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# Reducing maternal anxiety and stress in pregnancy: what is the best approach?

*Yvonne Fontein-Kuipers*

## **Purpose of review**

To briefly review results of the latest research on approaching antenatal maternal anxiety and stress as distinct constructs within a broad spectrum of maternal antenatal distress and the preventive strategic role of the maternal healthcare practitioner.

## **Recent findings**

Maternal antenatal anxiety and stress are predominant contributors to short and long-term ill health and reduction of these psychological constructs is evident. Anxiety and stress belong to a broad spectrum of different psychological constructs. Various psychometric instruments are available to measure different individual constructs of antenatal maternal emotional health. Using multiple measures within antenatal care would imply a one-dimensional approach of individual constructs, resulting in inadequate management of care and inefficient use of knowledge and skills of maternity healthcare practitioners. A case-finding approach with slight emphasis on antenatal anxiety with subsequent selection of at-risk women and women suffering from maternal distress are shown to be effective preventive strategies and are consistent with the update of the National Institute for Health and Care Excellence guideline 'Antenatal and postnatal mental health'. Educational aspects of this approach are related to screening and assessment.

## **Summary**

A shift in perception and attitude towards a broad theoretical and practical approach of antenatal maternal mental health and well-being is required. Case finding with subsequent selective and indicated preventive strategies during pregnancy would conform to this approach and are evidence based.

## **Keywords**

antenatal mental health, anxiety, maternal distress, pregnancy, stress

## **INTRODUCTION**

Antenatal maternal anxiety and stress belong to the spectrum of maternal distress, which refers to a wide range of women's affected emotional well-being during pregnancy. Depression, stress, and anxiety are the most common mentioned constructs of maternal distress and they often co-occur [1]. Recently, attention has been drawn to pregnancy anxiety as a distinct concept, and it has been emphasized that distinguishable forms of stress during pregnancy exist. Both psychological constructs are identified to be most potent maternal risk factors for adverse maternal and child outcomes compared with other mental health disturbances and disorders [1].

There is scarce epidemiological information of the incidence of antenatal anxiety, but studies indicate that experiencing anxiety is common: it has been suggested that between about one in ten and one in three people will have an anxiety disorder at some point in their life [1]. In a small-sized

study among Dutch pregnant women [2], anxiety in pregnancy occurred between 30 and 35%. It is known that there is a high comorbidity between antenatal depression and anxiety and that antenatal anxiety is a predictor for the development of postnatal mental health complications [3].

Antenatal stress was found to be rather common among a population of ethnically and economically diverse pregnant women attending a university-based antenatal clinic [4], with slightly higher mean levels in the second trimester of pregnancy than in

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## KEY POINTS

- Maternal antenatal anxiety and stress have an impact on short and long-term health, but a one-dimensional focus on these constructs in antenatal care is not recommended.
- It seems of theoretical, practical, and clinical sense to approach mental health during pregnancy as a broad spectrum of emotional health and well-being.
- An evidence-based approach is to detect those pregnant women who are more at risk and who feel imbalanced or disturbed in their emotional well-being, as according to the new recommendations of the updated NICE guideline 'Antenatal and postnatal mental health'.
- Education of antenatal healthcare practitioners should include knowledge and skills of assessment and selection of vulnerable women who may be at risk to develop or suffer from maternal distress.

the third trimester; 6% of the participants reported high stress and 78% reported low-to-moderate stress. Comorbidity was shown with antenatal depression and panic disorders, as well as that antenatal stress simultaneously increases depression [4]. Among stressors in pregnancy, major life events and chronic stress are identified as significant stressful influences on fetal growth and birth weight [1].

Anxiety and stress are often not recognized within primary care and are frequently categorized as general psychological problems [5]. Pregnant women also fail to report these problems [6], suggesting that estimates about the proportion of pregnant women feeling anxious or stressed might be higher than shown in the numbers of the studies.

There is a growing body of evidence suggesting that antenatal maternal anxiety and stress, even at moderate levels, may have a negative effect on pregnancy outcomes and the offspring, more than antenatal depression [1]. Findings from a small prospective observational study, including 104 nonsmoking women with uncomplicated obstetric histories [7], suggest that intrusive maternal emotional distress during the third trimester of pregnancy reduces the fetoplacental volume blood flow, which consequently negatively affects fetal growth. Although the study contained a small sample, findings of this study are consistent with the previous studies [8,9] and have clinical meaning in the light of perinatal morbidity and mortality. A review by Schuurmans and Kurrasch [10], conducted between 2008 and 2013, shows that antenatal maternal stress interferes with fetal neurodevelopment. Pathophysiological brain development can be induced *in utero* and contribute to the cause of

many neurodevelopmental disorders observed later in life. A review on stress during pregnancy and adverse outcomes shows the associations between antenatal stress and maternal general anxiety with preterm birth and low birth weight [11]. These findings enhance that reducing antenatal anxiety and stress is a vital public health goal. Antenatal anxiety and stress are a major concern for perinatal health and unchain a negative spiral of disturbed health on a much wider range than originally anticipated, and reduction of these constructs seems crucial.

The National Institute for Health and Care Excellence (NICE) [12] has recently updated the guideline on antenatal and postnatal mental health and addresses the gaps in maternal mental healthcare; it also articulates the role of the maternity healthcare practitioner in relation to mental health promotion. The guideline focuses on a broad range of mental disorders and the management of care in respective antenatal and postnatal periods. In order to provide effective care, the guideline identifies to overcome two important barriers: a one-dimensional focus on a single psychological construct of mental health and well-being (i.e., depression, anxiety, and stress) in the management of antenatal care and deficient knowledge and skills of healthcare professionals [12].

Discarding a one-dimensional focus implies adopting a broad approach, which has been debated [1]. It has been suggested that disentanglement of various constructs of mental health might increase a better understanding of the individual concepts pregnancy anxiety and pregnancy stress, and how to effectively address these constructs clinically. This might be of worth as maternal antenatal anxiety and stress are identified to be the predominant contributors to short and long-term ill health [1]. Increasing knowledge and skills implies the change of midwifery healthcare practitioners' behaviour with regard to the management of care of antenatal mental health and the willingness to take on the role and responsibilities in the reduction of disturbed mental well-being and health during pregnancy, including anxiety and stress [13]. Overcoming those two identified barriers requires change of perception and attitude.

NICE guidelines are internationally recognized to secure consistent, high-quality, evidence-based care and are often adopted to implement care worldwide. The purpose of this article is to briefly review the latest research with regard to the dilemmas in the NICE guidelines in antenatal mental healthcare. The attention is specifically directed to recent research on approaching antenatal maternal anxiety and stress as distinct constructs within a broad concept of maternal distress and the role of the maternal healthcare practitioner.

## APPROACHING ANTENATAL ANXIETY AND STRESS

In order to reduce antenatal anxiety and stress, it seems a paradigm shift in the approach of these mental health constructs is required.

### Broad approach versus one-dimensional focus and prevention strategies

Maternal exposure to stress during pregnancy, embodied in acute and chronic stressors, is regarded to be the trigger to develop antenatal anxiety, depression, and psychological symptomatology [14]. A systematic review [14] identified 43 different psychometric instruments to assess maternal antenatal mental health. The review identified various manifestations or constructs of mental health disturbances and disorders, and regarded these as one multidimensional concept. The psychometric instruments were classified into seven categories and were included when specificity was 75% and sensitivity 95%. A-priori criteria were defined for quality of the psychometric measures but not for the classification of the categories. Six best currently available instruments related to respective categories were identified: State-Trait Anxiety Inventory to measure anxiety symptomatology, specifically the trait form; Edinburgh Postnatal Depression Scale (EPDS) to measure depressive symptomatology; The Abbreviated Scale for Assessment of Psychosocial Status in Pregnancy to measure multiple psychopathological symptoms; Perceived Stress Scale to measure daily hassles; Prenatal Life Event Scale to measure life events as stress factor; and Prenatal Stress Questionnaire to assess pregnancy and parenting-related stress. The recommendations of the study include considering to shift towards the new trend of perceiving maternal antenatal mental health disturbances and disorders as one multidimensional concept and to incorporate antenatal assessment of the seven different constructs by means of their respective measures [14]. This implies a very broad assessment of maternal emotional health and well-being by healthcare professionals during antenatal care.

A systematic review and meta-analysis according to the Cochrane methodology [15<sup>11</sup>], assessing the effectiveness of antenatal interventions to reduce maternal distress during the antenatal and postnatal period, used a broad approach and compiled a number of individual continuous outcome measurements. Maternal distress was regarded as a conceptualization of the wide spectrum of psychological problems, excluding psychiatric morbidity, during the distinct period of maternal transition, including pregnancy. A total of eight different mental health constructs were classified in the systematic review,

measured with 14 different psychometric instruments. A random-effect model was used, heterogeneity was explored, and a sensitivity analysis was carried out in the meta-analyses to address between-study variance of the maternal distress parameters. The meta-analysis showed limitations with regard to the included small sample sizes and a post-hoc creation of a subgroup of participants. The results of the meta-analysis showed that universal preventive strategies, for a general sample of low-risk pregnant women, showed no observed beneficial effect in relation to the reduction of maternal distress. However, a subgroup analysis of a selected sample of pregnant women with characteristics that made them more vulnerable to develop maternal distress showed a small significant reduction of maternal distress as a result of preventive strategies. Indicated preventive strategies showed a small significant reduction of maternal distress [15<sup>11</sup>].

Conforming to the pooling results of this meta-analysis categorized in prevention, selection, and treatment [15<sup>11</sup>], the NICE guidelines [12] recommend universal (assessment at first contact for mental health and well-being), selective (assessment and referral for additional support of women with personal or family history of mental illness), and indicated prevention (referral for additional help and support of women with suspicion or symptoms of mental illness or substance use). Considering the observed beneficial effects [15<sup>11</sup>], selective and indicative prevention seem relevant and effective. Outcomes of universal preventive strategies in the meta-analysis were measured with psychometric instruments with self-reported responses [15<sup>11</sup>], whereas the NICE guidelines include the use of case-finding questions [12]. These are, however, different methods in which psychometric instruments are screening tools and case finding a triage test. Case finding, according to the NICE guidelines, involves the use of two questions (sometimes referred to as the Whooley questions) and an additional question about the need for help asked when women answer 'yes' to either of the initial questions. A validation study [16] of the diagnostic accuracy of these case-finding questions was conducted among a sample of pregnant women, part of the population cohort 'Born in Bradford' study, with diagnosed minor and major depression. The first two case-finding questions showed accuracy to rule out antenatal depression and the additional question, following a positive screen of one or both of the previous questions, showed accuracy in ruling in antenatal depression [16]. A new recommendation in the updated NICE guidelines is the addition of two supplementary case-finding questions about anxiety, using the two-item Generalized Anxiety

Disorder (GAD-2) scale, detecting generalized anxiety, social anxiety, panic disorders, and post-traumatic stress disorder [1.5.4.; 1.5.8.] [12]. The two items ask pregnant women how often over the last two weeks they were bothered by feeling nervous, anxious, or on edge, and not being able to stop or control worrying. Acknowledging the considerable impact of antenatal anxiety, this seems a clinically relevant choice, although the GAD-2 has not been validated among pregnant women. On the basis of the experience and the opinion of the Guideline Development Group of what constitutes good practice, a new recommendation has been added, which involves further assessment with formal psychometric measures if any of the case-finding questions has been positively answered. The Patient Health Questionnaire-9, EPDS, and the seven-item GAD-7 are recommended tools [1.4.9.; 1.5.5.; 1.5.6.] [12]. The universal preventive strategy of the case-finding approach not only leads to subsequent selective prevention requiring further clinical assessment but also advances to indicated prevention, as the accuracy of case finding indicates the presence of minor or major mental health problems [16]. A selective preventive strategy is also demonstrated through an added recommendation in the updated guideline by asking women at booking about any past or present severe mental illness, previous or current treatment, and any severe postpartum mental illness in a first-degree relative [1.5.9.; 1.6.1.]. This recommendation is based on the professional opinion and experience of the Guideline Development Group, but findings from the meta-analysis [15<sup>11</sup>] confirm that vulnerable women may benefit from history taking concerning mental health.

The Guideline Development Group emphasizes to include a broad range of disturbances and disorders, hence common disturbances such as depression and anxiety [1.5.3.] [12]. The chosen approach in the guideline does not involve a one-dimensional focus but seems to set off as a broad approach by use of a universal prevention strategy, narrowing down through selection and indication [1.5.10.; 1.5.13.; 1.5.14.] to a one-dimensional approach [1.8] [12]. Selection is based on positive answers to the case-finding questions and by means of a broad approach of current and past experiences belonging to the complete spectrum of mental health. Indications for treatment are, however, based on one-dimensional antenatal psychometric tools addressing the individual constructs depression and anxiety. The EPDS is validated to screen for the likelihood of depression and anxiety simultaneously and is recommended within the guideline for formal assessment. Within the broad approach, this would be the instrument of preference. It would be of interest for future research

to search for validated instruments that measure more than one psychological construct and examine their use among pregnant women [17<sup>12</sup>].

As a new recommendation involves the continuity of case finding throughout pregnancy [1.5.8.] [12], a consistent broad approach is being used. The guideline shows the adoption of a new trend of a broad approach of antenatal maternal mental health and does not emphasize maternal antenatal anxiety or stress as a distinct construct or of greater significance within the spectrum of maternal distress [15<sup>11</sup>].

### **The maternal healthcare provider**

Knowledge of individual mental health construct and knowledge and skills about the instruments assessing these constructs and the applicability of the respective instruments to pregnant women has been recommended to improve coordination of care and promotion of psychological interventions [12,14]. It can be debated whether specific in-depth knowledge of each individual construct of antenatal mental health belongs to the scope of practice of maternity healthcare practitioners, rather than having knowledge and skills to assess and select vulnerable women who may be at risk to develop or suffer from maternal distress [15<sup>11</sup>,17<sup>12</sup>]. An exploratory survey among a small sample of Dutch midwives showed that screening for maternal distress is not an established and implemented skill in antenatal care, compared with support and collaboration with other healthcare practitioners with regard to maternal distress. Screening was positively related to years of work experience, and being positive about, interested in, and at ease with antenatal screening of maternal distress were positive predictors for antenatal screening of maternal distress [17<sup>12</sup>]. Work experience was regarded as the main source of knowledge and skills [17<sup>12</sup>]. The findings suggest that screening is a relatively poorly developed skill, depending on personal characteristics, interest, and attitude, all vital factors for engagement in clinical practice. Universal prevention, that is, asking all pregnant women about antenatal emotional well-being, has shown to be ineffective [15<sup>11</sup>]; it would contradict with the assessment of every pregnant woman on emotional well-being. Self-efficacy, however, is an important predictor for screening [17<sup>12</sup>]. Implementing universal prevention by means of case-finding questions as routine practice will help to improve self-efficacy and thus adequate screening. The new recommendations in the updated NICE guidelines are incorporated based on the expert opinion and expertise of the Guideline Development Group and findings from general mental health studies, but are proven to be evidence-based decisions.

## CONCLUSION

A broad approach can be interpreted as viewing all various psychological constructs as one concept of maternal antenatal emotional health and well-being without emphasizing a specific construct. A broad approach is a fairly new trend embodied in the updated NICE guidelines on antenatal and postnatal mental health, where this article has concentrated on the antenatal aspect of care. It is of importance to use case finding as a method to preventively select vulnerable women more likely to get emotionally imbalanced or ill or to select women with symptoms for further diagnosis. Education of maternity health-care practitioners should focus on these antenatal strategies of prevention.

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## Conflicts of interest

There are no conflicts of interest.

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- of special interest
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