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Postnatal Depression - Myth and Reality: Maternal Depression Before and After the Birth of a Child

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Abstract

Background: Much has been written about postnatal depression as a clinical condition. There is some evidence to suggest that a substantial proportion of women who give birth experience a depression in the postnatal period. This paper reports the results of a longitudinal study of the mental health of a large sample of women who were in the early stages of pregnancy at entry to the study.

Methods: Each participant was assessed for symptoms of depression at the first clinic visit (entry to the study), and reassessed at various intervals - at 3-5 days, at 6 months, and again at 5 years after the birth of the child–using the DSSI-D (Delusions-Symptoms-States Inventory).

Results: Retrospective recall questions indicate that shortly after the birth the majority of women experienced some depressed mood. Of those who experienced depressed mood, the data suggest that the symptoms were not severe, nor did these symptoms generally continue beyond a few weeks. The longitudinal data indicate that levels of depression in our sample are highest either at the first clinic visit or at the 5-year follow-up. Rates of depression at the 6-month follow-up are relatively low by comparison.

Conclusion: While most mothers experience periods of depressed mood after the birth of their baby, these periods are generally of short duration and of lesser intensity than a major depression. Mothers appear to experience increasing levels of symptoms of depression as their child grows up. Many of the "cases" of depression experienced at the 5-year follow-up represent a recurrence of a previous experience of depression.

Keywords postnatal depression; baby blues; longitudinal survey

The belief that there exists a particular set of mental illness symptoms brought on by childbirth can be traced to the writings of Hippocrates, Celsus, Galen and, more recently, Esquirol (Zilboorg 1929). Esquirol (and others) had suggested that puerperal psychosis might be caused by a stoppage of the secretion of breast milk, while Zilboorg, in his review of the cases of a number of women who had postnatal psychoses, argued that the women involved were "chronic masturbators and sexually frigid; they are potentially homosexual'' (Zilboorg 1929 p. 735). He interpreted such psychoses in psycho-analytic terms and pointed to a woman's incomplete development as a cause for her postnatal mental health impairment.

While these views are of only historical interest, there remains much uncertainty about the extent of at least one mental illness, namely the rate of postnatal depression. An Australian government report (Carter 1992) suggests that postnatal depression is a major health problem for women, that it affects about 40% of all women who give birth and that it has major long-term health consequences. By contrast, neither of the two major internationally used classificatory systems acknowledges a specific psychiatric entity labelled post- natal depression (ICD-10, DSM-IV). Aside from anecdotal reports, we have not been able to locate credible research evidence which indicates that major depression is more frequent in women who have recently given birth.

The argument for the existence of a distinct entity labelled postnatal depression can be advanced on both biological and social grounds. Hormonal and related biological changes associated with giving birth may initiate or precipitate a depression. Alternatively, or additionally, the change in lifestyle associated with caring for a young infant, for example changes in normal daily activities, lack of sleep caring for the infant, change in financial security, change in the relationship with her partner, may constitute a set of stresses that have mental health consequences for the mother.

Of course, an alternative analysis might point to the emotional benefits associated with giving birth and/or rearing a young infant. There might also be emotional benefits to the mother from sharing with her partner the activities associated with child care and rearing. According to this view, the birth of a child might lead to improved mental health for the mother.

There is a need to resolve some of these competing analyses that relate to the entity postnatal depression. Firstly, some important questions about the nature and duration of postnatal depression remain to be answered. These include whether depression in the postnatal period differs qualitatively and/or quantitatively from depression that is experienced by women at other times. Secondly, whether depression is precipitated by childbirth (or the change in lifestyle associated with caring for a young child). The key research question addressed in this study is whether childbirth precipitates an increase in the rate of depression and, if such an increase occurs, the intensity and duration of this depression in the postnatal period.

Definition of and criteria for the classification of cases of depression

Two major international classifications (ICD-10 and DSM-IV) provide current criteria for the measurement of depression. The International Classification of Diseases (WHO 1992) divides depression into three categories: mild, moderate and severe. Ten symptoms of depression are identified. The Diagnostic and Statistical Manual of Mental Disorders DSM-IV (American Psychiatric Association 1994) identifies nine symptoms of depression. The ICD-10 recommends that depression in the postnatal period be categorised as one of the usual categories of depression. The ICD-10 does make provision for a mental disorder beginning within 6 weeks of the delivery, if the symptoms do not fit the other criteria already noted. The DSM-IV accepts a “postpartum onset specifier’’. This specifier refers to the same symptoms as those associated with major depression, but is used when onset is within 4 weeks of the delivery of the child (1994 p. 386).

Table 1 summarises the symptoms of depression identified by the ICD-10 and DSM-IV. There are modest differences between the ICD-10 and DSM-IV in their symptom lists, though there are some notable differences in the combination of symptoms as these define depression. Taking the DSM-IV nosology, a major depression includes either of two main symptoms (depressed mood, loss of enjoyment) and any of four of the other symptoms (less energy, less concentration, guilt/unworthiness, ideas/acts of self-harm, disturbed sleep, weight loss/gain, restlessness/agitation). For a person to be categorised as a case of major depression, that person is required to experience symptoms for at least 2 weeks and at a stipulated level of impairment. Many of the self-report questionnaire-based scales used to measure depression, postnatal or otherwise, (e.g. Zung, Beck, Hamilton, Hospital Anxiety/Depression Scale; Montgomery-Asberg) do not correspond to ICD- 10/DSM-IV criteria. For example, some symptoms in these scales are not included in either the ICD-10 or the DSM-IV. Generally, questionnaire scales measuring depression also do not address the key issues of how long the symptoms have been present and the severity of these symptoms. It is interesting that, despite consider- able differences between various scales, correlations between them are generally good, in the range of 0.6-0.8 (Harris et al. 1989; Condon and Corkindale 1997).

Table 1. Internationally agreed symptoms of depression

	ICD-10		DSM-IV	
	Typical	Other	Main	Other
Depressed mood	√		√	
Loss of enjoyment	√		√	
Less energy	√			√
Less concentration		√		√
Less self-esteem		√		
Guilt/unworthiness		√		√
Pessimism		√		
Ideas/acts of self-harm		√		√
Disturbed sleep		√		√
Disturbed appetite		√		
Weight loss/gain				√
Restlessness/agitation				√

(ICD-10 International Classification of Diseases, 10th edn, DSM-IV Diagnostic and Statistical Manual of Mental Disorders, 4th edn)

A few scales have been specifically designed to measure postnatal depression. The Edinburgh Postnatal Depression Scale (EPDS) is the best known of these. Developed by Cox et al. (1987), it is a ten-item scale validated against Research Diagnostic Criteria (a structured clinical interview based upon the DSM-III- R). Although the development of the EPDS post-dates initial data collection for this study, this is itself not a significant disadvantage as the EPDS also predates the DSM-IV. While the EPDS has been used extensively in samples of women who have recently given birth, it is not claimed to be more than a useful screening instrument. It includes some items measuring anxiety as well as depression. A review comparing the EPDS, the Raskin 3 Area Scale, Beck Depression Inventory and the Montgomery-Asberg Depression Rating Scale against each other and DSM-III psychiatric diagnoses, shows good to high correlations among all instruments, with the EPDS and Raskin and Montgomery-Asberg having excellent sensitivity and specificity (Harris et al. 1989). It is also interesting to note that Cox has recently tested the EPDS on a non-postnatal sample and, as a consequence, suggested that, in community samples, the scale be renamed the Edinburgh Depression Scale (Cox et al. 1996). The EPDS has no specific reference to pregnancy or child care and, in effect, simply contains items which appear to be largely drawn from the Hospital Anxiety and Depression Scale (Zigmond and Snaith 1983) and the Delusions-Symptoms-States Inventory (Bedford and Foulds 1977).

Estimates of rates of postnatal depression

There is some agreement that three different forms of depression may be experienced by women in the post- natal period (Pitt 1968; Kumar 1994). Some women (varyingly estimated at between 2 and 4 cases per 1000 births) become severely depressed after the birth of their child (see review by Kumar 1994). While the association between the birth of their child and subsequent psychotic depression is suggestive of a cause- effect association, some doubts must remain about whether the birth of a child initiates a new case of depression or whether it precipitates what was a pre- existing mood disorder. In any event, postnatal psychoses are extremely rare and are not the focus of the over- whelming majority of studies concerned with postnatal depression.

A second condition, labelled the “baby blues’’, is observed with a high frequency (Pitt 1968; Kumar 1994). It is suggested that the majority of women experience a sad/depressed mood beginning some days after the birth of the baby and continuing for varying lengths of time. These “baby blues’’ are believed to be associated with hormonal changes following the birth of a child and to be of relatively short-term duration.

Thirdly, some mothers are believed to experience depressed moods that begin some little time (days/ weeks) after the birth of their child, and may continue, it is suggested, for months and even years. It is this de- pressed mood which begins shortly after the birth of a baby that is commonly considered to

embody the characteristics of postnatal depression. Such depressed mood may include conditions that might be labelled as minor or major depressions.

Estimates of the rate of the above type of postnatal depression vary widely, in part as a reflection of the different measurement criteria used. One recent review quotes postnatal depression rates of between 10 and 20% of mothers who give birth (Ballard et al. 1994, p. 782), while other reviews quote rates of 10-15% of women experiencing non-psychotic postnatal depression (Appleby et al. 1994, p. 539; Cooper and Murray 1998, p. 97). Of course, many of these studies involve the questionnaire-based measurement of depression with cut-offs that may be somewhat arbitrary: depending upon the cut-off adopted, up to 40% of women have been classified as depressed at 6 weeks postpartum (see Bridge et al. 1985, p. 326).

While studies differ in their estimates of the sensitivity, specificity and positive predictive value of the EPDS, there can be little doubt that the EPDS provides a useful screening instrument for detecting persons likely to be clinically depressed (see Cox et al. 1987; Harris et al. 1989; Murray and Carothers 1990; Cox et al. 1996). Estimates of the rate of depression in the postnatal period using the EPDS are surprisingly similar for countries as disparate as Portugal (Augusto et al. 1996), Germany (Herz et al. 1997), Australia (Webster et al. 1994), a rural population of the United States (Reighard and Evans 1996) and Britain (Cox et al. 1987). Some 9- 13% of women giving birth are found to have a major depression in the postnatal period based upon the findings of these studies.

A few studies have used clinical (DSM-III and DSM- IV) criteria for the diagnosis of major depression in the postnatal period. In one such study, Cutrona (1983) found that 8.1% of women had a DSM-III major depression within 2 months of giving birth. A more recent study has suggested that 15% of 147 women who were assessed 6 weeks postnatally met the criteria for depression (Harris et al. 1989, p. 814).

A recent review has found 21 studies over the period 1968-1993 that use clinical criteria to determine the rate of depression in the postnatal period. While these studies differ widely in the time period used as a frame of reference (from 1 month to 12 months of recall), and report incidence, point prevalence and/or period prevalence, the rate of major depression some weeks to months after the birth generally appears to be in the range 7-12% of women (Kumar 1994, p. 255).

Clearly then, estimates of the rate of postnatal depression depend upon the measurement criteria used and the length of time after the birth for which data are being recalled. The majority of estimates based upon clinical criteria are consistent in pointing to between 8 and 12% of women experiencing a major depression within months of giving birth.

Postnatal depression: myth and reality

While there is no doubt that many women experience depression in the postnatal period, it is less clear that women's mental health is more impaired in the postnatal period than at other times. The US Epidemiologic Catchment Area (ECA) Program, which involved community psychiatric (DSM-III) assessments of about 17,000 persons, suggested that between 3.0 and 7.4% of women in the age groups 18-24 and 25-44 had experienced a major depression in the previous 6 months (Myers et al. 1984). The subsequent National Co- morbidity Survey (Blazer et al. 1994) points to major depression as a not uncommon health problem within a community setting. Taking females in the main fecund age groups 16-24 and 26-34, the National Comorbidity Survey found that 8.2% and 4.3% of women respectively experienced an episode of major depression in the previous 30 days using DSM-III-R criteria (Blazer et al. 1994, p. 981). The National Comorbidity Survey also found that some 13% of females had suffered a major depressive episode in the previous 12 months (Kessler et al. 1994, p. 12). Studies based upon the ECA methodology in New Zealand and South Australia found that 7.1% of New Zealand women and 14.1% of women in Riverland, South Australia had experienced a depression in the previous 6 months (see Jorm 1995 for details). The Australian National Survey of Mental Health used the WHO Composite International Diagnostic Inter- view, based on ICD-10 criteria of mental health. It found that affective disorders (largely depression) varied by the age and sex of the respondent, with 10.7% of women aged 18-24 and 8.4% of women aged 25-34 experiencing such a disorder in the previous 12 months (McLennan 1997). For postnatal depression to constitute a health problem in its own right, the rate of depression in the postnatal period should exceed the rate normally observed in non-postnatal women in the relevant age groups.

A second consideration in assessing the existence and magnitude of postnatal depression as a community health problem concerns the timing of onset of the depression. Clearly, if the depression precedes the birth of the child, then it is probably misleading to categorise such pre-existing depression, which continues into the postnatal period, as a case of postnatal depression. A third but related consideration centres on the time frame for the postnatal period. How much time after the birth of a child needs to elapse before a new depression is no longer categorised as being within the postnatal period? While such a decision involves the selection of a somewhat arbitrary cut-off date, the first 6 months after the birth would appear to constitute a reasonable "closing'' date. New symptoms or cases of depression that begin more than 6 months after the birth do not, for the purposes of this study, constitute instances of post- natal depression.

Fourthly, there is a need to distinguish the "baby blues'', which generally begin some days after the birth and may continue for some weeks and months, from the clinical entity that involves major and/or minor depression. Such a distinction is arguably reflected by the severity of symptoms that the mother reports. Suicidal ideation, a multiplicity of symptoms and very negative mood are less likely to be indicative of the "baby blues''. This paper is concerned with the changes in depressive mood experienced by mothers before and some time after the birth of their baby. It is specifically concerned with the experience of depressed mood by mothers and the extent to which such mood states allow us to identify and quantify the existence of the entity that has been labelled as postnatal depression.

Subjects and methods

Data for this study are taken from the Mater-University of Queensland Study of Pregnancy (MUSP), a prospective cohort study of 8556 pregnant women that began in 1981. All consecutive women presenting at a major public obstetric unit were invited to participate in this study. Over 99% of women (n = 8458) agreed to participate in the study. Women were administered a questionnaire at entry to the study (mean gestation at entry about 18 weeks) and again 3-5 days after the birth and at 6-month and 5-year follow- ups. Comprehensive details of the methodology have appeared elsewhere (Keeping et al. 1989). Data for this analysis have been taken from all phases of data collection up to the 5-year follow-up. Some 68% of mothers who gave birth at the study hospital were successfully followed up at 5 years.

Mothers lost to follow-up were more likely to be young, single/widowed or divorced, and were somewhat more likely to be de- pressed at the first clinic visit (Williams et al. 1998). The analysis is limited to the cohort of women for whom data are available at all phases (n = 5365).

Depression was measured using the seven-item depression subscale of the Delusion-Symptoms-States Inventory (Bedford et al. 1976). The inventory was developed according to the theory that mental health problems can be ranked along a continuum according to the extent to which the individual increasingly loses control of his/her own behaviour and personal relationships (Foulds and Bedford 1975; Heather 1977). All seven symptoms of the DSSI appear to address both the ICD-10 and DSM-IV indicators of depression. Initial validity was suggested by a study of 25 senior clinicians, who were able to allocate 84 symptoms and signs reliably to 12 syndromes (Bedford and Foulds 1977). Additional validity is suggested by a study of 200 normal persons compared to 480 patients (Bedford and Foulds 1978). The hierarchical model of mental illness advanced by Foulds and Bedford (1975) has been repeatedly confirmed (Bagshaw 1977; Gilleard 1983; Morey 1985; Palmer et al. 1981). Despite Cox et al.'s (1983) suggestion to the contrary, we have found the DSSI-D sensitive to change using a sample of recently bereaved mothers and fathers (Boyle et al. 1996).

We have also undertaken a pilot comparison of the Hospital Anxiety and Depression Scale (HADS-D), EPDS and DSSI-D for a sample of 249 women interviewed shortly after the birth of their baby. As Table 2 indicates, the correlations between the EPDS and the DSSI-D and HADS-D are strong. The HADS-D, EPDS and DSSI-D share some similar items and share the disadvantage that they are not equivalent to a clinical diagnosis of depression. Nevertheless, these instruments are all likely to provide results that are broadly similar.

Results

The pilot study collected data from 4 weeks to 12 weeks after the birth. There is no consistent pattern of change in depression over that period (Table 3).

Table 2. Correlation of three measures of depression in the post-natal period (n = 249)[a]

	HADS-D	DSSI-D	EPDS
HADS-D	1.00	0.63[b]	0.78[a]
DSSI-D		1.00	0.77[a]
EPDS			1.00

[a] Number of cases varies from 244 to 249 because of missing values
[b] Pearson correlation coefficient, $P < 0.001$
(HADS-D Hospital Anxiety and Depression Scale, DSSI-D Delusions-Symptoms-States Inventory, EPDS Edinburgh Postnatal Depression Scale)

In the longitudinal study, respondents were asked two questions at the 6-month follow-up relating to their experience of depression. As Table 4 indicates, some 64.6% of respondents report some experience of depression in the 6 months after the birth of their baby. About one-quarter of the women in the sample report that they were moderately depressed or very depressed after the birth of their baby.

When asked how long they felt depressed, only 16.1% reported that the depression lasted for some months and only 3.9% reported that they were still depressed at the 6-month follow-up.

Table 3. Depression (HADS, DSSI, EPDS) in the postnatal period by weeks since mother gave birth (pilot data only)

Weeks since birth	% HADS cases (n = 244)	% DSSI cases (n = 247)	% EPDS cases (n = 246)
4–6	4.6	9.1	12.3
7–8	10.2	10.2	10.2
9–10	10.2	9.8	13.1
11–12	8.2	11.5	8.2
	NS[a]	NS[a]	NS[a]

[a] Difference is not statistically significant

Table 4. Recall of feeling of depressed mood at 6 months after the birth (n = 5365)

	%
Which of the following best describes how you felt?	
I had no feelings of blues or depression at all	35.4
I felt slightly depressed	40.1
I was moderately depressed	16.5
I was very depressed	8.0
For how long did you feel blue or depressed?	
Not at all	35.4
A few days	44.6
A few months	16.1
I am still depressed	3.9

Table 5 provides the distribution of responses to the seven items in the DSSI-D scale. While feeling depressed, having difficulty sleeping and feeling inactive were not uncommon experiences in our sample, it is notable that these feelings did not appear to be more common in the period after birth than they were in the period prior to the birth or at the 5-year follow-up.

If we examine the somewhat less common symptoms of loss of interest, perception that the future is hopeless and suicidal thoughts, then again the pattern indicates that while these feelings are relatively rare, they are more common at the first clinic visit and/or at the 5-year follow-up than they are in the period immediately after the birth of the child.

Table 5 Percentage of cohort (n = 5365) reporting they experienced DSSI symptom all, most or some of the time at each phase of data collection

	At first clinic visit	3–5 days after birth	At 6-month follow-up	At 5-year follow-up
Depressed without knowing why	38.2	30.1	28.7	26.1
Difficulty sleeping	15.6	17.1	10.7	17.9
Sat up doing nothing	14.2	11.3	10.5	12.0
Lost interest in everything	8.8	5.1	6.8	9.6
Future seems hopeless	4.9	3.2	5.1	7.5
Not care if not wake up	3.6	2.8	3.9	5.1
Thought of doing away with myself	1.5	1.3	2.2	3.2

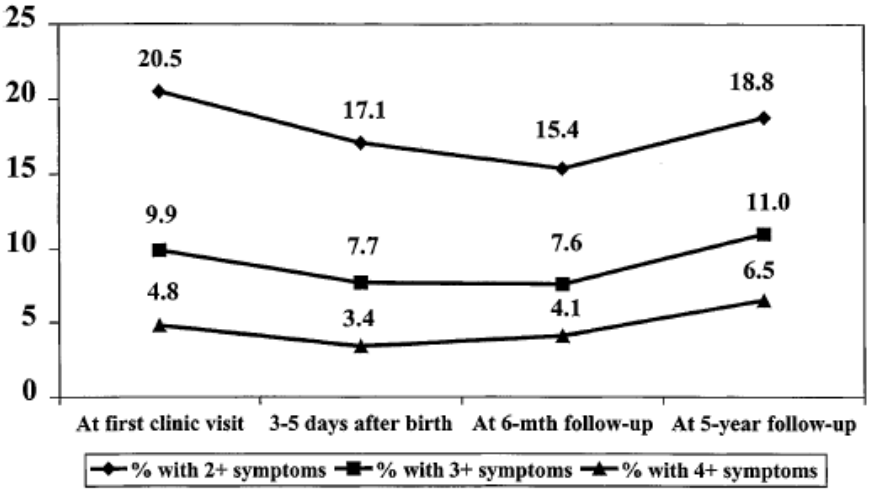

Fig. 1 Percentage depressed at each phase of data collection using different cut-offs (2+, 3+ and 4+ symptoms)

Figure 1 provides an aggregate measure of the number of symptoms of depression experienced at each phase of the study. A symptom was counted if the respondent reported experiencing the symptom all, most or some of the time.

Regardless of whether one counts a "case'' as com- prising those with two, three or four or more symptoms, the pattern is consistent with the highest rate of symptoms being reported either at the first clinic visit or at the 5-year follow-up. The figures suggest that the period after the birth of the child is a period of relatively low prevalence of symptoms of depression. If we examine the mean number of symptoms at each phase, the data are again consistent with this analysis (mean of 0.85 at first clinic visit, 0.70 at 3-5 days, 0.65 at 6-month follow-up and 0.81 at 5-year follow-up).

Table 6 examines the change in the number of symptoms reported by respondents over time. We note that in the period from the first clinic visit to 3-5 days after the birth, some 19.1% of respondents experienced an increase in symptoms and some 28.4% experienced a decrease in symptoms.

That is, while about half the sample experienced no change in symptoms, more women experienced a re- duction in symptoms than experienced an increase over the time from the first clinic visit to 3-5 days after the birth.

If we examine the period 3-5 days after the birth to the 6-month follow-up, an identical pattern is evident. While about half the sample experienced no change in symptoms over this period of time, more women appear to be experiencing a reduction of symptoms than an increase of symptoms. Finally, the period from 6 months to 5 years is associated with the reverse pattern: that is, an increase in symptoms over this period of time for about one-quarter of the sample.

Table 7 examines the extent to which cases of depression are new to the study or represent a continuation or recurrence of an existing or prior depression.

Separate figures are provided for cases based on 2, 3 or 4 or more symptoms. In all instances, a significant proportion of cases of postnatal depression appear to reflect an apparent recurrence of a previously experienced depression. While this is less the case as the cut- offs for depression involve more symptoms, the pattern is very consistent, and if we choose three-plus symptoms as the key cut-off, then between 38.4 and 48.0% of cases of postnatal depression appear to constitute pre-existing cases of depression. Of the 410 women who had three or more symptoms of depression at the 6-month follow-up, 197 were depressed at a previous point in time. Noting that our knowledge of the respondent's mental health only begins at her first clinic visit, it follows that a number of cases of depression would have occurred prior to the study commencing. Thus, it appears that the majority of cases of depression we observe in this study represent recurrences of pre-existing illness rather than new cases of depression in the postnatal period.

Discussion

Does postnatal depression exist as a distinct clinical entity? We have found that symptoms of depression are common in the postnatal period, with approximately two-thirds of the women in our sample reporting they experienced some symptoms of depression following the birth of their baby. This finding is very similar to the results reviewed by Kumar (1994), who found almost identical proportions of women in the United States and the United Kingdom experiencing maternity blues. It is notable that the vast majority of women in our study reported that their symptoms were relatively minor and that they lasted for only a short period of time. While some 20% of women experienced these symptoms for a few months, only about 1 in 25 women reported still being depressed at the 6-month follow-up. If, however, the term postnatal depression is used to delineate a major depression precipitated by either childbirth or the events following childbirth, then the evidence suggests that the postnatal period is one in which the mother is less often depressed than at other times.

Tables 5-7 are consistent, indicating that the symptoms of depression, whether looked at individually or in aggregate, are no more common immediately after the birth than they are prior to the birth or 5 years after the birth. The period up to the 6-month postnatal fol- low-up is relatively free of symptoms of depression. It is a period of relatively good mental health, whereas the period from 6 months to 5 years is characterised by an increase in symptoms of depression. One interpretation of this pattern of depression is that child-rearing makes greater demands on the mental health of the mother than does the birth itself.

It is also clear that many of the cases of depression noted in the postnatal period represent exacerbations or continuations of a pre-existing set of symptoms of depression. Based on these findings, it appears that the postnatal period is possibly a period of optimum mental health for the mother. Certainly, if we compare the rates of depression experienced by mothers in the postnatal period with the rates reported in the ECA and National Comorbidity Survey findings, the estimated rates of depression are relatively similar.

There are only a small number of longitudinal studies with findings relevant to this study, but their findings are consistent with ours. O'Hara et al. (1990) used a prospective design to compare rates of depression from the second trimester of pregnancy to 9 weeks postpartum. Using both a clinical assessment of depression and the Beck Depression Inventory, they compared depression rates and scores for 197 pregnant women and a similar number of non-pregnant matched controls. There were no statistically significant differences in the rate of depression in the postpartum group compared with

their controls. There were no differences in the rates of depression for the pregnant women before and after the birth of the child. There was some evidence, however, that pregnant women experienced more symptoms of depressed mood (e.g. using the Beck Depression Inven- tory) in pregnancy and a few days after the birth of their baby (compared to controls), but these differences were no longer statistically significant by the last follow-up, 9 weeks after the birth. In this study there appeared to be an association between the mother's symptoms of depression and evidence of stress and marital problems, which seemed to emerge late in pregnancy. Cox et al. (1996) used the EPDS and compared rates of depression in a control group of women who had not given birth in the previous 12 months with the rates of depression experienced by women who had given birth 6 months earlier. The prevalence of major and minor depression in both groups were identical, leading Cox and his colleagues to conclude that the prevalence of depression in postnatal women is similar to that of women in the general population. Cox did find that there was an increased risk of depression shortly after delivery, but this may well parallel our findings of baby blues as a common experience in women shortly after the birth of the child.

Table 6. Changes in number of symptoms of depression over four phases of data collection

	Increase in symptoms over time	No change in number of symptoms over time	Decrease in symptoms over time
First visit ⇕ 3–5 days postnatal	19.1	52.5	28.4[a]
3–5 days postnatal ⇕ 6 months postnatal	15.6	56.8	27.6[a]
6 months postnatal ⇕ 5-year follow-up	27.8	56.9	15.3[a]

[a] Wilcoxon matched-pairs test $P < 0.001$

Table 7. Numbers and percentages depressed at each phase by whether depressed at any previous phase ($n = 5365$)

	2+ symptoms		3+ symptoms		4+ symptoms	
	Number depressed	Percentage previously depressed	Number depressed	Percentage previously depressed	Number depressed	Percentage previously depressed
First visit	1098	–	531	–	260	–
3–5 days postnatal	915	50.1	414	39.4	182	31.3
6-month follow-up	824	61.4	410	48.0	219	37.0
5-year follow-up	1008	63.8	588	45.2	350	31.1

Augusto et al. (1996) used the EPDS translated into Portuguese and compared a control (non-postpartum) group with a group of women in the postpartum period. While there is some uncertainty about the extent to which the control group provides a fair comparison in this study, the postpartum group reported rates of postnatal depression higher than the control group; however, this difference was only at the borderline of statistical significance.

There are of course a number of qualifications that need to be considered when assessing these results. Firstly, we have used a self-report scale to measure depression. This is not the equivalent of a clinical diagnosis and the cut-offs for caseness are somewhat arbitrary. It is for this reason that we have

presented the data with multiple cut-offs. As we have found and as Schnurr et al. (1976) and Condon and Corkindale (1997) have noted, the relationships between different self-report measures of depression are moderate to strong. None of these measures provides the equivalent of a clinical diagnosis. While the absence of a clinical diagnosis in these circumstances is significant, the consistent pattern of findings over all the symptoms derived from ICD-10/ DSM-IV criteria suggest that our conclusions are unlikely to be misleading. It must also be noted that the diagnostic criteria for depression using the DSM-IV represent "vaguely defined constructs ... [and that] the number of symptoms necessary to qualify for a particular diagnosis is determined arbitrarily'' (Van Praag 1998). The DSM-IV is not an adequate "gold standard'' and it is the pattern of our findings that is of most relevance.

The second concern relates to attrition. Women who are more depressed at entry to the study were more likely to be lost to follow-up. It is notable that this was not a large difference. The data presented are limited to a cohort followed up over time, with comparisons over time not affected by attrition (there is internal validity). The consequences of losing a sub-sample of women who, at entry to the study, are more depressed, is likely to mean that the rate of postnatal depression was slightly higher than the rate we observed. Also, the continuity of depression may also have been higher: that is, more of the cases of depression observed in the postnatal period would have had their genesis in the antenatal period. The overall impact of attrition then is likely to be to underestimate slightly the extent to which depression is a problem in the postnatal period and the extent to which that depression represents a continuation of an existing depression.

It might also be suggested that a good deal of the postnatal depression was missed because our follow-ups at 3-5 days and 6 months postnatally left too long a gap. Arguably, the highest levels of depression occurred during the period or gap. It was for this reason that we considered the pilot data, as well as the two retrospective questionnaire items.

Based on these findings, why is it that postnatal depression as an entity has received such wide currency and acceptance? Three reasons can be advanced for this phenomenon. Firstly, as we have noted in our findings, the vast majority of women experience symptoms of depressed mood shortly after the birth of their children. While the overwhelming majority of cases are short-term and self-limiting, it nevertheless provides women with a validation of their personal experience. That is to say, women can personally relate to the view that postnatal depression is a problem. In this sense, the data resonates with the experience of women even though the empirical evidence suggests that such a resonance probably leads to a misleading conclusion.

Secondly, while much of the research on postnatal depression has been anecdotal, it may serve a political and ideological commitment to supporting the development of health services specifically targeted at women's health needs. Such a political process is consistent with the thrust of feminist concerns that the health care system has failed to distinguish the particular needs of women. There is no doubt that depression is a problem more often experienced by women than by men. De- pressed mood is a common experience following child- birth. This may, however, have created a misleading impression that the rate of clinically diagnosable major depression experienced by women after a birth is higher than is actually the case.

Thirdly, there has been a relative absence of longitudinal studies that would enable researchers to test the propositions relating to the emergence of a clinical entity labelled "postnatal depression''. Standard criteria for mental health with paper and pencil self-report tests have only recently been developed. These enable the prospective assessment of mental health and assessment of its variation over time.

Finally, the absence of a high rate of depression in the postnatal period does not imply that this condition is not an issue of concern. It remains the case that depression for women in the postnatal period is higher than for men at other times. There is also reason to believe that the health consequences of depression for women in the postnatal period may be particularly important. This suggestion is based on the finding of a number of studies that children reared by depressed mothers have poorer cognitive and emotional development and that address- ing the mental health of women in the postnatal period may be a high health priority, not only in terms of the mother's mental health but in terms of the subsequent physical and mental health of her child. In that sense, postnatal depression is likely to constitute a significant health problem that warrants attention.

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