

Depression in mothers 6 years after the birth of a first child

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Summary. This paper presents longitudinal data on maternal depression amongst a sample of women who were seen during their first pregnancies and at 4, 14, 27, 42 and 82 months after the birth. Rates of depression were found to be similar at each of these stages of motherhood. Depression at 82 months was more likely to occur amongst those who had been depressed at prior stages of the study. Depression at 82 months was associated cross-sectionally with a number of social and familial circumstances including social class, housing, marital relationship and child behaviour at home and at school.

Mothers of young children have been shown to be more vulnerable to depressive illness than perhaps any other group of women. Originally most research attention was focussed on pregnancy and the first few months postpartum, and depression in a large minority of women during these times is now well documented (Pitt 1968; Blair et al. 1970; Meares et al. 1976). More recently, however, evidence has come to light which suggests that such depression might, in many cases, be part of a more long-term experience rather than a short-term reaction to the specific stresses surrounding the birth of a new baby. Larsen (1966) noted that stress and adjustment difficulties for the mother increased with each successive pregnancy. In a case register survey, Kendal et al. (1976) found both a sharp rise in psychiatric illness 3 months after delivery, and a secondary rise, less dramatic and more sustained, beginning 9 months after delivery. Furthermore, two recent community surveys have emphasised the psychiatric vulnerability of mothers of pre-school children. Brown and Harris (1978) showed that one of the factors which

predisposes women to depression as a result of life stress is being at home with young children. They found 31% of working-class women with a child under 6 years old to be suffering from depression. Richman (1976) found an almost identical figure in a similar study.

Taken together, these findings suggest that psychiatric disorder, and in particular depression, is not uncommon throughout the early years of motherhood. A question which remains to be resolved, however, is whether different women are vulnerable to depression at different stages of early motherhood, or whether depression occurs as a more or less continuous event for one particular group. In addition, we need to know what factors are associated with depression at any particular stage.

Richman (1977), for example, showed associations with work, monetary and housing stresses. Brown and Harris (1978) found lack of an intimate relationship with husband, lack of a job outside the home and early maternal separation to be vulnerability factors increasing the likelihood of depression after a major life event. Various studies have shown concurrent associations between depression in a mother and behaviour problems in her child (Richman 1977; Wolff and Acton 1968).

As part of the Family Research Unit Study of Child Development, we have obtained detailed information about the psychiatric state of a random sample of women from one inner London borough during their first pregnancy and the subsequent 82 months of motherhood. The present paper examines depression in the women at 82 months (6 years, 10 months) after the birth of their first child, i.e. when he or she is in the second year of school. The aims are to examine (a) the extent to which depression occurs at this later stage of motherhood; (b) the degree to which it is associated with depression

occurring at earlier times; and (c) to identify any social and family factors associated with maternal depression at 82 months after the birth of a first child.

The study

During the course of 1 year, all British-born women aged 16 years and over having their first babies in an inner London borough were interviewed when they booked into the antenatal clinics of the local hospital serving that borough. One of the groups selected for further study from this original population was a random sample of 131 married and single women.

The selected women were then interviewed in their homes on six occasions: at 7 months of pregnancy and at 4, 14, 27, 42 and 82 months after the birth of their first child. At each interview the women were asked about their social and marital situation, their attitudes and feelings about pregnancy (in pregnancy) and about child-care and motherhood (after the birth). In addition, at each stage after the birth they were questioned extensively about the child. Their psychiatric state was assessed using a shortened and modified version of the Present State Examination (Cooper et al. 1977). The interviewers were all trained to use this clinical examination by the psychiatrist in the research group. It involved the use of standardised questions about a wide range of symptoms, both in terms of the presence of symptoms and the extent to which they interfered with the mother's life. An overall judgement was made at the end of the interview concerning the "presence", "dubious presence" or "absence" of psychiatric disorder. The decision to judge a woman as having a psychiatric disorder was not based on counts of individual symptoms (Finlay-Jones et al. 1980) but on the evidence of symptoms causing impairment of everyday functioning in physical, emotional and/or social terms (Rutter et al. 1975). A "definite" disorder was diagnosed when the woman showed evidence of symptoms causing impairment of daily functioning and a "dubious" disorder when the symptoms were unaccompanied by impairment. In this study, almost all of the diagnoses were of depression with associated anxiety. For the purposes of the present paper, therefore, depression and psychiatric disorder will be referred to synonymously.

In order to be rated as being depressed, it was necessary for the woman to have a central disturbance of mood and other symptoms, classified by psychiatrists as part of a depressive disorder. These would include loss of confidence, loss of appetite, sleep disturbance, and possible suicidal thoughts. In practice, when these were present they were almost

inevitably associated with symptoms of anxiety such as excessive worry, free-floating anxiety or fears. A combination of such symptoms, together with an inability to carry on normal routine in terms of impaired concentration, relationships and/or activity, would lead to a definite diagnosis. (For examples of specific cases of dubious and definite depression, see Wolkind and Zajicek 1981.)

In addition to obtaining information about the psychiatric state of the women, at each stage of the study we also attempted to make a rough assessment of whether or not the women had experienced any psychiatric disorder prior to becoming pregnant. During the first screening interview (which was carried out in the initial weeks of pregnancy, at the first visit to the antenatal clinic) the women were asked if they had ever had any problems "with their nerves" and if they had ever been to see someone for treatment of such problems. In addition, they were asked to fill in a malaise inventory to describe their pre-pregnancy health. Rutter (1976) has shown that high scores on this inventory relate to the presence of psychiatric disorder. Pre-pregnancy psychiatric disorder was defined on the basis of treatment by a professional for "nerve problems" and/or high scores on the malaise inventory.

Women were assessed as having had pre-pregnancy psychiatric disorders in any one of the following circumstances:

1. If they had had out-patient consultation with a psychiatrist for "nerves".
2. If they obtained scores of greater than 10 on the malaise inventory.
3. If they obtained scores of 8-10 on the malaise inventory and had had consultation with a GP for "nerves".

Results

Of the 131 women in the random sample, 105 were married or cohabiting and 26 were single at the time of the first screening interview. Seven women were lost from the study because of late miscarriage, death of the baby, or, in one case, death of the mother. At each stage certain women (between 6% and 20%) were not seen. Most women were seen on at least two occasions. We have shown elsewhere that those not seen at any one stage tended to have slightly lower rates of psychiatric disorder before pregnancy and social difficulties at other times when they were seen than the remainder (Ghodsian et al. 1984). The average age in pregnancy was 22.8 years, with 24% being under 20 years old.

Table 1 shows the prevalence of depression at the

Table 1. The prevalence of depression at various stages of motherhood

Depression	7 months of pregnancy	After the birth				
		4 months	14 months	27 months	42 months	82 months
None	84 (72%)	77 (66%)	81 (75%)	60 (61%)	70 (65%)	69 (64%)
Dubious	14 (12%)	27 (23%)	8 (7%)	23 (23%)	13 (12%)	19 (18%)
Definite	19 (16%)	12 (10%)	19 (18%)	16 (16%)	25 (23%)	20 (19%)
	117	116	108	99	108	108

Table 2. Depression at 82 months in relationship to pre-pregnancy psychiatric disorder

82 month depression	Pre-pregnancy psychiatric disorder		
	none	any	
None	67 (98%)	1 (2%)	68
Dubious	15 (83%)	3 (17%)	18
Definite	14 (74%)	5 (26%)	19

$\chi^2 = 13.8$; $df = 2$; $P < 0.001$

Table 3. Depression at 82 months in relationship to psychiatric disorders before, during or after pregnancy

82 month depression	No previous psychiatric disorder	Previous disorder	Total
Dubious	2 (11%)	16 (89%)	18
Definite	1 (5%)	19 (95%)	20

$\chi^2 = 17.3$; $df = 2$; $P < 0.001$

different stages of the study. Overall the variations in proportions are small, and not such that one would pick out any one stage or stages of motherhood as being of obviously greater risk for disorder. At 82 months after the birth, 37% of the women were depressed; 19 had symptoms with no impairment (the dubiously depressed group) and 20 had symptoms with impairment (the definitely depressed group).

Looking back, first at pre-pregnancy psychiatric disorder, a significant relationship was found between this and depression at 82 months. All but one of the nine women in this random sample who were rated as having had pre-pregnancy psychiatric disorder were dubiously or definitely depressed at 82 months after the birth of the child. By the same token, there were higher rates of pre-pregnancy difficulties amongst those at 82 months who were definitely or dubiously depressed than those not depressed. However, it should equally be noted that only a *small* proportion of those who were depressed at

82 months had had pre-pregnancy psychiatric disorder.

It was next decided to examine how many of the women who were depressed at 82 months had had a psychiatric disorder at any time in the past - either before pregnancy, during pregnancy, or at 4, 14, 27 or 42 months after the birth. In taking into account all of the previous stages of the study, it should be pointed out that there was inevitably some problem with missing data. Women were not included in this analysis if psychiatric information was missing on two or more stages of the study. (This involved 17% of the women.)

Only 11% of the dubiously depressed group and 5% of the definitely depressed group at 82 months were completely new cases, according to our criteria, i.e., they had not had pre-pregnancy psychiatric difficulties and had not been depressed (dubiously or definitely) at *any* of the previous times that they were interviewed for the study. It would seem, therefore, that the vast majority of the depressed women at 82 months after the birth had been depressed before.

In addition, it can also be seen that more than 50% of those *not* depressed at this last stage of the study had been depressed before and, conversely, that just under 50% of those with previous depression were *symptom-free* at 82 months.

Whilst Table 3 shows that women who were depressed at 82 months were more likely than those not depressed at the time to have experienced previous depression, it does not distinguish between the groups in terms of the *extent* of past depression. Further analysis was performed in order to ascertain whether those depressed and not depressed at 82 months differed in terms of *how often* they had been rated as being depressed at earlier phases of motherhood (i.e. at pregnancy, 4, 14, 27 and 42 months after the birth). Pre-pregnancy information was not used here, both because at this point it seemed more interesting to look specifically at experiences during pregnancy and motherhood and because of the indeterminate timing of the pre-pregnancy disorders. Those women who had been depressed 40% or less of the times that they were seen

previously were compared with those who had been depressed on more than 40% of occasions¹.

Table 4 shows significant differences between the non-depressed, dubiously depressed and definitely depressed at 82 months. Those who were not depressed at 82 months were less likely to have experienced such *extensive* past depression when compared with those dubiously or definitely depressed at 82 months. Again, however, it is noticeable that over 30% of those with the greater history were free of depression at 82 months.

In summary, it would seem that depression at 82 months after the birth of the first child is no more nor less common than that which occurs during earlier phases of motherhood or a first pregnancy. Dur-

¹ Percentage frequencies were used in order to be able to include some of the women from whom full psychiatric information was not available at every stage. Those with missing data on more than two occasions were left out of the analysis; the rest were included. In effect, therefore, depression at less than or equal to 40% of the times seen was depression at 1/5, 2/5, 3/5 or 4/5 stages. Depression at more than 40% of the times seen was depression at 1/5, 2/5, 3/5, 4/5, 4/5, 3/5 or 2/5 stages.

Table 4. Depression at 82 months in relationship to the extent of past disorders

82 month depression	Percentage of times at which depression was seen at previous stages of the study		
	≤ 40% of occasions	> 40% of occasions	
None	23 (68%)	11 (32%)	34
Dubious	6 (38%)	10 (63%)	16
Definite	6 (32%)	13 (68%)	19

$\chi^2 = 7.7$; $df = 2$; $P < 0.05$

ing those 82 months a large proportion of women are assessed as being depressed on at least one point in time, but these women often move in and out of that designation at follow-up stages. Depression at 82 months after a first birth does not seem to be an isolated event, but more part of a longer cycle beginning during earlier motherhood or before motherhood began.

At 82 months after the birth, as at all other stages of the study, the women were questioned extensively about their lives and circumstances. These were examined against 82 months depression. A large number was not significantly related, and we present only some of the more salient relationships below.

Table 5 shows the relationships between 82 months depression and family situation at the time. Associations were found between depression and husband's present job and mother's past job, though not with whether or not mother is working at 82 months. In addition, a variety of housing circumstances were significantly associated with 82 months depression. The number of children in the family was not found to be associated with depression.

From Table 6 it can be seen that those women who were definitely depressed were more isolated, less able to confide their problems and had less good relationships with their husbands/partners than those not depressed or only dubiously depressed.

Table 7 shows that the depressed women saw themselves as having health problems, although rates of chronic physical illness were not greater amongst them. In addition, the definitely depressed women more often visited their GP for emotional problems.

Finally, Table 8 shows the relationship between maternal psychiatric disorder at 82 months and child

Table 5. Depression at 82 months and family situation

	82 month depression			Significance
	None	Dubious	Definite	
Husband working in jobs classified RG4 and RG5	7/53 (13%)	5/14 (36%)	6/9 (66%)	$\chi^2 = 13.9$ $P < 0.01$
Mother's pregnancy job classed RG4 and RG5	8/63 (13%)	0/13 (0%)	8/19 (42%)	$\chi^2 = 11.9$ $P < 0.01$
Mother working at 82 months	34/69 (49%)	9/19 (47%)	6/19 (31%)	NS
Family living in a house, not a flat	40/69 (58%)	7/19 (37%)	5/20 (25%)	$\chi^2 = 7.9$ $P < 0.05$
Accommodation owned by family	22/69 (32%)	3/19 (16%)	1/20 (5%)	$\chi^2 = 6.99$ $P < 0.05$
If in flat, above second floor	2/36 (5%)	1/13 (7%)	6/16 (37%)	$\chi^2 = 9.99$ $P < 0.01$
Family has not car	15/69 (22%)	9/19 (47%)	11/19 (48%)	$\chi^2 = 11.2$ $P < 0.01$
Mother has more than 2 children	10/69 (14%)	3/19 (16%)	4/20 (20%)	NS

Table 6. Depression at 82 months and social situation

	82 month depression			Significance <i>df</i> =2
	None	Dubious	Definite	
Two or more days/week when no one seen	7/48 (15%)	2/13 (15%)	7/16 (44%)	$\chi^2 = 6.5$ $P < 0.05$
Overall quality of marital relationships is poor	13/50 (26%)	5/14 (36%)	9/11 (82%)	$\chi^2 = 12.4$ $P < 0.01$
Husband not mentioned as a confidant	7/57 (12%)	5/16 (31%)	5/11 (45%)	$\chi^2 = 7.9$ $P < 0.02$
Mother is not married or cohabiting	6/69 (8%)	3/19 (16%)	8/20 (40%)	$\chi^2 = 11.2$ $P < 0.01$
Mother has problems which she cannot confide to anyone	5/64 (8%)	3/19 (16%)	7/17 (41%)	$\chi^2 = 11.4$ $P < 0.01$

Table 7. Depression at 82 months and mother's health

	82 month depression			Significance <i>df</i> =2
	None	Dubious	Definite	
Perceives herself as having health problems	18/69 (26%)	11/19 (58%)	12/19 (63%)	$\chi^2 = 12.3$ $P < 0.01$
Chronic physical illness	8/69 (12%)	7/19 (37%)	5/19 (26%)	NS
GP visit for emotional problems	2/69 (3%)	1/19 (5%)	6/19 (32%)	$\chi^2 = 16.2$ $P < 0.001$
Psychotropic medication	2/69 (3%)	1/19 (5%)	3/19 (15%)	NS

Table 8. Depression at 82 months and child behaviour problems at that time

Child behaviour score At home	82 month depression		
	None	Dubious	Definite
Mean	3.79	4.32	5.7
SD	3.02	3.2	3.91
<i>n</i>	69	19	19
Overall $F = 2.63$ <i>ns</i> None vs Dubious + Definite $t = 1.84$ $P < 0.05$ (one-tailed)			
Child behaviour score At school	None	Dubious	Definite
Mean	4.21	6.08	6.9
<i>n</i>	67	18	17
None vs Dubious + Definite Mann whitney U test $P < 0.05$			

behaviour problems at that time. A similar scale to that used by Richman et al. (1975) was used to assess the behaviour of the children at home. An overall child behaviour score at home was obtained from this questionnaire by simply adding scores of 0–1–2 (no, dubious or definite behaviour problems) over a fairly wide range of items. High scores were indica-

tive of greater problems (Ghodsian et al. 1984). The analysis revealed that whilst there were differences in child behaviour scores between the three groups at 82 months, these were not statistically significant overall. However, when the dubiously and definitely depressed women were taken together and compared with the non-depressed, significant differences were found.

The Rutter school questionnaire (Rutter 1967) was sent to teachers and it was again found that the dubious and definitely depressed women were more likely to have higher-scoring children at school compared with the non-depressed women. The test in this case was non-parametric due to the non-normal nature of the distribution of the scores. Overall, therefore, it would seem that maternal depression at 82 months related to child behaviour both at home and at school.

Discussion

This paper is concerned with depression in a group of women 82 months after the birth of their first child. Areas of investigation include the extent to which depression occurs at this later stage of motherhood, how this rate compares with that at earlier

stages, and what social and family factors are related to the depression.

Our findings showed that in a random sample of first-time mothers from a deprived inner city area, the rate of depression at this time was generally on a par with that experienced in the same sample at earlier stages of motherhood and during pregnancy. Thus, contrary to what has hitherto been suggested, it would seem that there is no one stage, such as pregnancy or just after the birth, which is of particular vulnerability. Our data were such that we differentiated between depression with and without functional impairment, the 14% with the former being labelled as definitely depressed. Whilst our depression rating was not identical to that used by Brown and Harris (1978), it is of interest here to compare our prevalence rates of definite depression with their identified rates of "caseness" (both chronic and onset). They found clinical depression (caseness) in 31% of working-class women with at least one child of under 6 at home. Our children were over 6, but only just, and in practice most of the women had a child of under 6 at home as a result of other births. The figure of Brown and Harris (1978) is higher than our overall rate, but our sample was not all working class. Of those whose husband's jobs were classified at level 4 or 5 by the Registrar General's criteria (Table 5), 30% were definitely depressed, a figure very similar to that of Brown and Harris (1978).

Brown and Harris (1978) attempted to differentiate between cases of recent onset and those of a more chronic nature. Their definition of chronicity was based upon depression lasting more than 1 year. Whilst in the present study we did not identify exactly how long any identified episode of depression had lasted, it was possible to look at the extent and frequency of depression over the whole 82-month period of motherhood. The findings showed that only a very small minority of the women depressed at 82 months had not had some kind of depression prior to that time, and the majority had been depressed relatively frequently during earlier phases of motherhood. It cannot be said that such cases of depression were "chronic" in the sense used by Brown and Harris, since it was not known whether that depression had been continuous or intermittent. However, it can be said that depression at 82 months was not on the whole of recent onset, and that it was mainly experienced by women who had been depressed at earlier stages.

In our study a number of social and family factors were found to be associated with 82 months depression. Let us return to the issue of social class background. Not only were the definitely depressed women of the present study more likely to have hus-

bands employed in lower-category manual occupations, but they themselves were found to have been employed in such occupations before the birth of the child. Other studies have produced similar results showing the greater vulnerability of women from working-class households (Brown and Harris 1978; Rutter et al. 1975; Richman 1974). Brown and Harris (1978) concluded that "some of the social class difference in risk of depression is due to the fact that working class women experience more severe life events and major difficulties, especially when they have children; problems concerning housing, finance, husband and child (excluding those involving health) are particularly important."

Whilst in the present study we have not as yet looked at inter-relationships between social class and other circumstances, we do have information on general difficulties in family and social life which shows the greater degree of problems experienced by the depressed women. Isolation, lack of support, poor accommodation and marital problems seemed to dominate their lives. These factors in addition to greater child problems at home and at school, as well as depression, give rise to a nexus of interlocking difficulties.

As would be predicted, the definitely depressed group showed the highest rate of problems in all cases where associations were found. The lives of this group of women suffering from depressive symptoms plus functional impairment appeared to be bleak, to say the least. The dubiously depressed group tended to be mid-range, between the non-depressed and the depressed, in terms of problems. Depressive symptoms without functional impairment appeared to occur in women whose social circumstances were in many ways better than those of women who were definitely depressed but not so good overall, as those of the women who were non-depressed.

It is possible that the functional impairment, when it occurred, may have contributed to some of the wider problems. Thus marital problems, lack of support and isolation may have occurred at least in part as a result of the definitely depressed women's inability to carry on with normal daily lives and relationships. Those who were depressed without functional impairment would thus tend to have lower rates of problems in these areas. On the other hand, the reverse might apply. The degree of impairment at any time may depend upon circumstances occurring at the same time. Thus, such factors as being single, living in high-rise accommodation, and lack of social contacts and confidants may tip the balance in terms of whether or not a woman is functionally impaired by her depression.

The above speculations are basically to do with the nature and direction of the influences involved. The statistical associations described above may all be interpreted in either direction and we would advance an interactive model, which includes in it the women as active agents, rather than a causal model, as more appropriate. For example, whilst it could be suggested that bad housing could have a causal influence upon depression, it is just as feasible that a selective public housing policy could penalise those unable to state their case strongly enough – so much so that the depressed women and their families either remain in inadequate housing, or are offered such, whilst others are moved to better accommodation. Furthermore, isolation, marital conflict and lack of support are all circumstances which in themselves could provoke depression but which, in addition, could be made worse by that very same depression. One can imagine a series of reinforcing cycles.

It would seem from our data that the depression we have described in these mothers of primary school children is not a sudden event occurring as a result of some specific recent stress, but it is part of a wider cycle of social and family problems. This is not to say, however, that this would apply at all stages of motherhood. A large number of women who were not depressed at 82 months had experienced some depression in the past. These episodes perhaps had occurred as a result of some more short-lived stresses of the time, although even in this group one-third had had a longer history of depression.

Finally, we should end with a mention of those women who were not depressed at 82 months or at any preceding stage of the investigation. Only 30% of the sample were in this group. This is possibly a testimony to the stressfulness of the deprived environment in which women of this study were living and bringing up their children.

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