Treatment of maternal mood disorder and infant behaviour disturbance in an Australian private mothercraft unit: a follow-up study

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Summary

Australia has a system of residential parentcraft services which offer brief admissions to mothers experiencing difficulties with infant care and postnatal mood disturbance. Most of these are state-funded public access services. In 1996 a comparable but differentiated service was opened in the private sector. Masada Private Hospital Mother Baby Unit accommodates five mother-infant pairs who are admitted to a five-night structured residential program. Care is provided by a multidisciplinary team comprising a paediatrician, general practitioner, clinical psychologist and specialist nurses. Complex maternal mood disorders as measured on standardised psychometric instruments include depression, anxiety and severe occupational fatigue. Their babies are unsettled, cry for prolonged periods, wake frequently at night and do not sleep well during the day. Many have feeding difficulties. The treatment program comprises both individualised training in infant care and settling strategies and psycho-educational groups offered in a supportive non-judgemental setting. One month post-discharge maternal mood is significantly improved and infant behaviour more manageable compared with functioning on admission.

INTRODUCTION AND BACKGROUND TO THE MASADA PRIVATE HOSPITAL MOTHER- BABY UNIT

Australia has a two-tier health system. All medical consultations and outpatient services are funded to an agreed level by the Commonwealth government's Medicare scheme. This also supports a universal access public hospital system in which treatment is provided without fees. In addition, individuals may elect to purchase private health insurance that enables them to be treated by medical practitioners of their choice in private hospitals. There are a number of specialised early parenting units which offer a range of services to parents and infants who are experiencing difficulties. Common presenting problems include unsettled behaviour, sleep disturbance or feeding difficulties in the infant and anxiety, depression, clinical exhaustion and adjustment difficulties in the mother. State-funded public access services, staffed by nurses, offer brief residential stays, day attendance programs and outreach home visiting. They have statutory obligations to assist families in which young children have been identified as at risk of mistreatment or neglect. The programs focus on supporting parents in acquiring infant care skills and assisting mothers to rest and acquire problem-solving skills. There are long waiting lists for admission.

In one Australian State, Victoria, there are two private and three public parentcraft units. In 1996, Masada Private Hospital, an 80-bed hospital in suburban Melbourne, opened an equivalent, but differentiated, Mother- Baby Unit (MPHMBU) in the private sector. It is located in a dedicated section of the maternity ward and can accommodate five mother-infant pairs who are admitted under the care of a general practitioner. The treatment team includes these practitioners and a paediatrician as medical director, a clinical psychologist and nurses with specialist qualifications in midwifery, maternal and child health care and / or psychiatry. Some members of the nursing staff are additionally qualified as lactation consultants.

Consultation-liaison specialist psychiatry, gynaecology and physiotherapy services are readily accessible. Mothers and infants must have a diagnosable condition and be referred for admission by a doctor. Most are referred by general practitioners and some by paediatricians, obstetrician-gynaecologists and psychiatrists. Those seeking admission have to hold private health insurance or be able to pay the costs of admission. The most common admission diagnoses are: infant sleep or feeding disorders and maternal major depressive episode of postpartum onset, generalised anxiety, adjustment disorder or clinical exhaustion. Additional co-morbid organic conditions in either mother or infant, including mastitis, post-delivery gynaecological conditions, gastro-oesophageal reflux or slower than expected weight gain are often identified as requiring assessment and treatment.

Admission and treatment

Mothers and infants aged up to 12 months are admitted to a structured five-night residential program. The mothers' physical state is assessed comprehensively including examination for anaemia and thyroid dysfunction; persistent childbirth-related problems; breast health, and incontinence. Mothers complete the Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987) and a detailed structured psychosocial interview on admission. Infant health and development are assessed through examination and reference to the parent-held child health record.

The treatment program addresses both infant and parent needs. Individualised strategies are designed to foster infant sleep and settling, aiming to establish a daily "feed, play, sleep" routine that can be maintained. The strategies involve reducing unsustainable sleep associations including suckling, rocking, walking and being carried. Mothers are shown how to identify infants' behavioural signs of tiredness and to put the baby to bed while still awake, offering structured low stimulus comfort (e.g. patting, gentle body rocking) until the baby is quiet. Babies over 6 months are offered independent opportunities to practice going to sleep for two minute, progressing to four and six minute intervals with adult reassurance at each interval. Infants who wake after a single sleep cycle of 40 – 50 minutes are re-settled to sleep using the same comfort strategies, without being lifted from bed. Assistance is provided when needed with age-appropriate infant feeding. Breastfeeding

difficulties including attachment to the nipple; adequacy of supply of breastmilk; frequent small breastfeeds; mastitis and breast or nipple pain are common and treated with recommended best practice.

A psycho-educational group program is run for mothers. A formal group meeting is held each morning. Some are specifically educational and cover relevant aspects of infant development including needs for stimulation, soothing and sleep; strategies for comfort and containment, and approaches to balancing infant needs and rights with those of other family members. Other groups are less structured, therapist-led opportunities for reflection on adjustment to parenthood. An approach is used that acknowledges the unrecognised losses associated with motherhood, identifies how established conceptualisations of work fail to acknowledge the poorly defined, isolated, constant work of mothering infants, and recognizes that the occupational fatigue of this work is often trivialised and normalised. Strategies to renegotiate the division of the unpaid workload of domestic labour and infant care with partners and others are discussed. Women are encouraged to build collegial relationships with other mothers of infants of the same age in their local communities through participation in formal and informal meetings.

Maternal physical health problems are treated by the admitting doctor or referral is made to appropriate specialist services. Mothers are given opportunities to rest and take daily exercise. In the first 48 hours of the admission staffing of the unit is increased so that mothers are freed from some of their work and nursing staff settle the infants to sleep. Many of the mothers have become hyper-vigilant and most are clinically exhausted (Fisher et al., 2002a), so they are offered sedation for the first two nights of their stay. Maternal psychological functioning is observed and reviewed daily by nursing staff. The clinical psychologist assesses those who are most distressed. Ongoing treatment including antidepressant medication or referral to a psychiatrist or other specialist mental health professional is offered to women whose mood remains depressed at the end of the admission (Fisher et al., 2002a; Fisher et al., 2002b).

Participation of fathers and the philosophy of the unit

Fathers are encouraged to attend some of the educational groups and to take the opportunity to practice infant settling with the support of a member of staff. Those who wish to, are able

to stay overnight for the last two nights of the admission. A male psychologist leads a specific group for fathers on one evening. Joint interviews with both partners are offered to those who identify their relationship as problematic. Couples are encouraged to go out for one evening while staff care for the infant.

The philosophy of the unit is that mothers who seek our care are usually distressed in response to difficult circumstances rather than being personally flawed. Specific attention is paid to ensure that the language used by staff reflects this philosophy. For example, it is our belief that mothering infants is highly skilled vital work, which is not dignified with the language or conditions of paid work and for which there is little training. Therefore, mothers are not asked *Do you work?* or *Are you going back to work?* Rather they are asked questions like *In addition to the work of caring for the baby are you resuming professional work?* Gender stereotypes about exclusive maternal responsibility for the unpaid workload of infant care and household management are challenged and notions of the human rights of mothers and infants are introduced. The social milieu of undertaking the program as part of a group of five women is highly valued in the hospital's post-discharge satisfaction surveys. Incidental opportunities to foster maternal sensitivity about and capacity to interpret infant needs are actively utilised. In addition to handover meetings at the change of nursing shift, the whole staff team meets to review assessment and treatment decisions for each group.

There is a high demand for the services offered by the MPHMBU. Five mother-infant pairs have completed each five-night stay since it opened and on occasions an extra pair are admitted. The waiting period for admission is usually 4 – 6 weeks. In 2001, 375 mother-infant pairs completed the program.

Evidence base for practice in parentcraft units

Although these services are well-established, there has been limited existing evidence on which to base their practice. Barnett and colleagues described complex pervasive mood disorder among women attending a public access mothercraft service in New South Wales (Barnett et al., 1993) and argue that these services provide an important component of comprehensive perinatal care (Barnett and Morgan, 1996).

At the time the MPHMBU opened, little specific evidence was available either regarding the nature and severity of presenting health problems or on which to assess the efficacy of the treatment program. Since then, two studies have been conducted: the first to investigate the health and social circumstances of mothers and infants presenting for treatment (Fisher et al., 2002a; Fisher et al., 2002b) and the second, to follow up mothers and infants after discharge from the unit to ascertain what changes were observable and whether they were sustained.

METHODS

Both studies recruited consecutive cohorts of women admitted to the MPHMBU and invited them to complete anonymously a comprehensive self-report questionnaire during admission. The questionnaires canvassed established risk factors for postnatal mood disorder including sociodemographic factors; reproductive events; infant health and development; personal and family history of psychiatric disorder; exposure to past or current abuse; practical and emotional support, and coincidental demanding life events. It incorporated the following standardised psychometric instruments: the Edinburgh Postnatal Depression Scale (Cox et al., 1987); Profile of Mood States (POMS) (McNair et al., 1971); Intimate Bonds Measure (Wilhelm and Parker, 1988); Parental Bonding Instrument (Parker et al., 1979) and Vulnerable Personality Scale (Boyce et al., 2001). In the second study, maternal mental and physical health and infant temperament and behaviour are assessed by postal

questionnaire one and six months post-discharge. The findings of the first study and preliminary results of the second are summarised.

RESULTS

In Study 1, 109 / 146 (75%) and in Study 2, 81 / 99 (81%) of eligible participants completed the questionnaires. The average age of women admitted to the MPHMBU who participated in the two studies was 33.5 ($\pm$ 3.9) years and their infants were on average 23 ($\pm$ 14.4) weeks; 40% were primiparous. Most have the socioeconomic advantages of being highly educated, employed in professional occupations and married to professionally employed men. Despite these, their postpartum health is significantly compromised and their babies are unsettled and difficult to care for.

Mothers

Persistent childbirth-related health problems, including unhealed episiotomy or caesarean wounds, breast pain or infection and back pain were very common. Reproductive health and personal confidence have been compromised by high rates of assisted conception, pregnancy illness and operative childbirth. Complex mood disturbance is prevalent. The average EPDS scores on admission were 12 ($\pm$ 6.1) (Study 1) and 12.3 ($\pm$ 5.3) with 48% and 43% scores in the clinical range of 13 or more. Anxiety both as assessed on mood questionnaires and in self-ratings of confidence about infant care is apparent in the majority. Clinically significant exhaustion associated with frequent infant night-time waking and low participation in household work or infant care by their partners is almost universally reported. Daytime functional efficiency and clarity of thinking are significantly impaired. Severity of mood disturbance is associated with quality of relationship with partner, personality factors and ability to settle the baby. The most disturbed women are more likely to have a partner

perceived as behaving critically and coercively or who has been physically violent, to lack assertiveness and be characteristically anxious, and to feel unable to settle their babies (Fisher et al., 2002a and 2002b).

Infants

Most of the infants (>90%) in these studies were described as sleeping poorly or very poorly, with frequent waking overnight and total daytime sleep of 2 hours or less. Many of the infants (>40%) cried for episodes longer than 10 minutes. A third had been diagnosed with colic or reflux.

Mother-infant relationship

Perhaps in response to their babies' unsettled behaviour few women feel confident about infant care on admission to the MPHMBU (21% in Study 1 and 28% in Study 2). As a result of being unable to comfort their crying infants and settle them to sleep, many describe feeling unskilled and helpless. Anxieties about sufficiency of infant nutrition and vulnerability to unexplained infant death are voiced frequently. Although we do not assess the security of mother-infant attachment formally, most mothers experience marked separation anxiety as their infants are learning to sleep independently. Most express disbelief that their infants can sleep independently of established associations and that very frequent night- time waking can be modified. They need containment, reassurance and encouragement as their infants are settled in unfamiliar ways.

Follow-up one month post discharge (Study 2)

In the follow-up study 86% of participants completed the first follow-up questionnaire. There was no difference in average admission EPDS scores between those who did (12.3 ± 5.3) and did not (12.5 ± 6.8) complete this assessment.

Maternal mood had improved on all dimensions: average EPDS score reduced to $6.6 (\pm 4.6)$ ($p < .0001$) with 13% still scoring in the clinical range of 13 or more; POMS Tension-Anxiety scores in the clinical range reduced from 26% to 3% ($p < .0001$) and POMS Fatigue-Inertia scores in the clinical range from 78% to 32% ($p < .0001$). Similarly, both functional efficiency and clarity of thinking had improved and irritability had diminished. Those whose scores had been in the EPDS clinical range experienced an average reduction in scores of 7.8 (± 4.7). While 78% had reported that they were having insufficient sleep on admission, one month post-discharge, only 11% were still reporting this. Confidence in infant care had improved and 46% now described themselves as very confident. In all 9% of participants were taking antidepressant medication at admission and 4% one month later.

Infant behaviour had also changed significantly. Charted total crying and fussing behaviour in 24 hours had reduced from an average of 151 minutes to 72.5 minutes ($p < .001$). Only 28% of infants were still waking more than twice a night and daytime sleep had increased, with >70% sleeping for at least three hours in total during the day. Eighty percent of mothers now described their infants as sleeping well. Feeding difficulties had also diminished from 42% to 30%.

Overall evaluation of the program was that 97% found it somewhat or very helpful and felt well supported and 100% reported that they were educated about infant developmental needs and equipped with infant care skills that they had not had prior to admission. In total, 93%

thought that the babies' difficulties had been addressed effectively and 88% that their own had been.

Women who reported clinically significant depressive symptoms (EPDS 13 and over) at both time points were distinguishable from the rest of the cohort on three factors: they had either experienced violence from an intimate partner in the previous year or were frightened of him, their pregnancies had been unwanted and they had a vulnerable personality, characterised by timidity and lack of assertiveness. The existing program may be insufficient to ameliorate these difficulties, which are being carefully considered in program reviews.

Discussion

To date there has not been a randomised trial of the treatment effects of admission to parentcraft units and the possibility that these maternal and infant difficulties might have resolved spontaneously cannot be excluded. However, the reduction in symptoms of maternal mood disorder and of infant distress is comparable to those reported in randomised controlled trials of other treatments of these disorders and was measurable within one month. In studies of women diagnosed with depression, Appleby et al (1997) reported an overall reduction in mean EPDS scores of 6.6 over three months in a treatment trial of fluoxetine or cognitive behavioural counselling; Wickberg and Hwang (1996) that 20% of participants were still depressed after receiving six weekly sessions of counselling and Holden et al (1989) that 31% were still depressed after eight weekly sessions of counselling. Infant sleep and settling strategies alone exert a lesser, but significant beneficial effect on maternal mood. Hiscock and Wake (2002) reported a mean reduction in EPDS scores of 3.7 and Armstrong et al (1998) of 5.4 two months after training in the use of these interventions.

The admission experience was highly valued and appeared to be less stigmatising than psychiatric treatment. It appears that this comprehensive treatment, which attends to infant behaviour and partner awareness as well as providing systematised care for women, coupled with the skill mix of the multidisciplinary team and the unit's philosophy, may be a highly effective approach to ameliorating moderately severe maternal mood disorders. It is acknowledged that the existing program appears to be less effective in assisting those whose mood disorder is secondary to intimate partner violence or coercion and specific assessment of this factor in women presenting with postnatal mood disorders is indicated.

As a result of concerns about the possible effects of psychotropic medications transmitted through breastmilk on infants, breastfeeding women have been excluded from many postpartum depression treatment trials (O'Hara, Stuart, Gorman and Wenzel, 2000). In addition, many women prefer not to take medication, especially while lactating (Appleby et al., 1997; O'Hara et al., 2000). Hoffbrand, Howard and Hawley (2002) in a Cochrane Review of antidepressant treatments for postpartum depression conclude that outcomes such as quality of life and satisfaction with treatment are relevant, but have not been considered sufficiently in studies to date. It appears that this non-pharmacological treatment approach which also leads to improvements in quality of life and is rated as highly satisfactory may be an effective alternative to antidepressant medication as a treatment for moderate maternal postpartum mood disorder.

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