Journal of Affective Disorders 219 (2017) 37–48

Contents lists available at ScienceDirect

Journal of Affective Disorders

journal homepage: www.elsevier.com/locate/jad

Research paper

Cognitive-affective depression and somatic symptoms clusters are differentially associated with maternal parenting and coparenting

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ARTICLE INFO

Keywords:
Depression
Somatic symptoms
Coparenting
Maternal competence
Parenting
Intimate partner violence
Child physical maltreatment

ABSTRACT

Background: Both depressive and somatic symptoms are significant predictors of parenting and coparenting problems. However, despite clear evidence of their co-occurrence, no study to date has examined the association between depressive-somatic symptoms clusters and parenting and coparenting. The current research sought to identify and cross-validate clusters of cognitive-affective depressive symptoms and nonspecific somatic symptoms, as well as to test whether clusters would differ on parenting and coparenting problems across three independent samples of mothers.

Method: Participants in Studies 1 and 3 consisted of 409 and 652 community mothers, respectively. Participants in Study 2 consisted of 162 mothers exposed to intimate partner violence. All participants prospectively completed self-report measures of depressive and nonspecific somatic symptoms and parenting (Studies 1 and 2) or coparenting (Study 3).

Results: Across studies, three depression-somatic symptoms clusters were identified: no symptoms, high depression and low nonspecific somatic symptoms, and high depression and nonspecific somatic symptoms. The high depression-somatic symptoms cluster was associated with the highest levels of child physical maltreatment risk (Study 1) and overt-conflict coparenting (Study 3). No differences in perceived maternal competence (Study 2) and cooperative and undermining coparenting (Study 3) were found between the high depression and low somatic symptoms cluster and the high depression-somatic symptoms cluster.

Conclusions: The results provide novel evidence for the strong associations between clusters of depression and nonspecific somatic symptoms and specific parenting and coparenting problems. Cluster stability across three independent samples suggest that they may be generalizable. The results inform preventive approaches and evidence-based psychotherapeutic treatments.

1. Introduction

Depression involves the presence of cognitive, affective, and physical symptoms, including fatigue, appetite and weight changes, and sleep disturbance (American Psychiatric Association, 2013; Beck and Bredemeier, 2016). Individuals with depression may also present other somatic complaints beyond those established as diagnostic criteria for depressive disorders. These nonspecific somatic symptoms include, for example, dizziness, nausea, and pain such as headaches, stomach pain, chest pain, and poorly localized pain (Harshaw, 2015; Novick et al., 2013). Prior research has showed the clinical utility of examining nonspecific somatic symptoms in the assessment of depressive disorders. In particular, these symptoms are frequently the first and/or the main symptoms of depression presented in primary care settings (Kirmayer et al., 1993; Simon et al., 1999; Tylee and Gandhi, 2005), and they may also be more predictive of cognitive-affective depressive symptoms than specific somatic symptoms of depression (Novick et al., 2013).

This substantial overlap between cognitive-affective depressive symptoms and nonspecific somatic symptoms is also documented in community and clinical samples of mothers (Apter et al., 2013; Brown and Lumley, 2000; Eisenach et al., 2008; Giallo et al., 2016; Webb et al., 2008; Williamson et al., 2014). For example, a community study with pregnant women revealed that depressed women exhibited a higher accumulation of different nonspecific somatic symptoms than women with lower cognitive-affective depressive symptoms (Apter et al., 2013). In addition, a cross-sectional study with American mothers showed that mothers with more depressive symptoms reported higher levels of severity in headaches, nausea, and backaches than those with lower depressive symptoms during the first year postpartum (Webb

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http://dx.doi.org/10.1016/j.jad.2017.05.006
Received 14 July 2016; Received in revised form 24 April 2017; Accepted 6 May 2017
Available online 10 May 2017
0165-0327/

et al., 2008).

Despite empirical evidence of the higher prevalence of physical health problems and somatic complaints in depressed mothers (Apter et al., 2013; Brown and Lumley, 2000; Giallo et al., 2016), no study to date has been specifically designed to explore how the co-occurrence of cognitive-affective depressive symptoms and nonspecific somatic symptoms may be associated with parenting and coparenting problems. The main aim of this research was to identify typologies of cognitive-affective symptoms of depression and nonspecific somatic symptoms in mothers from a community and in mothers exposed to intimate partner violence (IPV). Our second aim was to test whether those typologies would be related differentially to parenting and coparenting problems.

1.1. Comorbidity of cognitive-affective depressive and somatic symptoms

Psychological, psychiatric, and neurobiological theoretical hypotheses have been proposed to explain the comorbidity of cognitive-affective depressive symptoms and somatic symptoms. Psychological hypotheses suggest that depression reduces the pain threshold, amplifying somatic hypervigilance and, subsequently, increasing somatic symptoms (Geisser et al., 2003). In addition, somatic symptoms are suggested as an emotional strategy to communicate distress in response to psychosocial stress, alleviating perceived psychological pain by repressing affective symptoms of depression (Wearden et al., 2005). Alternatively, the social psychiatric hypothesis proposes that the overlap of cognitive-affective depressive and somatic symptoms is grounded in psychosocial factors related to gender roles, particularly in perceived gender inequality. On the other hand, pure depression (without somatic symptoms) is strongly associated with genetic factors (Silverstein et al., 2013; Silverstein and Levin, 2014). The emphasis on the link between perceived gender inequality and somatic depression is rooted in empirical data showing that, compared to men, women report higher somatic depression but not pure depression symptoms. Furthermore, women report lower effectiveness of biologically-based treatments in somatic depression when compared with pure depression (Silverstein and Levin, 2014).

In contrast with this hypothesis, neurobiological models propose that the overlap between depression and somatic symptoms is largely explained by biological underpinnings. This is because somatic depression has been associated with a specific genetically homogenous profile (Kendler et al., 2013) and distinct patterns of immuno-inflammatory and autonomic regulation (Penninx et al., 2013).

Beyond these theoretical hypotheses, a large body of literature has also documented a clinical distinction between depression with somatic symptoms and depression involving non-somatic symptoms (Bekhuis et al., 2015; Kendler et al., 2013). Significant interindividual variability has been found between these clinical phenotypes in psychosocial outcomes and depression prognosis (Silverstein and Levin, 2014). First, the co-occurrence of cognitive-affective depressive and somatic symptoms was associated with higher odds of physical health problems and multiple stressful relationships (Bohman et al., 2010; Hwang et al., 2015). In addition, several studies have shown that the number, diversity, and severity of somatic symptoms significantly predict depression severity (Bahk et al., 2011; Bekhuis et al., 2016; Novick et al., 2013). In particular, the presence of somatic symptoms is associated with worse prognosis in depression, including higher chronicity of depression (Stegenga et al., 2012), lower remission rates (Novick et al., 2013), higher odds of new depressive episodes in the future (Terre et al., 2003), and a lower response to treatment (Huijbregts et al., 2013).

Previous work has also identified clusters of cognitive-affective depressive and nonspecific somatic symptoms (Baldassin et al., 2013; Dodd et al., 2011; Illi et al., 2012; Maes et al., 2012; Novick et al., 2013). In particular, Illi et al. (2012) found three distinct clusters: a low depression and somatic pain symptoms cluster, a high depression and low nonspecific somatic symptoms cluster, and a high depression and nonspecific somatic symptoms cluster. These occurred among 83%, 4.7%, and 12.3% of the sample, respectively. In that study, clusters were highly reliable to differentiate the severity of the sickness behavior in oncology patients. However, despite their contribution to investigating the interplay between cognitive-affective depressive and nonspecific somatic symptoms, that study, and all previous studies that filtered depression-somatic symptoms clusters, primarily tested their association with depression severity, physical health, and quality of life outcomes in clinical samples (Hawkins et al., 2014; Novick et al., 2013). Thus, it remains unclear whether these findings can generalize associations between maternal depressive-somatic symptoms and parenting and coparenting problems.

1.2. Depressive-somatic symptoms, parenting, and coparenting

Depressive and somatic symptoms in women have been strongly associated with problems in parenting and coparenting (Lovejoy et al., 2000; Solmeyer and Feinberg, 2011; Wilson and Fales, 2015). Cognitive-affective depressive symptoms have predicted lower maternal competence and ineffective discipline practices, such as hostile, harsh, inconsistent, and abusive parenting behavior (Childs et al., 2014; Dix and Meunier, 2009; Leung and Slep, 2006). In addition, cognitive-affective depressive symptoms were related to unsupportive, undermining, and conflictual coparenting behaviors in cross-sectional and longitudinal studies (Lamela et al., 2016; Solmeyer and Feinberg, 2011; Tissot et al., 2016). Less studied is the relationship between maternal somatic symptoms and parenting and coparenting. However, some research suggests that both maternal specific and nonspecific somatic symptoms are associated with parenting problems (Evans et al., 2006; Giallo et al., 2011; Hiraoka et al., 2014). An American study of mothers with chronic pain, for example, demonstrated that severity of pain was associated with more overreactive discipline (Evans et al., 2006). Another study with a community sample of mothers and fathers revealed that higher pain sensitivity and pain intolerance were associated with higher risk of child physical maltreatment (Hiraoka et al., 2014).

Surprisingly, both cognitive-affective depressive and specific and nonspecific somatic symptoms have been traditionally tested separately as predictors of parenting and coparenting problems, despite clear evidence of an adverse cumulative effect of their co-occurrence on health and psychosocial outcomes. An empirical exception was conducted with an Australian community sample of mothers of young children. It found that the co-occurrence of cognitive-affective depressive symptoms and fatigue (a specific somatic symptom of depression) was associated with higher hostile parenting and lower perceived maternal competence (Wade et al., 2012).

However, since multiple cognitive-affective depressive and nonspecific somatic symptoms may be related to parenting and coparenting outcomes (Dix and Meunier, 2009; Evans et al., 2006), a further examination of the association between cognitive-affective depressive and nonspecific somatic symptoms clusters and parenting and coparenting problems may have potential significance and clinical utility. Insight into the prevalence and distribution in which depression-somatic symptoms clusters occur in mothers may also be valuable for prevention and the detection of subgroups at higher risk of specific parenting and coparenting problems.

The potential value in understanding these associations may also find support in previous theoretical frameworks. According to action-control conceptualizations of parental self-regulation, parenting and coparenting behaviors are thought to be determined by five cognitive-affective regulatory processes: goal processing, input processing, appraisal processing, emotional activation, and response processing (Dix and Meunier, 2009).

Under this framework, the presence of cognitive-affective depressive symptoms is postulated to negatively affect parenting and coparenting through impairing those regulatory processes. These impair-