British Journal of Psychiatry (1990), **156**, 861–865

Puerperal Insanity in the 19th and 20th Centuries

ANIS-UR-REHMAN, DAVID ST CLAIR and CHRISTINE PLATZ

All patients with puerperal psychosis admitted to the Royal Edinburgh Hospital within 90 days of childbirth during the periods 1880–90 and 1971–80 were compared. The majority of cases in both groups had an affective illness with an acute presentation and a fixed interval of onset. The 19th-century cases had a more florid presentation and a greater length of admission (mean, 151 days) to the hospital than the 20th-century ones (mean, 39 days). The incidence of the disorder rose from 0.34 per 1000 childbirths per year in the 19th-century group to 1.04 in the 20th-century one, but this could be explained by nosocomial factors. Most 19th-century cases occurred in mulitgravid women, which questions the association of puerperal psychosis with primiparae.

Although the presentation of psychiatric illness has generally remained unchanged over the past century, the intensity of mental disorders seems to have altered over time (Klaf & Hamilton, 1961; Hare, 1974; Ellard, 1987; Hare, 1988). Cases of delirious mania and catatonic excitement common a century ago are rarely seen now. Furthermore, Loudon (1988) studied patients with puerperal psychosis admitted to Warwick County Lunatic Asylum between 1880 and 1888 and commented on the florid presentation compared with the present day.

It is postulated than an improvement in the general health of the population over the past century has brought about an overall decline in the floridness of mental disorders (Hare, 1974). However, definitive evidence to support this view is lacking. It is hard to compare equivalent patient groups over such a long time epoch since most 19th-century psychiatric classifications differed from contemporary operationalised diagnostic criteria which are based on a Kraepelinian division of psychoses. A rare opportunity for a comparative study on 19th- and 20th-century patients was recently identified at the Royal Edinburgh Hospital. Each patient selected for study was admitted during one of the periods 1880–90 and 1971–80 and had a diagnosis of puerperal mental illness based on contemporary criteria. The changes in symptoms and epidemiology of mental disorders following childbirth could thus be investigated using equivalent groups over a 90 year period.

Method

Subjects

Nineteenth-century cases

Detailed case records of each patient admitted to the Royal Edinburgh Lunatic Asylum are available from 1840 onwards when Dr Mackinnon was Physician Superintendent. The cases used are from the period 1880–90 when it was standard practice to use two parallel diagnostic systems: divisions into mania, melancholia and monomanias similar to contemporary ones, and a second diagnosis based on the classification system by Skae (1863). This system allowed the present study to identify all patients admitted with psychiatric disorder following childbirth since all were labelled as suffering from either 'puerperal' or 'lactational' insanity. A diagnosis of 'puerperal' insanity was given if symptoms occurred within six weeks of delivery. 'Lactational' insanity began after this period or following prolonged lactation.

A systematic search through a full year's admissions during the study period was made to determine whether any patients with mental illness following childbirth had been overlooked by Skae's classification. None was found. Thus, the present study included all women admitted to the Royal Edinburgh Lunatic Asylum with a mental illness within 90 days of delivery from 1880–90. The total number of patients identified was 63. Although there were 38 cases where only approximate dates of childbirth were given in the hospital case notes, a search of birth records at the Scottish Register Office allowed the exact date of delivery to be determined in 28 of these.

Twentieth-century cases

A follow-up study of cases of puerperal psychosis originally studied by Dean & Kendell (1981) was in progress at the Royal Edinburgh Hospital at the time of our investigation and thus we used its findings. In this study, since the hospital served a catchment area of the whole city, computer linkage of obstetric and psychiatric records enabled all women who had received in-patient care at the hospital within 90 days of childbirth to be traced. The total number of cases identified during the period 1971–80 was 108.

Data

Information for both 19th and 20th-century cases, including demographic details, obstetric variables and symptoms, was recorded. Symptoms were identified according to a variety of different criteria. The presence of 'mood swings' required

https://doi.org/10.1192/bjp.156.6.861 Published online by Cambridge University Press

the shifting of mood from elation to depression or vice versa within the first month of admission. 'Confusion' was rated according to the DSM-III (American Psychiatric Association, 1980) criteria for delirium with modifications (Rehman, 1986). Patients were considered to be definitely confused if criteria for any three of the four stems (ABCD) were fulfilled or if there was strong evidence of confusion from clinical records. The coding for 'delusions' was according to the Present State Examination (PSE) glossary of definitions (Wing *et al*, 1974). Furthermore, Research Diagnostic Criteria (RDC) (Spitzer *et al*, 1978) diagnoses were derived for patients in both groups.

The case notes for both the study periods were well recorded. The 19th-century case histories were especially impressive and contained meticulous details about symptoms which facilitated retrospective application of RDC criteria. Quantitative information was obtained by analysis of variance, χ^2 and Fischer's Exact Probability using the Statistical Package for Social Sciences (SPSS, 1983).

Incidence of puerperal psychosis

Figures from the General Register Office for Scotland were obtained in order to ascertain the population and birth rate in Edinburgh for the periods studied. The catchment area for the hospital over both periods was also estimated. Using these data, an approximate estimate of the incidence of puerperal psychoses was made (see Results).

TABLE I
Obstetric features of puerperal patients in the 19th and 20th centuries

Obstetric variables	*19th-century patients (total n = 63)*	*20th-century patients (total n = 108)*
Previous pregnancies[1]: number (%)		
primigravidae	14 (31%)	58 (55%)
multigravidae	31 (69%)	48 (45%)*
Mean (s.d.) intervals: days		
Delivery and admission	33 (24)	32 (25)[3]
Delivery and onset of symptoms	16 (26)	17 (21)[3]
Onset of symptoms and admission	21 (28)	16 (17)[3]
Perinatal complications[2]: number (%)		
absent	13 (45%)	55 (60%)
present	16 (55%)	37 (40%)[3]

*$P<0.05$.
1. Information only available for 45 19th- and 106 20th-century patients.
2. Information only available for 29 19th- and 92 20th-century patients.
3. NS.

Results

The mean age of the 63 19th-century cases was 28 (s.d. 5.1) while that of the 108 20th-century patients was 26 (s.d. 5.0) ($P<0.05$). Seventy-four per cent of the 19th-century patients were married as compared with 80% of the 20th-century ones. A past history of mental illness was noted in 18% of the 19th-century group as against 44% of the 20th-century one ($P<0.001$). Twenty-seven per cent of 19th-century patients had a family history of psychiatric illness as opposed to 41% of the 20th-century ones. Interpretation of these results is difficult as they may not have been meticulously recorded in 19th-century patients.

Table I lists the obstetric variables of the two groups. Significantly ($P<0.05$) more 20th-century patients were primigravid compared with 19th-century patients. On the other hand there were no differences between the two groups in the length of time of any of the important obstetric intervals and the onset of symptoms. Similarly, there were no significant differences between the two groups as regards obstetric complications. It should be mentioned, however, that information was not available for all cases, as shown in the table.

Table II lists RDC diagnoses of the two groups. Most cases in both groups had an affective disturbance. There was a preponderance of manic disorder in the 19th-century patients ($P<0.001$). This difference persisted when all cases with elevated mood presenting as part of the illness (i.e. schizophrenic, manic and hypomanic patients) were combined in each group.

Psychotic cases were identified separately in each of the two groups. They were defined as major mental illness with delusions or hallucinations. This comparison removed the dilution effect of admissions for minor psychiatric illness restricted almost entirely to the 20th-century group. The number of psychotic patients in the 19th century was 49

TABLE II
RDC diagnosis of puerperal patients in the 19th and 20th centuries

	19th-century patients (n = 63)	*20th-century patients (n = 108)*
Schizophrenia	2 (3%)	5 (4%)
Schizoaffective disorder		
manic type	4 (6%)	5 (4%)
depressed type	0	3 (3%)
Manic disorder	27 (43%)	15 (14%)*
Hypomanic disorder	0	2 (2%)
Major depressive disorder	23 (36%)	45 (42%)
Minor depressive disorder	1 (2%)	18 (17%)**
Unspecified functional psychosis	1 (2%)	10 (9%)
Organic disorder	5 (8%)	1 (1%)
Personality disorder/ no psychiatric diagnosis	0	4 (4%)

*$P<0.001$.
**$P<0.01$.

https://doi.org/10.1192/bjp.156.6.861 Published online by Cambridge University Press

TABLE III
Symptoms and outcome of puerperal patients in the 19th and 20th centuries

	19th-century patients (n = 63)	*20th-century patients (n = 108)*
Delusions		
definitely present	45 (71%)	49 (45%)
probably present	7 (11%)	3 (3%)
absent	8 (13%)	56 (52%)*
uncertain	3 (5%)	0
Hallucinations		
definitely present	16 (25%)	24 (22%)
probably present	6 (10%)	4 (4%)
absent	12 (19%)	78 (74%)*
uncertain	29 (46%)	2 (2%)
Motility disturbance		
definitely present	46 (73%)	46 (43%)
probably present	13 (21%)	15 (14%)
absent	4 (6%)	47 (43%)
Confusion		
definitely present	23 (37%)	34 (32%)
probably present	24 (38%)	10 (9%)
absent	16 (25%)	64 (59%)
Length of stay in hospital		
Mean (days)	151.7	39.0*
s.d.	118.8	37.8

*$P<0.001$.

(82%) and in the 20th century, 55 (51%), the difference between the two groups being significant ($P<0.001$).

Table III describes the symptoms and outcome of puerperal mental illness in the two groups. More 19th-century patients were deluded ($P<0.001$). The most common delusions were misinterpretation, misidentification and reference followed by guilt, persecution and expansive ideation. Some examples of 19th-century delusions are as follows: "Believes her baby has been changed for another baby"; "strongly maintains that she is dead and that her husband must die too and they will both go to hell together"; "some people have been burnt on her account"; "she has done wrong and will be burnt alive"; "thought people were going to strip her and hang her"; "believes that her body is all broken into pieces, that she is blocked up, and cannot have any passage from her bowels, that she cannot swallow her food and it does her harm"; "believes that she is being murdered by the inmates of the maternity hospital and that all her relatives have been destroyed"; "devils are constantly following her"; "abuses the nurse and blames her for the war in Egypt"; "imagines she is being drugged with chloroform".

Patients 90 years ago also had more hallucinations ($P<0.001$). These differences remained significant when visual ($P<0.01$) and auditory ($P<0.05$) hallucinations were separately analysed and when psychotic subgroups were compared.

There was similarly a clear excess of patients in the 19th century who had motility disturbance ($P<0.001$) and confusion ($P<0.001$). This also was true for the respective psychotic subgroups ($P<0.05$ and $P<0.001$). No significant differences were found between the two groups as regards mood swings but when the psychotic populations were examined separately, more 19th-century patients had evidence of such disturbance ($P<0.05$). The severity of mood swings was also greater.

Nineteenth-century patients also stayed longer in hospital. This held for the group as a whole ($P<0.001$) as well as the psychotic cases alone ($P<0.001$).

Incidence of puerperal psychosis

The population of Edinburgh which was 414 372 in the period 1880–90, rose to 459 193 in the decade 1971–80, registering a mean increase of 44 821. The mean birth rate for Edinburgh during 1880–90 was 12 982 and during 1971–80 was 5246, a mean decline of 7736 over the study period. No substantial alteration in the size of the catchment area for the Royal Edinburgh Hospital was noted over the 90 year period (Eagles, 1983; Rehman, 1986). The incidence of puerperal admissions to the hospital was calculated during both periods for cases with psychotic illness and found to be 0.34 per 1000 childbirths per year for the 19th century and 1.04 for the 20th century.

Discussion

This study shows that puerperal psychosis in the 19th century is similar to that of today in that most cases have an affective disorder, the period of onset is a fixed interval after childbirth and the presentation is manic. In addition to this similarity, several factors are not significant for both 19th- and 20th-century cases. The proportion of unmarried mothers in both groups is essentially the same which mitigates against an explanation based on social rejection or stigma. Furthermore, no significant association has been shown, now or then, with obstetric complications. The results do not lend support to the evidence that post-partum psychosis is an illness of primigravid women (Thomas & Gordon, 1959; Kendell, 1981; Kendell *et al*, 1987). In the 19th-century cohorts most cases occurred in multigravid women which relates to the fact that, at this time, most pregnancies occurred in such women.

Certain differences have been highlighted however between 19th- and 20th-century puerperal psychosis patients. The former showed a more florid presentation, similar to that observed by Loudon (1988) over the same period. They also had more numerous symptoms. Moreover, this excess morbidity could not be wholly attributed to organic causes. Visual hallucinations which are seldom present now in functional illness were mainly seen in 19th-century patients in whom an organic illness had most probably been excluded. Some of the 19th-century clinical descriptions are given in the appendix.

https://doi.org/10.1192/bjp.156.6.861 Published online by Cambridge University Press

The more florid 19th-century presentation could however be mainly due to nosocomial factors. Nowadays neuroleptics are commonly given to patients on admission and quite often before what is misleadingly called the 'initial mental state' has completely finished. This could have affected the results of this study, as the RDC diagnoses were based on all the information contained in the case notes during the first month of admission to hospital. Certainly the introduction of electroconvulsive therapy (ECT) and neuroleptic drugs has shortened the duration of the illness and the length of admission. The 19-century figures could therefore correspond to the pre-drug, pre-ECT era and represent the natural history of the disorder. Jansson (1964) and Prothero (1969) clearly showed that with introduction of modern treatments the duration and outcome of post-natal illness considerably improved.

As the risk of developing puerperal psychosis is dependent on childbirth, it could be expected that the greater the number of episodes of childbirth, the greater would be the risk of the illness. Although data from the General Register for Scotland showed that despite the fall in the birth rate, the admission rate for puerperal illness per birth event had almost tripled over the study period, this rise in incidence needs to be put into the context of Clouston's (1886) figures for Edinburgh which show a much higher incidence for the 19th century (1 in 400 labours) than our study did.

The low incidence in the 19th century noted in this study could be due to several reasons. There were fewer admissions of psychotic patients then to the Royal Edinburgh Asylum, a trend reflected in all psychiatric hospitals in Scotland (Cameron, 1954; Rehman, 1986). By contrast, now there are more in-patient facilities and liberal admission policies and an increased readiness by the public for in-patient care. Furthermore, it is possible that in the 19th century some patients who also had severe puerperal infection would have died before being admitted to hospital and other patients would have been treated at home, particularly if good social supports were available (Clouston quoted a figure of 9% for such cases; Clouston, 1886; Thompson, 1984).

All 19th-century patients required compulsory detention for in-patient psychiatric treatment. Adequate grounds for certification necessitated the presence of signs of insanity and this could have resulted in over-reporting of psychotic cases and manic patients in the present study. Furthermore, although strict catchment areas now make it reasonable to draw inferences on the incidence based on modern statistics, the possibility of admission to private nursing homes and asylums in the 19th century, especially in milder cases, cannot be ruled out.

Although the large discrepancy in puerperal psychotic admissions over the past century can be mostly explained by the above reasons, the possibility of change in severity of illness cannot be fully excluded. Several supposed risk factors could have operated in combination to cause a more florid illness in the 19th century. Genetic vulnerability, poor nutrition and pre-natal damage to the mother herself at the time of her own birth are some of the factors which need consideration.

Acknowledgements

The authors would like to thank the Archivist and Records Department of the Royal Edinburgh Hospital, and the Scottish Register Office. Mr R. McGuire helped with the statistics and Mrs M. Dodd typed the manuscript. We are especially grateful to Professor Kendell for his support and encouragement throughout the project.

Appendix

Case 1

Mrs X, a housewife living in 11 Falem Place, Edinburgh, was admitted to Royal Edinburgh Asylum on 12 June 1883 with melancholia following the normal birth of a healthy baby whom she did not nurse. She had had two previous admissions to the Asylum for depression. Her admission was under a compulsory medical certificate as she was restless, perturbed, sleepless, had a poor appetite and had made desperate attempts to kill herself by throwing herself out of a window.

She felt despondent and cried, saying that there was "a mist of darkness before her which she couldn't get through". On mental state examination she was found to be very sad and tearful with frank suicidal ideation. Her speech was coherent and there was no evidence of delusions or hallucinations. A physical examination found her to be thin, pale, weak and "respectable with brown hair and grey eyes". She had "a weak physique due to poor muscularity and fatness". No evidence of an organic illness was found and her temperature was normal.

During her stay in the hospital she gradually improved with plenty of food and exercise and by 1 September 1883 was cheerful, in good health and anxious to return home. She was therefore discharged. Unfortunately the same month she committed suicide by jumping over the Edinburgh Dean bridge into the stream below. This was reported in *The Scotsman*.

Case 2

Mrs Y, a 33-year-old Protestant housewife, was admitted from Haddington as a private patient on 31 December 1885, with acute puerperal mania. She had given birth to a son four weeks earlier following an easy and normal labour.

https://doi.org/10.1192/bjp.156.6.861 Published online by Cambridge University Press

She nursed the child until a week prior to her admission when she became ill. There was no previous history or family history of mental illness.

On admission her mood was generally elated and she was restless, excited and sleepless. She talked nonsense incessantly and was very noisy. She had delusions that her child had been changed and that people were hiding in the house and were threatening her. She also believed that she had no husband and that she got her child from "the Lord on a dark night".

She was removed to a padded cell and given paraldehyde and potassium bromide. By 4 May 1886 she had become "quite coherent and rationale and was most industrious but had still a morbid degree of elevation of mood". By 15 May 1886, she was found to "quite sane in all respects" and was sent home on pass. She was discharged on 31 May 1886 when she had fully recovered.

Case 3

Mrs Z, a 31-year-old housewife from 8, Gibson Terrace, Edinburgh, was admitted on 14 March 1881 to the Asylum with a melancholic illness. There was no past or family history of psychiatric illness. She had given birth to a child on 17 February 1881 and her labour was "natural and speedy".

She was profusely depressed and constantly moaned and cried. She thought she was lost. There was considerable motor restlessness with wringing and clasping of hands. She kept screaming "Oh! the suicide" and had to be restrained to prevent her from committing suicide. Her sleep and appetite were poor. She believed that by her own obstinacy she had committed some terrible crime, that God was to punish her and would never forgive her. She said that there was no hope for her and that she must go to hell. Her memory was poor as to recent events and she was not quite sure when her baby was born.

On physical examination she weighed 8 stone 13 pounds, her "fatness was poor and her muscularity was small". There was no evidence of physical disease except that she appeared anaemic.

She was given two custards, extra milk, 6 ounces of sherry, a pint of porter, a tonic (Ferri dialysat), potassium bromide (45 g) and chloral (20 g).

By 22 June 1881 Mrs Z had steadily improved and had been allowed occasional passes to go home for a day. She was discharged as 'recovered'.

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https://doi.org/10.1192/bjp.156.6.861 Published online by Cambridge University Press