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Perinatal Depression: Assessment and Management

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Postnatal depression affects between 10- 15% of women giving birth worldwide (O'Hara and Swain 1996). It is recognised that a similar number of women suffer from anxiety and depression during pregnancy (Matthey 2004; Austin, Tully et al. 2007) that is often missed; the term perinatal helps emphasize the importance of the potential onset in pregnancy and the need for early detection. The consequences of not detecting perinatal mental illnesses early and treating can have potential devastating effects on mother, child, and family.

Possible Aetiological Factors

Biological

Numerous studies investigating the aetiology of perinatal depression have concluded that current, past and family history of depression have the strongest predictive value of postpartum depression (O'Hara and Swain 1996; Milgrom, Gemmil et al. 2008). Recent studies have highlighted a number of possible gene associations including those related with 5HT transport and oestrogen receptors.

Studies that evaluated the hormonal basis of peri natal depression have been less consistent in their results, other than with a possible subgroup of women, who are particularly sensitive to stress and changes in the hypothalamic – pituitary-adrenal axis. (Austin, Hadzi-Pavlovic et al. 2005).

Psychosocial

After the biological indicators, the strongest aetiological associations are found with the level of support, particularly from the spouse and the mother (O'Hara and Swain 1996). The quality of partner support is particularly important, with no partner being better than an emotionally unsupportive partner for the maternal outcomes (Bilszta, Tang et al. 2008). Research studies have grouped a number of important factors which play a predictive role including poverty, level of support, number of stresses, perfectionist personality and childhood abuse (O'Hara and Swain 1996; Milgrom, Gemmil et al. 2008). In developing countries poverty features more strongly, as well as specific aspects of support that are culturally related, such as difficulties in relationship with the mother-in-law in Chinese cultures (Lee, Yip et al. 2004).

Detection

In recent years, the focus on PND has been on screening and early detection, the principle is that, if treatment is initiated early then the outcomes for the mother and child will be better. This focus has been important; if PND is not asked about, up to 50% of cases are missed. Women do not readily identify their experience as depression, thinking that they have the baby they love and planned for, and thus have nothing to be depressed about. In addition they are reluctant to identify the problem as themselves, because they fear the stigma, not just of a mental illness, but of being labelled as a bad mother (Dennis and Chung-Lee 2006; Sword, Busser et al. 2008).

Midwives, general practioners, obstetricians and pediatricians are all likely first ports of call for women. These new mothers may present with physical or child related issues rather than identifying themselves as a parent in the first instance.

The Edinburgh Postnatal Depression Scale (EPDS), (Edinburgh Postnatal Depression Scale; Cox, Holden et al. 1987) is the most researched screening tool, for use during pregnancy and postnatally for the detection of PND. Most work is done on the 10 item test with a cut off of either above 12 points. These scores call for further enquiries. There is also research with the shorter versions of this scale, alternatives and a higher cut off has been suggested in pregnancy. There remains controversy about its routine use (Buist, Barnett et al. 2002). Concerns include stigmatizing non cases, missing real cases, and not being able to provide care to those who are identified. These are all issues that need to be considered when implementing screening most would agree that the use of the EPDS at least as an adjunct to clinical enquiry.

Diagnosis

Occurring at other times, perinatal depression is generally classified as depression; in DSM IV ((DSM-IV) 1994) while there is a separate category, after other diagnoses are excluded, most women will fulfil the criteria for either Major Depressive Disorder or Adjustment Disorder. A smaller number will be classified as Post-Traumatic Stress Disorder or an Anxiety Disorder. Many in pregnancy are missed because symptoms are considered to be pregnancy related and thus will disappear when the child arrives. Pregnancy offers a unique opportunity, a time of almost universal access to medical care for women where careful screening, and monitoring of those at risk could allow for early intervention to improve outcomes.

Characteristics that have been argued as a differentiator for perinatal depression include higher than usual levels of anxiety (Matthey 2004; Austin, Tully et al. 2007) - often about the infant- and lower than expected suicide rates with the child acting for some women as a protector (“my child needs me”) (Appleby 1991). Postnatally the disorder needs to be differentiated from “the blues”, a mild disorder with mood and anxiety symptoms lasting only a few days postnatally and affecting some 50-80% of women, and puerperal psychosis, a potentially severe affective psychosis occurring in 1 in 600 births, a probable variation of bipolar disorder(Meltzer and Kumar 1985; Sharma, Smith et al. 2004).

Consequences

In the most severe forms of perinatal illness suicide and potentially infanticide occur; the latter is rare and not always associated with maternal mental illness but maternal suicide, while also infrequent, is the leading or equal leading cause of maternal deaths (King, Slaytor et al. 2004). majority of these women have puerperal psychosis.

Depression may also be chronic or recurrent – with implications for all the family. Follow up of the children of depressed and anxious mothers suggest that they are at higher risk of developing depression and anxiety, with behavioural and emotional effects noted in the early months and continuing into school years with significant potential developmental impact (Murray, Fiori et al. 1996; Murray, Sinclair et al. 1999). Antenatal depression is more of a risk than postnatal depression, having both being the highest correlation to negative outcomes for the child. Antenatal anxiety is thought to operate through increasing the infant’s cortisol level- which remains high through childhood (O'Connor, Ben-Shlomo et al. 2005). Work on

the serotonin transporter gene, also of interest, has found links between genetics and upbringing- some gene combinations found to be protective against later psychiatric illness where others increase risk exponentially if the child is also exposed to abuse (Ladd, Huot et al. 2000; Heim and Nemeroff 2001; Joyce, Williamson et al. 2007). Postnatal depression adds to this effect and numerous studies point to the depressed anxious parenting style as problematic; the likely mechanism is through attachment, and modelling, parental insensitivity, neglect and inability to protect throughout the childhood adding to the problem (Murray and Cooper 1997; Murray and Cooper 1997; Bakermans-Kranenburg, van Ijzendoorn et al. 2003).

Management

Biological

Antidepressants

When PND is judged of moderate to severe intensity, antidepressants have been considered to have a role. There have been several studies conducted to evaluate the efficacy of antidepressants in depression, however very few studies are specific to PND suggesting that they may be beneficial (Howard 2006; Howard, Boath et al. 2006; Wisner, Hanusa et al. 2006; Wisner, Sit et al. 2007) including comparing to CBT (Appleby, Warner et al. 1997; Misri, Kim et al. 2000; Misri, Reebye et al. 2004).

Hormones

It has been an attractive hypothesis that the dramatic hormone changes during pregnancy are involved in PND- and therefore replacing the hormones, or decreasing them in a more modified manner, has been considered as a possible treatment. Synthetic progestogens should be used with caution in the post partum period and may increase the risk of depression. (Moses-Kolko, Berga et al. 2009). The role of natural progesterone in the prevention and treatment of post partum depression has yet to be evaluated using a randomised placebo controlled trial. Oestrogen therapy may have a role in the treatment of severe post partum depression but evidence is very limited and requires confirmation of efficacy.(Gregoire, Kumar et al. 1996; Dennis, Ross et al. 2008; Moses-Kolko, Berga et al. 2009)

ECT

Studies that were conducted to test the efficacy of ECT perinatally are limited. Clinically, it tends to be confined to postpartum psychosis and severe depression; Reed et al's (1999) (Reed, Sermin et al. 1999) study suggests that ECT are most effective for psychosis and severe depressive conditions that have their onset post partum.

Other

Exercise (Oren, Wisner et al. 2002, Armstrong and Edwards 2004; Daley, MacArthur et al. 2007), baby massage (O'Higgins, Roberts et al. 2008) are other methods that have been suggested. Although, the results of these studies have some positive findings, the effects and methodology are limited and the results are not strong.

Special Considerations: pregnancy and lactation

Compared with the risks of not treating, the risks of treating with antidepressant medications when the women are pregnant or breast feeding include suicide, poor self care, exposing the foetus to increased cortisol, impact on older children, effects on attachment, and partner. The

balancing risk benefits, and risks of specific medications in pregnancy and lactation, are reviewed elsewhere (Newport, Hostetter et al. 2002; Lattimore, Donn et al. 2005; Bellantuono, Migliarese et al. 2007; Cipriani, Geedes et al. 2007; Eberhard-Gran, Eskild et al. 2007; Gentile 2007; Wisner, Sit et al. 2007). Broadly, antidepressants appear relatively safe, with most studies suggesting no, or only slightly, increased teratogenic risk of exposure in first trimester (some of which may be explained by comorbid factors such as substance use) (Kulin, Pastuszak et al. 1998; Oberlander, Warbuton et al. 2006; Alwan, Reefhuis et al. 2007; Ramos, St-Andre et al. 2008). All mood stablisers should be avoided if possible; Valproate is the most teratogenic and Lithium the least. High dose benzodiazepines have also been associated with cleft palate.

Neurobehavioural syndromes at delivery have been noted, possibly due to withdrawal with antidepressants, particularly SSRI's (Kulin, Pastuszak et al. 1998; Sanz, De-las-Cuevas et al. 2005; Oberlander, Warbuton et al. 2006; Alwan, Reefhuis et al. 2007; Gentile 2007). Babies have also been noted to be more likely to be premature or small for dates, but it appears foetal exposure to untreated depression also produced similar results (Wisner, Sit et al. 2009). A possible slight increased risk, not confirmed in all studies, in pulmonary hypertension of the newborn has also been recorded (Sanz, De-las-Cuevas et al. 2005; Kallen, Milsson et al. 2008; Toh, Mitchell et al. 2009). Long term negative effects (with the exception of Valproate which has been noted to cause a syndrome (Hendrick, Altshuler et al. 2000; Casper, Fleisher et al. 2003) affecting development) have limited study with either no effect or possible subtle effects on motor development (Zeskind and Stephens 2004).

All psychiatric medications pass into breast milk and therefore the breast fed infants will be exposed to medication the mother is taking. It is important to differentiate side effects of exposure with toxicity. The decision to use medication in this situation is based on a risk benefit analysis. It is known that breast milk is often reduced in depressed or anxious mothers. When making the decision about starting medication or continuing mediation it is important to take into account the age, maturity and health of the infant. It is also important to remember the role breastfeeding can play in the mother infant relationship. Valproate and Tegratol can be used with close monitoring but Lithium should be avoided. All the atypical antipsychotics appear in low dose in breast milk and therefore the side effects that occur in adults can occur in an infant. Tricyclic antidepressants have issues with toxicity particularly in overdose but apart from reports of sedation studies indicate that infants exposed to tricylclics showed no negative outcomes.

Psychosocial

Many women, particularly if pregnant or breastfeeding, are reluctant to use pharmacological treatments for perinatal depression and anxiety (Buist, Speelman et al. 2007; Dimidjian and Goodman 2009). As with pharmacological treatments, there is limited evidence of its efficacy, and in particular a lack of randomized control trials. General measures as part of supportive psychotherapy; increasing levels of support, consideration of childcare for the mother to have breaks or/and catching up on sleep. For mothers with adjustment disorders these measures may be adequate; for depressive disorders other therapies should be considered.

Individual

Studies suggest CBT, IPT (Swartz, Frank et al. 2008), supportive counselling (Morrell, Slade et al. 2009) and group therapy are all useful in managing PND (Murray, Cooper et al. 2003). Psychological treatments are both acceptable and effective in women with PND. Holden et al,

(1989) and Wickberg and Hwang (1996) showed that counselling delivered by health workers could double the recovery rate when coin comparison to men who did not receive counselling. O'Hara et al (2000) in a controlled trial in which interpersonal therapy was compared with wait list controls found a significant benefit of the index treatment in terms of maternal mood and social functioning. Murray et al (2003) in a study looking at short and long term effect of psychological treatment in post partum depression found significant short term benefit from CBT and non directive counselling but did not find changes in the mother-infant relationship.

Couple

For those women where lack of support from partner is a risk factor to their illness, involving the partner in treatment and improving communication can seek to redress this (Everingham, Heading et al. 2006). For some men, they may need individual support and treatment; partners of women with PND have a higher rate of mood disorders (Lovestone and Kumar 1993; Roberts, Bushnell et al. 2006).

Impact on fathers

Perinatal depression in women has been associated with adverse effects on both maternal health and children's development. The impact of maternal perinatal depression on male partners is being increasingly recognised. Depression in fathers in the perinatal period has been associated with psychiatric disorder in their children 7 years later (Ramchandani, Stein et al. 2008), most commonly observed are conduct disorders in male offspring (Ramchandani, O'Connor et al. 2008), and this is probably mediated through environmental factors. It has been estimated that more than 10% of fathers suffer psychiatric morbidity in the postnatal period (Ballard 1996). Depression in fathers is associated with having depressed partners, having an unsupportive relationship, being unemployed and a history of depression in the father (Ballard, 1996). There has also been an association between mothers personality difficulties, unresolved past events and infant related problems and paternal depression (Dudley, Roy et al. 2001). Furthermore evidence indicate that fathers do not provide a buffering effect when a mother is depressed, but instead suggest that maternal depression's negative effects on father infant interaction may increase the risk to child development (Goodman 2004). Madsen et al (2007) in a study looking at paternal depression in the postnatal period found a prevalence of 5% of fathers were clinically depressed 6 weeks after the birth on their child using the EPDS. Another article by Davé et al (2005) reported that 1 in 12 men had depressed mood and that lower mood was associated with negative infant temperament at 6 months postpartum. Thus depression in fathers can have significant impacts on the father, mother and the development of the child. There is a need for better methods for identifying men with postnatal depression to be developed (Madsen and Juhl 2007) that include male depressive symptoms. This is an area which is being increasingly recognised and requires further research.

Mother-Infant

Some women at risk for depression are also at risk for parenting difficulties, either through the effect of the depression, or through poor attachment and abusive or neglectful childhood experiences with their own parents.

Bowlby's (Bretherton 1992) attachment theory describes how the relationship with the primary care giver in the first 18 months of life - usually the mother- provides the basis for the child's self esteem, sense of self and ability to relate to others in later life. Anxious

ambivalent or avoidant and disorganised attachments have been associated with later psychiatric disorder, particularly borderline personality (disorganised) and a range of other problems in later life, in particular depression, anxiety and personality pathology. If the mother with perinatal depression also has an insecure attachment and poor role model, this is likely to affect her attachment to the child and her ability to parent. There is a danger of trans generational transmission as a child exposed to attachment difficulties and a poor role model struggles to parent herself.

Treatment of the mood alone does not improve the mother-infant relationship, and where the baby triggers negative memories and emotions, the relationship – and being a mother- can continue to act as a stressor for relapse and treatment resistance. Research is now looking at mother-infant interventions, though it is limited in examining these in women with significant psychopathology. (Juffer F, Van Ijzendoorn MH et al. 2008; Wan and Green 2009) consideration is needed for the age of the child at intervention, use of video feedback and length of input and stability.

Of eight studies of mother-infant therapy in PND, reviewed by Poobalan et al (2007),(Poobalan, Aucott et al. 2007) all showed improvements in mother-infant relationships and/or cognitive and behavioural outcomes.

Summary

Perinatal depression is a serious psychiatric disorder that carries a risk of significant morbidity and mortality for both mother and infant. The aetiology of the condition is complex and probably involves an interaction of biological, psychological and social factors. Recognition of the condition is increasing with screening and early detection improving outcomes for mother and infant, the EPDS being the most researched screening tool. Diagnosis is based on the same criteria as depression occurring at other times but is often associated with higher than usual rates of anxiety, particularly related to the infant. The consequences of the condition can be serious including suicide, infanticide, abuse, neglect and attachment difficulties. An increased risk in mental health problems of children born to mothers with perinatal depression highlights the importance of effective management. There are a range of biological, psychological and social interventions that have been found to be effective in the treatment of perinatal depression. Medication taken in the perinatal period is likely to carry the risk of exposure to the developing foetus or the breast feeding infant. Therefore, the use of medication during this time needs to be subject to a risk benefit analysis. The risks for major malformations are greatest in the first trimester and the risks of sudden withdrawal syndromes are large at delivery. Most medications taken by the mother are present in breast milk, therefore carrying the risk of exposure to the infant.

Overall with the exception of the mood stabilisers psychiatric medications are relatively safe in the perinatal period. Psychological therapies have been found to be effective in perinatal depression with CBT, IPT and attachment focussed therapies having good evidence for their use. There is increased recognition of the impact of perinatal depression on fathers, with studies indicating an increased risk of depression in fathers with a partner suffering from peri natal depression. The impact of this can be very significant as it has the potential to impact on family functioning and support. The importance of housing, financial situation, community support, child care availability, healthcare and other social supports in the management of perinatal depression cannot be understated. Therefore early recognition and effective treatment of perinatal depression has the potential to significantly reduce the morbidity and mortality for both mother and infant.

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