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Parent Depression and Child Anxiety: An Overview of the Literature with Clinical Implications

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Abstract

The association of parental depression with child anxiety has received relatively little attention in the literature. In this paper we initially present several reasons for examining this relationship. We then summarize the empirical support for a link between these two variables. Finally, we discuss directions for future research and clinical implications of an association of parental depression with child anxiety.

Introduction

Major depressive disorder (MDD) represents a significant public health concern. National Comorbidity Study-Replication (NCS-R; Kessler et al., 2003) data indicate that the lifetime and 12-month prevalence rates for depression for 2001 were 16.2% and 6.6%, respectively. The National Epidemiologic Survey on Alcoholism and Related Conditions (NESARC; Hasin, Goodwin, Stinson, & Grant, 2005) provided similar lifetime (13.23%) and 12-month (5.28%) prevalence estimates. Based on these estimates, approximately 32 to 35 million adults are projected to be impacted by depression during their lifetime. Furthermore, the cost of depression in the United States due to lost earnings, treatment, and other factors is approximately $85 billion annually (Greenberg et al., 2003).

Epidemiological data indicate median and mean recovery times of approximately six and twelve weeks, respectively (Kendler, Walters, & Kessler, 1997). Despite the short duration of episodes, residual depressive symptoms have been shown to persist following remission from a depressive episode in as many as one-third of individuals experiencing depression (Kennedy, Abbott, & Paykel, 2003; Paykel, 1998). Furthermore, longitudinal studies examining the course of MDD indicate that the disorder is highly recurrent. The median number of episodes across all individuals with a history of depression is seven, with approximately 75% to 85% of individuals experiencing more than one episode in their lifetime (Belsher & Costello, 1988; Boland & Keller, 2002).

Impact of Parent Depression on Children

Studies from the last few decades indicate that children and adolescents living with a depressed caregiver are at increased risk for a wide range of emotional and behavioral problems during the preschool, middle childhood, and adolescent years (for a review, see Goodman & Tully,

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2006). Substantial research suggests that parental depression is associated with both offspring internalizing and externalizing problems (e.g., Elgar, Mills, McGrath, Waschbusch, & Brownridge, 2007). Although parental depression appears to have non-specific associations across these two types of child problems, and with disorders from within each of these broadband categories (see reviews by Goodman & Tully, 2006; Shanahan, Copeland, Costello, & Angold, 2008), recent investigators (McKee, Colletti, Rakow, Jones, & Forehand, 2008; McMahon, Grant, Compas, Thurm, & Ey, 2003; Shanahan et al., 2008) have emphasized the importance of examining whether particular risk factors, such as parental depression, are associated with specific child outcomes.

When broadband internalizing outcomes have been differentiated into depression or anxiety, the former disorder has received far more attention and support in empirical studies than the latter disorder (see reviews by Goodman, 2007; Goodman & Tully, 2006). This attention to the link between parent and child depression is not surprising, as heritability and environmental factors (e.g., parental modeling) may directly account for the transmission of depression from parent to child (for a review, see Goodman & Tully, 2006). Although the focus on depression outcomes for children of depressed caregivers is logical given our current understanding of the mechanisms of depression risk transmission (for reviews, see Goodman & Gotlib, 1999; Goodman & Tully, 2006), it is equally important that we examine the association of parental depression with child anxiety, the other primary type of internalizing problem. The following three arguments suggest that additional research should more closely examine the association of parental depression and child anxiety.

First, depression and anxiety in both children and adults are frequently comorbid, suggesting that parental depression may be associated with child anxiety in addition to child depression. More specifically, high comorbidity rates, ranging from 30% to 75%, have been reported for children and adolescents (e.g., Angold & Costello, 1993; Clarke, Smith, Neighbors, & Skerlec, 1994; Pilowsky et al., 2006). These comorbidity estimates substantially exceed the rate expected by chance (Williamson, Forbes, Dahle, & Ryan, 2005).

Second, multiple lines of research suggest that anxiety is a precursor for the development of depression in some children: (1) the mean age of children with anxiety disorders is younger than that for children with depressive disorders (e.g., Weissman et al., 2006); (2) most children and adolescents with comorbid depression and anxiety experience anxiety symptoms before they experience depressive symptoms (e.g., Andrade et al., 2003; Kessler et al., 2003; see Moffitt et al., 2008, for an exception); and (3) early anxiety symptoms predict later depressive symptoms in youth (e.g., Cole, Peeke, Martin, Truglio, & Seroczynski, 1998; Feng, Shaw, & Silk, 2008). These lines of evidence suggest that the association of parent and child depression may occur through child anxiety and give import to the task of examining child anxiety outcomes when parents have depression.

Third, our current knowledge of the degree to which anxiety disorders negatively impact youth requires that we examine parental depression as a possible risk factor for child anxiety. Anxiety disorders are among the most common psychiatric problems experienced by children, with prevalence rates ranging from 3% to 15% (Costello & Angold, 1995). Moreover, anxiety disorders appear to remain stable and problematic for youths throughout childhood and adolescence (McLeod, Wood, & Weisz, 2007). Many children with anxiety have difficulty with school performance and making and maintaining friendships, in addition to experiencing significant personal distress (for a review see Silverman & Ginsburg, 1998). Unlike depression, which is often chronic but episodic, anxiety disorders do not tend to remit with time but instead appear to continue into adulthood (Pine, Cohen, Gurley, Brook, & Ma, 1998). Together, these findings suggest that research identifying targets for prevention and treatment of anxiety disorders is necessary (Ginsburg & Schlossberg, 2002). If parental depression is a risk factor

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for child anxiety, then increasing our understanding of the relation between these two disorders should lead to more effective prevention and intervention strategies for child anxiety.

The goal of this paper is to provide an overview of current evidence for an association of parental depression with child anxiety. We believe that the relation between these two variables has been understudied, leading to limited support for their association. As a consequence, the clinical implications of parental depression for anxiety in children have not been sufficiently recognized.

Data on the Association between Parent Depression and Child Anxiety

Although the extant literature is limited, both cross-sectional and retrospective studies indicate a link between parental depression and child anxiety. When comparisons have been made between children of parents with current or past clinical depression and children of never-depressed parents, the former group has been approximately two to six times more likely to have an anxiety disorder (e.g., Beidel & Turner, 1997; Fendrich, Warner, & Weissman, 1990; Hammen & Brennan, 2003; Ohannessian et al., 2005). Moreover, in one study, 7- to 12-year-old children of depressed parents were more likely to have an anxiety disorder than a depressive disorder, leading Beidel and Turner (1997) to conclude that “Offspring of depressed parents … often present with anxious symptomatologies” (p. 923).

It is important to note that not all cross-sectional studies find a link between parental depression and child anxiety. In two early studies, Biederman, Rosenbaum, Boldue, Faraone, and Hirshfeld (1991) and Weissman, Leckman, Merikangas, Gammon, and Prusoff (1984) did not find support for the hypothesized associations between parental depression diagnoses and child anxiety diagnoses. More recently, Biederman and colleagues (Biederman et al., 2001) found support for an association between parental depression and child social phobia but not other anxiety disorders. Even if the data pointed to a consistent relationship between parent depression and child anxiety, reliance on cross-sectional and retrospective data to reach conclusions about these two variables is inherently flawed, as conclusions about the ordering or sequencing of the relationship cannot be reached. Data from longitudinal family studies can begin to provide findings more consistent with causality (Cole & Maxwell, 2003; Loeber & Farmington, 1994) and can address the possible sequencing effect, as a shared genetic diathesis manifests in childhood as anxiety and in early and late adolescence as depression (Silberg, Rutter, & Eaves, 2001).

Most (e.g., Lieb, Isensee, Hofler, Pfister, & Wittchen, 2002; Weissman, Warner, Wickramaratne, Moreau, & Olfson, 1997; Wickramanetne & Weissman, 1998), but not all (Biederman et al., 2006), of the existing longitudinal studies demonstrate that offspring of depressed parents are at increased risk for developing anxiety disorders. For example, findings from a longitudinal examination of psychopathology outcomes among offspring of depressed and non-depressed caregivers (Weissman et al., 2006b) indicated that offspring of depressed caregivers have a threefold increased risk of developing an anxiety disorder that is not otherwise explained by comorbid parental anxiety. In a study using the same sample but including three generations, Weissman and colleagues (2005) found higher rates of anxiety disorders (45%) than depressive disorders (30%) among grandchildren (*M* age = 12 years) when the previous two generations had experienced major depression. One interpretation of these findings offered by Weissmann et al. (2005) is that anxiety during late childhood and early adolescence may be viewed as a precursor for later depression in adolescents and young adults. This is congruent with our earlier argument that anxiety precedes depression for most children.

The most rigorous way to examine the relationship between parent depression and child anxiety is by experimental manipulation of parent depression through medication or psychosocial intervention. There is some *limited* support for the treatment of parental depression alleviating

children's mental health problems (e.g., Weissman et al., 2006a; for a review, see Gunlicks & Weissman, 2008). Unfortunately, anxiety disorders or symptoms have not been examined individually (i.e., constructs such as internalizing symptoms have been examined), random assignment of families to treatment and control conditions has not occurred, or a sufficient sample size to allow statistical analysis of the data has not been included. Thus, current intervention research involving experimental manipulation has not yet been conducted to examine the association of parent depression and child anxiety. In summary, some limited cross-sectional, retrospective, and longitudinal data support an association between parent depression and child anxiety.

Directions for Future Research

Existing data *suggest* there may be a link between parent depression and child anxiety. Future research needs to address a number of areas in order for more definitive conclusions to be reached. These areas include the following: (a) measurement; (b) experimental design; and (c) the study of mediators and moderators.

First, in order to more accurately measure parent depression and child anxiety, it may be necessary to dismantle one or both constructs, as well as address their overlap. Parental depression consists of a number of parameters, including chronicity, severity, and timing of onset in a child's life. With rare exception (e.g., Hammen & Brennan, 2003), depression parameters such as these have been ignored and either a dichotomous measurement (depressed vs. non-depressed) or depressive symptoms have been examined. By refining the measurement of depression, unique relationships between specific parameters of parental depression and child anxiety may emerge. Similarly, with regard to child anxiety, specific types of anxiety disorders (e.g., phobias, social anxiety) should be examined (Shanahan et al., 2008). Biederman et al. (2001) found that parental depression may be related to some, but not all, anxiety disorders. Assessing specific anxiety disorders will increase the sensitivity of the outcome measure, increasing the likelihood of detecting parent depression-child anxiety associations.

With regard to construct overlap, an emerging literature has begun to identify alternatives to the precursor explanation outlined earlier for the comorbidity of anxiety and depression. Briefly, current measures of anxiety and depression may be tapping a broader negative affectivity construct that underlies both disorders (e.g., Mineka et al., 1998). Additional research is needed to clarify whether anxiety and depression are unique constructs or merely overlapping phenotypic expressions of the same underlying disorder. Alternatively, anxiety and depression may not be sufficiently differentiated in children to assess with existing measurement instruments, and a new generation of instruments may be required to more precisely determine the relation between depression and anxiety in both children and adults.

Second, with regard to experimental design, studies should control for parental anxiety and child depression. Without controlling for the symptoms of these disorders, relationships between parental depression and child anxiety may be explained by these comorbid conditions. For example, Biederman et al. (2006) controlled for parent panic disorder and did not find a relationship between parent depression and child anxiety. When comparing their findings to those of other investigators who found a significant association but did not control for cormorbid parent anxiety disorders, Biederman et al. (2006) noted that the comorbid anxiety disorders may have accounted for the difference in findings.

Third, longitudinal and experimental designs must be utilized so that conclusions more consistent with causality may be reached. With longitudinal designs, baseline levels of child anxiety can be controlled in data analyses, thereby facilitating assessment of change in anxiety

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over time (Cole & Maxwell, 2003). However, experimental manipulation of parental depression will be required to reach the strongest conclusions about causality.

Once a relation between parent depression and child anxiety has been established, attention can turn to mediators and moderators of this relation. For example, an environmental factor, parenting, may be such a mediator, as several parenting behaviors identified as characteristic of depressed parents (e.g., aversiveness, instrusiveness, withdrawal) (Lovejoy, Graczyk, O'Hare, & Neuman, 2000) *also* have been implicated in the development of anxiety problems in children (Ginsburg & Schlossberg, 2002; McLeod, Wood, & Weisz, 2007). Research also suggests the potential role of other environmental factors such as interparental violence (Shanahan et al., 2007). However, attention cannot focus solely on environmental factors, as genetics may well play a role.

Goodman and Tully (2006) noted that the "heritability of depression may not be specific to depression" (p. 253). Congruent with this notion, Dick, Rose, and Kaprio (2006) argued that genetic influences can be "expressed as different phenotypes at different developmental stages" (p. 225). Thus, the genetic transmission of parental depression to offspring *could* be expressed as anxiety in the pre-adolescent years and as depression in the teenage years. Other research suggests that genetic risk factors for depression and anxiety, including generalized anxiety disorder, are highly correlated (Kendler, Gardner, Galz, & Pedersen, 2007). All of these findings suggest that genetic factors may account for a link between parent depression and child anxiety. Furthermore, the interaction of genetic and environmental factors should be considered (Moffitt, Caspi, & Rutter, 2005). For example, it may well be that neither parenting nor genes alone can account for the relation between parent depression and child anxiety whereas the interaction of these two variables does account for this relation.

Beyond mediators, moderators also should be identified. For example, several studies suggest that girls are more sensitive to family stressors like parental depression than boys (Crick & Zahn-Waxler, 2003; Davies & Windle, 1997; Thomas & Forehand, 1991). Examinations of potential moderators, such as child age and gender, family context (e.g., presence of marital conflict), and neighborhood context (e.g., low vs. high risk) will inform us for whom and under what conditions parental depression leads to child anxiety.

Implications for Clinical Practice

Assuming a relation between parent depression and child anxiety, there are several important implications for clinical practice. First, such a relation suggests that when a parent presents with depression, there is a need to evaluate children in the family not only for depression but also for anxiety, as early intervention may decrease symptoms of both disorders along with the distress associated with them (Kowalenko et al., 2005; see Hirshfeld-Becker & Biederman, 2002). Second, when an adolescent client presents with depression and her or his parent has a history of depression, clinicians again should assess for anxiety in the adolescent, as the depression may be secondary to distress associated with chronic anxiety. Third, if a child presents clinically with anxiety, parent depression deserves consideration as a stressor contributing to the anxiety. Furthermore, and of importance, parental depression is related to treatment outcomes for child anxiety. For example, Berman, Weems, Silverman, and Kurtines (2000) found that higher levels of parental depressive symptoms at baseline were associated with poorer treatment outcomes for child anxiety when intervention included both a focus on the child and parental involvement. Southam-Geraw, Kendall, and Weersing (2001) found similar results for child anxiety outcome when the focus of treatment was on the child with some parental collaboration. Thus, to maximize effective treatment for child anxiety, parental depression should be assessed and, if necessary, targeted as part of the intervention.

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Fourth, as several lines of research studies suggest that anxiety precedes child depression in some children, there is a need not only for intervention for anxiety when a parent is depressed but also for prevention of future depression in children with anxiety disorders. Although empirically supported treatments for anxiety and depression share many components (e.g. psychoeducation, cognitive restructuring) (Norton, Hayes, & Hope, 2004), they also differ in important ways. For example, exposure is an important component of the intervention package only for child anxiety treatment (see Weisz, 2004).

As another example, there currently appear to be trends in opposite directions regarding the role of parents in intervention for child anxiety versus prevention of child depression. Although early research indicated that inclusion of parents was beneficial in the treatment of child anxiety (Barrett, Dodds, & Rapee, 1996; Silverman, Kurtines, Ginsburg, Weems, Lampkin, & Carmichael, 1999a; Silverman, Kurtines, Ginsburg, Weems, Rabian, & Serafini, 1999b), the outcome in one recent treatment study suggests that parents do not necessarily need to be included in the child's treatment sessions for change to occur. Rather, the focus is on intervention with the child with occasional parent collaboration in the form of psychoeducation (Kendall, Hudson, Gosch, Flannery-Schroeder, & Suveg, 2008). In contrast, when prevention programs for child depression are considered, early well controlled research focused on the child or adolescent with occasional parent collaboration (e.g., Clarke, Hawkins, Murphy, Sheeber, Lewinsohn, & Seeley, 1995); however, several groups of researchers have recently called for the inclusion of parents (Compas, Keller, & Forehand, in press; Collins & Dozois, 2008; Horowitz & Garber, 2006). For example, Horowitz and Garber (2006) noted that prevention programs have been overly child focused and called for increased parental involvement, and Collins and Dozios (2008) concluded that current evidence suggests that including parents in prevention programs improves their outcomes. In sum, parents have played different roles in intervention for child anxiety compared with prevention of child depression, suggesting that different approaches may be required when treating anxiety and preventing depression.

Fifth, as we noted earlier, the same parenting behaviors (e.g., withdrawal) appear to be associated with depression in parents and anxiety in children; these behaviors suggest promising targets for intervention. Targeting the parenting behaviors of depressed parents that are specifically linked to anxiety disorders in children should increase the precision and effectiveness of interventions for child anxiety when a parent has depression. Finally, an awareness of the potential link between parent depression and child anxiety should increase our sensitivity as clinicians to the broad array of difficulties children can experience when growing up in families characterized by parental depression.

Additional Readings

The referenced articles by Goodman (2007), Goodman and Tully (2006), and Cummings and Davies (1994) provide more in-depth reviews of parental depression and child behavioral and emotional problems.

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