

## Childhood Depression: - An Update

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### Abstract

Childhood depression is a significant public health issue that requires special attention due to the severe and long-lasting effects it has on a child's development. The diagnosis, treatment, prevention, and prognosis of childhood depression were all topics examined in recent studies. Recent scientific studies on paediatric depression tend to emphasise the detrimental effects of depressive illnesses on children's quality of life, either directly or indirectly. Sadly, research from the past demonstrates that juvenile depression frequently develops against a backdrop of vulnerability and poverty, where personal and social needs related to childhood melancholy are not always taken into account. In this regard, this review established that co-morbidities and other psychiatric problems are frequently caused by childhood depression. Numerous recent research have also supported the idea that human resources, such as the healthcare system as a whole, lack the necessary training to manage paediatric depression. In order to establish programmes that will train healthcare workers to cope with childhood depression, additional research is required. Additionally, studies that focus on the prevention and treatment of juvenile depression with bigger and more homogeneous sample sizes are also required.

**Keywords:** child, depression, depressive disorder, mental health, mental disorders

### Introduction

Research on mental health is receiving more attention from the scientific community as a result of rising incidences of psychiatric disorders. The World Health Organization (WHO) predicted that depression will rank as the second-largest worldwide illness burden until the year 2021, and that prediction has come true now in 2022 [1]. However, the prevalence of depressive disorders has increased among children as well as adults, with a range of 0.3 percent to 7.8 percent among children under the age of 13 [2].

Childhood depression is a biopsychosocial phenomenon that requires special consideration due to the substantial and long-lasting effects it has on a child's development, including physical alterations as well as impairments to social skills and cognitive

abilities. Depressive disorders may cause psychological pain for young kids in the near term, but they can also interfere with their long-term social, cognitive, and emotional growth, making them a significant indicator of adult psychopathologies [3]. Taking this into account, the current study's foundation was the following review: What useful insights does the present literature on childhood depression have to offer clinicians and researchers? This review sought to evaluate the current state of knowledge regarding various aspects (etiology/risk factors, diagnosis, treatment, prevention, and prognosis) of childhood depression by presenting an overview of the published studies on the topic [4]. Since childhood depression is a significant public health concern, it also aimed to give readers a comprehensive understanding of the topic. Our theory is that despite the rising interest in the topic, human resources (such

as the overall health care team) are still not sufficiently prepared to deal with early diagnosis and treatment of childhood depression.

## Methods

We conducted a qualitative analysis of reports on child depression that were published in previously selected internet databases. The search was restricted to publications published between January 1, 2010, and June 30, 2022, and it was done through the MEDLINE online database in June 2022. New ways of sharing knowledge from psychiatry to paediatrics brought together more in-depth knowledge about socio-demographic data, clinical information based on epidemiology, service delivery, and procedures. Initially, the search terms browsed in the MEDLINE database were: 1. “depression” (Medical Subject Headings [MeSH] term); 2. “child” (MeSH term); and 3. “childhood depression” (keyword). The following searches were performed: 1 AND 2, 3. In addition to MeSH terms, we opted to add the keyword “childhood depression” to the search strategy, because, despite not being included in the MeSH thesaurus, it is frequently used to describe studies that deal with the theme object of the present review. To guarantee a proper sample, the search strategy and the obtained articles were examined twice. The National Library of Medicine’s controlled vocabulary thesaurus, MeSH, which is used to index articles for PubMed, served as the definition of “child” in this study in order to create a parameter for restricting the age group covered by the current review. In this study, a person between the ages of 6 and 12 is considered to be a “child,” and as a result, the term “childhood” refers to the period between those ages. The examination of the article adhered to the predetermined eligibility standards. We adopted the following inclusion criteria: (1) articles that included in the title at least one combination of terms described in the search strategy; (2) references written in English; (3) studies pertaining childhood depression; and (4) prospective or retrospective observational (analytical or descriptive, except case reports), experimental, or quasi-experimental studies. Exclusion criteria were: (1) other designs, such as case reports, series of cases, review of literature, and commentaries; (2) non-original studies, including editorials, prefaces, brief communications, and letters to the editor. The papers were then all read in their entirety. Because the focus of this study was on childhood depression, outcomes related to adolescent or adult depression were not recorded or evaluated for this study. However, some of the studies also dealt with depression in adults and older children.

## Discussion Etiology/risk factors

Nine researchers attempted to connect childhood depression with various characteristics in terms of its aetiology and risk factors, such as general cognitive style and interparental conflict, sweet preferences and analgesia, child maltreatment and other adverse experiences, prenatal drug exposure, environmental processes, and functional connectivity of the amygdala [5-10]. Research on the mechanisms by which both general cognitive style and interparental conflict (IPC) affect childhood depression suggest that parental warmth/rejection mediated the relation between IPC and

depression, and general cognitive style acted as a moderator [5]. Mennella et al. found that depressive symptomatology alone was linked to greater love for sweet-tasting meals and candies and enhanced pain sensitivity. They also discovered that depression counteracted the analgesic effects of sucrose [11].

Other research discovered that results in a sample of low-income Brazilian students hint to a number of factors that influence children’s depressive behaviour, as well as the potential role of psychological family violence. Drug use during pregnancy also affected the ability to control emotions, which led to nervous or depressive behaviour as a child.[8] Additionally, it was discovered that relationship violence is linked to depressed symptoms, which are associated with suicide thoughts in a clinical population [12]. It was shown that depressive symptoms are partly caused by environmental mechanisms independent of inherited effects and are not taken into account by shared adversity assessments when parent depression and child depressive/anxiety symptoms are related in an assisted conception design [9]. Anxiety and/or sadness were linked to child abuse and other traumatic childhood experiences [13]. Recurrent maternal depression did not appear to interact with gene variations considered to be important in the regulation of the stress response and predict symptoms of depression in children and adolescents in this population, which is relevant to the genetics of childhood depression [13]. Last but not least, Luking et al. emphasise the connection between altered corticolimbic functional connectivity and the cause of early-onset major depressive illness (MDD) [10]. The study found an attenuated relationship between the amygdala and cognitive control regions in children aged 7 to 11 with a history of MDD during early childhood and/or a maternal history of depression using resting state functional magnetic resonance imaging (fMRI). This indicates a reduced connectivity within networks both positively (e.g., limbic regions) and negatively (e.g., dorsal frontal/parietal regions) correlated with the amygdala, thought to be However, additional investigations are required to validate this evidence because of the small sample size.

## Diagnosis

Two previous studies that took two different approaches to the subject dealt with the diagnosis of paediatric depression. One of them states that using age-appropriate Diagnostic and Statistical Manual of Mental Disorders (DSM) criteria, clinically relevant episodes of MDD in preschoolers can be recognised and accurately diagnosed [14]. The Validation of Preschool Depression Study (PDS) subsample of the same longitudinal study, however, reveals that the 2-week duration criteria may not be the best for identifying all clinically significant symptoms of depression in preschoolers. While using strict DSM criteria, Gaffrey et al. noted that an adapted DSM (i.e., 2-week criteria set aside) criteria for preschoolers might be taken into consideration in order to cover a group of kids who, while not yet diagnosed with MDD, would likely benefit from additional clinical attention who are at risk for future mood disorder. Further research is required to confirm that episode duration should be given less “weightage” in diagnostic decisions when dealing with preschoolers because it is more accurately viewed

dimensionally as an indicator of severity rather than dichotomously when defining “caseness” at the studied age group, according to the authors, who believed that their study included the largest sample of preschoolers to date. When we take into account the fact that the DSM group at follow-up in the study represents a small sample with a potential for type II error, our cautious stance is increased. The most recent study looked at whether baseline parental ratings of symptoms of child sadness predicted changes in mood in children. The research demonstrates a similar level of correlation between child and parent ratings of depression and new onset child mood disorder (NOMD) [15]. The study found that for younger children, parent reports considerably outperformed kid reports in terms of NOMD prediction, however there were no differences between parent and child reports for children older than 12 years old. However, since not all parents were having a depressive episode at baseline, the conclusions must be interpreted with caution given the study’s aim of analysing depressive parents’ claims. The sample’s predominately female makeup raises the possibility of further bias, suggesting that results may not apply to fathers or households without a history of parental depression.

Prepubescent Wistar Kyoto (WKY) rats’ basal levels of monoamines and DHEA in the four major limbic brain areas were assessed (a putative animal model of childhood depression). Two areas of the hippocampus had baseline amounts of “Brain-Derived Neurotrophic Factor (BDNF)” that were compared to Wistar strain controls. The effectiveness of fluoxetine, desipramine, and dehydroepiandrosterone sulphate as chronic antidepressants was investigated in the second phase on prepubertal WKY rats (DHEAS). When compared to controls, WKY prepubescent rats had lower levels of BDNF in the CA3 region of the hippocampus, lower levels of DHEA in the VTA, and altered amounts of monoamine in the limbic system. In the forced swim test, only DHEAS therapy resulted in a statistically significant reduction in immobility in prepubertal WKY rats as compared to saline-administered controls. Antidepressants had no effect on Wistar controls. These findings suggest that BDNF and DHEA(S) may have a role in the pathophysiology and pharmacology of paediatric depression [16].

### Prevention

In two studies, the prevention of childhood depression was examined. ‘FRIENDS for Life,’ a 10-week programme (plus two booster sessions) that has been shown to be an effective school-based preventative programme for kids with early or mild indicators of anxiety or depression, was presented in an experimental Dutch controlled study (albeit it was non-randomized) [4]. The CBT-based programme includes psychoeducation, relaxation techniques, exposure, problem-solving skills training, social support training, and cognitive restructuring exercises. The acronym ‘FRIENDS’ was generated from: Feelings; Remember to relax. Have quiet time; I can do it! I can try my best! Explore solutions and Coping Step Plans; Now reward yourself! You’ve done your best! Don’t forget to practice; Stay calm for life!

The results of the other study, which employed economic modelling techniques, demonstrated that preventive interventions for

childhood and adolescent depression have a very favourable population cost-effectiveness, though implementation issues, particularly those relating to provider acceptability, must be resolved before widespread adoption [17]. Specifically focusing on the screening of children in the Australian population in 2003, the study came to the conclusion that any national package of preventive health services must take into account screening children for signs of depression and providing a psychological intervention to prevent a diagnosable case of MDD as they represent very good value for money.

### Prognosis

Five studies, each focusing on a distinct tool for depression assessment in children, were conducted. A study among 6th and 8th grade students in the Seattle Public School District looked at the Mood and Feelings Questionnaire (MFQ) and the measurement of its equivalence across racial/ethnic groups. It suggests that differences in MFQ scores across groups are unlikely to be caused by measurement non-equivalence.[18] A sample of kids and teens from a school was used to conduct a psychometric analysis of the Positive Affect (PA) and Negative Affect (NA) Schedule for Children - Parent Version (PANAS-C-P) [19]. The PANAS-C-P as a parent-reported viewpoint of youth PA and NA among school-based juveniles is supported in part by the findings of the mentioned study. The Revised Child Anxiety and Depression Scale - Parent Version underwent psychometric study by Ebesutani et al. in a clinical sample. The aforementioned scale showed promising psychometric qualities and the capacity to differentiate between the targeted anxiety disorders as well as between anxiety and depressive illnesses [20]. The Depression Self-Rating Scale and Child Post Traumatic Stress Disorder Symptom Scale were adapted in Nepali reality for the purpose of assessing childhood depression across cultures, demonstrating that task-shifting the validation process to trained mental health paraprofessionals using structured interviews allows for transcultural translation and alternative validation to be accomplished in low clinical resource settings [21]. The most recent study found evaluated the Revised Child Anxiety and Depression Scale (RCADS) on a national sample of young people in Denmark, offering convincing proof that the RCADS-DAN is a reliable screening tool for anxiety in young people in Denmark [22].

In terms of psychiatric comorbidities associated with depression, there is evidence that, after analysing a sample of depressed outpatients, adult participants with a history of childhood-onset depression exhibit greater Axis I comorbidity than those with adult-onset depression, more likely meeting criteria for comorbid DSM - Axis I diagnoses (especially anxiety disorders) as well as criteria for Avoidant and Paranoid personality disorders, as well. Boylan et al. noted that anxiety and depression were highly correlated in each age group studied and in both boys and girls, specifically addressing the high degree of comorbidity between depression and anxiety in childhood. This finding suggests that although they can be measured independently, they have significant shared variance. Despite using a sizable sample, the cohort only relied on mothers’ reports for the measurement of the stability of anxiety and depres-

sion symptoms, which could restrict the validity of the data and encourage overreporting [23]. Finally, a different study examined the impact of conduct disorder (CD) and depression in girls between childhood and adolescence in relation to aspects of oppositional defiant disorder (ODD). The study came to the conclusion that emotional dysregulation and defiant features of ODD should be recognised as targets for therapy in order to prevent depression in the future. The study also found that symptoms of CD tend to precede depression in girls during childhood and adolescence [24]. Osika et al. examined the link between psychological health (anger, depression, and anxiety) and endothelial function in childhood with regard to medical depression-related comorbidities, highlighting the possibility that psychosocial adversity in childhood may be a risk factor for later cardiovascular diseases [25]. The study's findings suggest an association between self-reported psychological wellness in girls between the ages of 12 and 16 with lower hyperaemia peripheral artery tonometry scores (attenuated endothelial function). The low participation rate, particularly among boys, and the fact that participants were younger than the control group point to a potential selection bias, nevertheless. In the context of paediatric cancer, Wakimizu et al. examined the prevalence of depression and quality of life among Japanese paediatric cancer patients and discovered that lower Pediatric Quality of Life Inventory (PedsQL) scores correlated with higher Birleson Depression Self-rating Scale for Children (DSRS-C) scores, suggesting that a child's increased propensity to experience depression was correlated with a low health-related quality of life [26]. The inclusion criteria, however, may be biased because the definition of a child of "primary school age" is not age-specific and because the requirement of "being able to complete a physical and psychological questionnaire" does not indicate whether this ability is only cognitive or also related to the participant's state of health.

## Treatment

Regarding care, researchers looked into cutting-edge therapies for depression in preschoolers and methods for forecasting treatment outcomes in cases of paediatric depression. In the study by Lenze et al., an Emotional Development (ED) module was introduced as a tool (PCIT-ED) aimed to teach parents how to support the child's emotional development and improve emotion control [27]. PCIT-ED consists of three modules that are spread throughout 14 sessions. To improve the quality of the parent-child bond and the parent's capacity to set loving and effective boundaries with the kid, standard PCIT focuses on the parent-child relationship. PCIT-ED employs six-session Child Directed Interaction (CDI) and Parent Directed Interaction (PDI) modules as well as a novel ED module that teaches parents how to support their children's emotional growth and improve their ability to regulate their emotions. While the PDI tries to reduce disruptive behaviour by teaching the parent to give effective instructions and educating the parent in methods for resolving noncompliance, the first module (CDI) focuses on enhancing the parent-child bond by teaching positive play practices. When PCIT-ED was used, depression severity scores fell significantly in eight parent-child pairs with depressed preschoolers. A randomised controlled experiment is necessary to strengthen the gleaned conclusions, however, because the results were pre-

liminary and this open trial used a limited sample. A more typical baseline profile of baseline affective functioning in natural settings (lower NA and higher PA) and time with parents could serve as a foundation for treatment response in children, according to research using ecological momentary assessment of NA, PA, and companions in natural settings.[28] The methodological aspects of the studies discussed in this review must also be highlighted because methodological inconsistencies make it difficult to compare and extrapolate the findings across studies. The majority of research used small samples, which emphasises the significance of evaluating the consistency of the outcomes. Other methodological flaws included the lack of control groups, among others [29]. Although the authors assert that these quirks have no bearing on the findings, it is possible that they will make it harder to generalise and replicate the conclusions. It is noteworthy that there isn't much experimental research on childhood depression, which may be a result of ethical restrictions on studies involving children, as just two experimental studies were found in the current review. Recent scientific research on paediatric depression tends to emphasise, either directly or indirectly, the detrimental effects of depressive illnesses on children's quality of life. Unfortunately, the research found indicate that childhood depression frequently develops against a backdrop of vulnerability and poverty, where personal and social needs related to childhood melancholy are frequently ignored. In this regard, this analysis showed that childhood-onset depression frequently results in various psychiatric problems and co-morbidities, failing to serve as a caution to families to seek assistance while it is still possible to quickly alter the children's bad mental condition. Additionally, many of the retrieved papers revealed that despite the increased interest in this topic, human resources (such as the general healthcare team) are not yet sufficiently trained to manage childhood depression. The development of programmes that effectively prepare healthcare professionals to deal directly or indirectly with childhood depression in the clinical setting and being able to detect and appropriately address the disease to halt its detrimental effects is an important area that requires further research in light of this.

Studies on the treatment of paediatric depression have demonstrated that placebo effects outperform those of even pharmaceutical interventions [30]. The function of a therapist is even more important in psychosocial therapies because the closeness of the interaction between the kid and the therapist raises the child's sense of self and their identification with the adult, which aids in reestablishing attachment and security seeking. Compared to the adult population, the effects of therapeutic alliance are more pronounced in children and adolescents. In particular, the influence of negative events is not fully internalised at a young age, and depressive states are more responsive to adjustments by relationships than basic adult cognitions. Children also have distinct developmental and risk variables than adults do. The treatment of depression is more susceptible to nonspecific elements like the relationship with the therapist since the overall psychopathology of depression differs from anxiety or other illnesses more among young people. Cohen et al. put forth a number of explanations for why young people have larger placebo effects. For instance, the therapist's

“positive mirror” helps youngsters form transference more strongly. Without the clinician’s therapeutic stance, the youngster is able to regain his or her sense of value and trust in the adult world. All psychotherapies aim to transform hopelessness into optimism, fear into courage, helplessness and mastery, and demoralising interpretations into positive ones. This makes young people more receptive to the fundamental safety and stability that therapy offers.

For treating depression, metacognitive therapy (MCT) is beneficial. MCT is becoming more popular as a remedy for psychological issues. The self-regulatory executive function model, which forms the theoretical foundation of MCT, contends that the cognitive attentional syndrome—a persistent thinking pattern—causes psychopathology (CAS). The CAS is made up of dysfunctional coping mechanisms that people use to try to control upsetting thoughts and feelings. The effectiveness of MCT has been tested and demonstrated in numerous clinical trials [31].

The most popular technique, mindfulness-based cognitive therapy (MBCT), was initially created by John Teasdale, Zindel Segal, and Mark Williams to stop major depressive episodes from reoccurring. As suggested by its name, MBCT combines aspects of cognitive therapy and mindfulness training to lessen the recurrence of depression. To help people notice a decline in mood without immediately passing judgement or reacting to it, mindfulness techniques are utilised. The concepts of cognitive therapy are then used with this improved internal awareness to help people break free from maladaptive patterns of negative, repeated thought that fuel depressive symptoms. Additionally, studies examining the role of an individual’s moderators on treatment results have revealed that MBCT may be most successful in preventing relapse among those with the highest risk of doing so [32].

### **Covid and Lockdown -**

According to longitudinal data from a UK study, lockdown procedures and children’s mental health are not compatible. In particular, they noticed a medium-to-large effect size rise in evaluations of depression that was statistically significant. In preparing the ongoing response to the worldwide epidemic and the recovery from it, their findings highlight the necessity of taking the potential effects of lockdown on kid mental health into account [33].

### **Conclusion**

The goal of this paper is to provide a thorough examination of “childhood depression.” Legitimate concerns are evaluated, detailing any current restrictions as well as prospective areas for expansion in the upcoming years, on the basis of literature research and future estimates. This article attempts to update readers on a significant social issue, namely childhood depression. It also provides evidence in favor of the use of various treatment and therapy modalities, including medication, cognitive behavioral therapy, individual psychodynamic therapy, and family therapy, for varying degrees of depression in children.

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