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# Parenting difficulties in the context of postnatal depression: implications for primary health care assessment and intervention

Lynne Murray, PhD[1,2], Peter Cooper, D.Phil[2,3] and Pasco Fearon, PhD[4]

1. Professor of Developmental Psychopathology, University of Reading, UK
2. Professor Extraordinaire, Stellenbosch University, South Africa
3. Professor of Psychopathology, University of Reading, UK
4. Professor of Developmental Psychopathology, University College, London, UK

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Correspondence to Lynne Murray
School of Psychology and Clinical Language Sciences
University of Reading
Reading RG6 6AL
Email: lynne.murray@reading.ac.uk

## ABSTRACT

Postnatal depression (PND) is associated with impairments in the mother-child relationship, and these impairments are themselves associated with adverse child outcomes. Thus, compared to the children of non-depressed mothers, children of mothers with (PND) are more likely to be insecurely attached, and to have externalizing behavior problems and poor cognitive development. Each of these three child outcomes is predicted by a particular pattern of difficulty in parenting: insecure attachment is related to maternal insensitivity, particularly in relation to infant distress and emotional vulnerability; externalizing problems are particularly common in the context of hostile parenting; and poor cognitive development is related to parental difficulties in noticing infant signs of interest and supporting their engagement with the environment. There is no evidence that these parenting difficulties resolve with spontaneous or treatment-induced improvement in maternal depression. Specific interventions targeting parenting are therefore necessary. However, intervention requires identification, and, to date there is no reliable method for assessing early mother-child relationships in routine clinical practice. We set out procedures for how parenting could be assessed in ways that are sensitive to the *domain-specific* associations between parenting and child outcome, while remaining sensitive to the child's developmental stage. This set of assessments requires field testing.


## SUMMARY BOX (4 TO 5 KEY POINTS)

i. Postnatal depression is associated with disturbances in child attachment, emotion regulation and behaviour problems, and cognitive development.

ii. Each domain of child disturbance is predicted by a particular disturbance in the mother-child relationship

iii. Since neither the mother child relationship nor child outcome improve in response to remission in the maternal mood disorder, specific intervention is required.

iv. An assessment procedure is specified that is sensitive to the *domain-specific* associations between parenting and child outcome, and to the child's developmental stage.

## Postnatal depression and child development

A large volume of evidence from longitudinal studies has shown that maternal postnatal depression is associated with a raised risk for problems in child and adolescent psychological development (Murray et al., 2010a; Murray et al. in press). These risks are particularly marked where the mother's depression is chronic and severe, and where other social and economic risk factors are present. The child difficulties concerned include poorer cognitive functioning (e.g., Sutter-Dallay, Murray, Dequae-Merchadou, Glatigny-Dallay, Bourgeois & Verdoux, 2011; Milgrom, Westley & Gemmill, 2004; Hay, Pawlby, Sharp, Asten, Mills & Kumar, 2001; Murray, Arteche, Fearon, Halligan, Croudace, & Cooper, 2010b), and behavior problems such as conduct disorder and aggression (Sinclair & Murray, 1998; Morrell & Murray, 2003; Hay, Pawlby, Angold, Harold & Sharp, 2003). In addition, there is evidence for effects of postnatal depression on stress hormone responses in adolescent offspring (raised base-rate levels of morning cortisol (Halligan, Herbert, Goodyer & Murray, 2004)). These hormonal alterations are potentially important, because they are themselves associated with raised risk for depression (Murray, Halligan, Goodyer & Herbert, 2010): indeed, several studies with long-term follow-up have now shown that there is an effect of maternal postnatal depression on the occurrence of depression, as well as anxiety, in adolescent children and, again, this is particularly marked where the maternal postnatal depression is chronic (Hammen & Brennan, 2003; Hay, Pawlby, Walters & Sharp, 2008; Murray, Arteche, Fearon, Halligan, Goodyer & Cooper , 2011).

### *Parenting difficulties in the context of postnatal depression.*

In addition to these findings of greater risk for poorer outcome in the children of postnatally depressed mothers, research has consistently identified parenting difficulties associated with postnatal depression (Murray et al., 2010; in press). Notably, these effects are highly variable: some depressed mothers find it hard to engage with their infants and

are withdrawn and unresponsive, while others behave in an overly-active, intrusive, and more hostile, fashion; and there are also mothers, albeit a minority, who, despite their depression, manage to interact well with their infants (Cohn, Matias, Tronick, Connell & Lyons-Ruth, 1986). Of particular importance for intervention is the growing evidence that the parenting difficulties associated with postnatal depression play a key role in mediating the associations between the maternal depressive episode and adverse child outcome. That is, it is largely by virtue of the effects of depression on *parenting* that problems in child development come about.

*Identification and treatment of depression.*

Given the associations between postnatal depression, parenting and adverse child outcome, it has been increasingly seen as important to have in place effective strategies for the identification and treatment of the disorder in the early postpartum months. Together with reducing depression, the hope has been that these strategies would also bring about improvements in parenting, and the prevention of child problems that are of considerable cost to the NHS as well as other agencies. Since health visitors have the most frequent contact with mothers in the early postpartum weeks, and have statutory responsibility for families with children under five years old, they have been seen as a natural group to implement these strategies, at least for mild-moderate levels of difficulty. To date, considerable progress has been made in terms of developing effective strategies for the identification and treatment of maternal postnatal depression in the context of primary care. With regard to identification, clear guidelines have now been established through NICE for screening at around 6 weeks and 3-4 months postpartum, using standard, evidence-based procedures. There is also now good evidence that the application of a manualized structured psychological treatment programme (e.g., CBT or IPT) can be effective in treating postnatal depression (although not in preventing recurrence), especially where monitoring is in place and adherence to the programme is upheld, and this is also something that trained health visitors are able do (e.g., Cooper et al., 2003; Seeley, Murray & Cooper, 1996; Morrell et al., 2009).

In the light of this progress, it has therefore been disappointing that identification and treatment of maternal depression, even when effective in speeding up remission, does not appear automatically to bring about improvement in parenting or child outcome. Thus, a large scale randomised control trial in the UK comparing three forms of psychological intervention with a control group receiving standard care found that, while all active treatments were moderately effective in treating depression and brought about short term benefits in maternal reports of the quality of the mother-infant relationship, there was no consistent improvement in objectively assessed infant outcomes, including mother-infant attachment; and any positive effects were generally not sustained at 18-month and 5-year follow-ups (Cooper et al., 2003; Murray et al., 2003). Similarly, in a US trial of IPT, only maternally reported parenting stress showed an effect of the intervention, and no benefit was found in terms of the mother-child relationship or child outcome, at either short-term or at a four-year follow up (Forman, O'Hara, Stuart, Gorman, Larsen & Coy, 2007). In a more recent study (Morrell et al., 2009), although some benefit of health visitor delivered psychological treatment was apparent at 18 months postpartum in terms of mothers' self-reported parenting stress, the effect was not strong.

It would appear from the research conducted to date that focusing on the treatment of maternal depression itself in the postpartum period is insufficient either to improve objectively assessed parenting difficulties or to prevent problems in child development. Accordingly, there is a growing consensus that preventive interventions for child problems should not be targeted at postnatal depression alone (McLennan & Offord, 2002); rather, programmes directly addressing the mother-infant relationship are required (Nylen, Moran, Franklin & O'Hara, 2006). To date, firm conclusions about the benefits of therapeutically targeting the mother-infant relationship in the context of postnatal depression cannot be drawn, as evidence is limited and of variable quality. Thus, a recent meta-analysis of studies aiming to improve parenting sensitivity among depressed mothers (Kersen-Alvarez et al., 2011) indicated that while significant, albeit modest, improvements were reported, there was also evidence of publication bias and, given the limited number of studies, the results should be treated with caution.

Furthermore, few studies have assessed longer term benefits for parenting, or have examined the impact on infant and child development. One exception is that of van Doesum and colleagues (2008). This intervention for PND mothers combined home visiting with video-feedback to promote mothers' sensitivity and responsiveness to infant cues, help broaden their repertoire of interactive behaviours, and challenge and modify negative thinking patterns. At post-treatment, the intervention showed a benefit for maternal sensitivity, relative to a control group, as well as improvements in infant attachment security and social competence. In a follow-up at 5.5 years, however, Kersten-Alvarez et al. (2010) did not identify long-term benefits, although this may have been influenced by the small sample size and rate of drop out. In sum, we currently know rather little about whether intervening to promote the quality of interactions among depressed women is effective in improving child outcome, particularly in the longer term.

## Impediments to good child outcome

At this point, in the absence of a sufficient evidence base for particular kinds of intervention to prevent longer term poor child outcome in the context of postnatal depression, it seems worthwhile to reflect on some possible impediments to good outcome, and consider possibilities for future research and practice.

### *The course of postnatal depression.*

First, as the longitudinal studies of the effects of postnatal depression on child development consistently show, the chronicity of maternal depression is a key predictor of poor child outcome, and for some aspects of child functioning it may actually account for the postnatal depression effect. Given that epidemiological studies have shown a high rate of recurrence of the maternal disorder through the child's life time (e.g., Cooper and Murray 1995; Halligan, Murray, Martins, & Cooper, 2007; Murray et al., 2011), and that treatments for depression in the postnatal months do not appear to prevent such recurrence (e.g., Cooper et al., 2003), one implication for health visitor practice is that depression should not only be assessed in the early postpartum months, but should be monitored at subsequent contacts, particularly in those who experienced an episode postnatally.

*The need to integrate evidence on parenting effects into clinical practice.*

A second potential challenge to achieving good child outcome in the context of postnatal depression is knowing which aspects of parenting to target and how to assess them reliably. Here, there is an urgent need to integrate into clinical practice the substantial research evidence concerning the effects of parenting on child development (Murray, 2014). This issue is of central importance to health visiting, where there are increasing demands for routine assessments of parenting to be made, but no standard evidence-based tools available.

In recent years, our understanding of the way in which parenting difficulties can affect child development has greatly increased. Further, and arising from a large volume of research from normal populations, there is a growing recognition of the 'specificity of effects' involved (Grusec & Davidov, 2010). Thus, it is clear that *specific* aspects of parenting are associated with *different* kinds of child outcome (see Murray, 2014, for a detailed review of these effects in the first two years). This conclusion from normal populations applies no less to the links between the specific kinds of parenting difficulty arising in the context of postnatal depression and the different kinds of developmental problems that can occur in the children. Thus, the kinds of support parents provide that are particularly important for promoting child cognitive development are the ability to follow the child's interests and attention, respond contingently, and facilitate the child's engagement with their environment through verbal and practical support, including such strategies as picture book-sharing (Fletcher & Reese, 2005). This kind of support is less likely to be present among depressed than non-depressed mothers, and where this is the case, children's cognitive performance has been found to be compromised (e.g., Murray et al., 1993; Milgrom et al. 2004). By contrast, the parenting skills involved in preventing normal infant willful and aggressive behaviour from becoming entrenched as a significant problem by age two-three years have more to do with the provision of predictable routines, the capacity to provide emotional containment and to harness the infant's involvement in positive activities and, in particular, the avoidance of coercive, harsh discipline (Gardner, 1989; Tremblay, Hartup & Archer, 2005; Hutchings & Gardner, 2012). Again, these kind of parenting difficulties have been found to arise more commonly in postnatally depressed *vs.* non-depressed mothers, and where such skills are

impaired, a raised rate of child conduct problems has been found (e.g., Morrell and Murray, 2003). Finally, the development of a child's secure attachment is particularly strongly associated with the parent's capacity to respond sensitively to the child's distress and vulnerability (McElwain & Booth-LaForce, 2006; Belsky & Fearon, 20008; Bernard, Meade & Dozier, 2013), and the communication of their understanding of the child's needs (for example, in the way they talk about the child's feelings). As with the other areas of parenting described above, postnatal depression is associated with impairments in these parenting capacities; and several studies have found elevated rates of insecure attachment in infants of postnatally depressed mothers (Martins & Gaffan, 2000). This is important, because secure attachment in infancy is predictive of good friendship quality later in life, harmonious intimate relationships, better general adjustment (Murray, Halligan, Adams, Patterson & Goodyer, 2006; Thomson, 2008), and a lower risk for adolescent depression (e.g., Murray et al., 2011).

Of course, in many cases, parents who have strengths in one of these domains of parenting will also be strong in other areas, as there is some degree of overlap in the skills involved. But it is also quite possible for mothers who are, say, very comfortable with giving cognitive support, to struggle with managing a child's temper tantrums or sleep problems, or with managing to promote secure attachment. Correspondingly, while children who perform well on cognitive tasks may, for example, also be securely attached, this is not always the case and, in general, any positive associations between these different domains of child development have been relatively modest (Grusec & Davidov, 2010).

The research evidence concerning this specificity of effects has clear implications for the way in which parenting is assessed in routine primary care practice. This includes both the *situations* that are used to observe parenting, and also the parenting *dimensions* that are assessed. (For the purposes of this paper, we focus on direct assessments of parenting, rather than questionnaire measures, since direct assessments have consistently been found to be stronger predictors of child outcome than parental reports.)

## Suggestions for the assessment of parenting

In the light of the findings on specificity of parenting effects outlined above, we set out suggestions for how parenting could be assessed in the context of postnatal depression, and more generally, suggestions that require further research and validation in primary care. A first key principle is that assessments be conducted, as far as possible, in ways that are sensitive to the *domain-specific* associations between parenting and child outcome. A second principle is that they be *developmentally sensitive*, changing in line with the infant's age, and here we take account of the current timing of health visitor contacts with parents. Thus, current NICE guidelines advise screening for postnatal depression at 4-6 weeks and 3-4 months; and the remit of health visiting includes reviews of infant development at 9 months, at 18 months for those with targeted care, as well as a general review using the ASQ at 2-2.5 years (NHS, 2014, p. 9).

*Assessments and measures at 6 weeks-four months.*

At this age, infants have a rich range of social responses in terms of gaze, facial expressiveness, vocalizations and active mouth movements signaling motivation to engage. However, they are not independently mobile and are unable to reach out and grasp to manipulate objects. For these reasons, most research assessments of parenting have been made in the context of face-to-face interactions, where the parent is typically invited to chat or play with the baby when he or she is alert and not hungry, something that could feasibly be incorporated in primary care contacts. Research using videotapes of such interactions, typically filmed for five-ten minutes, has found that they distinguish between depressed and non-depressed mothers, as well as those with high or low levels of general socio-economic risk. Further, in spite of the rather limited observation frame, different dimensions of parenting observed in this context have been found to predict different aspects of infant outcome.

1. *Sensitivity.* This first, broad, dimension of sensitivity is based on Ainsworth's work, and it is the main dimension of parenting that predicts infant security of attachment, particularly when it is used in relation to parental responses to infant distress (see Mesman & Emmen, 2013 for a review, and Bernard et al., 2013). Sensitivity includes three core features: the parent's ability to notice the infant's cues, to interpret the cues accurately, and to respond promptly and appropriately. As well as behavioural

responsiveness, how the parent talks to their is taken into account and, in particular, whether their speech reflects an awareness of the infant's feelings and intentions, a quality referred to as 'mind-mindedness' (Meins, Fernyhough, Fradley &Tuckey, 2001).
2. *Hostility*. The second dimension, maternal hostility, can be rated in the same context of a face-to-face interaction using an additional scale to that of general sensitivity. This rating is made on the basis of the mother's hostile negative verbal comments to the infant, as well as any coercive and intrusive behavior. This dimension of parenting has been found to predict later infant emotional dysregulation and, in turn, raised rates of conduct problems in early and middle childhood (e.g., Morrell & Murray, 2003).
3. *Cognitive support*. This third dimension, also rated from face-to-face play interactions, concerns the degree to which the mother actively stimulates the infant, elaborates contingently on his activity, and engages his interest. Like maternal hostility, this rating is made using an additional scale to that of sensitivity, and it has been found to predict cognitive development in late infancy and the early school years (Murray, Kempton, Woolgar & Hooper, 1993; Murray, Fiori-Cowley, Hooper & Cooper, 1996; Murray, Hipwell, Hooper, Stein, & Cooper 1996).

*Assessments and measures at 9 months.*

By 9 months, the infant's behavioural repertoire and his psychological development have progressed considerably, and this means there are more opportunities for examining parenting in different contexts, each particularly relevant to specific developmental outcomes.
*1. Sensitivity*. Ratings on this measure of parenting made in conditions where the infant feels vulnerable are particularly strongly related to infant attachment security. At nine months, when infants have developed more awareness of their dependency on their parent, this may be seen in situations where, for example, the infant is separated from the parent, meets an unfamiliar person, or experiences pain. Such conditions are core elements of research assessments of parenting in relation to infant attachment (Pederson, Moran, Sitko, Campbell et al., 1990), but approximations to them could potentially be incorporated without too much difficulty into routine primary care contexts. As for the earlier assessment, the parent's acknowledgement in their speech of the infant's mental

experience is predictive of infant security, as well the timeliness and appropriateness of their behavioural responses to signs of infant vulnerability and distress.

*2. Hostility.* Parenting that is relevant to possible infant emotion regulation problems and the development of aggression can be particularly clearly seen at nine months in situations that are frustrating for the infant. For example, researchers often observe what happens if the infant is shown some attractive looking toys, but the mother is asked not to let him or her touch them for a few minutes, in what is known as the 'Don't Touch Task'. A similar assessment, known as 'The Barrier Task', is to observe what happens when the infant is given a toy to play with, and the toy is then removed and placed behind a perspex barrier, still in full view. Here again, the dimension of parental hostility, including negative verbal expressions as well as physical coercion, has been found to predict child conduct problems at five years (Morrell & Murray 2003).

3. *Cognitive support.* At nine months, the particular parenting skills that comprise good cognitive support can be best assessed in contexts where the infant could benefit from help in exploring and gaining control over the environment, and where their experience could be stimulated and enriched by parental input. Observations of mother-infant interactions when the infant is presented with a toy that is just at the limit of their capacity enable one to see how effectively the parent can support their infant's interest in the toy and their efforts to explore it, behavior that is sometimes referred to as 'scaffolding' (Vygotsky, 1978; Ninio & Bruner, 1978). Another helpful observation frame for observing parental cognitive support is picture book sharing. A large volume of research has shown that the way in which parents do book sharing is a particularly good predictor of infant language development and attention. As for cognitive support for object exploration, the most helpful input, known as 'dialogic', is for the parent to engage the infant actively with the book content. Again, following and responding to their infant's line of interest is a key component, for example, by pointing to whatever it is the infant is looking at and naming it and, as the infant develops, elaborating on the link between the book content and the infant's wider experience (Cooper et al., 2014; Vally et al., in press).

*Assessments and measures at 18 months.*

At eighteen months, assessments of parental sensitivity as it relates to infant attachment can be made in the same way as for 9 months. Similarly, the rating of cognitive support can be made at 18 months as for 9 months, with adjustments that take account of the infant's developing cognition and use of language.

With regard to parenting relevant to infant emotion regulation and externalizing difficulties, a frustration task, as used at nine months, can be repeated. In addition, given the infant's developing capacities to cooperate and understand other people, it can also be useful to conduct a further observation in which the parent is asked to get the infant to perform a task, e.g., a 'Clean-Up' task, where the infant is asked to put toys away after playing with them. Here, signs of maternal hostility in the form of harsh, coercive discipline can be particularly clearly seen, thereby helping to improve identification of cases where the child may be at increased risk for behavioural difficulties like aggressive behavior.

## Conclusion and Implications for treatment.

A great deal of evidence indicates that patterns of parent-child interaction can become disturbed when a parent experiences depression, and there is good evidence that these interactional problems are not straightforwardly resolved when the depression remits, whether spontaneously or with treatment. Further, there is equally good evidence that these interactional patterns can have a substantial effect on the child's later development. In light of this, it is unfortunate that the reliable assessment of parent-infant interactions is not a standard part of health visitor training and is rarely done outside of highly specialized services. A great deal is known from research about which dimensions of parenting need to be assessed during the postnatal period and what sorts of assessment frames are optimal. These assessment frames could be incorporated into primary care, but they need to be formalized; in addition, reliable scales are required for rating the critical parenting dimensions in the context of primary care. Further, a systematic training programme needs to be devised for clinicians that can be slotted into existing professional training courses. Only when all of this is in place will routine assessment of parenting in the postpartum period be able to be provided.

Once a clear framework is in place for the assessment of the different parenting strategies that are relevant to different aspects of child development, one is then in a position to profile an individual parent's areas of strength and difficulty, so that support can be precisely targeted. Indeed, the purpose of the assessment system described above is to enable clinicians to target areas of disturbance for therapeutic intervention. In fact, there is good evidence from clinical research of successful interventions for improving maternal sensitivity, hostility, and cognitive support with corresponding benefits, respectively, to child attachment security (e.g., Juffer, Bakermans-Kranenburg, & van IJzendoorn, 2007; Cooper et al., 2009), cognitive and language development (e.g., Cooper et al., 2014; Vally et al, in press), and child behavior problems (Hutchings et al., 2007). The extent to which these can be modified for use by perinatal clinicians remains to be demonstrated and is an urgent priority for applied research.

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