



## REVIEW

# Why should we screen for perinatal depression? Ten reasons to do it

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### Abstract

In this paper we review some of the best available evidence to argue that screening for perinatal depression should be systematically conducted since pregnancy. Our view is organized in ten topics: (1) perinatal depression high prevalence; (2) its potential negative consequences, including maternal, conjugal, foetal, infantile, and child effects; (3) its under-detection and treatment; (4) its stigma; (5) the professionals and women misconceptions related to perinatal depression; (6) the availability of valid and short self-report screening instruments for perinatal depression and (7) their acceptability; (8) the increase in recognition, diagnosis, and treatment rates in comparison with routine practice; (9) the opportunity, given the large number of contacts that women have with health professionals in the perinatal period; and (10) perinatal depression screening potential cost-effectiveness.

**Keywords:** Screening, Perinatal depression, Pregnancy, Postpartum, Ten reasons.

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## Introduction

Over the last decades, the scientific literature has accumulated to show that perinatal depression should be considered a major public health problem [1]. In developed countries as the UK, Australia, New Zealand, Canada and the US, systematic screening programs for perinatal depression are already being implemented [2-4]. Thus, screening and case identification strategies have been advocated, but have also attracted substantial controversy [5]. In the following paragraphs we review the best available evidence to defend perinatal depression screening, that is, ten reasons to detect and treat perinatal depression since pregnancy.

## Ten reasons to screen for perinatal depression

### First

We should screen for perinatal depression because of its high prevalence: although antenatal depression (AD) is less well documented than postpartum depression (PPD), it is at least as common as PPD and for almost half of women it may continue into the postpartum period (e.g. [6, 7]). Furthermore, AD is one of the most consistent risk factors for PPD [8]. The best point prevalence estimates of major depression at different times during pregnancy range from 3.1% to 4.9%; when minor depression is included, the point prevalence range rises from 8.5% to 11.0%. In the postpartum these figures range from 1.0% to 5.9% and 6.5% to 12.9%, respectively [9]. In a recent and rigorous study from our team, the prevalence of depressive disorders at pregnancy (third trimester) was of 2.3% according to ICD-10 and of 1.3% according to DSM-IV. Regarding period prevalence from delivery to the twelfth month postpartum it was of 11.0%/ICD-10 and of 8.9%/DSM-IV [10]. While estimates of point prevalence of depression at six months are similar to those observed at other times in childbearing years [9, 11], the incidence of depression is higher in the first five weeks postpartum, probably due to the stressful effect of childbirth [11]. Additionally, in women with significant preexisting mood disorders, the risk of perinatal relapse is higher than in any other period [12].

### Second

Because of the potential negative consequences of AD, including maternal, fetal, infantile, and child effects. For women, these include non-compliance with prenatal care and with healthy life styles [13], spontaneous abortion [14], preeclampsia, [15] and complicated deliveries [16].

AD has child immediate effects associated with increased morbidity and mortality in the infant, including preterm delivery and lower birth weight [17]. As examples of the long-term adverse effects of AD, we can mention more difficult infant temperament [18, 19], behavioral and emotional problems [20], hyperactivity, poor social skills [21] and sleep problems [22] in childhood, and higher risk of criminality [23] and depression in adolescence [24].

Also very well documented is the negative impact of PPD on the entire family [25], from the early difficulties in mother-infant relationship [26], and maladaptive caretaking behaviors and parenting [27], to the infant, toddler [28], preadolescent [29] and adolescence [30] social, emotional, and behavioral development. Mother-child interactions in the presence of PPD may be characterized simultaneously by hostility and unresponsiveness [31, 32]. Stein et al. [33] proposed that a woman's self-preoccupation and rumination may be a critical process in understanding the effects of PPD on responsive parenting.

Furthermore, women with depressive symptoms are less likely to attend well-child visits, complete immunizations, use home safety devices and car seats, use recommended practices in putting infants to sleep, and setting safe water heater temperature levels [34].

Recent longitudinal studies showed that maternal depressive symptoms experienced during the first six months postpartum are associated with internalizing and externalizing psychopathology from early childhood to adolescence [35, 36].

The literature examining the effects of PPD on child cognitive development is quite well established, with qualitative reviews converging in their conclusions. It is consensual that PPD predicts poorer language and IQ development in children and that this effect is found across childhood and adolescence [28, 37-39].

Because of a depressed mother's maladaptive caretaking behaviors, her infant's health may suffer. There is good evidence that PPD is associated with poorer child cardiovascular functioning [40], gastrointestinal infections and lower respiratory tract infections [41]. Finally, other studies provide evidence that PPD affects child growth [42, 43].

It is also important to mention that PPD undermines marital relationships, being high the association between PPD and depression in the partner [25].

In summary, like major depression that occurs at other times in a woman's life, PPD creates personal suffering and diminishes a woman's ability to function effectively in many spheres of her life. What is different is that postpartum women have major responsibility as they are caring of a young infant, and ongoing depression interferes with parenting and is associated with a variety of negative child outcomes at both short and long term [4].

### Third

Because of the dramatic under-detection and treatment of perinatal depression. Approximately 75% of the cases of this treatable condition are not identified by professionals (eg. [44, 45]) and without screening programs, only 10% of women are treated [46]. This constitutes one of the most important and costly public health problems concerning perinatal women [47].

### Fourth

The majority of women with PPD symptoms do not seek

help from any source [48]. Help-seeking behavior for PPD is influenced by a variety of factors, including recognition of the problem, available resources, adequate social support, perceived stigma, and guilty for suffering during a period that is supposed to be happy and of fulfillment [49, 50].

### Fifth

Because of professionals' [51, 52] and women's [53] misconceptions about some depressive features. Symptoms, such as disturbed sleep, appetite, energy and interest level, which are true symptoms of depression may be confused with symptoms normally associated with pregnancy and postpartum [54].

### Sixth

The availability of valid, reliable and economical screening tools. The most widely used screening questionnaire for PPD is the Edinburgh Postpartum Depression Scale (EPDS) [55]. It has only 10 items and it has been translated and validated into many languages. The most important limitation of the EPDS is the fact that although it was specifically designed to screen for PPD, all items are similar to those from general depression scales, meaning that it does not include items about the context of a woman's experience as a new mother. Although perinatal depression symptomatology is not specific, it is influenced by the particular situation of being a mother of a newborn [56] and some authors have reported differences between perinatal depressive episodes and those that occur in other periods, such as, more anxious features, guilty, emotional lability, irritability, and concentration/decision-making difficulties [54, 57]; irrational worries about the well-being of the infant; and obsessional thoughts of harming themselves or their infants are not uncommon [58]. Gibson et al. [59] systematically reviewed the published evidence on EPDS validity for detecting PPD and AD. Sensitivity, specificity, and positive predictive values (PPV) of cut-off points showed marked heterogeneity between studies. Sensitivity results ranged from 34 to 100%, specificity from 44 to 100% and PPV from 9 to 64%.

Although NICE guidance published in 2007 [60] recommended the use of the Whooley questions (depressed feelings and loss of interest in activities; if "yes" to either question, a third question about the need for help), few or no evidence could be found of their validity, acceptability, clinical effectiveness and cost-effectiveness in perinatal women [5]. There is only a recent study [61] showing that the two case-finding questions had a sensitivity of approximately 95% and a specificity of approximately 70%, both in pregnancy and postpartum. Among women who screened positive antenatally, the third question about the need for help had a sensitivity of 58% and a specificity of 90%, with lower sensitivity and higher specificity postnatally. The authors concluded that negative responses to both of the case-finding questions showed acceptable accuracy for ruling out perinatal depression and that for positive responses,

the use of a third question about the need for help, improved specificity and the ability to rule in depression.

The Postpartum Depression Screening Scale (PDSS) [62] was developed to overcome those and other methodological limitations of the EPDS and of other instruments widely used to screen for PPD, namely the Beck Depression Inventory-I [63] and II [64]. In comparison with these instruments, PDSS achieved the best combination of sensitivity and specificity in screening for PPD [65]. The sound psychometric and operative characteristics of PDSS have been corroborated by other versions, such as the Spanish (for Hispanic women in the US) [66], the Thai [67], the Brazilian [68], and the Turkish [69]. The Portuguese PDSS version has recently proved to be valid not only for the postpartum [70], but also for pregnancy, by slightly adapting eight of its 35 items [71]. The limitation that is most commonly attributed to the PDSS is its length [5]. Meanwhile this has been overcome by the development of PDSS short versions.

Beck and Gable [62] developed a short form version (PDSS-SF) that consists of seven items, each one representing a dimension evaluated by the PDSS. PDSS-SF demonstrated equal levels of reliability and validity as the 35-item PDSS with the advantage of being completed in as little as 1-2 minutes. Other short versions composed by seven items have demonstrated their accuracy in screening for postpartum depression [72, 73] and antenatal depression [74], with sensitivity, specificity, and predictive power only slightly lower than the 35-items version. Recently, other short versions have been developed, to use both at pregnancy and at the postpartum [75]. The criterion to select the items from the Portuguese version of the PDSS consisted of retaining those that showed strong factor loadings ( $>0.60$ ), which resulted in 21 items in the postpartum and in 24 items in pregnancy. The PDSS-21 and the PDSS-24 proved to be very similar or even superior to the 35-items PDSS in reliability and screening ability, which led the authors to consider them good alternatives (equally valid, but more economic, faster, and easier to complete) to screen for perinatal depression.

### Seventh

The acceptability of routine screening with self-report instruments from both women and health professionals, equally at postpartum and at pregnancy [5].

### Eighth

The increase in recognition, diagnosis, and treatment rates, more-than-doubling the detection rate in comparison with routine practice, in the PPT [44, 76, 77] and in pregnancy [78, 79]. In fact, there is evidence that if screening is combined with a subsequent intervention it may decrease depressive symptoms in the perinatal period (eg. [80]).

A recent cluster randomized trial [81], which included family medicine practice sites from around the US, compared a condition that included a regimen of screening,

further assessment, medication management or referral, and follow-up to a usual care condition for women who scored at least 10 on the EPDS and later at least 10 on the Patient Health Questionnaire-9 [82]. More than 2000 women were enrolled between 5 and 12 weeks postpartum. A positive outcome was defined as a five-point drop on the Patient Health Questionnaire-9 at 6 and 12 months postpartum. Although there was only a trend-level effect ( $p=0.007$ ) at six months, there was a significant effect in favor of the intervention at 12 months. The authors attributed their success to the fact that depression was assessed in a two-stage process through self-report and because medication management was done within primary care practices. This trial demonstrated the potential of undertaking screening and of follow-up care for PPD in family medicine, a context in which women have an ongoing relationship with their family doctor.

### Ninth

Because of the opportunity, given that there is a large number of convenient opportunities for routine screening in the perinatal period, when the contact with health professionals is much increased [83].

Unfortunately, there are still many women who do not have a primary care physician who routinely manages their care and it is common that once the postpartum check-up is completed, women will not have regular contact with a personal physician until their next pregnancy. Given this, there has been an ongoing debate about whether pediatricians can or should screen mothers for depression and facilitate treatment referrals [84]. The results of a recent study [85] were optimistic showing that both professionals and women present high rates (>85%) of acceptability about discussing mental health topics including depression, at pediatric care visits.

### Tenth

Although it is difficult to disentangle the effects of the screening component alone from interventions linked to a positive screen, there is preliminary evidence that perinatal screening using a self-report questionnaire is cost-effective [86]. Even though this topic remains controversial, there is some suggestive evidence from a review by the US Preventative Services Task Force [87, 88] that using formal methods to identify depression can become effective when they are accompanied by organizational enhancements of care, involving clinician education, support from case managers, or a collaborative care approach between specialists and primary care physicians. In fact, when the costs are primarily considered, managing false positives and adopting of a structured interview as a confirmatory test for those with a positive test, this proves to be cost saving compared to the equivalent strategy without an interview [89].

It is reasonable to say that the costs of doing this would be lesser than the indirect costs that come from long term

implications of marital separation and of the social, educational and mental health difficulties of children affected by parental depression [3]. As a screening program may open areas of significant need, the alternative of not identifying distressed women also raises ethical issues. In this respect, the stigma of mental illness is of concern, but, as Buist et al. [3] say it “will not be overcome by ignoring the existence of mental illness”.

## Conclusion

In 1968, Wilson and Jungner [90] attempted to define the well-known screening criteria to guide the selection of conditions that would be suitable for screening, based, among other factors, on the capacity to detect the condition at an early stage and the availability of an acceptable treatment. The classic criteria still upheld today the “gold standard of screening assessment” have stood well the test of time (eg. [91, 92]). The 10 reasons presented in this review clearly show that perinatal depression meets the criteria.

In conclusion, although there are major challenges inherent to the implementation of a screening program, we argue that the case for screening outweighs that against, mainly because of its high prevalence, deleterious effects in the entire family, and efficacious treatment options. However, it is important to perform it simultaneously with public health initiatives to reduce the stigma so enduringly affiliated to perinatal depression.

## Abbreviations

AD: Antenatal depression; EPDS: Edinburgh Postpartum Depression Scale; PDSS: Postpartum Depression Screening Scale; PDSS-SF: Short version of Postpartum Depression Screening Scale; PPD: Postpartum depression; PPV: Positive predictive values

## Competing interests

The authors declare no conflict of interest.

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