

New Fathers' Perinatal Depression and Anxiety—Treatment Options: An Integrative Review

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Abstract

More than 10% of fathers experience depression and anxiety during the perinatal period, but paternal perinatal depression (PPND) and anxiety have received less attention than maternal perinatal mental health problems. Few mainstream treatment options are available for men with PPND and anxiety. The aim of this literature review was to summarize the current understanding of PPND and the treatment programs specifically designed for fathers with perinatal depression. Eight electronic databases were searched using a predefined strategy, and reference lists were also hand searched. PPND and anxiety were identified to have a negative impact on family relationships, as well as the health of mothers and children. Evidence suggests a lack of support and tailored treatment options for men having trouble adjusting to the transition to fatherhood. Of the limited options available, cognitive behavioral therapy, group work, and blended delivery programs, including e-support approaches appear to be most effective in helping fathers with perinatal depression and anxiety. The review findings have important implications for the understanding of PPND and anxiety. Future research is needed to address the adoption of father-inclusive and father-specific models of care to encourage fathers' help-seeking behavior. Inclusion of male-specific requirements into support and treatment options can improve the ability of services to engage new fathers. Psychotherapeutic intervention could assist to address the cognitive differences and dissonance for men adjusting to the role of father, including male identity and role expectations.

Keywords

father, masculinity, men's perinatal, parenting, depression, anxiety, intervention, cognitive behavioral therapy

Introduction

Paternal perinatal depression (PPND) is a major depressive disorder in men that occurs between the first trimester of pregnancy and the end of the first year of the infant's life (Habib, 2012; Leonard, 1998). Although recent estimates indicate that 9% to 10% of fathers experience PPND (Giallo et al., 2012; Paulson & Bazemore, 2010), there has been very little research into the condition. Male and female risk factors for, and responses to perinatal depression (PND) can differ substantially (Condon, Boyce, & Corkindale, 2004; Habib, 2012). PPND requires identification and intervention, not just for the well-being of fathers but for their relationships with partners and children (Fletcher et al., 2014). PPND has also been reported to affect child development and mental health

when not addressed in the long term (Fletcher, Feeman, Garfield, & Vimpani, 2011; Habib, 2012).

There is an increasing recognition of the need to modify conventional treatments for depression to take account of gender differences (Kilmartin, 2005; Rubin, 2012). However, reports of male-specific treatment strategies for PPND are confined to qualitative, descriptive accounts (Madsen, 2009), or presented as conceptual models not yet empirically tested (Habib, 2012). In addition, there

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are few clinical guidelines supporting the identification and treatment of perinatal anxiety in fathers (Leach, Poyser, Cooklin, & Giallo, 2016). While there is a body of literature addressing the prevention of perinatal anxiety and depression in couples (see Pilkington, Milne, Cairns, Lewis, & Whelan, 2015; Pilkington, Whelan, & Milne, 2015), there is little regarding the treatment of fathers living with depression and anxiety.

Recruiting fathers to undertake treatment is a challenge. Women are often reluctant to accept mental health intervention when diagnosed with PND (Feeley, Bell, Hayton, Zerkowitz, & Carrier, 2015), but engaging men in treatment services can be more problematic. The literature indicates men can be unwilling to seek help for mental health issues, tend to express negative attitudes toward therapy, are less likely to visit a general practitioner, and are more likely to discontinue treatment than women (Addis & Mahalik, 2003; Mansfield, Addis, & Mahalik, 2003; Primack, Addis, Syzdek, & Miller, 2010).

Furthermore, it has been suggested that therapy conflicts with masculine norms of stoicism and self-reliance, therefore inhibiting the help seeking and emotional self-disclosure required to successfully engage in treatment (Addis, 2008; Call & Shafer, 2015; Cochran & Rabinowitz, 2003; Primack et al., 2010). New fathers face increased demands on their time and resources which is also likely to limit their ability to devote time to therapy (Fletcher & St George, 2011). Recent evidence underscores the need to develop appropriate gender-oriented treatments for PPND that are sensitive to a father's role (Fletcher et al., 2014; Fletcher, Garfield, & Matthey, 2015).

Cognitive behavioral therapy (CBT) is highly effective for both adult depression and generalized anxiety disorder, with benefits continuing after treatment ends. CBT can be more beneficial and efficacious than antidepressants in treating adult depression in some adult patients (Butler, Chapman, Forman, & Beck, 2006), and has been suggested as having particular utility for men because it can address cognitive distortions relating to male gender roles and norms (Primack et al., 2010; Spindel, 2015). There is a growing body of evidence to support the efficacy of CBT in treating maternal PND and depression generally (Milgrom et al., 2015; Sockol, 2015). Given this efficacy, this review was initiated as part of a planned CBT intervention for fathers with PPND. Although CBT is likely to be effective in treating men with PPND (Spector, 2006), no treatment has been reported to be tailored to new father's specific emotional needs (Habib, 2012). Thus, this review first discusses the incidence and diagnosis of PPND, men's experience of depression and PPND, and the effects of fathers' mood disorders on children and their partners. The article then examines the current literature relating to treatment for men with depression, and how CBT programs have been

modified for men. In the final sections, the evidence around treatment programs specifically designed for fathers with PPND is assessed, with particular focus on the use of CBT.

Men's Experience of Perinatal Depression

Incidence of PPND in Men

A meta-analysis of international studies indicates that about 10% of fathers experience depression during the perinatal period with this rate increasing significantly in the 3 to 6 months following birth (Paulson & Bazemore, 2010). There is a moderate positive correlation between maternal PND and PPND (Anding, Rohrl, Grieshop, Schucking, & Christiansen, 2016; Paulson & Bazemore, 2010), with approximately 24% to 40% of male partners of women diagnosed with PND, reporting PPND (Goodman, 2004). Anxiety may be more common than depression in new fathers, and the numbers of men with a diagnosis of PPND can increase by 30% to 100% when panic disorder and acute adjustment disorder with anxiety are included (Matthey, Barnett, Howie, & Kavanagh, 2003). A systematic review by Leach et al. (2016) indicates that between 4% and 16% fathers experience anxiety during the prenatal period, while between 2% and 18% suffer from anxiety postnatally. Anxiety and depression are highly comorbid, and both should be considered when examining the burden of mental illness in new fathers (Leach et al., 2016). These estimates of PPND alone are of concern, especially when the rates of adult depression are near 5% to 6% over a similar time period (Habib, 2012; Paulson & Bazemore, 2010). Nonetheless, it is likely these rates underestimate the true prevalence of PPND, as there are indications that depression in men is underdiagnosed and underreported (Addis, 2008; Martin, Neighbors, & Griffith, 2013; Veskrna, 2010).

Men's Experience of Depression

Men and women express and manage their depression in different ways (Brownhill, Wilhelm, Barclay, & Schmied, 2005). While depression can present as a dysphoric mood with reduced activity for both men and women, men are more likely to display anger, hyperactive behavior, irritability, and to have lower impulse control (Williamson, 1987; Winkler, Pjrek, & Kasper, 2005). Additionally, depression in men may be masked by interpersonal conflict, somatic complaints, and drug and alcohol use and avoidance behavior (Addis, 2008; Cochran & Rabinowitz, 2003; Melrose, 2010). These behaviors are consistently more prevalent in men compared with women (Martin et al., 2013). Avoidant, numbing, and escape outlets are

referred to as “depressive equivalents” or “masked depression,” and have been linked to male aversion to displays of weakness or vulnerability (Brownhill et al., 2005). It has also been suggested that these behaviors are expressions of depression in men who lack awareness of their feelings (Wilhelm, 2009).

The literature on men’s experience of depression exposes inherent diagnostic limitations and challenges. Current diagnostic criteria are probably skewed toward female responses to depression, and including assessment of symptoms of stress, anxiety, antisocial, or risk-taking behavior could reveal higher rates of affective disorders in men (Brownhill et al., 2005; Matthey, Barnett, Ungerer, & Waters, 2000; Wilhelm, 2009). Utilizing a scale to measure these alternative male-type symptoms of depression, Martin et al. (2013) report that a greater proportion of men met the criteria for depression (26% vs. 22%). However, including both the traditional measures of depression and the alternative male-type symptoms in assessment, resulted in similar percentages of men and women being diagnosed with depression in their study (31% vs. 33%). Such results suggest that reliance on men disclosing conventional symptoms of depression can result in underdiagnosis and even misdiagnosis in men (Martin et al., 2013). Less effective screening and undertreatment of depression in men can help explain the paradox of male rates of depression being half that of females, while suicide is significantly higher in men compared with women (Cochran & Rabinowitz, 2003; Möller-Leimkühler, 2002). In Australia, intentional self-harm (suicide) accounts for 306 male deaths for every 100 female deaths (Australian Bureau of Statistics, 2016). This suggests the need to reexamine current screening tools, and to utilize gender-sensitive questions to assist in diagnosis (Brownhill et al., 2005; Fletcher et al., 2015).

Men’s Experience of PPND

Postpartum depression in fathers can be misinterpreted due to the additional stressors associated with a new baby in the home. Irritability can be justified on the basis of fatigue, and preoccupation with paid work could be construed as the need to maintain a provider role, rather than as avoidance behavior (Melrose, 2010). Moreover, men are more likely to have limited support networks, often relying heavily on their spouses for support. This reliance becomes problematic when mothers are constrained by the demands of their newborns to offer the same level of support to their partner (Cronenwett & Kunst-Wilson, 1981; Fletcher et al., 2015; Pilkington, Milne, et al., 2015).

Lack of adequate support networks, along with employment, financial, and other factors can compound the stresses of new fatherhood. For example, in a sample of new fathers, somatization, depression, and anxiety were

associated with more life stressors and lower levels of social support. The same study identified that fathers with partners with PND reported even less support from family and friends, and higher levels of work and financial pressure (Zelkowitz & Milet, 1997). Giallo et al.’s (2013) analysis of data from the Longitudinal Study of Australian Children, revealed that those fathers with poor job quality associated with lack of job security and flexible workplace conditions, are at the greatest risk of developing psychological distress in their child’s first year of age.

There is evidence to suggest that men are more likely to idealize parenthood than their partners, while lacking access to good role models for fathering (Condon et al., 2004). Fathers, who express dissatisfaction with their couple relationship, are three times more likely to develop PPND than those fathers who are satisfied (Giallo et al., 2013). Other evidence points to psychological distress in new fathers being associated with higher levels of alcohol use and neuroticism, and poorer quality intimate relationships, quality of life, and social networks (Boyce, Condon, Barton, & Corkindale, 2007). Taken together, this evidence suggests that fathers experiencing depression and anxiety are more likely to be isolated, to have few effective interpersonal supports, and to adopt coping strategies which could be harmful to themselves and their families.

Effects on Child Development and Relationships

There is increasing evidence that PPND can negatively affect a child’s later development and behavior. Children of fathers with depression at 8 weeks’ postpartum have been identified to be at an increased risk for behavioral problems at 3.5 years of age, even controlling for factors such as maternal depression and fathers’ later depression. This effect is stronger in boys than in girls (Ramchandani, Stein, Evans, & O’Connor, 2005). In a later study, Ramchandani et al. (2008) report that children whose fathers were depressed in the prenatal and postnatal periods were at the highest risk of psychopathology at 3.5 years and psychiatric diagnosis at age 7 years. Additionally, early paternal depression has been reported to predict poorer psychological and behavioral outcomes in children 4 to 5 years of age. In particular, hyperactivity in boys and emotional and social development in girls are sensitive to their father’s diagnosed PPND (Fletcher et al., 2011). There is also evidence that PPND may adversely affect children’s capacity to learn, with long-term negative cognitive and educational consequences (Kaplan, Sliter, & Burgess, 2007).

The literature points to the deleterious impacts that paternal depression can have on parenting behaviors and relationships. Wilson and Durbin (2010) identified paternal depression to be associated with fewer positive parenting

behaviors such as displaying warmth, sensitivity, and responsiveness and a greater number of maladaptive behaviors such as hostility, intrusiveness, and disengagement. Another study reports that depressed fathers are four times more likely than nondepressed fathers to spank their 1-year-old child, and only half as likely to read to them (Davis, Davis, Freed, & Clark, 2011).

Fathers with depression are more likely to report lower levels of satisfaction and affection within their spousal relationship, even when controlling for maternal depression (Ramchandani et al., 2011). A father's mood and anxiety disorder can exacerbate the effects of a mother's poor mental health escalating the risk of a child developing emotional and behavioral problems, while fathers with better mental health can provide a buffer to the negative impacts (Kahn, Brandt, & Whitaker, 2004; Pilkington, Milne, et al., 2015). Given the potential for adverse consequences for overall family functioning, there is a compelling argument for a focus on diagnosis and treatment of fathers with PPND.

Treatment for Men With Depression and/or Anxiety

The efficacy of CBT in the treatment of depression and anxiety is well recognized. A review of 16 meta-analyses determined that CBT is highly effective for both adult depression and generalized anxiety disorder, even beyond treatment termination, and can be more beneficial than antidepressants in the treatment of some adult depression (Butler et al., 2006). Another review reports CBT to be effective in reducing anxiety and depression and improving the quality of life for those diagnosed with generalized anxiety disorders. Additionally, CBT was identified to be similarly effective to pharmacotherapy, but with a lower dropout rate (Bagby & Quilty, 2006).

A range of studies have also demonstrated the efficacy of CBT delivered in group settings for both depression and anxiety disorders (Cochran & Rabinowitz, 2003; Naik, O'Brien, Gaskin, Munro, & Bloomer, 2013; Oei & Dingle, 2008; Peterson & Halstead, 1998). Computerized CBT programs provide an acceptable, convenient, and effective alternative for treating anxiety and depressive disorders, with the added benefit of easy access (Andrews, Cuijpers, Craske, McEvoy, & Titov, 2010). However, CBT may be less effective than medication for treating chronic depression (Thase et al., 2000; Thase, Reynolds, Frank, Simons, et al., 1994). Despite the significant number of studies examining CBT as a treatment option for depression and anxiety, the role of gender in influencing treatment outcomes has been underexplored (Watson & Nathan, 2008).

Typically the few studies comparing CBT outcomes for men and women with depression and anxiety have

demonstrated no gender difference in response to treatment. A recent meta-analysis of randomized trials comparing CBT with pharmacotherapy, determined that gender did not moderate or predict treatment outcomes (Cuijpers et al., 2014). Similarly, other trials have reported no significant differences between genders in posttreatment improvement and recovery (Peterson & Halstead, 1998; Thase, Reynolds, Frank, Simons, McGeary, et al., 1994; Watson & Nathan, 2008). There are some exceptions. For example, a study of the effect of group-based and Internet-based CBT for people diagnosed with subthreshold depression, identified that women responded more favorably to treatment despite having a higher dropout rate than men (Spek, Nyklicek, Cuijpers, & Pop, 2008), while a small randomized control trial of one-day "Self-Confidence" workshops were reported to benefit women more than men (Horrell et al., 2014). Nonetheless, based on this article's earlier discussion of men's experience of depression and PPND, there are strong indications that programs tailored to meet the particular needs of men, could be beneficial.

How CBT Programs Have Been Modified for Men

Although many of the claims that CBT is an effective technique for addressing men's depression have not been empirically tested (Spendelov, 2015), the following literature supports this proposition. Nontraditional approaches such as Internet discussion groups, e-therapy, or group-based workshops have been suggested as a means to alter the context of therapy and encourage men to attend. Men may be more willing to join a group setting where there is the opportunity to share experiences and coping strategies with other men (Addis & Mahalik, 2003; Siddons, Wooten, & Costello, 2013). Rebadging therapy for depression as a "Self-Confidence" workshop has proved successful in attracting difficult-to-engage participants (Horrell et al., 2014), while group therapy labelled as the "Men's Stress Workshop" has promoted men's attendance and participation (Primack et al., 2010). Furthermore, lower dropout rates for men compared with women have been reported for CBT delivered in a group setting, or as an Internet-based e-therapy (Spek et al., 2008). Also notable are recent Australian initiatives including "beyondblue," "Men's Sheds," and "The SANE Media Centre," which have gone some way to combat the stigma associated with men's depression and other mental health issues by ameliorating some of the barriers to men seeking help (Price-Robertson, 2015).

It is also important that therapy is sensitive to the influence of masculine gender role norms in order to improve men's satisfaction and reduce withdrawal from treatment (Primack et al., 2010; Veskrna, 2010). CBT has been

identified as being beneficial in facilitating discussion around cognitive distortions relating to male gender roles (Primack et al., 2010). A CBT group-based intervention for men following radical prostate surgery, for example, was successful in improving men's self-esteem through an examination of negative self-beliefs and reconceptualizing their perceptions of masculine identity (Siddons et al., 2013). The therapy context can also enable men to examine their beliefs about what constitutes strengths and weaknesses in male behavior, particularly with respect to seeking and accepting help (Veskrna, 2010).

The Men's Stress Workshop reported in Primack et al. (2010) incorporates a number of relevant elements. To overcome men's reluctance to attend therapy, the shorter 8-week intervention was marketed as a workshop, and utilized the term "stress," rather than depression avoiding the negative connotations associated with mental illness. The program focused on increasing social support, building cognitive-behavioral strategies, providing information about depression and the influence of masculine norms, and reframing perceptions and stigma about mental health issues and treatment. There was less emphasis on emotional disclosure in early sessions, as this may have served as a barrier to those men adhering to masculine norms (Primack et al., 2010). At the conclusion of the program, participants reported improvements in depression severity and an increase in social support connections. Although preliminary results were promising, the small sample size and lack of a control group meant it was not possible to make conclusions about the effectiveness of the treatment for various levels of depression, despite Beck Depression Inventory score improvements (Primack et al., 2010).

This review summarizes the published literature reporting treatment for men experiencing PND and anxiety.

Method

A comprehensive search of the literature was undertaken to identify treatment programs designed for men with PPND, particularly where CBT had been used. A search was undertaken using the following eight databases: CINAHL, Medline, PubMed, Scopus, PsycINFO, Cochrane Library, EBSCO, and Informit Health Collection. Specific search terms for fathers, period, depression, and anxiety included as follows: father or dad or male or men or paternal or parent or partner; *natal or *partum or PND or PPND; depressi* or anxiety or distress or disorder or mental* health or sad* or negative affect or trauma or phobia. Search terms relating to specific treatments included as follows: treatment or cognitive behaviour therapy or therapy or care or intervention. Only English language full-text articles were included,

and no limits to the publication date were used. As reported in Table 1, 827 articles were retrieved. Of these, 794 were excluded as they did not fit the inclusion criteria based on their title or abstract. Eleven duplicate articles were removed. Fifteen articles were excluded as treatment of PPND is not discussed. This left seven articles, which were included in the analysis. A further six articles were included resulting from a search of the reference lists of retrieved publications and the forward citations of relevant articles.

While systematic reviews and meta-analyses play a key role in the assessment of evidence-based practice, integrative reviews facilitate the synthesis of data from both the empirical and theoretical literature. As a result, integrative reviews have the potential to depict a holistic representation of the issues and concepts in health services research (Whittemore & Knafl, 2005). This has particular utility in an emerging area of interest where the evidence is very limited.

In this review, the included studies comprised three conceptual articles, three literature reviews, two qualitative analyses of interventions for fathers, and four analyses of fathers' needs (one quantitative and three qualitative). The single randomized controlled study included in the review did not report any father-related data. From the predominately theoretical evidence presented in these studies relating to interventions for fathers, key themes and patterns were identified and iteratively developed and refined, and then endorsed by all authors.

Results

From the 13 articles included in the review (see Table 1), four broad themes were identified. The first of these themes focuses on the father's role in supporting their partners with PND. The second theme proposes that perinatal mental health should be reconceptualized as a family, rather than solely a maternal concern. The third theme centers on the father's transition to fatherhood, the lack of support, and how father-specific treatment options need to be considered. The final theme, from five articles, presents an overview of treatment options for fathers living with PPND. A summary of key information from the included studies is provided in Table 2.

Fathers, as supporting partners to mothers living with PND, are the focus of three of the articles sourced. Milgrom et al. (2005) compare the efficacy of individual and group-based counselling, and group-based CBT for women with PND. Each of the interventions included partner involvement in 3 of the 12 treatment sessions described. The role of the partner in the sessions is not detailed, nor is there mention of specific treatment for partners. In Davey et al.'s (2006) intervention study, there is a stronger focus on the role of the father; however, most

Table 1. Literature Search: Treatment of Fathers' Perinatal Depression.

Database	Number retrieved	Excluded on basis of title or abstract	Duplicates removed	Not meeting inclusion criteria	Number remaining	Articles assessed
CINAHL	34	29	0	2	3	Davey, Dziurawiec, and O'Brien-Malone (2006)
Medline	106	104	2	0	0	—
PubMed	16	15	0	1	0	—
Scopus	150	144	1	3	2	Kowlessar, Fox, and Wittkowski (2015) Milgrom, Negri, Gemmill, McNeil, and Martin (2005)
PsychINFO	56	53	2	0	1	Austin (2003)
Cochrane Library	139	136	0	3	0	Letourneau, Dennis, et al. (2012)
EBSCO	314	306	6	2	0	Habib (2012)
Informit Health Collection	12	7	0	4	1	—
Total	827	794	11	15	7	Rowe, Holton, and Fisher (2013)
Hand/snowball search					6	Spector (2006) Fitzgerald, Roy, Anderson, and Letiecq (2012) Edward, Castle, Mills, Davis, and Casey (2015) Fletcher et al. (2015) Madsen (2009) Letourneau, Tryphonopoulos, et al. (2012)

Table 2. Summary of Included Studies.

Author(s), date	Article or study type	Intervention/ treatment	Role of father parents	Psychological approach or theory	Duration of study or intervention	Sample/setting/ country	Themes uncovered
Austin (2003)	Conceptual	Not applicable	Focus on both parents	Not applicable	Not applicable	Australia	Perinatal mental health should be reconceptualized as a whole family concern
Davey et al. (2006)	Qualitative	Group therapy	Primary	Psychoeducational and CBT	2-Hour sessions over 6 weeks	16 Fathers in a coastal-rural community, Australia	Fathers as supporting partners to mothers living with PND
Edward et al. (2015)	Integrative literature review	Not applicable	Primary	Various referred to including CBT	Not applicable	Australia	Proposes treatment option(s) for fathers with PPND
Fitzgerald et al. (2012)	Correlational study assessing fathers' needs	Not applicable	Primary	Proposes CBT and peer support	Not applicable	96 Urban and 31 rural low-income fathers, United States	Proposes treatment option(s) for fathers with PPND
Fletcher et al. (2015)	Conceptual	Not applicable	Primary	Father-inclusive practice	Not applicable	United States, Australia	The transition to fatherhood, the lack of support and how father-specific treatment options need to be considered
Habib (2012)	Conceptual	Not applicable	Primary	Psychoeducation, psychotherapy, and CBT	Not applicable	Australia	Proposes treatment option(s) for fathers with PPND
Kowlessar et al. (2015)	Qualitative assessment of fathers' needs	Not applicable	Primary	Not applicable	Not applicable	10 First-time fathers, United Kingdom	The transition to fatherhood, the lack of support, and how father-specific treatment options need to be considered
Letourneau, Dennis, et al. (2012)	Realist review	Not applicable	Focus on both parents	Psychosocial, psychotherapy, couples therapy	Not applicable	Canada	Perinatal mental health should be reconceptualized as a whole family concern

(continued)

Table 2. (continued)

Author(s), date	Article or study type	Intervention/ treatment	Role of father	Psychological approach or theory	Duration of study or intervention	Sample/setting/ country	Themes uncovered
Letourneau, Tryphonopoulos, et al. (2012)	Qualitative-assessing support needs	Not applicable	Primary	Range of support interventions suggested	Not applicable	40 Fathers, Canada	Fathers as supporting partners to mothers living with PND
Madsen (2009)	Qualitative analysis of statements from men in psychotherapy	Psychotherapy	Primary	Psychotherapy	Not stated	>100 Men, Denmark	Proposes treatment option(s) for fathers with PPND
Milgrom et al. (2005)	Randomized control trial of interventions for women with PND	Individual or group-based counselling or group-based CBT	Secondary	Counselling, group therapy or CBT	12 x 90 Minute weekly sessions incl. (partners incl. in 3)	192 Women, Melbourne, Australia	Fathers as supporting partners to mothers living with PND
Rowe et al. (2013)	Qualitative assessment of support needs	Not applicable	Focus on both parents	Not applicable	Not applicable	22 Women, 16 men rural and urban, Australia	Perinatal mental health should be reconceptualized as a whole family concern
Spector (2006)	Literature review	Not applicable	Primary	Psychodynamic, CBT, and group therapy	Not applicable	United States	Proposes treatment option(s) for fathers with PPND

Note. CBT = cognitive behavioral therapy; PND = perinatal depression; PPND = paternal perinatal depression.

of the discussion centers on how they cope with their partner's PND, while at the same time developing skills to combat any associated stress and depression. The components of the 6-week treatment program for fathers included providing information about maternal PND, discussion about the fathering role, stress management techniques, as well as an introduction to CBT. The authors acknowledge the participants had significant levels of depression, but do not mention specific treatment protocols for men with PPND. However, Davey et al. (2006) do highlight that engaging men in treatment requires persistence, as the men were reluctant at first to seek help, but found the opportunity to share experiences with other men in a similar situation "to have a powerful normalizing effect" (p. 214). The men from this group intervention reported benefit from the program as it enabled them to provide greater support to their partners and children, improved communication with their partners, reduced conflict and disagreements within the family, as well as lessened their own levels of stress (Davey et al., 2006). Similarly, Letourneau, Tryphonopoulos, et al.'s (2012) exploratory study describes the support needs expressed by fathers whose partners have PND, although participants were also asked about their own needs to address depressive symptoms. The study highlights that fathers felt that their mental health needs were minimized by clinicians, and that they were often excluded from their partner's care plan (Letourneau, Tryphonopoulos, et al., 2012). Both Davey et al. (2006) and Letourneau, Tryphonopoulos, et al. (2012) identify the need to increase community awareness of PND, in an effort to reduce the perceived stigma and encourage couples to seek treatment. Moreover, they agree on the need to provide a flexible array of information and support interventions that cater to the specific needs of fathers. Additionally, Letourneau, Tryphonopoulos, et al. (2012) raise the potential to provide more accessible services to fathers via the Internet and telephone.

Other studies take the broader perspective that stress and the mental health needs of both parents have implications for the whole family. Letourneau, Dennis, et al. (2012) discuss the need to reconceptualize PPND as affecting the whole family, presenting a review of the predictors, incidence and outcomes of PND for both mothers and fathers, its impact on parenting, relationships and children's health and development, and the implications for screening and treatment. The authors conclude that little is known about effective interventions for fathers with PPND, and stress the importance of research in this area, particularly given the father's impact on family relationships and on the health of mothers and children. Austin (2003) advocates the need to view perinatal mental health in terms of the mother, father, and infant, and the consequent need to raise awareness and provide

training to health service professionals involved in caring for "high-risk" families. Rowe et al. (2013) explore the preferred sources of mental health information and support for men and women expecting their first child, finding that "Men understood that their needs for new knowledge and skills about infant care, or support for their own emotional wellbeing were not prioritised in current models of care and positioned themselves as marginalised and demeaned" (p. 51).

Two of the articles discuss the lack of support or tailored treatment options for men experiencing the transition to fatherhood. Kowlessar et al.'s (2015) phenomenological study identified that first-time fathers experienced feelings of isolation and lack of support as they adjusted to their new role: "Feelings of separation were perpetuated by men feeling unsupported, unprepared and undervalued by the lack of antenatal support they received" (p. 8). The authors suggest that engagement of fathers in services can be enhanced by interventions such as having experienced fathers deliver antenatal education, father-only discussion forums, and e-support applications. Fletcher et al. (2015) highlight the need to design perinatal health services to address fathers' PPND to maximize their positive impact on the well-being of their family. The authors propose that a father-inclusive model would help engage fathers in antenatal care, although the decision to include the father would be ultimately determined by the mother. When the couple arrive at the clinic, the father would be asked to complete a gender-specific screening tool for depression and anxiety, and be asked about any psychosocial needs. If needed, the father and or mother would consult separately with a mental health professional to discuss their responses and discuss the next steps. CBT is not specifically discussed. The authors state that there are no known effective interventions for fathers experiencing depression and anxiety and it would be misguided to simply mimic the services currently offered to mothers (Fletcher et al., 2015).

The following five articles propose specific treatment options for fathers with PPND. Based on a qualitative analysis of the statements from fathers with PPND receiving psychotherapy, Madsen (2009) offers a descriptive account of the elements that need to be included in a treatment model. He recommends that a therapist is needed to work with men's anger and withdrawal, explore past and current relationships with caregivers and with the man's child. Additionally, the therapist should also explore any tension between the father's need for independence and attachment, as well as conflict between masculine stereotypes and the caring needs of children. Three authors advocate the use of CBT for men with PPND, but a detailed discussion is absent. Spector (2006), briefly refers to CBT being used effectively in men with postnatal depression, while Fitzgerald et al. (2012)

recommend cognitive therapy for low-income fathers with depressive symptoms, based on its success in treating both men and women generally. Edward et al.'s (2015) review of the literature on men's PPND similarly makes a passing reference to CBT being one of a number of effective treatments. In contrast, Habib (2012) undertakes the most extensive analysis of gender-specific treatment of PPND. Informed by a review of the literature, he proposes a multilevel intervention model for fathers based on individual or group-based psychoeducation and/or psychotherapy, dependent on the severity and complexity of the father's situation. The author reinforces that intervention services need to be flexible and responsive to fathers' individual needs and preferences. Drawing on the literature on treatment of men's depression, and women's PND, the likely efficacy of CBT for fathers is also mooted. Habib (2012) includes the caveat that this multilevel approach is not based on specific empirical evidence, but is informed speculation derived from the literature on men's depression and women's PND.

Discussion

Although the consistent theme from the available literature is that fathers with PPND require interventions that address their specific needs, this review draws attention to the lack of empirical evidence supporting this proposition. Therefore, the evidence drawn from the literature on men's depression provides important clues as to how treatment programs could be modified for new fathers living with PPND. For example, shifting the focus from therapy and discussion of emotions and feelings might allow men to respond more favorably to treatment approaches that focus on dealing with stress (Primack et al., 2010; Wilhelm, 2009). CBT delivered in a group setting or via the Internet have reported lower dropout rates for male participants, and thus offer a viable mode of treatment for fathers (Spek et al., 2008). Although men can initially express reluctance to engage in discussion about depression and emotions, they are more likely to discuss their feelings in a "safe" environment (Wilhelm, 2009). The importance of safety is borne out by Davey et al.'s (2006) research where a support group for male partners of women with PND welcomed the opportunity to share experiences with their peers. Men are also more likely to be responsive to treatment programs that do not overburden them or conflict with work schedules (Primack et al., 2010).

CBT programs designed for PPND have the potential to expose the personal beliefs and emotions driving behaviors, and lead to an awareness for men of the antecedents affecting men's everyday lives, relationships, and family responsibilities. There is a significant service gap addressing mental health issues of fathers, especially in the context of family and parenting (Reupert & Maybery, 2011).

There is a need to reconceptualize perinatal mental health in terms of the whole family (Austin, 2003; Letourneau, Dennis, et al., 2012) and to engage fathers whenever possible in antenatal care (Fletcher et al., 2015).

Research demonstrates how father engagement with health services can be enhanced via programs that have been tailored specifically to their needs (Berlyn, Wise, & Soriano, 2008). In particular, participation of fathers in treatment programs is likely to be enhanced through offering male-only forums and flexible hours of delivery, utilizing male facilitators, employing marketing strategies and language in advertisements that is male-friendly, and hosting programs in venues where men feel at ease. Continuing engagement can be boosted by employing facilitators who are fathers themselves, and are willing to foster a relaxed, informal, nonjudgmental environment conducive to participants sharing their fears, concerns, problems, and solutions (Berlyn et al., 2008; Davey et al., 2006; Fletcher & St George, 2011; Friedewald, Fletcher, & Fairbairn, 2005). One recent innovative approach to reaching fathers has been utilizing fathers' mobile phones. The SMS4dads project delivers text messages to fathers with information on father-infant and father-partner relationships. A "Mood Tracker" interactive text invites fathers to self-assess their mood and seek help in case of distress (May & Fletcher, 2015).

Group therapy is one way of cultivating the support networks that are often lacking among new fathers (Boyce et al., 2007; Cronenwett & Kunst-Wilson, 1981; Zerkowitz & Milet, 1997). Male-only forums could integrate CBT approaches to address the masculine norms associated with fathering that could contribute to cognitive distortions about parenting roles (Primack et al., 2010; Spindel, 2015). Encouraging fathers to attend therapy or workshops is further complicated by the additional demands on their time and resources during the perinatal period (Fletcher & St George, 2011). Father-friendly sessions and activities could address concerns related to not meeting work commitments during the perinatal period, therefore reducing the risk of fathers developing psychological distress (Giallo et al., 2013). Consequently, the Internet and smartphones appear to provide easily accessible channels via which father-focused information can be disseminated, particularly as new fathers may have had limited contact with health providers (Fletcher, Vimpani, Russell, & Keatinge, 2008).

Conclusion

While there is increasing recognition of the rate of postnatal depression in men (Edward et al., 2015), there is very little literature on the specific treatment needs of new fathers. However, the evidence relating to the diagnosis and treatment of depression in men, PPND, and the

challenges that new fathers face, points to a number of key components that need to be incorporated in treatment strategies. Men's PPND is best tackled by the adoption of father-inclusive and father-specific models of care that creatively encourage help-seeking behavior in a notoriously hard-to-engage population, offer flexible delivery options that do not overburden already distressed men, and provide a safe and informal environment for male-only groups to share experiences and concerns. Such interventions can address any cognitive distortions around the male identity and parenting role expectations and can foster support networks for new fathers who may feel isolated and marginalized.

Limitations

While integrative reviews have the advantage of being able to provide a means to synthesize evidence from diverse methodologies, the process has been criticized as lacking rigor and contributing to bias (Whittemore & Knafl, 2005). The lack of available empirical evidence certainly limits the conclusions that can be drawn about treatment options for fathers with PPND, yet this review offers important insights into a neglected, yet critical area for potential future research.

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