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AIMH UK BEST PRACTICE GUIDANCE (BPG) NO 3

Antenatal Anxiety and Depression: What Should We Be Doing?

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Antenatal Anxiety and Depression: What Should We Be Doing?

Jane Barlow

AIMH UK President, Professor of Public Health in the Early Years, University of Warwick

Aim of this Overview

The aim of this Best Practice Guidance is to examine what the evidence currently tells us about why anxiety and depression in pregnancy matter in terms of both the developing foetus and the long-term development of the child, and what works best to support women who are experiencing such problems.

INTRODUCTION

For the past two decades, the clinical practice of a wide range of practitioners working with pregnant and newly delivered women, has been focused on the identification of depression during the postnatal period. This practice was strongly guided by evidence highlighting the potential impact of such depression on parent-infant interaction (Murray et al., 1996; Stein et al., 1991), and the long-term socio-emotional (Beck 1999; Murray et al., 1999; Murray et al., 2011) and cognitive/intellectual (Grace, Evindar, Stewart, 2003) functioning of the child.

Over the past decade, however, there has been increasing recognition that anxiety (i.e. a state of fearfulness about what may happen in the future) and depression (i.e. a set of symptoms including negative thoughts and feelings about the present) do not necessarily begin in the postnatal period, but are often also present in the antenatal period. Indeed, the evidence suggests that such problems are common in pregnancy, affecting between 12 and 20% of women (Heron et al., 2004), and furthermore that such problems are associated with postnatal depression (Markus et al., 2003).

This Best Practice Guidance will provide an overview of what the evidence tells us about the impact of antenatal anxiety and depression on the developing foetus and child; the second part of the guidance will describe what we now know about the identification, prevention and treatment of such problems.

WHY DO ANTENATAL ANXIETY AND DEPRESSION MATTER?

Research regarding the impact of antenatal anxiety and depression has been accumulating over the last decade and a paper in The Lancet (2014) provided an overview of the current state of the evidence with regard to the impact of such anxiety and depression on the developing foetus and child (Stein et al., 2014).

DEPRESSION IN PREGNANCY Fetal and neonatal outcomes

The Lancet review found that there is strong evidence of an association between antenatal depression and increased risk for premature delivery (<37 weeks' gestation), with severity of depression being an important influencing factor. However, the evidence regarding depression and low birthweight was less clear with some research showing a modest association and other research showing no association, most probably due to the inclusion in one review of studies from Low and Middle Income Countries (LMIC). Antenatal depression was not found to be associated with pre-eclampsia, Apgar scores, or admission to neonatal intensive-care units; but was associated with intrauterine growth restriction in LMICs only.

EMOTIONAL PROBLEMS

In terms of children's early and long-term experience of emotional problems, this review found that antenatal depression is associated with a 'disorganised' pattern of attachment. This

is important because a disorganised attachment is a significant risk factor for a range of later problems including externalising disorders (i.e. conduct and behaviour problems) (Fearon et al., 2010); personality disorder (Steele & Siever 2010); dissociation (Dutra & Lyons-Ruth 2005); post-traumatic stress disorder (PTSD) (MacDonald et al., 2008), and an increased likelihood of children experiencing symptoms that meet clinical criteria (Borelli et al., 2010).

The review also found that antenatal depression is associated with an increased risk for emotional problems in childhood including both internalising problems such as depression, and externalizing problems such as behaviour problems and attention deficit hyperactivity disorder (up to 16 years of age), although one study showed that these effects were diminished once postnatal symptoms were controlled for.

COGNITIVE DEVELOPMENT

Antenatal depression was found to be associated with low levels of general cognitive development, including reduced IQ scores in childhood, although the effect sizes were generally small and not all studies showed a significant association.

ANXIETY IN PREGNANCY

Fetal and neonatal outcomes

In terms of anxiety in pregnancy, the Lancet review found small, non-significant associations between antenatal anxiety and most adverse fetal outcomes other than young gestational age at birth, the latter possibly being due to the small number of studies currently available.

EMOTIONAL PROBLEMS

A number of studies have found that self-reported symptoms of antenatal anxiety are associated with internalising symptoms (e.g. anxiety and depression) in both childhood and adolescence.

COGNITIVE PROBLEMS

The evidence regarding stress/anxiety and cognitive problems is more limited. A meta-analysis of seven studies that had assessed prenatal stress found a small impact only (Tarabulsy et al., 2013).

IMPACT OF ANTENTAL ANXIETY AND DEPRESSION ON THE FOETUS AND CHILD

- Antenatal anxiety and depression have been found to have an adverse impact on a small number of foetal outcomes and emotional outcomes in the child.
- The evidence suggests a small impact on cognitive development.

WHAT ARE THE MECHANISMS BY WHICH ANTENATAL ANXIETY AND DEPRESSION IMPACT ON THE DEVELOPING FOETUS AND CHILD? The mechanisms by which prenatal stress affects the developing baby are not fully understood, but seem to involve changes in the environment in utero during specific critical periods, which may then alter key processes in the baby's development, with long-term consequences.

One of the key mechanisms identified in humans is the over-exposure of the foetus to glucocorticoids (i.e. the stress hormone cortisol) as a result of the impact of stress on placental functioning (O'Donnell et al., 2012). Stress appears to affect the barrier enzyme, which converts cortisol to the inactive cortisone. Increased maternal stress or anxiety reduces the level of this enzyme in the placenta, thus potentially allowing more cortisol to pass through to the foetus.

The neurotransmitter, serotonin, is another possible mediator of prenatal stress-induced effects on the baby's neurocognitive and behavioural development, although the research to date is limited to animal studies, which show that increased serotonin exposure during gestation is associated with alterations in many neuronal processes and subsequent changes in offspring behaviour. Recent work has also identified an endogenous serotonin biosynthetic pathway in the human placenta (Bonnin et al., 2011) suggesting a possible role for alterations in placental serotonin in human fetal programming.

The relative impact of genetic and environmental factors is not fully understood, but there is some evidence that epigenetic changes, which can be induced by the environment and involve reversible changes to the structure of DNA (i.e. such as the addition of a methyl group, controlling the amount of mRNA and protein produced), may underlie many of the processes of foetal programming. Prenatal stress has been shown to cause epigenetic changes to the rodent brain in the DNA that codes for the receptor that binds the stress hormone cortisol (Mueller & Bale, 2008). A number of examples in humans have also been found; for example, stress during pregnancy caused by violence from the woman's partner, has been shown to cause epigenetic changes in the DNA for this same stress receptor in the blood of her adolescent children (Radtke et al., 2011).

MECHANISMS BY WHICH ANTENTAL ANXIETY/ DEPRESSION IMPACT THE DEVELOPING FOETUS

- The mechanisms by which prenatal anxiety and depression impact the foetus are not fully understood, including the relative impact of genetic and environmental factors;
- Epigenetic changes, which can be induced by the environment and involve reversible changes to the structure of DNA (i.e. such as the addition of a methyl group, control the amount of mRNA and protein produced), may underlie many of the processes of foetal programming.

WHAT SHOULD WE BE DOING?

The following sections examine what the evidence tells us regarding the identification, prevention and treatment of depression and anxiety in the antenatal period. This evidence draws on the UK National Institute for Health and Care Excellence (NICE) guidance on antenatal and postnatal mental health (NICE 2014a, guideline CG192), which is summarised in the update of the evidence supporting the Healthy Child Programme (HCP) (Public Health England, 2015:49-54).

IDENTIFICATION

NICE (2014) guidance recommends that at a woman's first contact with primary care or at her booking visit, and during the early postnatal period, the practitioner should consider asking the following questions as part of a general discussion about her mental health and wellbeing:

- During the past month, have you often been bothered by feeling down, depressed or hopeless?
- During the past month, have you often been bothered by having little interest or pleasure in doing things?

The guidance recommends that practitioners should also consider asking about anxiety using the 2-item Generalized Anxiety Disorder scale (GAD-2):

- During the past month, have you been feeling nervous, anxious or on edge?
- During the past month have you not been able to stop or control worrying?

These questions should be used as a preliminary means of assessing whether the practitioner should then go on and conduct further assessment using standardised screening tools for either anxiety, depression or both. NICE (2014a) recommends, for example, that if a woman responds positively to either of the depression identification questions, is at risk of developing a mental health problem, or there is clinical concern, practitioners should consider using the Edinburgh Postnatal Depression Scale (EPDS) or the Patient Health Questionnaire (PHQ-9) as part of a full assessment.

In the case of anxiety, if a woman scores 3 or more on the GAD-2 scale, practitioners should consider using the GAD-7 scale for further assessment. If a woman scores less than 3 on the GAD-2 scale, but the practitioner is still concerned that she may have an anxiety disorder, the practitioner should ask the following question:

 Do you find yourself avoiding places or activities and does this cause you problems? If she responds positively, the practitioner should consider using the GAD-7 scale for further assessment

In either case, the practitioner should consider referring the woman to her GP, or if a severe mental health problem is suspected, to a mental health professional.

The NICE (2014a) guidance also recommends that at all contacts after the first contact with primary care or the booking visit, the health visitor, and other healthcare professionals who have regular contact with a woman in pregnancy and the postnatal period (first year after birth), should consider asking the two depression identification questions and the GAD-2 as part of a general discussion about her mental health and wellbeing, and using the EPDS or the PHQ-9 as part of ongoing monitoring.

One study found, however, that around half of the women interviewed did not like being screened using the EPDS (Shakespeare et al., 2003), identifying a range of issues including the personal intrusion involved in screening and the stigma. This suggests that screening of this nature needs to be undertaken as part of a partnership model of working with families (Davis & Day, 2010), which involves practitioners aiming to establish an honest and respectful relationship with a pregnant woman, and in which they communicate clearly the reasons for undertaking such screening (i.e. to enable her to be the best parent that she can be). Such screening can also be incorporated into one or both of the two promotional interviews carried out at 28 weeks antenatally and 8 weeks postnatally (Department of Health (DH), 2009).

PREVENTION OF ANTENATAL DEPRESSION/ANXIETY

There are a number of opportunities for practitioners working with pregnant women to prevent antenatal depression and anxiety, although there is currently limited evidence available regarding effective methods of working (PHE 2015, pp 88-94).

The ultrasound scan is one such opportunity, and four studies that have been reviewed in one systematic review (Nabhan & Faris 2010) have compared the impact of the level/amount (i.e. high versus low) of feedback received during routine ultrasound in improving maternal state anxiety and health behaviours. Although studies did not demonstrate a difference between the two levels of feedback in terms of anxiety or depression, one study found evidence of the impact of feedback level on the health attitudes of women, with women who had high feedback during ultrasound being more likely to stop smoking and avoid alcohol during pregnancy.

Another systematic review examined the effectiveness of a number of mind-body interventions such as psycho-education, relaxation, yoga and meditation during pregnancy on perceived stress, mood and other perinatal outcomes (Beddoe and Lee, 2008). The review, which was based on 12 studies of which five were RCTS, found modest evidence from several poorly designed studies that pregnant women derive health benefits from such interventions in conjunction with standard prenatal care.

Intervention group outcomes included not only reduced perceived stress and depression, but also higher birthweight, shorter length of labour, and fewer instrument-assisted births. However, the authors concluded that methodological limitations in the studies reviewed, including small sample size and lack of control group, meant that the findings should be treated with caution.

A third review (Marc et al.,. 2011) examined the effectiveness of hypnotherapy, imagery, autogenic training, and yoga, during pregnancy and the immediate postnatal period. One of two studies that examined the use of imagery during the antenatal period found a positive effect on anxiety during labour (i.e. decreased anxiety in the early and middle stages of labour); one study showed that imagery during pregnancy had a positive effect on anxiety and depression in the immediate postpartum period, and another showed that autogenic training could be effective in decreasing women's anxiety pre-delivery. No benefits were found, however, in terms of the use of yoga during pregnancy to reduce state anxiety.

MIND-BODY INTERVENTIONS TO PREVENT ANTENTAL ANXIETY/DEPRESSION Although there is limited evidence, potentially effective models of working to prevent antenatal anxiety/depression include psycho-education, relaxation, imagery, autogenic training, and meditation, in addition to standard prenatal care.

TREATMENT OF ANTENATAL DEPRESSION/ANXIETY

The NICE (2014) guidance on ante- and postnatal mental health provides clear recommendations regarding the treatment of antenatal depression and anxiety.

DEPRESSION

This guidance recommends that women with persistent subthreshold depressive symptoms, or mild to moderate depression in pregnancy should be offered facilitated self-help (delivered as described in recommendation 1.4.2.2 of the guideline on depression in adults [NICE guideline CG90]). However, for a woman with a history of severe depression but who initially presents with mild depression in pregnancy or the postnatal period, TCA (tricyclic antidepressant), SSRI (selective serotonin reuptake inhibitor) or (S)NRI (serotonin-norepinephrine reuptake inhibitor) antidepressants should be considered.

A number of options have been identified as being effective for women experiencing moderate or severe depression in pregnancy including the following:

- A high-intensity psychological intervention (for example, cognitive behaviour therapy (CBT));
- A TCA, SSRI or (S)NRI antidepressant if the woman understands the risks associated with the medication and the mental health problem



in pregnancy and the postnatal period and she has expressed a preference for medication or she declines psychological interventions or her symptoms have not responded to psychological interventions or a high-intensity psychological intervention in combination with medication if the woman understands the risks associated with the medication and the mental health problem in pregnancy, and there is no response, or a limited response, to a high-intensity psychological intervention or medication alone.

ANXIETY

NICE (2014a) recommends that a woman with persistent subthreshold symptoms of anxiety in pregnancy or the postnatal period should be offered facilitated self-help. This should consist of use of CBT-based self-help materials over two to three months with support (either face to face or by telephone) for a total of two to three hours over six sessions.

For a woman with an anxiety disorder in pregnancy or the postnatal period, the guideline recommends that she be offered a low-intensity

psychological intervention (e.g. facilitated self-help) or a high-intensity psychological intervention (e.g. CBT) as initial treatment in line with the recommendations set out in the NICE guideline for the specific mental health problem. The guidelines note that it is important to be aware that:

- Only high-intensity psychological interventions are recommended for post-traumatic stress disorder
- High-intensity psychological interventions are recommended for the initial treatment of social anxiety disorder and
- Progress should be closely monitored and a high-intensity psychological intervention offered within two weeks if symptoms have not improved.

OTHER TREATMENT MODALITIES

The effectiveness of a number of alternative therapies, including maternal massage, bright light therapy, acupuncture and Omega-3 fatty acids, have been examined in a systematic review (Dennis & Dowswell, 2013). One trial found that maternal massage by a significant other had a positive effect on maternal depression when compared with standard care. However, two other studies comparing maternal massage with non-specific acupuncture found no benefit of massage on depression-related measures. Another trial found that bright light therapy had a significant effect on mean depression scores, but no effect on treatment response or remission rates. A study of depression-specific acupuncture also had mixed results, and the use of omega-3 fatty acids was associated with a reduction in maternal depression in one trial but had no effect on depression in another trial.

The authors of this review therefore suggest that the evidence is inconclusive and does not permit recommendations for depression-specific acupuncture, maternal massage, bright light therapy and omega-3 fatty acids to treat antenatal depression.

IMPLICATIONS FOR PRACTICE

Anxiety and depression in pregnancy are common (up to one-fifth of pregnant women) and are associated with poorer outcomes for the foetus and child. Key practitioners such as midwives and health visitors should be alert to the possibility of anxiety and depression at all meetings with pregnant women.

SCREENING – The evidence suggests that screening should be undertaken initially at the pregnancy booking-in visit with the use of simple prompts to identify women who may be suffering anxiety or depression, following by the use of standardised screening tools (e.g. GAD7; EPDS), where the practitioner has concerns.

PREVENTION – A range of mind-body techniques has been examined in terms of their effectiveness

in preventing anxiety and depression, and there is some weak evidence to suggest that psychoeducation, relaxation, imagery, autogenic training, and meditation may be beneficial in addition to standard prenatal care.

TREATMENT – NICE (2014a) recommends Guided Self-Help; computerized CBT or exercise; non-directive counselling (e.g. listening visits); brief CBT or Interpersonal Psychotherapy (IPT). Medication may be required for women experiencing more severe problems.

KEY PRACTITIONER POINTS THE CHALLENGE

- Antenatal anxiety and depression are common and are strongly associated with postnatal depression
- Anxiety and depression in pregnancy may be associated with poorer outcomes for the foetus in terms of low birth weight, and for the infant and child in terms of emotional and behavioural problems. The evidence regarding the impact on cognition is less clear.

SCREENING

- Nice guidelines (2014) recommend that all women are screened for anxiety using the GAD2 and for depression using the two Whooley questions
- Further screening can be undertaken using the EPDS or PHQ9 in the case of depression or the GAD 7 in the case of Anxiety
- Women scoring above the cut-off should be referred to their GP.

WHAT WORKS TO IMPROVE OUTCOMES

- A number of methods of working have been identified as effective and these include Guided Self-Help; computerized CBT or exercise; non-directive counselling (e.g. listening visits); brief CBT or IPT.
- Women experiencing more severe problems will require specialist support from a psychiatrist and possibly medication.

IMPLICATIONS FOR PRACTICE

- Midwives and health visitors should be alert to the possibility of anxiety and depression at all meetings with pregnant women
- Screening and help should be implemented.

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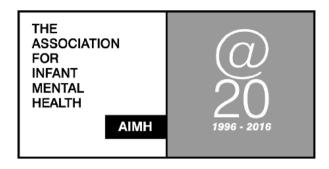
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Speakers include:

Professor Paul Ramchandani: (Why Fathers are important)
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Dr Raquib Ibrahim: (Mellow Babies with Fathers)
Dr Sebastian Kraemer: (Working with the Triad)
Joanna Tucker: (Parent-infant psychotherapy with the Triad)
Dr Anita-Schrader-McMillian: (Steps to Safety for Couples where there is bi-directional violence)

Keynote Speakers:

Paul Ramchandani is Professor of Child and Adolescent Mental Health at Imperial College, London. Paul's research is focused on child development and particularly on the prevention of emotional and behavioural problems in the early years of life.

Dr. Anita Schrader McMillan is a Visiting Fellow at Warwick University Medical School. Her current areas of interest are promotion of resilience in boys in violent contexts and promotion of parental sensitivity and infant attachment security in low income settings.

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