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Puerperal Mental Illness: Comparisons with Non-Puerperal Controls

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Summary: A sample of patients with puerperal mental illness requiring hospital admission were diagnosed retrospectively according to the criteria of DSM III. Comparisons were made with controls matched for diagnosis on a number of features of past history, symptoms, management and outcome. Puerperal illness was associated with more frequent puerperal and less frequent non-puerperal previous admissions, more frequent delusions and greater use of ECT.

Post-partum mental illness has been recognized since the time of Hippocrates, who described a woman who became restless and later delirious following the birth of twins and who died on the seventeenth day (Hamilton, 1962, page 126). There has been considerable debate as to whether the psychiatric illnesses occurring in the puerperium can be subsumed under the general classification of psychiatric disorders, once allowance is made for pathoplastic variation in phenomenology, or whether puerperal illnesses constitute a specific syndrome or set of syndromes which set them apart. The monograph by Marcé (1858), describing 310 cases, proposed the existence of a puerperal psychiatric syndrome characterized by confusion, together with a variety of psychotic manifestations. In contrast to this, the Kraepelinian view that the puerperium was no more than a stress factor in provoking and shaping psychiatric illness became increasingly influential.

A number of studies in the 1950s and 1960s addressed these issues through controlled or long term studies of puerperal psychosis. Martin (1958) followed up 75 puerperal admissions and found that virtually all patients were treated with electro-convulsive therapy and that the prognosis was generally excellent. Seager (1960) paired 42 patients retrospectively with age and diagnosis matched non-puerperal controls and with healthy recent deliveries. He found that puerperal psychosis was associated with as marked a family history as non-puerperal psychosis but cases were usually admitted earlier. There were no important differences in prognosis between the psychotic groups, but the numbers were too small for analysis of diagnostic sub-groups and there were no manic patients in the sample. Paffenberger (1964) found that risk of psychiatric admission was much greater during the puerperium than at other times in women's lives. In a major and influential study Protheroe (1969) traced a group of puerperal psychiatric patients many years after their original admission; he found that prognosis was good for the affective disorders and bad for the schizophrenias, and that there was a very high risk of further puerperal episodes. The consensus of psychiatric opinion by the end of the 1960s as reviewed by Granville-Grossman (1971) was that although previous puerperal psychosis increased the risk of further puerperal episodes a hundred-fold the overall prognosis of post-partum psychosis was probably like that of similar non-puerperal illnesses.

More recent studies have examined phenomenology as well as prognosis. Brockington *et al* (1978), in a prospective study of consecutively admitted puerperal and non-puerperal female psychotics found that elation, lability, rambling and distractability were commoner in the puerperal group and that delusions, hallucinations and passivity phenomena were commoner in controls. In contrast to the earlier studies cited they found that a surprisingly small proportion of their sample could be diagnosed as schizophrenic. No information was given on past psychiatric history or follow up. Kadrmas *et al* (1979), in a retrospective study restricted to manic illness in puerperal and matched control cases, found that puerperal manics more frequently exhibited Schneiderian first rank symptoms and had less marked family history than non-puerperal manics. Kendell *et al* (1981) and Dean and Kendell (1981) used cross matched obstetric and psychiatric admission records to obtain a representative sample of puerperal illness. The former study was restricted to social and obstetric correlates of puerperal illness and did not employ controls, and the latter used controls individually matched for age and diagnosis. Neither study compared past history or outcome. Dean and Kendell (1981) found that although length of admission did not differ between puerperals and controls, the puerperal depressed groups showed more psychotic symptoms, and more disorientation, agitation and lability than controls.

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The interval between delivery and onset of symptoms was also longer for the puerperal group than for the rest. The recent outcome study of Da Silva and Johnstone (1981) in severe puerperal illness using strict diagnostic criteria has confirmed Protheroe's (1969) finding that puerperal schizophrenia is associated with poor outcome.

Although a number of differences both between puerperal subjects and controls and between puerperal diagnostic subgroups were found, none of the previously cited studies has looked systematically at past history and outcome as well as presentation, symptoms and management, comparing puerperal diagnostic sub-groups with representative non-puerperal controls. The present study attempts to do this.

Method

The Psychiatric In-patient Identification form (HMRI) completed at the time of discharge for all patients admitted to Fulbourn Hospital 1970–1980 inclusive (excluding 1972 for which the records were missing) were examined. The case notes of all those whose recorded diagnosis referred to the puerperium were selected and those who were admitted to hospital within six months of childbirth were included in the study. In each case diagnosis based on the criteria of the Diagnostic and Statistical Manual of Mental Disorders, Third Edition (DSM III), of the American Psychiatric Association (1980) was attempted. Age, parity, past and subsequent puerperal and non-puerperal admissions to Fulbourn and elsewhere were recorded, as well as the intervals (as recorded in the case notes) between delivery, onset of symptoms and admission; duration of index admission; treatment given (at time of discharge except for ECT): detention under sections of the Mental Health Act 1959; and presence or absence of delusions, hallucinations, perplexity, disorientation, agitation and lability of mood. A tentative diagnosis was recorded if the DSM III criteria could not be applied.

Two major diagnostic sub-groups emerged: DSM III major depressive episode and DSM III manic episode. Case note data were insufficient to permit reliable further subdivision. In order to obtain control groups with the same DSM III diagnosis, the HMRI forms were re-examined. Since virtually all of the puerperal sample had been admitted to Fulbourn on fewer than two previous occasions and were married, only the case notes of married patients aged 15–45 and admitted for the first or second time with HMRI diagnosis of depression, mania or manic-depressive illness were examined. In the case of depression a 3 in 10 random sample, with 4 in 10 for the years 1979 and 1980 (for closer matching by year of admission), was used. The case notes of patients within the sample who fulfilled DSM III criteria for Major Depressive Episode or Manic Episode formed the control groups. Where both first and second admissions to Fulbourn Hospital fulfilled the relevant DSM III criteria, the earlier admission was used. As in the puerperal sample, previous admissions to other hospitals were noted, but did not form exclusion criteria. The same data where applicable were recorded and systematic comparisons were made between puerperal and control groups with the same DSM III diagnoses. The search for suitable controls revealed eleven further puerperal admissions which were added to the puerperal group.

Results

(a) Description of the puerperal sample

It was possible to make a DSM III diagnosis of major depressive episode or manic episode in 58 patients out of the total of 84. Of the remainder 13 probably had a depressive illness and the remaining 13 a variety of diagnoses (see Table I) to which DSM III criteria could not be applied.

The preponderance of affective disorders was similar to that found by Brockington *et al* (1978, 1981) and by Dean and Kendell (1981). It differed from a number of other studies ((Martin, 1958), Seager (1960), Protheroe (1969), and Da Silva and Johnstone (1981)) in having a very small representation of schizophrenic and schizo-affective illness. In the present study this may in part be due to a failure to record in

TABLE I

Diagnoses within the puerperal sample

	No.		%	
Total	84		100%	
D.S.M. III major depressive episode	40		47.6%	
D.S.M. III manic episode	18		21.4%	
Probable depression	13		15.5%	
Probable mixed affective state	3		3.6%	
Probable paranoid psychosis	3		3.6%	
Probable schizo-affective psychosis	2		2.4%	
Probable mania	1	13	1.2%	15.5%
Probable hysteria	1		1.2%	
Probable anxiety state	1		1.2%	
Probable organic confusion	1		1.2%	
Probable obsessive-compulsive illness	1		1.2%	

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the HMRI forms that patients diagnosed as schizophrenic had become ill during the puerperium, as was the case for the 11 puerperal patients found in the search for controls.

(b) Comparison between puerperal subjects and non-puerperal controls

(i) Description at time of index admission (Table II)

Age matching was not attempted, and the control groups are representative samples (complete in the case of DSM III Manic Episode) of patients admitted during the relevant period to Fulbourn Hospital for the first or second time and fulfilling the relevant diagnostic criteria. Both control groups were significantly older than the puerperal groups and had more children, although the difference in parity did not reach significance for the manic groups. The distribution of puerperal and control groups for the year of index admission did not differ significantly. Both control groups had had significantly more previous non-puerperal admissions than the puerperal groups, the difference being maintained after direct standardization of the puerperal groups to allow for the effects of age. The reverse applied, although this only reached statistical significance in the depressive groups, for previous puerperal admissions.

Delay between onset of symptoms and admission was significantly ($P < 0.05$) shorter for the puerperal depressives than for the depressive controls (Fig 1). The same tendency applied for mania though this did not reach statistical signifiicance.

(ii) Symptomatology (Table III)

Frequency of hallucinations, perplexity, disorientation and agitation did not differ significantly between puerperal and control groups. The puerperal groups both showed a significantly higher rate of delusions (depressive groups $P < 0.01$; manic groups $P < 0.05$) than the controls. Lability of mood was also significantly more often recorded in the puerperal depressives than the depressive controls ($P < 0.05$). Direct standardization to allow for the effects of age did not materially alter these findings. Although different methods of data collection were used it can be seen that these findings are in contrast to those of Brockington *et al* (1978) but generally in agreement with those of Dean and Kendell (1981).

TABLE II

Comparison of age, parity and past psychiatric history between puerperal and non-puerperal groups (χ^2 tests use Yates' correction)

	D.S.M. III major depressive episode			D.S.M. III manic episode		
	puerperal sample	control sample	Significance	puerperal sample	control sample	Significance
Age: Range	19–38	15–45	Mann–Whitney	19–40	24–45	Mann–Whitney
Median	25	35	U test 2-tailed $Z = 5.62$ $P < 0.001$	27	34	U test 2-tailed $Z = 3.71$ $P < 0.001$
Parity: Range	1–4	1–6	Mann–Whitney	1–3	1–7	
Median	1	2	U test 2-tailed $Z = 2.96$ $P < 0.01$	2	2	N.S.
No. previous puerperal admissions (for multiparous subjects)	6 (33.3%)	3 (6.8%)	d.f. = 1 $\chi^2 = 4.77$ $P < 0.05$	4 (40%)	6 (18.2%)	N.S.
No previous non-puerperal admissions	5 (12.5%)	16 (36.4%)	d.f. = 1* $\chi^2 = 5.15$ $P < 0.05$	3 (16.7%)	18 (54.5%)	d.f. = 1* $\chi^2 = 5.42$ $P < 0.05$

* Combining manic and depressive groups, comparison between puerperal and non-puerperal samples for non-puerperal readmission rate yield d.f. = 1; $\chi^2 = 12.85$; $P < 0.001$. After direct standardization of the puerperal sample to allow for age $\chi^2 = 11.53$; $P < 0.001$.

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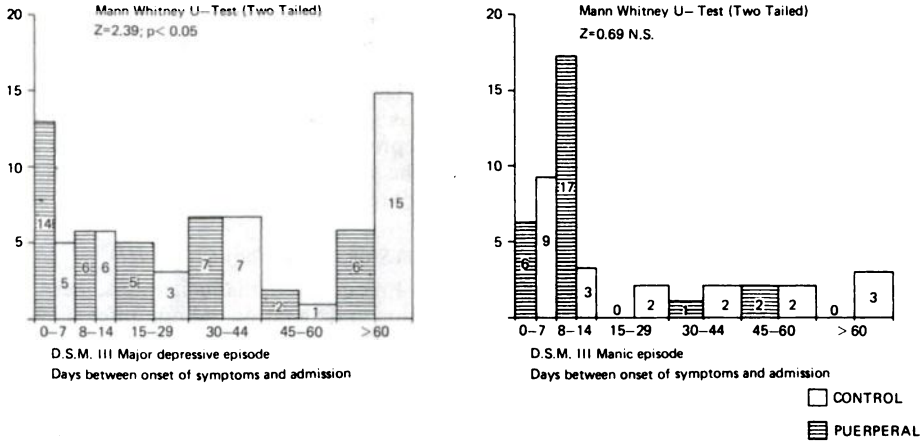


FIG 1.—Delay between onset of symptoms: comparison between puerperal and control groups.

TABLE III

Comparison of symptoms and management between puerperal and non-puerperal groups (χ^2 tests use Yates' correction)

	D.S.M. III major depressive episode			D.S.M. III manic episode		
	puerperal sample (40)	control sample (44)	Significance	puerperal sample (18)	control sample (33)	Significance
Delusions	20 (50%)	9 (20.5%)	d.f. = 1* $\chi^2 = 6.84$ P < 0.01	12 (66.7%)	11 (33.3%)	d.f. = 1* $\chi^2 = 3.97$ P < 0.05
Hallucinations	5 (12.5%)	6 (13.6%)	N.S.	3 (16.7%)	4 (12.1%)	N.S.
Perplexity	7 (17.5%)	7 (15.9%)	N.S.	5 (27.8%)	2 (6.1%)	N.S.
Disorientation	0 (0%)	2 (4.5%)	N.S.	3 (16.7%)	2 (6.1%)	N.S.
Agitation	12 (30%)	12 (27%)	N.S.	5 (27.8%)	6 (18.2%)	N.S.
Lability	8 (20%)	1 (2.3%)	d.f. = 1** $\chi^2 = 5.15$ P < 0.05	7 (38.9%)	11 (33.3%)	N.S.
Section of MHA	7 (17.5%)	6 (13.6%)	N.S.	12 (66.7%)	18 (54.5%)	N.S.
Antidepressants	31 (77.5%)	30 (68.2%)	N.S.	2 (11.1%)	3 (9.1%)	N.S.
Neuroleptics	19 (47.5%)	13 (29.6%)	N.S.	18 (100%)	28 (84.8%)	N.S.
Benzodiazepines	7 (17.5%)	15 (34.1%)	N.S.	1 (5.6%)	1 (3.0%)	N.S.
Lithium carbonate	3 (7.5%)	0 (0%)	N.S.	1 (5.6%)	14 (42.4%)	d.f. = 1 $\chi^2 = 5.95$ P < 0.05
ECT	17 (42.5%)	7 (15.9%)	d.f. = 1 $\chi^2 = 6.01$ P < 0.02	6 (33.3%)	2 (6.1%)	d.f. = 1 $\chi^2 = 4.22$ P < 0.05

* For the whole puerperal *vs* non-puerperal sample d.f. = 1; $\chi^2 = 10.71$; P < 0.01; after direct standardization of the puerperal group to allow for age d.f. = 1; $\chi^2 = 5.77$; P < 0.02.

** After direct standardization of the puerperal group to allow for age, d.f. = 1; $\chi^2 = 8.01$; P < 0.01.

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(iii) Management during index admission (Table III)

There were no significant differences between the puerperal and control groups in length of index admission and rate of compulsory detention. Use of neuroleptics, anti-depressants and benzodiazepines did not differ significantly between puerperal and control groups but, as was also found by Dean and Kendell (1981), ECT was used more frequently in the puerperal than in the control groups. Lithium therapy was used more frequently in the manic control group than the puerperal manic group. This excess did not, however, reach statistical significance when patients having their first psychiatric admission were analysed separately.

(iv) Outcome

No puerperal readmissions were recorded for either puerperal or control groups. Readmission rates within six months of index admission did not differ significantly for either group, but the puerperal depressed group had significantly lower long term readmission rates (5 per cent *vs* 31.8 per cent; df = 1; χ^2 (Yates' correction) = 8.11; P <0.01). The rates for the manic group showed a similar tendency (22.2 per cent *vs* 42.4 per cent) but this did not reach statistical significance.

Summary and Conclusions

It is clear that, at least for the sample presented in this study, puerperal mental illness neither forms a single well defined syndrome nor a variety of psychiatric illnesses each indistinguishable from their non-puerperal counterparts. More specifically a number of points emerge.

1. Puerperal depression and mania were associated with significantly fewer non-puerperal and significantly more puerperal admissions than control groups.
2. Puerperal subjects were strikingly more often deluded than controls and puerperal depressives were also more labile in mood.
3. Puerperal depressives had a shorter delay between onset of symptoms and admission than controls.
4. Treatment of puerperals and controls was similar except that ECT was used more frequently in puerperal subjects, and in the case of mania, lithium was used more in controls.
5. Outcome was significantly better for puerperal depressives than for controls.

The considerable differences between puerperal and control subjects, particularly the different patterns of past psychiatric history (as well as the high rate of delusions in the puerperal sample) suggest that at the very least the puerperium is a powerful pathoplastic influence and that there may be sub-groups of the population liable to affective illness who tend to break down specifically in the puerperium. The similarities in management between puerperal and control subjects reflect the consensus of opinion that puerperal illnesses are essentially similar to their non-puerperal counterparts, but the high rate of use of ECT and low rate of use of lithium carbonate in puerperal subjects suggests that this consensus is somewhat modified by the prevailing view that ECT is the specific treatment of choice for puerperal mental illness.

It is impossible to draw more than the most tentative conclusions about the nature of puerperal illness from such a retrospective study. Differences between puerperal subjects and controls may have been emphasised by the method of selection which favoured puerperal subjects sufficiently distinctly for 'puerperal' to have been added to their discharge diagnoses. Inadequate information for past history and follow up (especially of psychiatric episodes not leading to hospital admission or leading to admission elsewhere) was inevitable. Prospective studies of representative puerperal and control groups are needed both to amplify the phenomenological differences suggested by this study and the other studies previously cited and to evaluate alternative treatment strategies.

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