Perinatal Maternal Mental Health Services

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Contents

Background

The Royal College of Psychiatrists established a working party on postnatal mental illness and published a Council Report (Royal College of Psychiatrists, 1992) which recommended that all women requiring secondary psychiatric services following childbirth should be treated by a consultant psychiatrist with a special interest in their condition, supported by a multi-disciplinary team. This treatment should take place wherever possible in the women's own locality. In the event of them requiring in-patient care, they should be admitted, together with their infant wherever possible, to a specialist facility.

In 1995, Perinatal Special Interest Group was founded by the College in order to improve the clinical care of childbearing women with mental health problems and of their families, especially their young infants.

Perinatal psychiatry includes not only postnatal mental illness but also the problems faced by women with pre-existing psychiatric disorder who become pregnant. It includes the effects of the disorders and their treatment on the unborn and developing child.

In 1995, the College, with the cooperation of the Department of Health, set up a joint advisory group whose members were Professor John Cox, Professor Ramesh (Channi) Kumar, Dr Margaret Oates and Dr Alain Gregoire. The task of this group was to take forward the 1992 Report and to provide advice for the provision of psychiatric services for childbearing women with mental illnesses. The document was approved by Council in October 1996, but it was decided to delay publication to await the results of an imminent change of goverment and health policy.

Since that time, there have been a number of changes and developments in national health policy and strategies, including the abolition of the internal market, the setting up of national and regional specialist services commissioning groups, the development of the National Institute for Clinical Excellence, Clinical Governance and the publication of the *National Service Framework for Mental Health* (Department of Health, 1999*a*). There has also been publication of a number of key reports, including *Fatal Child Abuse and Parental Psychiatric Disorder* (Falcov, 1996), *Why Mothers Die. Report on Confidential Enquiry into Maternal Deaths 1994–1996* (Department of Health, 1998), *Mental Health Nursing. Addressing Acute Concerns. Report of the Standing Nursing and Midwifery Advisory Committee* (Department of Health, 1999*b*), the *Mental Health Act 1983 Code of Practice, Para. 26.3* (Department of Health, 1999*c*), *Promoting Infant Mental Health: A Framework for Developing Policies and Services to Ensure the Healthy Development of Young Children* (Child Psychotherapy Trust & Association for Infant Mental Health, 2000) and *Safety, Privacy and Dignity in Mental Health Units: Guidance on Mixed Sex Accommodation for Mental Health Units* (National Health Service Executive, 2000).

In the light of these documents and their recommendations, together with the continuing change and development in mental health service delivery, including the trend towards trust mergers and primary care purchasing groups, it has been necessary to revise the original document.

Although some of the issues discussed and recommendations made have been brought up to date, the content of the document remains essentially unaltered from that approved by Council in 1996, which met with the approval of the Faculties of the College.

Summary and recommendations

- Perinatal mental health problems are common, many are serious and they can have long-lasting effects on maternal health and child development.
- Perinatal mental health problems present at all levels of health care provision.
- Every health authority should have a perinatal mental health strategy that aims to ensure that the knowledge, skills and resources necessary for detection and prompt and effective treatment are in place at all levels of health care provision.
- Every health authority should identify a consultant with a special interest in perinatal psychiatry. This consultant should take a lead role in promoting these aims and in establishing a specialist multi-disciplinary team.
- All women with perinatal psychiatric disorder who require specialist psychiatric care should, irrespective of their place of residence, have access to a consultant and other mental health professionals with a special interest in their condition.
- Mother and baby units to serve the needs of a number of health authorities should be established.

The importance of perinatal mental health

> "The incidence of psychiatric illness following childbirth was much greater than the statistics from psychiatric hospitals would indicate and large numbers of cases were cared for at home and never recorded." (Esquirol (1839), quoted in Brockington, 1996)

Psychiatric disorder following childbirth is common and much of it serious. Not only are women at increased risk of suffering from an affective illness (particularly the more serious illnesses) following childbirth, but also women with pre-existing psychiatric disorders may face a relapse or recurrence of their condition following childbirth. Psychiatric illness occurring at this time may have an adverse effect on the women herself, and also on her marriage, family and, in particular, on the future development of her infant.

Perinatal mental health problems should therefore be of concern both to those involved in maternal and infant care and to psychiatric services, as childbearing women will form a significant minority of their patients. Perinatal mental health is important for the following reasons.

The epidemiology is well established

Women face an elevated risk of developing a new episode of affective disorder following childbirth (Kendell *et al*, 1987).

Nationally and internationally, prospective antenatal community and primary health care studies reveal an incidence of about 10% of all recently delivered women meeting Research Diagnostic Criteria (RDC; Spitzer & Endicott, 1978) for major depressive illness. Between 3% and 5% of delivered women will meet the criteria for moderate to severe depressive illness (Cox *et al*, 1993; O'Hara & Swain, 1996).

Nationally and internationally, for more than 30 years studies have revealed an incidence of admission to hospital for puerperal (affective) psychosis of 2 per 1000 women delivered. Although small in number, this rate represents a marked increase in the risk of admission compared with the 2 years before and following childbirth (Kendell *et al*, 1987). In addition, in the UK, about 2 per 1000 women delivered are admitted to hospital suffering from non-psychotic conditions (Meltzer & Kumar, 1985; Kendell *et al*, 1987).

The number of women requiring hospital admission following delivery because of a relapse or recurrence of a pre-existing condition has been less frequently estimated. However, clinical experience suggests that about 2 per 1000 women delivered will be suffering from severe, chronic or enduring mental illness, predominately schizophrenia.

About 2% of all women delivered are referred to psychiatric services following childbirth. This referral rate is higher than that for men and other women of reproductive age (Oates, 1994).

Armed with one piece of simple information, the annual birth rate for a health authority, the numbers of women presenting with mental health problems of all severities and diagnoses can be estimated (Figs 1 and 2, Table 1).

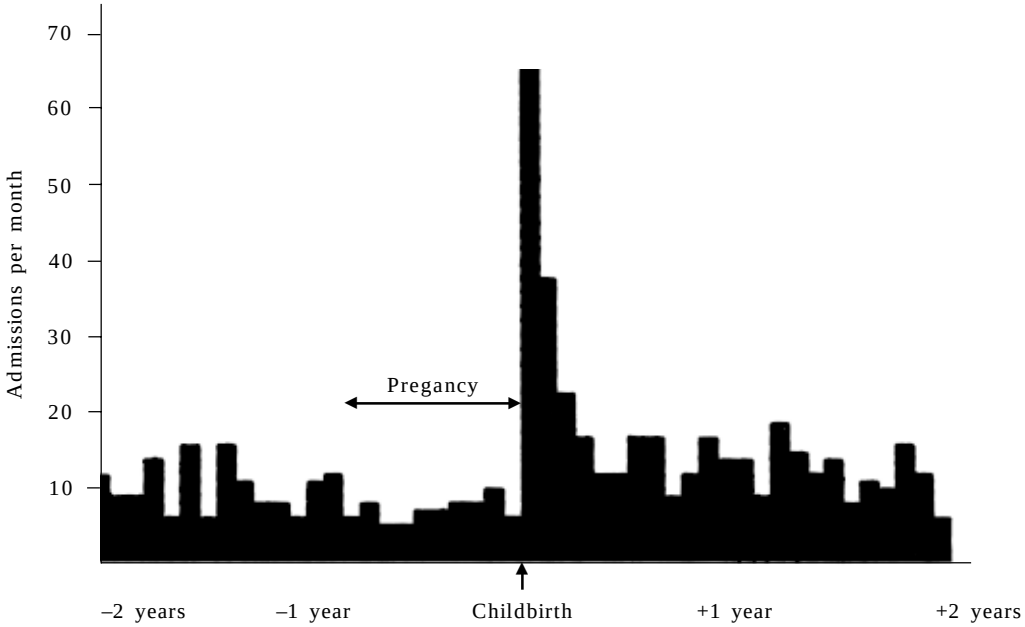

Fig. 1 Increase in rate of admission with pyschosis following childbirth (Kendell et al*, 1987).*

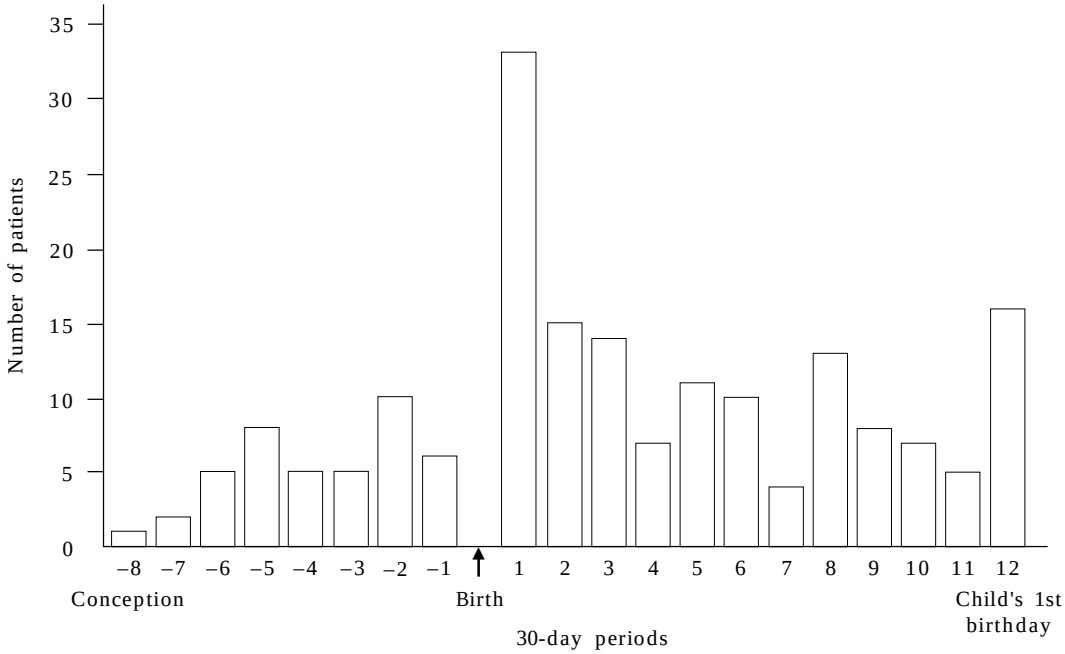

Fig. 2 Increase in rate of referral to psychiatric services following childbirth (Oates, 1994).

Table 1 Perinatal psychiatric disorder

Percentage of deliveries	Diagnosis and / or action taken
10	Postnatal depression (Resarch Diagnostic Criteria: major depression)
3–5	Moderate to severe depressive illness
1.7	Referred to psychiatric services (new episode)
0.002	Admitted with psychosis
0.002	Amitted with non-psychotic depression
0.002[1]	Chronic schizophrenia

1. Estimated.

Knowledge of the clinical presentation of post-partum conditions is well established

The majority of severe mental illnesses present by 90 days post-partum and those most seriously ill, requiring admission, present even earlier. The risk of serious mental illness complicating the puerperium declines sharply after 90 days. Women suffering from the most severe forms of illness (puerperal psychosis) and very severe depressive illness are among the most seriously ill patients presenting to psychiatric services. They frequently present as an emergency and the presence of a young infant serves further to increase the concern and anxiety of those managing their care. Mania is common and the heterogeneity of psychotic symptoms usually places these women within the category of schizoaffective disorder (Brockington, 1996).

The non-psychotic depressive illnesses of all severity, although of early onset, tend to present later in the puerperium. None the less, they remain of concern as their symptoms and disability can seriously impair maternal and family functioning at this critical time (Cox *et al*, 1993).

This knowledge of the clinical presentation of post-partum psychiatric disorders assists those involved in the care of the newly delivered woman to be aware of the possibility of serious psychiatric illness.

Risk of relapse or recurrence of post-partum mental illness is well established

The risk that women who have experienced an episode of puerperal psychosis will suffer from such an illness following subsequent childbirths is thought to be between 1:3 and 1:2. Similar risks are faced by those women with a previous history of severe post-partum depression (Marks *et al*, 1992).

Women who have experienced an episode of non-post-partum manic–depressive illness or severe depressive illness are also at an elevated risk following childbirth, again about 1:3 (Marks *et al*, 1992; Oates, 1998).

With a few exceptions, the fertility of women with psychiatric disorder is little different from that of the normal population (Davies *et al*, 1995). Therefore women with a whole range of psychiatric disorders, particularly phobic anxiety states

and panic disorder, obsessive–compulsive disorder, substance misuse, manic–depressive illness and schizophrenia, may become pregnant. However, with the exception of manic–depressive illness, they may not face such an elevated risk of relapse or recurrence of their condition as with the affective illnesses. Nevertheless, their management may be complicated by pregnancy and childbirth and their illnesses may compromise the care and development of their infant.

Women with chronic schizophrenia do not face as greatly an elevated risk of relapse following childbirth as those with manic–depressive illness. However, many are ill during pregnancy and following delivery. Those suffering from episodic or paranoid schizophrenia ('broad-spectrum schizophrenia') are probably at an elevated risk of postnatal relapse equivalent to that of manic–depressive illness (Davies *et al*, 1995).

This knowledge should help psychiatrists managing female patients to be aware of the risks posed to the mother's mental health by childbearing and to take steps to reduce them.

Factors that increase the risk of a non-psychotic post-partum mental illness can be identified

While some individual women can be identified as being at high risk of developing a post-partum illness, there is also evidence to suggest that groups of women vulnerable to such an illness can be identified before the infant is born. Youth, marital and family conflict, lack of social support, anxiety and depression in pregnancy, substance misuse, previous pregnancy loss, ambivalence about the current pregnancy and frequent antenatal admissions to a maternity hospital have all been shown in various combinations to be related to an increased risk of postnatal depression (O'Hara *et al*, 1996; Oates, 1998).

Biological factors (genetic and neuroendocrine) are thought to be of primary importance in the aetiology of puerperal psychosis (Wieck *et al*, 1991) and the most severe depressive illnesses. It is generally assumed that psychosocial factors are most important aetiologically in the milder postnatal depressive illnesses.

Knowledge of these specific and general risk factors should assist in the detection of those most likely to suffer mental ill health at a time in the antenatal period when there is a possibility of intervention and risk reduction.

Treatment is effective

Although associated with very serious disturbance, the early-onset puerperal psychoses and severe depressive illnesses are usually very responsive to treatment and may have better short- and long-term prognoses than non-post-partum conditions.

For the less severe conditions, there is evidence that both antidepressants and psychological treatments (non-directive counselling by trained health visitors, a cognitive–behavioural approach, interpersonal psychotherapy) are effective (Elliott, 1989; Prettyman & Friedman, 1991; Johnson *et al*, 1993; Appleby *et al*, 1997).

Failing to deal with perinatal mental health problems has adverse consequences

1. There may be prolonged maternal morbidity. It has been reported that, without treatment, 30% of women suffering from postnatal depression are still ill at 1 year post-partum (Pitt, 1968). More recent studies in a community-based sample of women of the effects of postnatal depression on infants (Cooper & Murray, 1995) have supported this finding.

   Although both deliberate self-harm and suicide are less common in pregnancy and the post-partum year than at other times (Appleby, 1991; Appleby & Turnbull, 1995), suicide and other 'psychiatric' deaths (particularly by substance misuse) account for almost 10% of all maternal deaths in the UK (Department of Health, 1998: Chapter 12). These psychiatric deaths, many of which would have been preventable, represent one of the single most common causes of maternal death in this country, considerably more common than, for example, anaesthetic death and death from eclampsia.
2. There are effects on the infant and its subsequent development. Prolonged postnatal depression is associated with adverse effects on the mother–infant relationship and the emotional state of the infant. There are well-described long-term effects on the later social attachments and cognitive development of the child, particularly of boys, that are detectable after the resolution of the maternal illness (Kumar & Hipwell, 1994; Cooper & Murray, 1995).

   Despite the decline in both perinatal and infant mortality, infanticide has remained relatively constant over the past 100 years, with about 20 convictions per year (Marks & Kumar, 1993). At least half of these women were suffering from severe post-partum mental illness and an additional number did not reach the courts because they committed suicide.

   Many mothers who non-accidentally injure or neglect their children are found to be suffering from less severe forms of depression and anxiety. While a causal relationship is arguable, postnatal depression, particularly when combined with youth and social adversity, may lead to the breakdown of parenting (Oates, 1997).

   The consequences of chronic or relapsing severe maternal psychiatric disorder include the breakdown of parenting and the receipt of the child into the care system. The children may develop emotional, conduct and psychiatric disorders and be vulnerable to neglect and emotional abuse.

   A recent review of Part 8 enquiries into fatal child abuse has suggested that a significant number of those who kill their children are suffering from serious psychiatric disorder (Stewart *et al*, 1991).
3. Prolonged mental health problems in young women with young families can lead to breakdown of marriages and disruptive effects on families and older children.

Women are in frequent contact with medical services during pregnancy and the post-partum period

The frequent and structured nature of medical contact at this time is unique in the human life span. Women see obstetricians and midwives at regular prescribed times throughout pregnancy. The majority will deliver their babies in hospital and there will be regular and frequent contact with midwives and then health visitors for at least the first few months post-partum. There are birth visits by general practitioners (GPs), postnatal checks at 6 weeks and clinic attendances for immunisation at 8 weeks and 3 months. This structure could easily be modified to include screening for those at risk of and suffering from post-partum illness and provides a framework for early detection and intervention (see Department of Health, 1998: Recommendations).

There are opportunities for prevention

Secondary prevention is now a possibility. The detection of those at risk because of previous episodes, close monitoring, early detection and swift intervention will do much to minimise maternal morbidity and limit the adverse effects on the infant and family. Continuation during pregnancy of appropriate medication of women with chronic schizophrenia will reduce the risk of relapse before and after birth. Reinstating the medication of those with manic–depressive illness and paranoid schizophrenia will also reduce the risk of post-partum relapse or recurrence.

Psychosocial interventions in pregnancy in those women with numbers of risk factors for postnatal depression have suggested that modified antenatal classes (Elliott, 1989) or volunteer mothers' social support (Johnson *et al*, 1993) are effective in reducing the numbers of women suffering from postnatal depression and improving other aspects of maternal and infant well-being.

This knowledge, together with the framework of medical contact during the pregnancy in the puerperium, offers an exciting opportunity, unique in mental health, not just to be able to anticipate episodes of psychiatric disorder but also to detect those at risk, intervene and perhaps prevent it.

Summary

- Childbirth is important to psychiatrists as it is a cause of substantial psychiatric morbidity and it poses a predictable risk to the mental health of patients already in their care.
- Perinatal mental health problems present at all levels of health care provision.
- Psychiatric disorder following childbirth is common, treatable, often serious and sometimes predictable.
- The epidemiology of post-partum mental illness is well established, allowing for the planning of resources.

- Information exists to identify some of those at risk of serious post-partum illness and to draw up anticipatory management plans.
- Prompt detection and effective treatment are needed to avoid adverse effects on the child and chronic ill health in the mother.
- A unique opportunity presents to engage in primary and secondary prevention.

The case for specialisation

Over the past 40 years there has been a major increase in specialism within medicine, surgery and psychiatry. Initially, this move was based upon the distinctive needs of special groups of patients and the difficulty that general services faced in meeting them. Thirty years ago it was commonplace for children to be treated in hospital on adult wards. It is now thought desirable that children should always be treated by specialists in paediatric care and should always be nursed on paediatric wards, a standard now achieved by most health authorities. Similarly, few health districts are now without specialist services for diabetes, nephrology, oncology and so on, just as few are without specialist services for psychogeriatrics, alcoholism, forensic psychiatry and other psychiatric sub-specialities, all of whose patients in the recent past were treated by generalists. The development of these specialities has been paralleled by a recognition in education and training by the appropriate Royal Colleges. More recently, evidence-based medicine has underpinned the view supported by the Specialist Services Commissioning Group, that the differing outcomes in many medical and surgical conditions across the country and between specialist and generalist services is unacceptable. The evidence supports the view that patients do best in a service whose critical mass of experience in the condition allows the development of specialist knowledge and skills.

The small area of commissioning covered by primary health care groups means that some disorders are too infrequent at a local level to be a priority. However, at health authority or regional level they are sufficiently numerous to represent a significant problem meriting specialist attention.

Each health region now has a Specialist Services Commissioning Group, which aims to ensure that all patients suffering from specialist conditions have access to the best standards of care, irrespective of their place of residence. Although some of the work of these groups is set by a national agenda, they have the freedom to consider issues particular to their region. The criteria for a speciality in their terms of reference are as follows:

- The condition is uncommon at an individual sector or locality level, but across three or more health authorities it presents a sufficient number of cases to justify the allocation of human and material resources.
- The treatment is either expensive or not readily available and the knowledge and skills to manage these patients are not widely found but are located in one trust or authority.
- Informed treatment protocols and outcome measures exist.
- The treatment and organisation of services allow a 'hub and spoke' design: the lead specialist unit can work closely with specialist teams in each locality, ensuring equality and speed of access and smooth transition to after-care.

Serious psychiatric disorder requiring the attention of secondary psychiatric services fulfils all these criteria for a specialist service.

There is a need for specialist knowledge, skills and understanding

Those involved in caring for women with serious mental illnesses within psychiatric services need knowledge and skills not necessarily required in general psychiatry. They should understand the peripartum context and be familiar with the normal physical, obstetric and emotional changes that take place at this time. They also need a knowledge of psychotropic medication in pregnancy and lactation and to be familiar with the distinctive clinical features of a range of conditions that present in the childbearing period. They need skills in assessing the mother–infant interaction and risk to the child, and knowledge and competency in child protection issues. They must be able to liaise effectively not only with primary care and other psychiatric services but, importantly, with midwives, health visitors and obstetricians and to understand their systems. These skills and specialist knowledge are needed across a variety of settings, not only in in-patient mother and baby units but also in out-patient clinics and community mental health settings. Without a critical mass of experience, it would be difficult for a generalist to acquire and maintain these skills and to maintain this patient group as a priority in the face of other demands.

The patients have special needs

Childbearing women need special facilities, particularly in regard to their physical needs and the safety and security of themselves and their infants. If they require admission, they need to be accompanied by their infant. They require a different organisation of in-patient care and daily routine. They should have privacy and separate toileting, laundry and kitchen facilities. They and their infants need an extra degree of safety and security within the psychiatric setting. They require easy access to paediatric and obstetric facilities and staff (see DoH, 1999; National Health Executive, 2000).

The critical mass argument

Perinatal mental health problems are very common in primary care. Midwives and health visitors care almost exclusively for young mothers and their families, and with some education and training they can build up the experience to deal with the majority of less serious problems, with the assistance of GPs (Holden *et al*, 1979; Appleby *et al*, 1997). However, a psychiatric sector serving a population of 100 000 (annual birth rate about 1200) might receive only 25 referrals a year, of whom only two might have psychosis. It would be difficult for the staff to develop and maintain their skills in such a situation and difficult for them to provide the facilities required for the safe management of their patients. In contrast, taking

the health authority area as a whole, a sufficient number of patients would be referred to justify, at the very least, specialist-interest consultant sessions and specialist community mental health team workers.

Mother and baby units

It is unlikely that any but the very largest health authorities would have sufficient numbers of women requiring admission to justify the setting up of a specialist mother and baby unit. Using the critical mass arguments, a number of health authorities could jointly purchase a unit to serve a population large enough to ensure the admissions necessary to maintain the skills of the staff and to provide the human and material resources necessary for the patients' care.

Summary

Specialist perinatal psychiatric services are justified by:

- the special needs of perinatal women and their infants, which include mother and baby units
- the specialist knowledge, skills and understanding required of staff
- the critical mass of patients required to afford adequate experience in developing and maintaining skills and to justify the material and human resources
- the difficulty for general services of maintaining skills and understanding and prioritising the needs of this group of patients in the face of competing demands.

Existing service provision

Psychiatric mother and baby units have existed in Great Britain since the 1950s. Among the earliest were the units in Banstead, Shenley and London (the Cassel Hospital). Since that time, many others have opened and some have closed. Following the British example there are now units in some European countries and in Australia, but they are not common worldwide. The now widely accepted belief that separation of mother and infant because of illness may have adverse effects on the mother–infant relationship and be harmful to the child has returned to prominence Bowlby's work in the 1950s. His research and its humane approach have led to the widespread practice of keeping mothers and infants together in hospital ('rooming in'), as well as the opening of psychiatric mother and baby units.

There are about 10 specialist mother and baby units with six or more beds in Great Britain. In the main they are run by specialist general adult psychiatrists (perinatal psychiatrists). Most function as both secondary and tertiary referral units and often provide in-patient care for patients from without their own catchment area.

In addition, a number of trusts provide either the facility for an occasional admission of a mother and infant pair to a general psychiatric ward or a small two-bedded annexe to such a ward. Concerns about the infants' safety and security and financial difficulties have led to the recent closure of some of these facilities (see NHS Executive, 2000).

Mother and baby units whose funding is not secured on a regional basis may face threats because of changes in purchasing arrangements and conflicting priorities within their locality. Some of these centres are linked with specialist community mental health teams and provide comprehensive and integrated care for patients within their own catchment area as well as a liaison service to the maternity hospitals. Others function in a purely tertiary manner and the referring community mental health teams are responsible for the patients once they leave.

Although Great Britain is a world leader in this field and has many centres of excellence, the provision of mother and baby units and of perinatal psychiatric services is very patchy. Some areas of the country are relatively well provided for (London and the South West, the Midlands and part of the North West). Other areas, despite their large populations, have no perinatal psychiatric services and no mother and baby units. Fewer than half of all the health authorities in Great Britain have facilities for admitting mothers with their infants and very few offer specialist consultations or specialist community teams for these patients (Prettyman & Friedman, 1991).

The majority of the less severe psychiatric problems following childbirth will not reach psychiatric services and will be managed effectively in primary care. In many regions there are high levels of knowledge and skills in the management

of perinatal mental health problems in primary care and there are a number of innovative schemes in operation in which health visitors have been trained to use the Edinburgh Postnatal Depression Scale (Prettyman & Friedman, 1991) to screen for those likely to be suffering from postnatal depression. In many areas they have also been trained in psychological treatments (non-directive counselling and the cognitive–behavioural approach) of such women (Appleby *et al*, 1997).

A number of recent national initiatives, such as the Health Action Zone and Sure Start, also include projects in perinatal mental health. In many areas special resources and staff have been developed to help pregnant drug users.

Residential assessment and treatment units run by the voluntary and statutory social services agencies are to be found in many areas of Great Britain. These are usually staffed by specially trained residential social workers. Although they do not cater specifically for mothers with mental illness and the care of their clients is funded by the social services departments, they do provide a useful facility for those with stable mental health or with emotional problems who are having problems with parenting.

Many voluntary organisations exist to support mothers with young children in their homes. Again, these do not specifically aim to meet the needs of those with mental illness, but many (e.g. Homestart) acknowledge that a large proportion of their clients suffer from postnatal depression.

Thus, care for women suffering from perinatal mental health problems, including psychiatric illness, takes place at all levels within the health care system (psychiatric services, maternity and child welfare services and primary health care). Contributions are also made by the voluntary and statutory social services and by voluntary social support organisations. Other voluntary and self-help organisations, for example The National Childbirth Trust and the Association for Postnatal Mental Illness, run support and contact services for women suffering from postnatal depression.

Despite many excellent endeavours there is a lack, at both local and national level, of coordination of these services.

Summary

- There are at least 10 specialist mother and baby units in Great Britain and a larger number of psychiatric units offering in-patient mother and baby admission.
- National provision of services is patchy and uncoordinated.
- Large areas of Great Britain have no services at all.

A perinatal mental health strategy: general principles and core standards

Perinatal mental health problems include not only new episodes of mental illness and relapses or recurrences of pre-existing psychiatric illness but also many states below the threshold for psychiatric referral or diagnosis. Perinatal mental health problems also include milder states of depression and anxiety, distress, adjustment reactions and the responses of vulnerable women to adversity. The overwhelming majority of these conditions are managed by non-psychiatrists, by professionals in the maternity and child welfare services, primary care, social services, as well as the voluntary agencies. The relief of suffering and the promotion of maternal and infant well-being are considered a valid reason for intervention.

Because perinatal mental health problems represent a spectrum of diagnosis and severity and because they present and are managed at all levels of health care provision, it is essential that every health authority has in place a perinatal mental health strategy.

Requirements of a perinatal mental health strategy

1. A comprehensive overview of all services and facilities involved in perinatal mental health. This is needed to establish a framework for cooperation and efficient management of disorder to avoid duplication of services and for the commissioning of new resources.
2. The identification of a lead consultant psychiatrist with a special interest in perinatal psychiatry. This individual will not only take forward the development of specialist psychiatric provision to this group of patients but also contribute to the management of perinatal mental health problems at other levels of health care provision.
3. Care that is informed by research and the best current clinical practice. This evidence should inform general principles of care, from which will be developed core standards of care. These in turn inform the way in which services are delivered to the local population. The specific design of services and the way in which they are delivered will depend on not only the core standards of care but also local considerations such as size of the population and the birth rate, the sociogeographic and socio-economic profile of the catchment area, existing service provision and the style of mental health service delivery in the area (Fig. 3).

General principles

1. All services at all levels of health care provision that contribute to the management of perinatal mental health problems should be considered

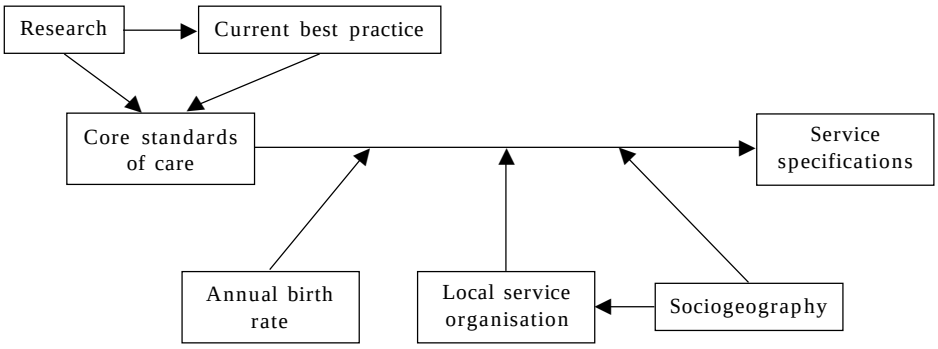

Fig. 3 Factors influencing the provision of perinatal mental health care.

and viewed in a hierarchical tiered fashion, to ensure that they are integrated, comprehensive and avoid duplication of provision (Fig. 4).

2. An integrated tiered organisation of services facilitates the commissioning of adequate resources to treat patients at the level of health care appropriate to their needs. It avoids unnecessary referrals to higher levels of care and allows for smooth transition of patients from one level of care to another when necessary.
3. Comprehensive services should be able to provide the range of treatments and management strategies appropriate to the patients' needs. They should include access to the appropriate knowledge, skills and treatments in primary health care, psychiatric liaison to maternity units, specialist community psychiatric nurses (CPNs), a consultant psychiatrist with special interest in perinatal psychiatry, alternatives to psychiatric admission (including intensive home nursing and/or day hospitals) and access to a mother and baby unit, should admission be necessary.
4. An essential part of perinatal mental health services is a specialist perinatal psychiatric service. About 2% of all women delivered require the services of a psychiatric team. Not only would a perinatal specialist team have the necessary knowledge and skills but also it is much easier for GPs, midwives and maternity hospitals to relate to a single team and have a single point of referral.

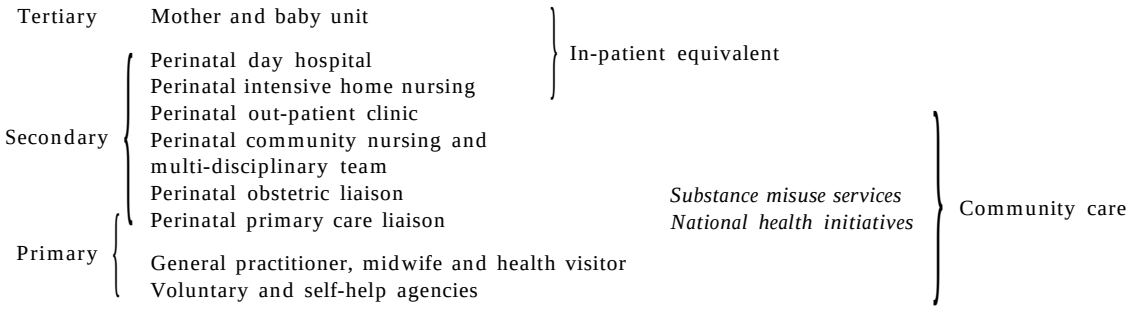

Fig. 4 Hierarchy of tiered perinatal mental health care.

5. Perinatal mental health care, at all levels, should be organised (including ensuring adequate training and skills) in a way that promotes the detection of those at risk and, where possible, the early detection of those who are ill, intervention, rapid access to the appropriate level of care and effective treatment to ensure minimisation of maternal morbidity and adverse effects on the infant.
6. All services should be provided locally where possible and should avoid disruption of family and neighbourhood links. However, some aspects of care, particularly in-patient mother and baby units, may have to be provided through a joint purchasing consortium including a number of health authorities. Systems should be in place to ensure that good clinical practice is not compromised and that smooth transition between in-patient and community care is possible: the 'hub and spoke' method of service delivery.
7. At all levels of health care provision, the needs of the children must be a priority. All those involved in the care of mothers with mental illness should be aware of the possible adverse effects on young children and be trained in child protection procedures.

Summary

Core standards:

1. All health authorities should have in place a perinatal mental health strategy covering the care of women with perinatal mental health problems at all levels of health care provision.
2. All women who experience perinatal mental health problems should have access to suitable treatment at the level of health care provision appropriate to their needs.
3. All women with perinatal mental health problems should, if necessary, have access to a consultant psychiatrist with a special interest in perinatal psychiatry, supported by professionals with experience and skills in this area.
4. All women who require admission to a psychiatric unit following childbirth should be admitted to a specialist mother and baby unit.

Functions of a specialist perinatal mental health service

1. It will assess and manage those suffering from puerperal psychosis and other severe postnatal mental illnesses.
2. It will provide a range of facilities for their management, including an in-patient mother and baby unit (or access to one), out-patient clinics, alternatives to admission (intensive home nursing and/or day hospital) and community treatment.
3. It will advise on and, if necessary, manage patients with continuing psychiatric disorder who become pregnant while under the care of other adult psychiatrists.
4. It will liaise with primary health care professionals to assist in the management of less serious psychiatric conditions.
5. It will provide an obstetric liaison service, assessing mental health problems associated with pregnancy and the post-partum period and dealing with emergencies.
6. It will provide prenatal counselling and high-risk management for women at risk of developing an illness post-partum owing to previous major mental illness.
7. It may undertake the assessment of women with severe chronic mental illness in respect of their ability to parent their child.

A specialist perinatal mental health service will also be in a position to play a lead role in the development of services at all levels of health care provision, to contribute to the education and training of other health care professionals and to engage in clinical research and innovative clinical practice.

Special perinatal mental health problems

Substance misuse

The important role of substance misuse in complicating pregnancy and childbirth has been highlighted in the *Why Mothers Die* (DoH, 1998*b*). Alcohol and illicit-drug misuse present commonly in the antenatal clinic and in primary care, often associated with other mental health problems of all severities. There are concerns about the effects of substance misuse on the developing foetus and of lifestyle hazards both during pregnancy and after birth. There may also be child protection issues. The requisite skills and knowledge required to advise and manage these women may not be possessed by either the specialist perinatal mental health service or the maternity staff. The resources and facilities appropriate to the management of other mental health problems may not be appropriate for the management of this group of women.

There is a need for both primary care and maternity unit staff and the staff of a perinatal mental health service to have access to specialist substance misuse advice and management assistance. There are many different ways in which this can be organised. There are many examples of good practice throughout the United Kingdom. In some areas there are specialist midwives appointed specifically to advise on the management of pregnant women with substance misuse problems. Some regions have voluntary or statutory social service agencies that specifically address this problem with day care and residential facilities, and in others the substance misuse service has specialist workers within its teams.

As a core standard of care, advice on substance misuse should be available for those responsible for the care of pregnant and post-partum women. The way in which this is implemented will depend on local service provision and preference.

Teenage mothers

Pregnant and post-partum women who are themselves children or young people may present at all levels of health care provision with problems of all severities, including serious mental illness. Many Health Action Zone and Sure Start initiatives already include projects specifically aimed at helping teenage mothers and promoting their mental health.

A core standard of care should be that the specialist perinatal mental health service has close working relationships with the child and adolescent mental health services and is able, when appropriate, to work jointly with such services in the care of mothers who are children.

Learning disability

Childbearing women with mild to moderate learning disability may face special problems in their adjustment to motherhood and meeting the needs of their developing child. Many services for those with learning disability have special projects to address these issues. When such mothers have additional mental health problems the threshold of referrals to psychiatric services may be lower than in other circumstances.

A core standard of care should be that perinatal mental health services are able to work closely with learning disability services, undertaking joint assessments and management where appropriate.

Estimating resources

General principles

When estimating the resources needed by a comprehensive and integrated perinatal psychiatric service, there is a need to allow for 'indirect activity'. Such activity, which may be considerable, includes liaison consultation with generic adult services, primary care, maternity services and other agencies (such as social service departments) that do not involve the actual assessment and management of a patient.

The estimation of resources will be determined by:

(a) the annual birth rate in the health district;
(b) the annual birth rate in the maternity hospitals, if this is greater than the district rate;
(c) the geographical size of the catchment area (travelling time);
(d) any distinctive local factors that may predict a higher or lower than average morbidity for the area;
(e) an acknowledgement that the levels of reproductive activity and of psychiatric morbidity in various parts of the catchment area may not be correlated and may change over relatively short periods of time.

The formula for estimating resources is derived from the epidemiology of perinatal psychiatric conditions (Oates, 1994):

(a) a birth rate of 12.5 per thousand of the population;
(b) an admission rate for puerperal psychosis of about 2 per 1000 deliveries;
(c) an additional admission rate for non-psychotic post-partum psychiatric disorder of 2 per 1000 deliveries;
(d) an admission rate or assessment of those with chronic psychiatric disorder of up to 2 per 1000 deliveries;
(e) a referral rate to psychiatric services of new episodes of postnatal psychiatric disorder of about 20 per 1000 deliveries;
(f) a total referral rate for pregnancy- and childbirth-related psychiatric problems of 35 per 1000 deliveries.

If the perinatal mental health service is also to engage in obstetric and primary health care liaison then its activity will be increased and its staffing resources must be adjusted accordingly.

Quality standards, performance and activity criteria, monitoring tools and outcome measures should be developed from the core standards and functions (Oates, 1994).

Specific material and human resources

Consultant sessions

One session of consultant time per 1000 deliveries is required to manage those patients described in the functions of a perinatal mental health service. A catchment area with an annual birth rate of 5000 (population about 400 000) will need a half-time consultant. A delivered population of 10 000 will need a full-time consultant. These figures are for consultants supported by a senior house officer. The sessional commitment must be increased proportionately if the consultant is unsupported.

Community staff

Community psychiatric nurse specialists in perinatal psychiatry are essential to allow admissions to be kept to a minimum, to develop intensive home nursing as an alternative to admission (Prettyman & Friedman, 1991) and to ensure a smooth transition from in-patient stay to community care.

Specialist CPNs should carry case-loads of about 25 patients. The minimum number of CPNs is 0.5 per 1000 deliveries. This increases to 1 per 1000 deliveries if the service has an extended role in primary care and obstetric liaison.

Social workers

A large proportion of the patients seen by the specialist service will be psychiatric emergencies. The service will also need to give a high degree of priority to the needs of the child and the family. Parenting assessments often involve considerations under the Children Act 1989. A team social worker experienced in both child protection issues and the Mental Health Act 1983 is essential.

One session of social work time per 1000 deliveries is needed. A delivered population of 5000 will need a half-time social worker, 10 000 will justify a full-time social worker.

Other professionals

Specialist occupational therapists and clinical psychologists are desirable members of a multi-disciplinary team. The service will need a liaison health visitor with a designated sessional commitment to the service. Formal links with a designated paediatrician and child psychiatrist are also necessary.

Out-patient clinics

A delivered population of 5000 will generate up to 175 new referrals a year, with about 1500 total patient contacts.

Clinics can take place in multi-user facilities, but the safety and security of the infants present must be considered. The environment must be safe, and it should include a waiting area suitable for children, supplied with toys, and baby-changing and feeding facilities.

In-patient beds

Admissions to a mother and baby unit with a fully integrated community mental health team require 0.5 beds per 1000 deliveries. A specialist community nursing team and alternatives to admission will keep the number of admissions and the duration of stay in such a unit to a minimum. If no such complementary services exist, then 0.75 beds per 1000 deliveries should be allowed.

Day hospitals

Day hospitals can be a very useful part of a perinatal service. They can manage women with a wide variety of conditions and offer daytime assessment of mothers with their children and alternatives to admission for the seriously ill.

A day hospital may be sited adjacent to a mother and baby unit, allowing the sharing of some facilities and staffing. Alternatively, it may be sited in the community, with its nursing staff flexibly deployed as community nurses.

Day hospitals usually operate during daytime hours. An establishment of 2.5 qualified nurses and 2.5 nursery nurses is needed to ensure that one of each class of staff if on duty 5 days a week during daytime hours. The numbers of staff should be increased proportionately depending on the numbers of patients attending the hospital.

In-patient nursing staff

An establishment of 4.5 qualified nurses is required to give one nurse on duty per shift over 24 hours, 7 days a week. Similarly, an establishment of 4.5 nursery nurses will be required. One nursery nurse and one qualified nurse per shift would be the minimum required to manage four in-patient mother and baby beds. The numbers should be increased proportionately according to the number and level of disturbance of the patients.

Mother and baby units

The arguments of economy of scale and the critical mass needed to develop and maintain knowledge and skills have been outlined above, as have the distinctive physical and hygiene needs of this patient group. Over the past few years, the changing nature of acute psychiatric admission wards has further highlighted the need for safety and security of in-patient mother and baby admissions, their vulnerability in a general psychiatric admission ward and specific concerns about

the safety of children in psychiatric services (see DoH, 1999*c*; National Health Executive, 2000).

For these reasons, the occasional admission of a mother and baby pair to a general psychiatric unit is no longer justified or safe.

Small mother and baby units are expensive (in terms of cost per patient), and larger units are more cost effective. It is recommended that one unit of six to nine beds be provided for every 1–1.5 million of the population (annual birth rate: 12 500–18 000). Mother and baby units should therefore be commissioned by a joint purchasing consortium of a number of health authorities whose populations combine to reach the required critical mass.

Summary

- The material and human resources for a specialist perinatal mental health service can be estimated from a health authority's annual birth rate and a knowledge of the epidemiology of perinatal psychiatric disorders.
- A specialist community multi-disciplinary team will reduce the need for admission and provide appropriate care in the community.
- Mother and baby units should be provided on the basis of joint purchasing by a number of health authorities.

Service design

Health authorities vary enormously in population size, sociogeography, socio-economics and birth rate. Some may be dense conurbations over a relatively small geographical area, others may have relatively small populations over a large geographical area with a number of small towns and a predominantly rural population. Recently, there has been a trend for small health authorities to merge. Multi-professional trusts are being disbanded and new mental health trusts are being formed, many of which provide services across more than one health authority. The way in which services are commissioned is also changing and locality commissioning by primary health care groups is being implemented.

It is therefore not possible to prescribe a standard model for perinatal specialist service delivery. Each health authority will need to establish a perinatal mental health strategy, ensuring that core standards are met and core functions are provided by specialist perinatal psychiatric services. The way in which the services are delivered (the service design) will be developed to suit the needs of the particular locality. Three examples of service design are given below.

Example 1: Large health authority with a fully comprehensive and integrated service

This health authority has a population of 650 000. It covers a small geographical area with the majority of the population living in a dense conurbation. It has two large related teaching hospitals. Its psychiatric trust also provides care for an adjacent smaller health authority (population 350 000). The authority provides all health care for its own population (650 000 people). In addition, 25% of the workload of the hospitals comes from other health authorities. The annual birth rate for the health authority is 7500; the adjacent health authority has an annual birth rate of 4000. The total number of births in the maternity hospitals is 11 000.

Mother and baby unit

There is a six-bedded mother and baby unit on the general hospital site, funded by a joint purchasing consortium of four health authorities.

Consultants

There are 1.5 full-time-equivalent consultant perinatal psychiatrists, one with special responsibility for the second health authority covered by the trust.

Specialist community mental health team

The community mental health team comprises eight CPNs: one is the manager for the two health authorities covered by the trust; four cover the larger health authority; and three the smaller. The team base for the larger health authority is adjacent to the mother and baby unit. The base for the smaller is sited in the district general hospital, adjacent to the maternity unit.

Functions

The team provides three out-patient clinics a week (one in the smaller health authority), an obstetric liaison service, primary healthcare liaison service and assessment of the ability of women with serious mental illness to parent their children.

The community nursing team can provide intensive home nursing as an alternative to admission.

Plans

Plans are in place to develop (with the appropriate staff expansion) a day hospital in the smaller health authority and to expand the services to primary health care and the maternity hospitals. There are also plans to enlarge the mother and baby unit and expand the purchasing consortium to other health authorities in the region.

Example 2: Medium-sized health authority with a specialist community team

The population of this health authority is 3500 and it covers a large geographical area. It has a number of small towns and a predominantly rural population. The district general hospital and maternity unit are situated in one of these towns. It has an annual delivery rate of about 4000. The closure of local industries and depopulation of some towns, together with the building of new housing estates, changes the 'map of childbirth' in short periods of time. Recently, the community trust was dismantled and a new mental health trust has been formed together with the adjacent larger teaching health authority.

The community mental health team

Three full-time community nurse specialists work from a community mental health team base situated next to the maternity unit. Their manager, who is shared with the adjacent larger health authority, spends about 2 days a week with them. They have three sessions of consultant time allocated from the larger health authority and a locality-based out-patient clinic. Patients who require admission are admitted to the mother and baby unit of the adjacent health

authority. There are close working links with the community mental health team in that authority: the 'hub and spoke' design. Members of the community mental health team spend a considerable amount of time travelling.

Plans

Plans are in place to develop a day hospital in the smaller health authority, in order to increase the range of treatments available and further reduce the need for admission, and to appoint a consultant nurse in perinatal mental health.

Example 3: Small health authority with community mental health team members with a special interest

This health authority has a population of 240 000 scattered over a very large geographical area, with an annual birth rate of about 3000. There is one medieval market town, where the district general hospital is situated, and a predominantly rural population. The psychiatric service is sectorised but each sector, although serving a relatively small population, covers a large area. Travelling time for the community mental health team is considerable. The psychiatric trust serving the health authority has a psychiatrist with a designated special interest in perinatal psychiatry and a weekly commitment of two sessions. There is an out-patient clinic at the district general hospital for the most serious mental illnesses. Each of the psychiatric sectors has a designated CPN who has special interest and experience in perinatal mental health. This CPN takes referrals from GPs and manages them at home, working together with the primary health care workers. The health authority is part of a purchasing consortium for a mother and baby unit in the large teaching hospital authority in the same region.

Plans

Plans are in place to develop a special-interest CPN locally to act as a link worker with the mother and baby unit to facilitate early discharge and smooth transition to after-care.

References

Appleby, L. (1991) Suicide during pregnancy and in the first postnatal year. *British Medical Journal*, **302**, 137–140.

—— & Turnbull, G. (1995) Parasuicide in the first postnatal year. *Psychological Medicine*, **25**, 1087–1090.

——, Warner, R., Whitton, A., *et al* (1997) A controlled study of fluoxetine and cognitive–behavioural counselling in the treatment of postnatal depression. *British Medical Journal*, **314**, 932–936.

Brockington, I. (1996) *Maternal Mental Health.* Oxford: Oxford University Press.

Child Psychotherapy Trust & Association for Infant Mental Health (2000) *Promoting Infant Mental Health: A Framework for Developing Policies and Services to Ensure the Healthy Development of Young Children*. London: The Child Psychotherapy Trust.

Cooper, P. J. & Murray, L. (1995) Course and recurrence of postnatal depression. Evidence for the specificity of the diagnostic concept. *British Journal of Psychiatry*, **166**, 191–195.

Cox, J. L., Murray, D. & Chapman, G. (1993) A controlled study of the onset, duration and prevalence of postnatal depression. *British Journal of Psychiatry*, **163**, 27–31.

Davies, A., McIvor, R. L. & Kumar, R. (1995) Impact of childbirth on a series of schizophrenic mothers: a comment on the possible influence of oestrogen on schizophrenia. *Schizophrenia Research*, **16**, 25–31.

Department of Health (1998) Deaths from psychiatric causes, suicide and substance abuse. In *Why Mothers Die. Report on Confidential Enquiries into Maternal Deaths in the United Kingdom 1994–1996*. London: Stationery Office.

—— (1999*a*) *The National Service Framework for Mental Health. Modern Standards and Service Models*. London: DoH.

—— (1999*b*) *Mental Health Nursing. Addressing Acute Concerns. Report of the Standing Nursing and Midwifery Advisory Committee*. London: DoH.

—— (1999*c*) *Mental Health Act 1983 Code of Practice, Para. 26.3*. London: DoH.

——, Home Office & Department for Education and Employment (1999) *Working Together to Safeguard Children: A Guide to Inter-agency Working to Safeguard and Promote the Welfare of Children*. London: DoH.

Elliott, S. A. (1989) Psychological strategies in the prevention and treatment of postnatal depression. Psychological aspects of obstetrics and gynaecology. *Baillière's Clinical Obstetrics and Gynaecology*, **3**, 879–904.

Falcov, A. (1996) *Fatal Child Abuse and Parental Psychiatric Disorder*. Study of Working Together Part 8 Reports. Department of Health ACPC Series, no. 1. London: HMSO.

Holden, J. M., Sagovsky, R. & Cox, J. L. (1979) Counselling in a general practice setting: a controlled study of health visitors; intervention in treatment of postnatal depression. *British Medical Journal*, **298**, 223–226.

Johnson, Z., Howell, F. & Mallaq, B. (1993) Community mothers' programme: randomised controlled trial of non-professional intervention in parenting. *British Medical Journal*, **306**, 1449–1452.

Kendell, R. E., Chalmers, J. C. & Platz, C. (1987) Epidemiology of puerperal psychosis. *British Journal of Psychiatry*, **150**, 662–673.

Kumar, R. & Hipwell, A. (1994) Implications for the infant of maternal puerperal psychiatric disorders. In *Child and Adolescent Psychiatry* (3rd edn) (eds M. Rutter, E. Taylor & L. Hersov), pp. 759–775. Oxford: Blackwell.

Marks, M. & Kumar, R. (1993) Infanticide in England and Wales. *Medicine, Science and the Law*, **33**, 4.

Marks, M. N., Wieck, A., Checkley, S. A., *et al* (1992) Contribution of psychological and social factors to psychiatric and non-psychiatric relapse after childbirth in women with previous histories of affective disorder. *Journal of Affective Disorders*, **29**, 253–264.

Meltzer, E. S. & Kumar, R. (1985) Puerperal mental illness, clinical features and classification: a study of 142 mother-and-baby admissions. *British Journal of Psychiatry*, **147**, 647–654.

National Health Service Executive (2000) *Safety, Privacy and Dignity in Mental Health Units: Guidance on Mixed Sex Accommodation for Mental Health Units*. Leeds: NHS Executive.

Oates, M. (1994) Postnatal mental illness: organisation and function of services. In *Perinatal Psychiatry: Use and Misuse of the Edinburgh Postnatal Depression Scale* (eds J. Cox & J. Holden), pp. 8–33. London: Gaskell.

—— (1997) Patients as parents: the risk to children. *British Journal of Psychiatry*, **170** (suppl. 32), 22–27.

—— (1998) Risk and childbirth in psychiatry. In *Acute Psychosis, Schizophrenia and Comorbid Disorders. Recent Topics from Advances in Psychiatric Treatment* (vol. 1) (ed. A. Lee), pp. 116–123. London: Gaskell.

O'Hara, M. W. & Swain, A. M. (1996) Rates and risk of postpartum depression – a meta-analysis. *International Review of Psychiatry*, **8**, 87–98.

Pitt, B. (1968) 'Atypical' depression following childbirth. *British Journal of Psychiatry*, **114**, 1325–1335.

Prettyman, R. J. & Friedman, T. (1991) Care of women with puerperal psychiatric disorders in England and Wales. *British Medical Journal*, **302**, 1345–1346.

Royal College of Psychiatrists (1992) *Postnatal Mental Illness. Report of a Working Party of the General Psychiatry Section*. Council Report CR28. London: Royal College of Psychiatrists.

Spitzer, R. L., Endicott, J. & Robins, E. (1978) Research Diagnositc Criteria. *Archives of General Psychiatry*, **35**, 773–782.

Stewart, D. E., Klompenhouwer, J., Kendell, R. E., *et al* (1991) Prophylactic lithium in puerperal psychosis. The experience of three centres. *British Journal of Psychiatry*, **158**, 393–397.

Wieck, A., Kumar, R., Hirst, A. D., *et al* (1991) Increased sensitivity of dopamine receptors and recurrence of affective psychosis after childbirth. *British Medical Journal*, **303**, 613–616.