most of these children have not yet reached the age of risk for major depression, as the mean age of onset has been reported to be 27 years old (31), and a higher risk for children of bipolar parents may only be observable at an older age.

Risk for a Nonaffective Mental Disorder

Among the 505 children examined, the risk of developing a nonaffective mental disorder was similar for the children of bipolar parents and for the children of parents with no mental disorder.

Relation between the Prevalence of Any Mental Disorder in the Children and the Parents' Diagnoses

The metaanalytical procedure described previously was conducted on the results of the 8 controlled studies suitable for this analysis. The description of these studies and the results of the metaanalysis are presented in Table 3. The

results demonstrate that the studies examined provide equivalent estimates of the relation between the presence or absence of mental disorders among the children and the diagnoses of the parents, namely, bipolar disorder or no mental disorder. The mean strength of this relation is estimated to be 0.33.

Relation between the Prevalence of Affective Disorders in the Children and the Parents' Diagnoses

The studies included in this analysis and the results obtained are presented in Table 4. The metaanalysis indicates that the relation between the presence or absence of affective disorders among the children and the parents' diagnoses (bipolar disorder or no mental disorder) is constant across studies and that, on average, the strength of this relation is 0.35.

It should be noted that the metaanalytical procedure could not have been applied to the other 3 types of mental disorders in children (bipolar disorder, major depression, and nonaffective disorders) because of the small number of suitable studies.

Discussion

Summary of Results

The quantitative analyses indicate that children of parents suffering from bipolar disorder have a significantly higher risk of developing affective disorders or other mental disorders than do the children of parents with no mental disorder or with no major mental disorder. Furthermore, the children of parents suffering from bipolar disorder were found to be at significantly higher risk for bipolar disorder than were the children of parents with no mental disorder. Finally, the associations between parental bipolar disorder and either affective disorder or any mental disorder in a child were found to be consistent across studies but moderate in strength during childhood and adolescence. These latter results suggest that the effects associated with "having a parent with bipolar disorder" may be more strongly related to mental disorders in adulthood than in childhood among the offspring.

Sample Bias

It is important to note that in the studies reviewed, all the parents with bipolar disorder were receiving treatment. As previously noted, in the United States less than one-third of persons with bipolar disorder are treated. The parents included in the studies reviewed represent a biased sample, and consequently, the rates of mental disorders observed among the children may be overestimates or underestimates of the risk for mental disorders among children of all parents suffering from bipolar disorder.

Another sampling bias to be noted concerns the parents with no mental disorders or with no major mental disorders. They too may be unrepresentative. This is suggested by the high rates of disorders observed among the children in the comparison groups of the studies reviewed, rates that are

Table 5. Reported prevalence rates of mental disorders among the spouses of bipolar parents

Authors	N	Rates of mental disorders among spouses (%)				
		Any mental disorder	Affective disorder	Bipolar disorder	Unipolar disorder	Nonaffective disorder
Grigoriu-Serbanescu and others (40)	47	28	6	0	0	21
Hammen and others (41)	19	63	16	?	?	47
Klein and others (44)	24	25	?	?	?	?
Kuyler and others (45)	27	59	26	0	?	33
Nurnberger and others (49)	29	31	31	?	?	0
Radke-Yarrow and others (50)	22	64	64	0	64	0
Zahn-Waxler and others (54)	7	86	71	0	71	14

? = data unreported or impossible to compute rates from available data.

much higher than those found in epidemiological studies (56–58). It may be that parents who accepted to participate in these studies did so in order to obtain professional help for their children.

Risk Factors Associated with Mental Disorders among the Children of Bipolar Parents

The results obtained in the present analyses support the conclusion made in other studies that offspring of bipolar parents are at higher risk for mental disorders and affective disorders not only in adulthood but also during childhood and adolescence. As demonstrated in this review, once the sampling error across studies has been eliminated, there is a consistent and moderate relation between having a parent with bipolar disorder and the risk for mental disorders in childhood. The psychosocial factors associated with parental bipolar disorder that contribute to the development of mental disorders in children, however, are still largely unknown. Nevertheless, a number of potential risk factors for affective disorders have been identified in studies of children with depressed mothers (59–64), and such factors are beginning to be examined in studies of children of bipolar parents.

One of these potential risk factors is the presence of a comorbid disorder in the bipolar parent. Alcohol abuse (28,29) and some personality disorders, namely borderline and antisocial personality disorder (20), are frequently observed in persons suffering from bipolar disorder. In nonclinical samples, alcohol abuse and antisocial personality disorder in the parents have been found to be associated with the presence of conduct disorders in children (65). Thus disorders comorbid with bipolar disorder in the parent may contribute significantly to the risk of mental disorders among the children. This risk factor remains to be investigated, as none of the studies reviewed here has assessed and related comorbid disorders in the bipolar parents to the risk of mental disorders in children. Ideally, the inclusion of comparison groups of parents with various disorders and the subclassification of the bipolar parents according to the type of comorbid disorders would help in teasing apart the effects associated with each disorder and in determining their relative contribution to the development of disorders among the children.

Another potential risk factor that has been neglected in the studies of children of parents with bipolar disorder is the presence of a mental disorder in the other parent. The presence of a mental disorder, and particularly an affective disorder, in the other parent may contribute to increase the risk of mental disorders among the children. Despite this fact, a number of the studies included in the present review did not assess or report on the mental status of the spouses of the bipolar parents (38,42,43,46,49,52,53). Table 5 presents information from the 7 studies that reported diagnostic assessments of the nonbipolar parents. As can be observed, 25% to 86% of the spouses of the bipolar parents were found to suffer from some type of mental disorder (mean = 51%), and 6% to 71% suffered from an affective disorder (mean = 36%). Only 2 studies reported a positive correlation between mental disorders among the spouses of the bipolar parents and mental disorders among the children (40,45), however, while 5 studies did not observe any association (39,41,49,50). It should be mentioned, however, that the conclusions that can be drawn from these studies are limited by the small sample sizes and by the lack of distinction made between the presence of a mental disorder of any type in the spouse and the presence of a major affective disorder. This distinction is essential because it may be that there is an increased risk for mental disorders among children whose nonbipolar parent suffers from a mental disorder only when this disorder is associated with a heritable factor (for example, schizophrenia, major affective disorders, alcoholism). This is suggested by other studies which have reported high prevalence rates of mental disorders among the spouses of parents suffering from a major affective disorder (66–69), and studies which have indicated that the presence of psychopathology in those spouses was associated with an increased risk of mental disorders among the children (40,45,70,71). Thus the assessment of the mental status of both parents needs to be considered in studies of children at risk for mental disorders.

The relation between good marital adjustment in the parents and mental health in the children is well known. There is also evidence, however, that marital adjustment is compromised in adults with major affective disorders. A number of

studies have shown that individuals with a major affective disorder (bipolar or unipolar) experience more disturbed marital relations than do nondisordered persons and individuals with nonaffective mental disorders (72–76). Some of these results suggest that poor marital adjustment plays an important role in the development and evolution of major affective disorders (77–81). A number of studies have also found a relation between poor marital adjustment in the parents and disorders in the children of both parents with an affective disorder and parents who are free of psychopathology (82–86). Other studies indicate that marital conflicts, rather than marital adjustment, may be more strongly associated with child maladjustment, especially when one of the parents suffers from a mental disorder (59,87). Marital conflict may prove to be even more detrimental for children of bipolar parents, since these children have been found to show more distress than other children when observing a conflict between adults and seem to take longer to overcome their distress (54). Marital adjustment and marital conflict among the parents, therefore, may constitute one of the determinants of psychopathology in children of parents with bipolar disorder.

Quality of parenting is also known to affect children's mental health. There is increasing evidence that parenting is impaired in adults suffering from bipolar disorder. Inoff-Germain, Nottelmann, and Radke-Yarrow (88) found that mothers suffering from bipolar disorder expressed more negative judgements, more negative affect, and had more negative reactions toward their children than mothers with major depression or mothers with no mental disorder. Other studies have found that, among mothers with a major affective disorder, a communication style characterized by criticism and negative feedback was associated with a higher risk of psychopathology in their children (89,90). Still another investigation found that mothers with no mental disorder exhibit better parenting skills than do mothers suffering from major depression (91). The parenting skills of parents with bipolar disorder also appear to be deficient (89,92,93). The influence of parenting on the risk of mental disorder in children born to bipolar parents remains to be investigated. Some studies have suggested, however, that quality of parenting could be the factor that makes the difference between a positive or a negative outcome in children of parents with bipolar disorder (94,95).

Further Directions

In order to determine whether there is a persistence of disorders from childhood to adulthood, large samples of children need to be followed through the periods of risk for the major affective disorders with assessments of their psychosocial functioning at various ages in order to understand more fully the precursors of the adult disorders. In addition, the prevalence rates of disorders among these children need to be documented by age and by gender. Among the studies reviewed, only 4 reported the prevalence rates of disorders

among the children by gender (38,40,47,51). Nevertheless, some of these investigations (50,51), as well as large-scale epidemiological investigations (56–58), have indicated that the prevalence of several childhood disorders varies significantly by gender. In the same way, not enough attention has been paid to the age of the children. The large ranges of age covered in the same study and across studies substantially limits the conclusions that may be drawn. Since children do not often develop major mental disorders before puberty, reports of results before and after puberty would be most useful. Furthermore, a more precise understanding may result when gender and age are considered together. For example, 2 of the studies reviewed here reported that the prevalence of mental disorders is higher among daughters than among sons of bipolar parents, whereas the opposite has been found among children of parents with no mental disorder or with no major mental disorder (40,51). In the investigation of Decina and colleagues (38), by contrast, the sons of bipolar parents were found to have a higher prevalence rate of disorders than the daughters. While most children in this latter study had not reached puberty (age range of subjects was 7 to 14 years old), the studies that reported the opposite trend examined samples of older subjects (10 to 17 years old and 15 years and older, respectively).

The influence of the gender of the bipolar parent on the risk of mental disorders in the children also needs to be clarified. Unfortunately, gender of the bipolar parent, though easily available, is not always reported (39,45,49) or related to the children's psychopathology. Results obtained from studies that did relate the gender of the bipolar parent to disorders among the children are contradictory. Three investigations found no relation between the bipolar parent's gender and the prevalence rate of mental disorders among their children (40,47,48,51), but one study noted a greater risk for children of bipolar mothers than for children of bipolar fathers (44).

Other inconsistencies in the extant literature await clarification. For example, a positive association has been documented in some studies between the prevalence of mental disorders in the children and both the severity and chronicity of the parent's disorder (40,47), as well as the parent's marital status (45). Contrary to what might be expected, 3 of the studies reviewed here failed to find any significant association between the aggregation of affective disorders among the relatives of the bipolar parents and the prevalence of mental disorders in the children (47,48,50). While one study reported no relation between the age of onset of the parental disorder and the prevalence of mental disorders among the children (47,48), another found it to be present (40). In 2 studies (40,50), the socioeconomic status of the bipolar parents was found to be linked to the prevalence rate of mental disorders among the children, but a third study failed to confirm these findings (47,48).

In brief, children of parents with bipolar disorder are at very high risk for mental disorders in childhood, adolescence, and adulthood. We now need prospective studies conducted with large samples of well-assessed parents and children in order to further our understanding of the nongenetic factors that contribute to the development of mental disorders in children of bipolar parents. Such information is necessary for the development of programs aimed at preventing, or at least attenuating, symptom development in these children. We are currently conducting such a study. The data from the initial assessments have been recently analyzed, and they indicate that comorbidity in the bipolar parents, mental disorders in the other biological parent, lower socioeconomic status, and poor parenting skills are each related to a higher risk of psychosocial impairment among 5- to 12-year-old children of bipolar parents. These results, added to those of the meta-analyses, underline the importance of complete assessments of adults with bipolar disorder, their spouses, and their children. Further, they suggest that courses designed to improve parenting skills may have a positive impact on the children. Presently, the offspring of parents with affective disorders are not being identified and are not receiving mental health services (96). In fact, in many cases, mental health professionals do not even know if their patients have children. As identification of the population at risk is the first step to prevention, major progress could be achieved with the collaboration of adult psychiatrists. Furthermore, this first step could be easily accomplished. A screening instrument for adult patients aimed at identifying impairment in their children has been developed and tested by Jellinek and others (97). This instrument was found to be well accepted and understood by patients and can be easily integrated into routine adult psychiatric services.

Clinical Implications

- Children of bipolar parents are at higher risk for mental disorders in childhood and adolescence.
- Prospective longitudinal studies tracking the development of these children are needed in order to identify the determinants of mental disorders in this high-risk population.
- Psychiatric evaluations of a patient with bipolar disorder must be extended to the entire family in order to allow for early intervention with symptomatic children.

Limitations

- Rates of mental disorders by age and gender of the children could not be estimated from the studies reviewed.
- The metaanalytic procedure does not allow the identification of the subcomponents of the sampling error that accounted for the variability across the studies reviewed.
- Exploration of intervening variables in the relation between parental bipolar disorder and mental disorders in the children has been limited by the small number of studies suitable for the application of the metaanalytic procedure.

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Résumé

Objectif : Comparer les taux de prévalence des troubles mentaux chez les enfants dont les parents sont atteints de trouble bipolaire et chez ceux dont les parents ne présentent aucun trouble mental.

Méthode : La méta-analyse a porté sur 17 études répondant à des critères de sélection spécifiques. On a estimé les risques de trouble mental des enfants par agrégation des données brutes extraites des études sélectionnées.

Résultats : D'après une comparaison des résultats, la probabilité d'une maladie mentale quelconque chez les enfants dont les parents sont atteints de trouble bipolaire est 2,7 fois plus élevée et la probabilité de trouble affectif est 4,0 fois plus élevée que chez les enfants dont les parents ne présentent aucun trouble mental. D'après les examens étudiés, les risques d'un trouble mental quelconque et de troubles affectifs pendant l'enfance et l'adolescence sont constamment, mais moyennement, liés à la présence du trouble bipolaire chez un parent.

Conclusions : On étudie les facteurs de risque pouvant expliquer la psychopathie observée chez les enfants de parents bipolaires.