Title: Treatment of postpartum depression

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Introduction

Maternal postnatal depression (PND) is common with a prevalence in the developed world of around 13% (O'Hara et al, 1996), and a far higher prevalence in some developing world contexts (Cooper et al, 1999; Patel 2002, Rahmin 2003). There is a considerable body of evidence attesting to the fact that PND limits a mother's capacity to engage positively with her infant, with several studies showing that PND compromises child cognitive, behavioural and emotional development (Murray, Halligan, & Cooper, 2009). It has proved difficult to predict PND antenatally (Cooper et al, 1996) and, in any event, preventive interventions have largely proved ineffective ((Dennis & Creedy 2004). The focus of research and clinical attention has, therefore, been on the treatment of manifest PND.

Subject

PND is now recognized, by virtue of the distress caused to mothers, as well as the wider adverse impact on the family, as a significant public health issue. There has, therefore, in recent years, been considerable interest in the development and evaluations of treatments for PND, and there have been several randomized controlled trials. A careful evaluation of the findings of this body of research is important to the provision of services to mothers with PND and their children, as well as to the elucidation of causal processes.

Problems

Most studies of the treatment of PND have been concerned with its impact on maternal mood. Correspondingly, few studies have examined the impact of treatment on the

quality of the mother-child relationship and the associated risks to child development. There are, therefore, problems in evaluating the clinical significance of the research findings beyond the narrow concern of maternal mood.

Research context

There are several well conducted naturalistic studies of the impact of PND on the mother child relationship, and the architecture of parenting disturbances in this context is now well understood; similarly, the evidence on the consequences of PND for child development is detailed and robust (Murray et al., 2009). There have also been several randomized controlled trials of the impact of treatment on PND (Dennis; Cuijpers)). However, the treatment trials have almost all had limited follow up and have principally been concerned with the impact on maternal mood rather than on the quality of the mother-child relationship and child development outcome.

Key research questions

1. Does the provision of specific treatment for PND produce a better outcome in terms of improvement in maternal mood than no treatment or 'treatment as usual'?

2. Are certain forms of treatment of PND better than others at improving maternal mood?

3. Do treatments of PND improve the quality of the mother-child relationship?

4. Do treatments of PND benefit child developmental progress (and, if so, is this by virtue of their impact on the mother-child relationship)?

Recent Research results

The bulk of the research on treatment has concerned the efficacy of *psychotherapeutic interventions*. A review of several randomised control trials (Dennis & Hodnett, 2007) concluded that both specific psychological treatments and more generic psychosocial interventions were moderately effective at improving maternal mood, and they were similarly beneficial. A recent meta-analysis of psychotherapeutic interventions

for PND (including CBT, social support, interpersonal therapy, non-directive counselling, and psychoanalytic therapy) similarly concluded that these forms of treatment are moderately effective (Cuijpers et al. 2008). Both reviews highlighted the short-term nature of most trials and their brief follow-ups.

Limited data are available on the role of p*harmacological intervention.* An early UK study (Appleby et al. 1997) found similar benefit from an SSRI (fluoxetine), counselling, or the drug plus counselling. Notably, more than half the women approached for this study declined to participate, primarily because of reluctance to take medication. A small Canadian study of the treatment of PND with comorbid anxiety (Misri et al. 2004) found similar levels of improvement for another SSRI (paraxetine) alone, and for the drug plus CBT. There is a need for further evaluation of the role of antidepressant medication in the treatment of PND (Hoffbrand et al), especially when the disorder has become chronic. The possibility of drug transmission to the infant via breastfeeding is a source of concern (Berle et al. 2004).

A critical question regarding the treatment of PND concerns the extent to which treatment effects are reflected *in improvements in mother-infant relationships and infant developmental outcomes*. Few studies have specifically addressed this issue (Poobalan et al, 200X; Nylan et al 2006). A large scale randomized control trial (RCT) comparing CBT, counselling, and psychoanalytic therapy with routine care found that, while all active treatments were moderately effective in treating depression and brought about short term benefits in the quality of the mother-infant relationship, there was limited evidence of benefit to infant outcome; and effects (including those on maternal mood) were not apparent at follow-up (Cooper et al., 2003; Murray et al. 2003). Similarly, a recent RCT found that, although interpersonal psychotherapy was effective in treating maternal depression, there was no benefit in terms of observed mother-infant interactions, infant negative emotionality, and infant attachment security (Forman et al. 2007).

A related approach has been to focus more directly on *improving parenting*. For example, Cicchetti et al. (1999; 2000) examined the impact of providing a prolonged

psychotherapy (average 57-weeks) to depressed mothers which focused on promoting positive maternal attachment representations and mother-infant interactions. They found a benefit for child attachment and cognitive development. There have also been studies of briefer interventions in the postpartum period, focusing on improving mother-infant interactions; and beneficial effects have been reported for interactive coaching (Horowitz et al. 2001) and infant massage (Glover et al. 2002; Onozawa et al. 2001). Further, relationship facilitation, based on maternal administrations of a neonatal assessment (the NBAS), produced improved infant communication and state organization at one month (Hart et al. 1998). A longer-term intervention delivered as part of a large RCT in a South African peri-urban settlement, where community workers made home visits designed to improve maternal sensitivity, not only effected significant improvements in parenting but, at follow up, increased the rate of secure infant attachment (Cooper et al, 2009). Recently a home-based intervention for depressed mothers using video feed-back (van Doesum et al, 2008) was found to have positive effects both for the quality of the mother-infant relationship and infant attachment. While these findings are encouraging, the extent to which improvements in the quality of the mother-child relationship lead to better long-term child outcomes remains to be demonstrated.

Research Gaps

Although several forms of intervention have proved beneficial for mothers with PND, none has been shown to have enduring effects on maternal mood, and there is limited evidence that any intervention improves the long-term course of child development. It remains to be demonstrated which particular form of treatment is optimal, although on current evidence, targeting parenting appears to be the most promising strategy. Furthermore, although there are separable forms of parenting disturbance in the context of PND that are in turn associated with particular forms of adverse child outcome, it has yet to be empirically addressed whether particular features of the mother-infant relationship can usefully be addressed in interventions to improve particular child outcomes. In addition, although child outcomes are especially compromised in the

context of chronic PND, no study to date has targeted this group of mothers to establish whether an intervention can improve maternal mood and benefit child outcome.

Conclusions

A number of treatments have been shown to be effective in helping mothers with PND recover from their mood disorder, though none has yet to be shown to be superior to any other, and there is no evidence for long-term benefits to maternal mood. Some success has been achieved in improving the quality of mother-infant interactions by targeting parenting difficulties, though studies have tended to be short-term with brief follow up. While the longer term effects of these parenting interventions are not known, evidence is emerging that some may at least prevent poor short-term child outcomes associated with PND. Since adverse child outcomes associated with PND are more likely to occur in the context of chronic or recurrent depression, it is particularly important that this group be identified and targeted for intervention.

Implications for parents, services and policy

Given the high prevalence of PND and its adverse impact on the mother-child relationship and child development, it is important that community services are in place for the early detection and treatment of PND. It is crucial that attention be given in treatment to the quality of the mother-child relationship and that specific therapeutic measures be introduced to help mothers engage optimally with their infants. In high risk contexts, where depression is more likely to be prolonged or recurrent, it is important that long-term monitoring takes place so that support can be provided responsively and on an ongoing basis.

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