Running head: MENTAL HEALTH LITERACY

Mental Health Literacy of Maternal and Paternal Postnatal (Postpartum) Depression in British Adults

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**Abstract**

**Background.** Postnatal depression affects between 6 and 13% of new parents, but only a small proportion of individuals who meet diagnostic criteria receive optimal treatment. One reason for this is poor mental health literacy of postnatal depression.

**Aims.** Studies have examined mental health literacy of maternal postnatal depression, but there are no similar studies of paternal postnatal depression, which we sought to rectify.

**Methods.** A sample of 406 British adults were presented with vignettes describing cases of either maternal or paternal postnatal depression. Based on the vignettes, participants were asked to report if they thought anything was wrong with the targets and, if so, to describe what they thought was wrong. Participants also rated the targets on a range of attitudinal dimensions.

**Results.** Participants were more likely to indicate that something was wrong when the target was female (97.0%) compared to male (75.9%). Of those who believed something was wrong, 90.1% of participants correctly described the female target as experiencing postnatal depression, but only 46.3% did so for the male target. Participants also held more positive attitudes toward the female target than the male target.

**Conclusions.** There is a gender binary in symptom recognition of postnatal depression, which highlights the need for greater awareness of paternal postnatal depression.

**Declaration of interest.** None.

**Keywords:** Maternal postnatal depression; Paternal postnatal depression; Mental health literacy; Symptom recognition; Depression

**Introduction**

 Mental health disorders are highly prevalent globally, with close to a third of adults meeting criteria to be diagnosed with a mental health disorder at some point in their lives (Steel et al., 2014). Early help-seeking provides opportunities for early intervention and improved long-term outcomes (e.g., Boonstra et al., 2012; Dell’Osso, Glick, Baldwin, & Altamura, 2013), but a majority of people with symptoms of mental health disorders do not receive optimal help (Alonso et al., 2007). There are many reasons for low rates of help-seeking, including structural barriers (e.g., Gulliver, Griffiths, & Christensen, 2010) and person-level factors, such as mistrust of psychiatric services (e.g., Soorkia, Snelgar, & Swami, 2010), public, perceived, and self-stigmatising attitudes toward mental health disorders (for a review, see Clement, Schauman, Graham, & Maggioni, 2015), and poor mental health literacy. The latter refers to a person’s “knowledge and beliefs about mental disorders that aid the recognition, management, or prevention of these disorders” (Jorm et al., 1997, p. 143).

Mental health literacy includes the ability to recognise and differentiate mental health disorders and symptoms, knowledge of how and where to seek information relating to mental health disorders, and cognitions that influence the ability to identify symptoms and seek appropriate help (Jorm, 2012, 2015; Jorm et al., 1997; Kelly, Jorm, & Wright, 2007), as well as competencies that improve mental health and self-management capabilities (Kutcher, Bagnall, & Wei, 2015; Kutcher, Wei, & Conioglo, 2016). Unfortunately, converging lines of evidence suggest that mental health literacy is generally poor (see Furnham & Swami, 2018). For example, lay participants have difficulty correctly identifying mental health disorders when presented in the form of case vignettes (e.g., Chen et al., 2017; Jorm et al., 2005; Swami, 2012), experience difficulty distinguishing real disorders from foils (Swami, Papanicolaou, & Furnham, 2011; Swami, Persaud, & Furnham, 2011), and often misunderstand psychiatric labels (e.g., Furnham, Daoud, & Swami, 2009; Swami & Knowles, 2014).

One mental health disorder that has received limited attention in mental health literacy research is postnatal (or postpartum) depression, a non-psychotic depressive disorder that occurs after the birth of a child (O’Hara & Wisner, 2014; Philpott, 2016), usually up to a year after delivery (Stuart-Parrigon & Stuart, 2014). Although prevalence estimates vary, meta-analytic work has reported an overall prevalence of maternal postnatal depression of 6 to 13% (Gaynes et al., 2005; O’Hara & Swain, 1996). Extensive evidence documents an association between postnatal depression and mother-child attachment both in the short- and long-term (e.g., Figueoredo, Costa, Pacheco, & Pais, 2009). Maternal postnatal depression also has a negative impact on child development outcomes (e.g., delayed cognitive and language problems, higher rates of behavioural problems; Murray et al., 2011; Netsi et al., 2018; Sanger, Iles, Andrew, & Ramchandani, 2015). In addition, maternal postnatal depression places a heavy burden on national economies (Bauer, Parsonage, Knapp, Iemmi, & Adelaja, 2014), but only a minority of mothers with depression are diagnosed and receive treatment (Fonseca, Gorayeb, & Canavarro, 2015; Ko, Farr, Dietz, & Robbins, 2012).

 To date, only a handful of studies have examined mental health literacy of postnatal depression. One survey of Australian adults (*N* = 1201), in which participants were asked to indicate what they considered to be major health problems experienced during the postnatal period, found that depression was the most frequently cited problem (43.6% of spontaneous responses), although just over half the sample (52.0%) also viewed postnatal depression as “normal” (Highet, Gemmill, & Milgrom, 2011; see also Kingston et al., 2014). In another study, Australian adults (*N* = 500) were randomly assigned to one of three conditions in which they were presented with case vignettes designed to represent women who met diagnostic criteria for major depression, maternal postnatal depression with reference to attachment problems, and maternal depression with reference to positive mother-child attachment (Thorsteinsson, Loi, & Moulynox, 2014). Analyses indicated that most participants were able to correctly identify the cases as representing depression (74.0%) and postnatal depression (77.5%), respectively, although the latter identification was more common when the vignette referred to poor mother-child attachment. Finally, a study of Australian experts (i.e., midwives) found that correct identification of a vignette presenting a case of maternal postnatal depression was very high (93.9%; Hauck, Kelly, Butt, Whittaker, & Badcock, 2015).

 Although the aforementioned studies suggest that recognition of postnatal depression is relatively high among the general public, it is important to note that they have either implicitly (Highet et al., 2011) or explicitly (Kingston et al., 2014; Thorsteinsson et al., 2014) referred to maternal postnatal depression. In contrast, the emergence of a psychosocial framework for understanding the aetiology of postnatal depression (e.g., Kim & Swain, 2007; Philpott, 2016; Veskrna, 2010) highlights the possibility of new fathers experiencing depression in the postnatal period. Indeed, studies have reported prevalence estimates of between 8 and 11% for paternal postnatal depression (Cameron, Sedov, & Tomfohr-Madsen, 2016; Glasser & Lerner-Geva, 2018; Paulson & Bazemore, 2010). Paternal postnatal depression is associated with negative outcomes in fathers (e.g., increased suicide risk; Quevedo et al., 2011) and father-child bonding (Wilson & Durbin, 2010), but also has a negative impact on the well-being of the mother (e.g., increased likelihood of maternal postnatal depression; Goodman, 2004) and child (e.g., conduct disorders and hyperactivity; Ramchandani et al., 2013; Sweeney & MacBeth, 2016).

 This makes it important to more fully understand public awareness of both maternal and paternal postnatal depression, particularly as new fathers are frequently underdiagnosed and untreated for perinatal mental health problems (Musser & Foli, 2013; Philpott & Corcoran, 2018). Indeed, there are reasons to think that non-experts may be less likely to recognise cases of paternal compared to maternal postnatal depression. First, some evidence suggests that lay individuals tend to perceive postnatal depression as being caused by gender-specific factors (e.g., pregnancy- or postpartum-induced hormonal changes, delivery complications, unsuccessful breastfeeding; Chew-Graham, Sharp, Chamberlain, Folkes, & Turner, 2009; McIntosh, 1993; Ugarriza, 2002), which in turn may mean that they also erroneously believe that fathers are immune or less susceptible to postnatal depression (Oxley, 2017). More broadly, lack of awareness of the range of psychosocial factors that contribute to postnatal depression may mean that men remain “invisible” in terms of public perceptions of depression following childbirth (Veskrna, 2010).

 In addition, Swami (2012) has suggested that mental health literacy is shaped, in part at least, by gender role ideologies. More specifically, he highlighted evidence that hegemonic masculinity constructs men as tough, stoic, and self-reliant (e.g., Courtenay, 2000; Connell & Messerschmidt, 2005), whereas the sociocultural feminisation of women constructs them as fragile and requiring of care (Oute, Tondora, & Glasdam, 2018). In this view, perceptions of men as experiencing symptoms of mental health disorders are posited to be inconsistent with normative expectations and expressions of masculinity (Krumm, Checchia, Koesters, Killiam, & Becker, 2017; Swami, 2012). In line with this perspective, content analyses have indicated that media portrayals reinforce hegemonic masculinities with regards to men’s mental health, with men being less likely than women to be portrayed as experiencing symptoms of mental health disorders (e.g., Clarke & Miele, 2016). In addition, studies of mental health literacy suggest that male targets are less likely to be perceived as experiencing a mental health disorder, especially depression, compared to women (Gibbons, Thorsteinsson, & Loi, 2015; Swami, 2012). This gender binary may contribute to perceptions that men are less likely than women to experience postnatal depression.

**The Present Study**

As a contribution to the extant literature, the present study examined the mental health literacy of maternal and paternal postnatal depression in a sample of British adults, which was operationalised through the use of symptom recognition in case vignettes. Our first hypothesis was that there would be significant differences in participants’ ability to correctly identify the mental health disorder in the case vignettes as a function of the target gender, with maternal postnatal depression expected to be more frequently identified correctly than paternal postnatal depression. In addition, based on reports that men have poorer mental health literacy than women, including poorer ability to correctly identify case vignettes (e.g., Gibbons et al., 2015; Holzinger, Floris, Schomerus, Carta, & Angermeyer, 2012), we also predicted that women would be more likely to correctly identify cases of postnatal depression than men, irrespective of the target gender. Furthermore, we examined the impact of target and participant gender on attitudes toward cases of maternal and paternal postnatal depression (i.e., perceived distress, treatment difficult, sympathy, and likelihood of recommending the target seek help). Here, we hypothesised that participants – particularly men – would evidence more negative attitudes toward a male case of postnatal depression compared to a female case of postnatal depression.

**Method**

**Participants**

The sample consisted of 406 British citizens (204 women, 202 men) ranging in age from 18 to 70 years (*M* = 39.55, *SD* = 11.64). The majority of participants self-reported as being of British White ethnicity (92.1%), while 4.9% self-reported as being of Asian descent, and 3.0% as being from another ethnic group. In terms of marital status, 23.2% were single, 6.2% were partnered but not cohabiting, 26.8% were partnered and cohabiting, 43.8% were married, and the remainder were of other status. In terms of educational qualifications, 38.0% had completed minimum secondary schooling, 36.0% had an undergraduate degree, 20.9% had a postgraduate degree, 0.7% were in full-time higher education, and the remainder had some other qualification. The mean number of children reported by participants was 1.16 (*SD* = 1.35).

**Materials**

 **Case vignettes.** Two case vignettes of postnatal depression were created for the present study, with both vignettes being identical with the exception of the target gender (i.e., maternal or postnatal depression). The vignettes were adapted from those used in a previous study (Swami, 2012) that met the diagnostic criteria for major depression in the *Diagnostic and Statistical Manual-IV-Text Revision* (American Psychiatric Association, 2000). Because the *Diagnostic and Statistical Manual-5* (*DSM-5*; American Psychiatric Association, 2013) does not recognise postnatal depression as a condition in its own right, we modified the major depression vignettes to refer to the onset of difficulties following the birth of a child in the preceding four weeks, which is consistent with *DSM-5* diagnostic criteria for the perinatal-onset specifier. The final case vignettes describe individuals with symptoms of major depression following the birth of a child, without the use of clinical terminology (see Appendix for case vignettes).

 Following presentation of the vignettes, participants were asked if they believed “anything was wrong” with the individual described (1 = *yes*, 2 = *no*). The framing of the question in this way is consistent with previous research (e.g., Thorsteinsson et al., 2014) and minimises socially desirable responding (which would presumably be increased by asking if participants believed the individual described “suffered from a mental health disorder”). If participants provided an affirmative answer, they were asked (using an open-ended question) to indicate what they believed was wrong. Following Swami (2012), responses to this item were coded using maximal response coding by two independent judges (the first author and an independent judge unaffiliated with the study and naïve to the study aims). In practise, this meant scoring responses as correct if they mentioned postnatal depression, postpartum depression, or depression, irrespective of spelling variations, the use of abbreviations (e.g., “PND”), or qualifiers (e.g., “possible postnatal depression”, “male postnatal depression”, “male version of postnatal depression”). On the other hand, we scored as incorrect responses that mentioned “baby blues”, because this is distinguished from postnatal depression (O’Hara, Schlechte, Lewis, & Wright, 1991) and is usually limited to the first week or so after delivery (O’Hara & Wisner, 2014). Inter-judge reliability was .94, indicating a high degree of agreement. In addition, participants were asked to rate, on 7-point scales taken from Swami (2012), how distressing they believed the conditions described in the vignettes were (1 = *not at all distressing*, 7 = *extremely distressing*), how difficult they believed it would be to treat the conditions (1 = *not at all difficult*, 7 = *extremely difficult*), and how sympathetic they felt toward the persons described in the vignettes (1 = *not at all sympathetic*, 7 = *extremely sympathetic*). They were also asked to indicate, assuming they were friends with the persons describe, how likely they would be to suggest that the targets seek help for their problems (1 = *not at all*, 7 = *definitely*).

 **Demographics**. Participants were asked to provide their demographic details consisting of gender, age, relationship status, educational attainment, ethnicity, and number of children.

**Procedures**

The project was approved by the relevant departmental ethics committee (approval number: EHS17-024). Data were collected via the Prolific Academic website, a crowdsourcing Internet marketplace that allows individuals to complete academic surveys for monetary compensation, on September 18-19, 2018. The project was advertised as a study on “understandings of health and illness” in order to mask the study hypotheses. Participation was limited to British citizens of adult age and fluent in English, so as to achieve a relatively homogeneous sample in terms of national and cultural identity. In addition, participation was limited to those who had an Academic Prolific score of ≥ 97 and Academic Prolific ID codes, along with IP addresses, were examined to ensure that no participant took the survey more than once. After providing digital informed consent, participants were randomly directed to either the vignette of female (women *n* = 98, men *n* = 105) or male target (women *n* = 106, men *n* = 97). They then completed the items based on the vignettes and demographic items. The questionnaire was anonymous and, in exchange for completion, participants were paid £1.00, which is commensurate with Academic Prolific recommendations based on questionnaire completion times. All participants received debriefing information at the end of the survey.

**Results**

To test the primary hypothesis, we first examined whether participants thought “anything was wrong” with the targets presented in the vignettes. Participants were significantly more likely to indicate that something was wrong with regards to the female target (97.0%) compared to the male target (75.9%), χ2(1) = 38.89, *p* < .001. Both women and men were equally likely to indicate that something was wrong with regards to the female target, χ2(1) = 2.47, *p* = .116, and male target, χ2(1) = 0.63, *p* = .428. Of those who believed there was something wrong with the female target, the most common descriptions of what was wrong were postnatal/postpartum depression or depression (92.9%) and baby blues (5.6%; stress, tiredness/exhaustion, and anxiety = 0.5% each). These responses did not vary as a function of participant gender, χ2(4) = 5.50, *p* = .240. Of those who believed there was something wrong with the male target, the most common responses were postnatal/postpartum depression or depression (61.0%), stress (20.8%), and tiredness/exhaustion (11.0%; baby blues = 1.9%, anxiety = 3.2%, feeling neglected = 1.9%). These responses did not vary as a function of participant gender, χ2(5) = 9.30, *p* = .098. Overall, our data indicated that 90.1% of participants correctly described the female target as experiencing postnatal depression or depression, whereas only 46.3% of participants correctly described the male target as experiencing postnatal depression or depression.

To test the hypothesis that participants would evidence more negative attitudes toward a male case of postnatal depression, we conducted a set of 2 x 2 analyses of variance (ANOVAs), with target gender and participant gender as the independent variables, and ratings of perceived distress, treatment difficulty, sympathy, and likelihood of recommending help, respectively, as the dependent variables (see Table 1 for descriptive statistics). The first ANOVA with ratings of distress indicated that there was no significant interaction, *F*(1, 402) = 1.26, *p* = .262,p2 < .01,and no main effect of participant gender, *F*(1, 402) = 0.01, *p* = .971,p2 < .01. There was, however, a significant main effect of target gender, *F*(1, 402) = 33.47, *p* < .001, p2 = .08, with the female target’s condition being rated as significantly more distressing than the male target’s condition. The second ANOVA with ratings of treatment difficult indicated no significant interaction, *F*(1, 402) = 0,18, *p* = .602, p2 < .01. There was, on the other hand, a significant main effect of target gender, *F*(1, 402) = 7.31, *p* = .007, p2 = .01 (the female target’s condition was rated as significantly more difficult to treat than the male target’s condition), and a main effect of participant gender, *F*(1, 402) = 15.70, *p* < .001, p2 = .04 (men rated the targets’ conditions as significantly more difficult to treat than women). The ANOVA with ratings of sympathy showed no significant interaction, *F*(1, 402) = 1.94, *p* = .160, p2 < .01, and no main effect of participant gender, *F*(1, 402) = 1.27, *p* = .261, p2 < .01. There was a significant main effect of target gender, *F*(1, 402) = 47.01, *p* < .001, p2 = .11, with participants expressing significantly greater sympathy for the female target. Finally, the ANOVA with likelihood of recommending the target seek help indicated no significant interaction, *F*(1, 402) = 0.58, *p* = .448, p2 < .01, and no main effect of participant gender, *F*(1, 402) = 0.13, *p* = .717, p2 < .01. There was, however, a significant main effect of target gender, *F*(1, 402) = 45.42, *p* < .001, p2 = .10, with participants being significantly more likely to recommend that the female target seek help compared to the male target.

**Discussion**

 The main finding of the present study is that British participants may experience greater difficulties accurately recognising symptoms of paternal compared to maternal postnatal depression. Indeed, our findings suggest that participants were significantly more likely to indicate that something was “wrong” when the target was female and they were also significantly more likely to correctly label the condition as postnatal depression or depression when the target was female. Even when participants correctly identified a problem with the male target, they were more likely to ascribe the problem to stress and tiredness or exhaustion as compared to ascriptions made of the female target (although a minority did correctly label the condition as postnatal depression or depression). These findings suggest that our participants may have been less likely to view the difficulties faced by the male target as one of mental ill-health and more likely to emphasise factors that are common to most new parents (e.g., a lack of sleep).

There may be a number of reasons for this gender binary, such as the stereotype that postnatal depression only or disproportionately affects women due to gender-specific factors, such as pregnancy- or postpartum-induced hormonal changes, delivery complications, or unsuccessful breastfeeding (Chew-Graham et al., 2009; McIntosh, 1993; Ugarizza, 2002). In addition, although there has been greater media attention on the mental health of fathers in the postnatal year, at least in Britain (see Kim & Swain, 2007), it is possible that public awareness of paternal postnatal depression remains at a relatively low level. Another likely explanation is based on gender role ideologies (Swami, 2012), with men being perceived as less likely than women to experience symptoms of mental health disorders. Such gendered constructions may contribute to a perception among the British public that postnatal depression is a “women’s issue” or that men, particularly men that strive toward, or who have attained, hegemonically masculine ideals are less likely to experience postnatal depression.

 Conversely, our results suggested a very high rate of accuracy in symptom recognition when the target was female. Indeed, the proportion of participants who correctly identified postnatal depression in the female target in the present study (90.1% overall) was comparably higher than that reported in an earlier study of Australian adults (77.5%; Thorsteinsson et al., 2014) and was closer to that reported in a study of Australian midwives (93.9%; Hauck et al., 2015). Of course, sampling differences mean that comparisons should be made with caution. Furthermore, it is important to bear in mind that the ability to correctly identify symptoms of postnatal depression in a vignette may not necessarily transfer to real-life situations, particularly when the “target” is the self. For example, qualitative studies have suggested that women sometimes experience difficulty recognising symptoms of postnatal depression (Abrams, Dornig, & Curran, 2009; see also Letourneau et al., 2007) or use abstract terminology to communicate their postnatal depressive symptoms (Guy, Sterling, Walker, & Harrison, 2014), which may be suggestive of poor mental health literacy.

 We also examined attitudes toward the case vignettes. Overall, this portion of our study suggested that attitudes were significantly more negative when the target was male compared to when the target was female. More specifically, we found that participants reported significantly lower perceived distress *vis-à-vis* the male target’s condition, believed that the male target’s condition would be easier to treat, expressed less sympathy for the male target, and were less likely to suggest that the male target seek help. These attitudes may both stem from and compound the poorer symptom recognition discussed earlier. For example, participants may have been less likely to feel sympathy for the male target or believe that his condition would be easier to treat precisely because they were less likely to view his condition through the lens of a mental health disorder. In turn, such attitudes may translate into lower perceptions of distress caused by the condition or lower likelihood of recommending that the target seek help.

 One important point to note is that we generally did not find significant gender differences in the present study (with the exception that men were significantly more likely than women to believe that postnatal depression is difficult to treat), which contradicts our hypothesising. Previous studies have not examined gender differences in symptom recognition of postnatal depression, but there is some evidence that men are more likely than women to view maternal postnatal depression symptoms as externally identifiable (e.g., anger, irritability; Highet et al., 2011). More broadly, there is evidence to suggest that men have poorer mental health literacy compared to women, including poorer ability to correctly identify case vignettes of depression (e.g., Gibbons et al., 2015; Holzinger et al., 2012; Swami, 2012). In contrast, the present results generally point to a lack of gender differences, which may suggest that British women and men have similar symptom recognition abilities and attitudes toward cases of postnatal depression.

 The main limitation of the present study is the use of vignettes to describe cases of postnatal depression. Although this methodology is widely-used (Wei, McGrath, Hayden, & Kutcher, 2015), there is concern that the presentation of case vignettes may have low ecological validity (Furnham & Swami, 2018). For example, in real-life situations, it is unlikely that individuals receive clear presentation of symptomatology; rather, patient narratives are likely more discursive, “messy”, and negotiated (Guy et al., 2014). One way to improve the ecological design of studies of mental health literacy would be through the use of short films presenting patient narratives of their condition or face-to-face conversations with actors. Another limitation of the present study was the recruitment of an online sample of British adults, which means that our findings are not generalisable to the wider British public or to other cultural contexts. For example, there is evidence of significant gaps in knowledge of postnatal depression in low-income sites (Nakku et al., 2016). Replicating the present work, ideally with improved vignette designs, in different cultural contexts would make for an important step forward.

 Based on the present findings, it might be suggested that, while recognition of symptoms of maternal postnatal depression is relatively good, recognition of paternal postnatal depression remains at a relatively low level. Although there is now much wider scholarly and public recognition of the burden of mental health disorders in men in the perinatal period (e.g., May & Fletcher, 2013; Wong et al., 2016), it would seem that much more can be done to promote better understanding of paternal postnatal depression in the British public. This is particularly important as many men who experience symptoms of depression in the postnatal period may not be confident about asking for help or may be missed by healthcare professionals in routine assessments of new parents (Swami, 2018). In turn, the invisibility of depressive symptoms in new fathers may force them to cope on their own, rather than seeking professional help. Fortunately, the available evidence suggests that educational programmes about maternal postnatal depression bring substantive improvements in mental health literacy (Buist et al., 2007). Similarly rigorous programmes to support new fathers and raise awareness of paternal postnatal depression are now urgently required (Rominov, Pinkington, Giallo, & Whelan, 2016; Suto, Takehara, Yamane, & Ota, 2017).

**References**

Abrams, L. S., Dornig, K., & Curran, L. (2009). Barriers to service use for postpartum depression symptoms among low-income ethnic minority mothers in the United States. *Qualitative Health Research*, *19*, 535-551. doi:10.1177/1049732309332794

Alonso, J., Codony, M., Kovess, V., Angermeyer, M. C., Katz, S. J., Haro, J. M., … & The ESEMed/MHEDEA 2000 Investigators. (2007). Population level of unmet need for mental healthcare in Europe. *British Journal of Psychiatry*, *190*, 299-306. doi:10.1192/bjp.bp.106.022004

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders-IV-Text revision*. Washington, DC: American Psychiatric Association.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders-5*. Washington, DC: American Psychiatric Association.

Bauer, A., Parsonage, M., Knapp, M., Iemmi, V., & Adelaja, B. (2014). *The costs of perinatal mental health problems*. London: Centre for Mental Health.

Boonstra, N., Klaasen, R., Sytema, S., Marshall, M., de Haan, L., Wunderink, L., & Wiersma, D. (2012). Duration of untreated psychosis and negative symptoms: A systematic review and meta-analysis of individual patient data. *Schizophrenia Research*, *142*, 12-19. doi:10.1016/j.schres.2012.08.017\_23025994

Buist, A., Speelman, C., Hayes, B., Reay, R., Milgrom, J., Meyer, D., & Condon, J. (2007). Impact of education on women with perinatal depression. *Journal of Psychosomatic Obstetrics and Gynecology*, *28*, 49-54. doi:10.1080/01674820601143187

Cameron, E. E., Sedov, I. D., & Tomfohr-Madsen, L. M. (2016). Prevalence of paternal depression in pregnancy and the postpartum: An updated meta-analysis. *Journal of Affective Disorders*, *206*, 189-203. doi:10.1016/j.jad.2016.07.044

Chen, S., Wu, Q., Qi C., Deng, H., Wang, X., He, H., … & Liu, T. (2017). Mental health literacy about schizophrenia and depression: A survey among Chinese caregivers of patients with mental disorder. *BMC Psychiatry*, *17*, 89. doi:10.1186/s12888-017-1245-y

Chew-Graham, C. A., Sharp, D., Chamberlain, E., Folkes, L., & Turner, K. M. (2009). Disclosure of symptoms of postnatal depression, the perspectives of health professionals and women: A qualitative study. *BMC Family Practice*, *10*, 7. doi:10.1186/1471-2296-10-7

Clarke, J. N., & Miele, R. (2016). Trapped by gender: The paradoxical portrayal of gender and mental illness in Anglophone North American magazines: 1983-2012. *Women’s Studies International Forum*, *56*, 1-8. doi:10.1016/j.wsif.2016.01.002

Clement, S., Schauman, O., Graham, T., & Maggioni, F. (2015). What is the impact of mental health-related stigma on help-seeking? A review of quantitative and qualitative studies. *Psychological Medicine*, *45*, 11-27. doi:10.1017/S0033291714000129

Connell, R. W., & Messerschmidt, J. W. (2005). Hegemonic masculinity: Rethinking the concept. *Gender and Society*, *19*, 829-859. doi:10.1177/089124305278639

Courtenay, W. H. (2000). Constructions of masculinity and their influence on wellbeing: A theory of gender and health. *Social Science and Medicine*, *50*, 1385-1401. doi:10.1016/S0277-9536(99)00390-1

Dell’Osso, B., Glick, I. D., Baldwin, D. S., & Altamura, A. C. (2013). Can long-term outcomes be improved by shortening the duration of untreated illness in psychiatric disorders? A conceptual framework. *Psychopathology*, *46*, 14-21. doi:10.1159/000338606

Figueiredo, B., Costa, R., Pacheco, A., & Pais, A. (2009). Mother-to-infant emotional involvement at birth. *Maternal and Child Health Journal*, *13*,539-549. doi:10.1007/s10995-008-0312-x

Fonseca, A., Gorayeb, R., & Canavarro, M. C. (2015). Women’s help-seeking behaviours for depressive symptoms during the perinatal period: Socio-demographic and clinical correlates and perceived barriers to seeking professional help. *Midwifery*, *31*, 1177-1185. doi:10.1016/j.midw.2015.09.002

Furnham, A., Daoud, Y., & Swami, V. (2009). “How to spot a psychopath”: Lay theories of psychopathy. *Social Psychiatry and Psychiatric Epidemiology*, *44*, 464-472. doi:10.1007/S00127-008-0459-1

Furnham, A., & Swami, V. (2018). Mental health literacy: A review of what it is and why it matters. *International Perspectives in Psychology: Research, Practice, Consultation*, *7*, 240-257. doi:10.1037/ipp0000094

Gaynes, B. N., Gavin, N., Meltzer-Brody, S. Lohr, K. N., Swinson, T., Gartlehner, G., … & Miller, W. C. (2005). *Perinatal depression: Prevalence, screening accuracy, and screening outcomes* (Evidence Report/Technology Assessment No. 119; AHRQ Publication No. 05-E006-2). Rockville, MD: Agency for Healthcare Research and Quality.

Gibbons, R. J., Thorsteinsson, E. B., & Loi, N. M. (2015). Beliefs and attitudes towards mental illness: An examination of the sex differences in mental health literacy in a community sample. *PeerJ*, *3*, e1104. doi:10.7717/peerj.1004

Glasser, S., & Lerner-Geva, L. (2018). Focus on fathers: Paternal depression in the perinatal period. *Perspectives in Public Health*. Advance online publication. doi:10.1177/175791318790597

Goodman, J. H. (2004). Paternal postpartum depression, its relationship to maternal postpartum depression, and implications for family health. *Journal of Advanced Nursing*, *45*, 26-35. doi:10.1046/j.1365-2648.2003.02857.x

Gulliver, A., Griffiths, K. M., & Christensen, H. (2010). Perceived barriers and facilitators to mental health help-seeking in young people: A systematic review. *BMC Psychiatry*, *10*, 113-128. doi:10.1186/1471-244X-10-113

Guy, S., Sterling, B. S., Walker, L. O., & Harrison, T. C. (2014). Mental health literacy and postpartum depression: A qualitative description of views of lower income women. *Archives of Psychiatric Nursing*, *28*, 256-262. doi:10.1016/j.apnu.2014.04.001

Hauck, Y. L., Kelly, G., Butt, J., Whittaker, P., & Badcock, J. C. (2015). Australian midwives’ knowledge, attitude, and perceived learning needs around perinatal mental health. *Midwifery*, *31*, 247-255. doi:10.1016/j.midw.2014.09.002

Highet, N. J., Gemmill, A. W., & Milgrom, J. (2011). Depression in the perinatal period: Awareness, attitudes and knowledge in the Australian population. *Australian and New Zealand Journal of Psychiatry*, *45*,223-231. doi:10.3109/00048674.2010.547842

Holzinger, A., Floris, F., Schomerus, G., Carta, M. G., & Angermeyer, M. C. (2012). Gender differences in public beliefs and attitudes about mental disorder in Western countries: A systematic review of population studies. *Epidemiology and Psychiatric Sciences*, *21*, 73-85. doi:10.1017/S2045796011000552

Jorm, A. F. (2012). Mental health literacy: Empowering the community to take action for better mental health. American Psychologist, 67, 231-243. doi:10.1037/a0025957

Jorm, A. F. (2015). Why we need the concept of “mental health literacy”. *Health Communication*, *30*, 1166-1168. doi:10.1080/10410236.2015.1037423

Jorm, A. F., Korten, A. E., Jacomb, P. A., Christensen, H., Rodgers, B., & Pollitt, P. (1997). Public beliefs about causes and risk factors for depression and schizophrenia. *Social Psychiatry and Psychiatric Epidemiology*, *32*, 143-148. doi:10.1007/BF00794613

Jorm, A. F., Nakane, Y., Christensen, H., Yoshioka, K., Griffiths, K. M., & Wata, Y. (2005). Public beliefs about treatment and outcome of mental disorders: A comparison of Australia and Japan. *BMC Medicine*, *3*, 12-28. doi:10.1186/1741-7015-3-12

Kelly, C. M., Jorm, A. F., & Wright, A. (2007). Improving mental health literacy as a strategy to facilitate early intervention for mental disorders. *Medical Journal of Australia*, *187*, S26-S30. doi:10.5684/j.1326-5377.2007.tb01332.x

Kim, P., & Swain, J. E. (2007). Sad dads: Paternal postpartum depression. *Psychiatry*, *4*, 35-47. doi:10.1016/S1976-1317(08)60007-9

Kingston, D. E., McDonald, S., Austin, M.-P., Hegadoren, K., Lasiuk, G., & Tough, S. (2014). The public’s views of mental health in pregnant and postpartum women: A population-based study. *BMC Pregnancy and Childbirth*, *14*, 84. doi:10,1186/1471-2393-14-84

Ko, J. K., Farr, S. L., Dietz, P. M., & Robbins, C. L. (2012). Depression and treatment among U.S. pregnant and nonpregnant women of reproductive age, 2005-2009. *Journal of Women’s Health*, *21*, 830-836. doi:10.1089/jwh.2011.3466

Krumm, S., Checchia, C., Koesters, M., Killiam, R., & Becker, T. (2017). Men’s views on depression: A systematic review and metasynthesis of qualitative research. *Psychopathology*, *50*, 107-124. doi:10.1159/000455256

Kutcher, S., Bagnell, A., & Wei, Y. (2015). Mental health literacy in secondary schools: A Canadian approach. *Child and Adolescent Psychiatric Clinics of North America*, *24*, 233-244. doi:10.1016/j.chc.2014.11.007

Kutcher, S., Wei, Y., & Coniglio, C. (2016). Mental health literacy: Past, present, and future. *Canadian Journal of Psychiatry*, *61*, 154-158. doi:10.1177/0706743715616609

Letourneau, N., Duffet-Leger, L., Stewart, M., Hegadoren, K., Dennis, C., Rinaldi, C. M., & Stoppard, J. (2007). Canadian mothers’ perceived support needs during postpartum depression. *Journal of Obstetric, Gynecologic, and Neonatal Nursing*, *36*, 441-449. doi:10.1111/j.1552-6909.2007.00174.x

May, C., & Fletcher, R. (2013). Preparing fathers for the transition to parenthood: Recommendations for the content of antenatal education. *Midwifery*, *29*, 474-478. doi:10.1016/j.midw.2012.03.005

McIntosh, J. (1993). Postpartum depression: Women’s help-seeking behaviour and perceptions of cause. *Journal of Advanced Nursing*, *18*, 178-184. doi:10.1046/j.1365-2648.1993.18020178.x

Murray, L., Arteche, A., Fearon, P., Halligan, S., Goodyer, I., & Cooper, P. (2011). Maternal postnatal depression and the development of depression in offspring up to 16 years of age. *Journal of the American Academy of Child and Adolescent Psychiatry*, *50*, 460-470. doi:10.1016/j.jaac.2011.02.001

Musser, A. K., & Foli, K. J. (2013). Paternal postpartum depression: What health care providers should know. *Journal of Pediatric Health Care*, *27*, 479-485. doi:10.1016/j.pedhc.2012.10.001

Nakku, J. E. M., Okello, E. S., Kizza, D., Honikman, S., Ssebunnya, J., Ndyanabangi, S., … & Kigozi, F. (2016). Perinatal mental health care in a rural African district, Uganda: A qualitative study of barriers, facilitators, and needs. *BMC Health Services Research*, *16*, 295. doi:10.1186/s12913-016-1547-7

Netsi, E., Pearson, R. M., Murray, L., Cooper, P., Craske, M., & Stein, A. (2018). Association of persistent and severe postnatal depression with child outcomes. *JAMA Psychiatry*, *75*, 247-253. doi:10.1001/jamapsychiatry.2017.4363

O’Hara, M. W., Schlechte, J. A., Lewis, D. A., & Wright, E. J. (1991). Prospective study of postpartum blues: Biologic and psychosocial factors. *Archives of General Psychiatry*, *48*, 801-806. doi:10.1001/archpsyc.1991.01810330025004

O’Hara, M. W., & Swain, A. M. (1996). Rates and risk of postpartum depression: A meta-analysis. *International Review of Psychiatry*, *8*, 37-54. doi:10.3109/0954026909037816

O’Hara, M. W. O., & Wisner, K. (2014). Perinatal mental illness: Definition, description, and aetiology. *Best Practice and Research Clinical Obstetrics and Gynaecology*, *28*, 3-12. doi:10.1016/j.bpobygn.2013.09.002

Oxley, R. (2017). Pregnant men: Paternal postnatal depression and a culture of hormones. In V. Kirby (Ed.), *What if culture was nature all along?* (pp. 90-109). Edinburgh: Edinburgh University Press.

Oute, J., Tondora, J., & Glasdam, S. (2018). “Men just drink more than women. Women have friends to talk to”: Gendered understandings of depression among healthcare professionals and their implications. *Nursing Inquiry*, *25*, e12241. doi:10.1111/nin.12241

Paulson, J. F., & Bazemore, S. D. (2010). Prenatal and postpartum depression in fathers and its association with maternal depression: A meta-analysis. *Journal of the American Medical Association*, *303*, 1961-1969. doi:10.1001/jama.2010.605

Philpott, L. F. (2016). Paternal postnatal depression: An overview for primary healthcare professionals. *Primary Health Care*, *26*, 23-27. doi:10.7748/phc.2016.e1120

Philpott, L. F., & Corcoran, P. (2018). Paternal postnatal depression in Ireland: Prevalence and associated factors. *Midwifery*, *56*, 121-127. doi:10.1016/j.midw.2017.10.009

Quevedo, L., da Silva, R. A., Coelho, F., Pinheiro, K. A., Horta, B. K., Kapczinski, F., & Pinheiro, R. T. (2011). Risk of suicide and mixed episode in men in the postpartum period. *Journal of Affective Disorders*, *132*, 243-246. doi:10.1016/j.jad.2011.01.004

Ramchandani, P. G., Domoney, J., Sethna, V., Psychogiou, L., Vlachos, H., & Murray, L. (2013). Do early father-infant interactions predict the onset of externalising behaviours in young children? Findings from a longitudinal cohort study. *Journal of the American Academy of Child and Adolescent Psychiatry*, *54*, 56-64. doi:10.1111/j.1469-7610.2012.02583.x

Rominov, H., Pilkington, P. D., Giallo, R., & Whelan, T. A. (2016). A systematic review of interventions targeting paternal mental health in the perinatal period. *Infant Mental Health Journal*, *37*, 289-301. doi:10.1002/imhj.21560

Sanger, C., Iles, J. E., Andrew, C. S., & Ramchandani, P. G. (2015). Association between postnatal maternal depression and psychological outcomes in adolescent offspring: A systematic review. *Archives of Women’s Mental Health*, *18*, 147-162. doi:10.1007/s00737-014-0463-2

Soorkia, R., Snelgar, R., & Swami, V. (2011). Factors influencing attitudes towards seeking professional psychological help among South Asian students in Britain. *Mental Health, Religion, and Culture*, *14*, 619-623. doi:10.1080/13674676.2010.494176

Steel, Z., Mamane, C., Iranpour, C., Chey, T., Jackson, J. W., Patel, V., & Silove, D. (2014). The global prevalence of common mental disorders: A systematic review and meta-analysis, 1980-2013. *International Journal of Epidemiology*, *43*, 476-493. doi:10.1093/dyu038

Stuart-Parrigon, K., & Stuart, S. (2014). Perinatal depression: An update and overview. *Current Psychiatry Reports*, *16*, 468. doi:10.1007-s11920-014-0468.-6

Suto, M., Takehara, K., Yamane, Y., & Ota, E. (2017). Effects of prenatal childbirth education for partners of pregnant women on paternal postnatal mental health and couple relationship: A systematic review. *Journal of Affective Disorders*, *210*, 115-121. doi:10.1016/j.jad.2016.12.025

Swami, V. (2012). Mental health literacy of depression: Gender differences and attitudinal antecedents in a representative British sample. *PLoS ONE*, *7*, e49779. doi:10.1371/journal.pone.0049779

Swami, V. (2018, November). Dads get sad, too. *The Psychologist*. Retrieved from https://thepsychologist.bps.org.uk/dads-get-sad-too

Swami, V., & Knowles, V. (2014). Mental health literacy of negative body image: Symptom recognition and beliefs about body image in a British community sample. *International Journal of Culture and Mental Health*, *7*, 199-215. doi:10.1080/17542863.2013.769611

Swami, V., Papanicolaou, A., & Furnham, A. (2011). Examining mental health literacy and its correlates using the overclaiming technique. *British Journal of Psychology*, *102*, 662-675. doi:10.1111/j.2044.8295.2011.02306.x

Swami, V., Persaud, R., & Furnham, A. (2011). The recognition of mental health disorders and its association with psychiatric scepticism, knowledge of psychiatry, and the Big Five personality factors: An investigation using the overclaiming technique. *Social Psychiatry and Psychiatric Epidemiology*, *46*, 181-189. doi:10.1007/s00127-010-0193-3

Sweeney, S., & MacBeth, A. (2016). The effects of paternal depression on child and adolescent outcomes: A systematic review. *Journal of Affective Disorders*, *205*, 44-59. doi:10.1016/j.jad.2016.05.073

Thorsteinsson, E. B., Loi, N. M., & Moulynox, A. L. (2014). Mental health literacy of depression and postnatal depression: A community sample. *Open Journal of Depression*, *3*, 101-111. doi:10.4236/ojd.2014.33014

Ugarriza, D. N. (2002). Postpartum depressed women’s explanation of depression. *Journal of Nursing Scholarship*, *34*, 227-233. doi:10.1111/j.1547.5069.2002.00227.x

Veskrna, L. (2010). Peripartum depression: Does it occur in fathers and does it matter? *Journal of Men’s Health*, *3*, 420-430. doi:10.1016/j.jomh.2010.10.004

Wei, Y., McGrath, P. J., Hayden, J., & Kutcher, S. (2015). Mental health literacy measures evaluating knowledge, attitudes, and help-seeking: A scoping review. *BMC Psychiatry*, *15*, 291. doi:10.1186/s12888-015-0681-9

Wilson, S., & Durbin, C. (2010). Effects of paternal depression on fathers’ parenting behaviors: A meta-analytic review. *Clinical Psychology Review*, *30*, 167-180. doi:10.1016/j.cpr.2009.10.007

Wong, O., Nguyen, T., Thomas, N., Thomson-Salo, F., Handrinos, D., & Judd, F. (2016). Perinatal mental health: Fathers – the (mostly) forgotten parent. *Asia-Pacific Psychiatry*, *8*, 247-255. doi:10.1111/appy.12204

Table 1. *Descriptive Statistics of the Impact of Target Gender and Participant Gender on Attitudes toward Postnatal Depression.*

|  |  |  |
| --- | --- | --- |
| Item | Female Vignette | Male Vignette |
|  | Female participants | Male participants | Female participants | Male participants |
|  | *M (SD)* | *M (SD)* | *M (SD)* | *M (SD)* |
| Distress | 6.07 (1.17) | 5.94 (1.08) | 5.39 (1.11) | 5.25 (1.37) |
| Difficulty of treatment | 3.78 (1.52) | 4.34 (1.24 | 3.48 (1.17) | 3.94 (1.27) |
| Sympathy | 6.47 (0.83) | 6.16 (1.07) | 5.46 (1.50) | 5.49 (1.39) |
| Likelihood of recommending help | 6.66 (0.76) | 6.50 (0.86) | 5.60 (1.96) | 5.66 (1.70) |

**Appendix**

**Maternal Postnatal Depression Vignette**

Kate is 30 years old. She and her partner had a baby 4 weeks ago. Since then, she has been feeling really down. She has not enjoyed things the way she normally would. In fact, nothing gives her pleasure. Even when good things happen, they don't seem to make Kate happy. She has to force herself to get through the day, and even the smallest things seem hard to do. She finds it hard to concentrate on anything and has no energy at all. Even though Kate feels tired at night, she still can’t sleep, and wakes up too early in the morning. Kate feels worthless and feels like giving up. Her family has noticed that she hasn’t been herself since the baby was born. She doesn’t feel like talking and isn’t taking part in things like she used to.

**Paternal Postnatal Depression Vignette**

Adam is 30 years old. He and his partner had a baby 4 weeks ago. Since then, he has been feeling really down. He has not enjoyed things the way he normally would. In fact, nothing gives him pleasure. Even when good things happen, they don't seem to make Adam happy. He has to force himself to get through the day, and even the smallest things seem hard to do. He finds it hard to concentrate on anything and has no energy at all. Even though Adam feels tired at night, he still can’t sleep, and wakes up too early in the morning. Adam feels worthless and feels like giving up. His family has noticed that he hasn’t been himself since the baby was born. He doesn’t feel like talking and isn’t taking part in things like he used to.