A MATERNITY HOSPITAL STUDY OF PSYCHIATRIC ILLNESS ASSOCIATED WITH CHILDBIRTH

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Summary

A RANDOM sample of 401 maternity hospital patients were interviewed in hospital after confinement and again five to six weeks later. Questionnaires were completed recording obstetrical and social factors and the presence of psychiatric symptoms at any stage of pregnancy or the puerperium. Patients with puerperal symptoms were compared with controls. There was evidence that psychiatric morbidity in the puerperium is related to interpersonal and social stresses of various sorts but is not connected with obstetrical stresses. In this stduy, there was no case of severe psychosis and all the puerperal psychiatric illness could be termed "atypical depression". Possible areas for further research are considered.

Introduction

Psychiatric disorders are common in connection with childbirth. For many years, there was a lack of factual studies concerning these conditions. Then, a series of articles appeared concerning the puerperal psychoses which were severe enough to require treatment in a psychiatric hospital. Solomons (1931) of Dublin reported an incidence of 0.8-1.5 per 1000 confinements and incidence figures since that time range from 1 - 4 per 1000 confinements. Initial gloomy prognostication concerning these psychoses (Hemphill, 1952) has changed to a more optimistic outlook (Martin, 1958; Prothero, 1969). Later studies have shown that the risk of recurrence of puerperal psychosis in a subsequent pregnancy is approximately one in six. (Foundeur *et al.*, 1957; Martin, 1958); Arentsen, 1968; Protheroe, 1969).

In recent years, attention has turned to the study of milder mental disorders in the puerperium (Table I). It has been realised that there is much psychiatric ill health at this time which may be disabling and unpleasant but does not require admission to hospital. This is the "atypical" depression reported by Pitt (1968). In 1967, Nilsson *et al.* wrote "Much less is known about mild mental disturbances of neurotic or affective nature and no reliable frequency information can be found" and there is still

TABLE I

Incidence of minor mental disorders arising in puerperium.

Ryle, 1961	Retrospective study in general practice	3%
Tod, 1964	Prospective study in general practice	3%
Jacobsen *et al.*, 1965	Retrospective study in hospital	25%
Pitt, 1968	Retrospective study in hospital	11%
Dalton, 1971	Prospective study in hospital	7%
Nilsson, 1972	Prospective study in hospital	18%

some truth in this statement. The present study was undertaken:

(1) To find the incidence of psychiatric morbidity in the puerperium.
(2) To examine possible aetiological factors.
(3) To consider prophylaxis.

Patients and Methods

Four hundred and twelve women who had their babies in the Rotunda Hospital were selected by a random method. All were public patients, the majority from social classes 4 and 5 (husbands semi-skilled and unskilled). Names were taken from the public labour ward book. Eight consecutive patients delivered after midnight each Sunday entered the survey weekly. They were interviewed in hospital by the author usually on the 3rd, 4th or 5th post partum day (a small percentage later than this). A detailed questionnaire was completed recording all obstetrical facts about the pregnancy and confinement, physical health, social factors and the presence of any nervous symptoms throughout the pregnancy. These patients were seen again five to six weeks later in the out-patient clinic. Their psychiatric assessment was usually combined with their post-natal check-up. In some cases, the second interview was delayed as the patient did not keep her original appointment. She then was reminded by postcard and letter and if she still had not come she was visited in her home. Four hundred women completed their second interview. (One entered the survey twice with successive pregnancies). At this second interview, note was made of any puerperal symptoms, their time of onset and pattern. Those with symptoms were followed up further. Treatment with antidepressant drugs was often started.

Results

Table II shows the timing of development of psychiatric symptoms in the total group. Those who developed symptoms in the puerperium (14 per cent) were compared with those who had no symptoms (63 per cent). Patients were reorded as having psychiatric symptoms if (1) the symptoms had developed since delivery. (2) The symptoms were unusual for the woman and to some extent disabling. (3) The symptoms had persisted for more than two weeks These criteria follow those of Pitt (1968). The third qualification ruled out many cases of transient "maternity" or post-partum blues" which occur in 50-65 per cent of women (Robin, 1962; Hamilton, 1962; Pitt, 1973).

Patients were classified according to symptoms which in all cases fell into one of three categories (a) predominantly anxiety, (b) predominantly depression and (c) mixed anxiety/depression. All could be included under the heading "atypical" or neurotic depression. Anxiety over the baby was commonly present. Tiredness, tension, irritability and a feeling of inadequacy were frequent. The mother often blamed herself for not

TABLE II

Stage of development of psychiatric symptoms.

Symptoms in pregnancy	56	(14%)	
Symptoms in puerperium	56	(14%)	Study Group
Symptoms in pregnancy and puerperium	36	(9%)	
No psychiatric symptoms	253	(63%)	Controls
	401		

TABLE III

Comparison of puerperal depressive and control groups.

		Puerperal depression 56	Controls 253
No significant difference between groups			
Length of labour	Under 12 hours	43 (76.8%)	173 (68.4%)
	12-24 hours	6 (10.7%)	50 (19.8%)
	Over 24 hours	3 (5.4%)	16 (6.3%)
Toxaemia		4 (7.1%)	19 (7.5%)
Caesarian section		5 (8.9%)	15 (5.9%)
Forceps		4 (7.1%)	24 (9.5%)
"Difficult" labour (including Caesarian section, forceps, vacuum extractor, breech, twins, antepartum haemorrhage, prolonged labour i.e. over 36 hours)		15 (26.8%)	53 (20.9%)
Anaemia (Hb. under 10 gms. di)		5 (8.9%)	35 (13.8%)
"Failure of lactation" (bottle fed)		48 (85.7%)	215 (85.0%)
Nausea and vomiting in pregnancy		27 (48.2%)	135 (53.4%)
Age	Under 25	17 (30.3%)	91 (36.0%)
	25-34	30 (53.6%)	110 (43.5%)
	35 and over	9 (16.1%)	52 (20.6%)
Marital status	Married	55	253
	Single	1	0
	Widow	0	0
Borderline difference between groups			
Parity	Para 1	13 (23.2%)	88 (34.8%)
	2	14 (25.0%)	51 (20.2%)
	3	9 (16.1%)	35 (13.8%)
	4	5 (8.9%)	28 (11.1%)
	5	6 (10.7%)	20 (7.9%)
	6	2 (3.6%)	11 (4.3%)
	7	7 (12.5%)	24 (9.5%)
Financial distress		8 (14.3%)	22 (8.7%)
Unsatisfactory housing		24 (42.9%)	82 (32.4%)
Statistically significant difference between groups ($p<0.5$)			
Unplanned pregnancy		24 (42.9%)	74 (29.2%)
Marital discord		3 (5.4%)	2 (0.8%)
Other stress		21 (37.5%)	51 (20.2%)
Past history of psychiatric illness		33 (58.9%)	66 (26.1%)
(a) Connected with childbirth		24 (42.9%)	53 (21.0%)
(b) Not connected with childbirth		9 (16.1%)	13 (5.1%)

looking after the baby competently. Symptoms tended to be worse in the afternoons and evenings. Difficulty in getting to sleep was common and so were nightmares. There were no cases of classical endogenous depression, nor any severe psychosis.

Table III compares the post-partum depressives with controls. The occurrence of obstetrical factors and social factors is recorded. From this table, it seems evident that puerperal psychiatric morbidity is related to environmental or social stresses of various sorts but is not connected with obstetrical stress. This finding differs from various authors in the past. Calvert (1962) wrote "Much of the depression which one sees in the puerperium is due to a sense of failure due to abnormal labour or to the failure of lactation . . . It is common after forceps delivery and almost the rule after caesarian section". Dalton (1971) noted that "in puerperal depressives labour tended to last longer, to have more complications and to have been considered difficult". On the other hand, White *et al.* (1957) reported no increase of unusually difficult pregnancies or deliveries; Kear-Colwell (1965) did not find a correlation between psychiatric symptoms and length or type of delivery and Jacobsen *et al.*, in the same year, found no significant correlation with toxaemia or obstetrical complications of delivery or puerperium.

In the present study, there was no correlation between obstetrical complications (whether studied singly or grouped together) and the development of psychiatric symptoms. Anaemia, unexpectedly, was more common in controls than in depressives. (There was a significantly higher incidence of anaemia, however, in the group of patients who developed psychiatric symptoms in pregnancy persisting into the puerperperium. Twenty-eight per cent of these 36 patients had Hb less than 10 gms/dl).

"Failure of lactation" (Calvert, 1962) has been suggested to be associated with puerperal symptoms. The present study shows a high but equal incidence (85 per cent) of bottle fed babies in both groups. In some of the remainder, breast feeding only continued for a few weeks. The figures were comparable to the Scottish survey (Editorial, 1968) where only 7.1 per cent were breast feeding at 12 weeks and 4.7 per cent beyond four months.

It has been suggested that puerperal symptoms may be related to vomiting of pregnancy. In the present study, vomiting had occurred in 48 per cent of depressives and 53 per cent of controls. (Not unexpectedly, however, there was an increased incidence of nausea and vomiting in patients with psychiatric symptoms during pregnancy — 64 per cent.).

There was no real difference in age between patients with psychiatric symptoms and controls.

There have been conflicting reports about the relationship between puerperal symptoms and parity. Jacobsen *et al.* (1965) felt that there was no connection but Pitt (1968) found slightly more primiparae among his depressives (not a significant difference). In the present study, there was a significantly lower incidence of puerperal symptoms in primiparae, which lends support to Tod's (1964) statement that "Primigravidae seem relatively immune from psychological disturbance in the puerperium".

Stress is difficult to evaluate. There was only one illegitimate birth and one stillbirth in the series. Stress was recorded under the headings of financial or housing problems, an unplanned pregnancy, an unhappy marital relationship and "other" stress. The latter included a variety of factors such as illness in the husband or an older child, a family bereavement, difficulties with neighbours, fear of becoming pregnant again. Often two or more stress factors were present in the one patient. The assessment was crude and it is realised that all stress

factors almost certainly were not disclosed at the two interviews. However, there seemed to be a definite correlation between stress factors and puerperal illness. The correlation was statistically significant in the case of interpersonal stress. The statement of Nilsson *et al.* (1967) "There is a statistically significant correlation between unplanned pregnancies and psychological morbidity" was confirmed. Incidentally, of the total series of 401 pregnancies, 142 (35.5 per cent) were unplanned with an increased incidence of psychiatric illness during pregnancy as well as in the puerperium.

There was a surprisingly high history of previous psychiatric illness even in the controls (26 per cent) but significantly higher in the puerperal patients (59 per cent). This was similar to Tod's figure of 45 per cent positive history in puerperal patients but contrary to Dalton's findings. Information about psychiatric illness in the family was too scanty to be of use.

Tod (1964) noted that pathological anxiety in pregnancy is often followed by puerperal depression. He recommended treatment with anti-depressant drugs in pregnancy after the fourth month to reduce the severity and duration of puerperal depression. Dalton also noted that puerperal depressives had been more anxious at their first ante-natal visit than controls. During pregnancy, she found that they became more elated and had fewer symptoms. Pitt, however, found no significant evidence of more anxiety in pregnancy in the puerperal depressives than in the controls. The present study (in which, admittedly, analysis of pregnancy was retrospective) showed that 36 (39 per cent) of the total 92 who had puerperal symptoms, had had previous symptoms in pregnancy. Fifty-six (18 per cent) of 309 controls who had no puerperal symptoms, had had symptoms in pregnancy. Considering the whole group of 401 patients, 14 per cent had symptoms in pregnancy which did not persist into the puerperium. It would seem reasonable, therefore, to use anti-depressant therapy in the later months of pregnancy only in those patients whose severity of symptoms warranted it rather than as a routine prophylactic measure.

Discussion

This study has shown that minor but troublesome puerperal psychiatric illness is 1) common 2) related to environmental and social stress 3) not related to obstetrical factors. Stress factors have not been identified accurately and this might be a subject for further study. More effective efforts might then be made to alleviate stress in the pregnant woman. One would expect this to contribute to a lower incidence of psychiatric morbidity in the puerperium.

Many of the patients with puerperal symptoms in this survey were treated with anti-depressant drugs. A follow-up and assessment has not as yet been performed. Pitt (1968) found that in a group of 305 hospital patients 33 women developed puerperal depression and 12 still had symptoms one year later. (Only two of these 12 patients had had any therapy). If this figure is generally valid the Rotunda Hospital, with nearly 6,000 deliveries in a year, might expect 230 women annually to have psychiatric symptoms, which, if untreated, will persist for at least a year. The implications of this are serious when one considers how a mother's mental health affects the whole family. Obviously, this is an important field for further research with particular reference both to prevention and effective methods of treatment.

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