Arch Womens Ment Health (2003) 6[Suppl.2]: s57–s69
DOI 10.1007/s00737-003-0003-y

Archives of
Women's
Mental Health
Printed in Austria

Special topic

The prevention and psychotherapeutic treatment of postpartum depression

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Received February 19, 2003; accepted March 9, 2003
Published online May 21, 2003

Summary

The efficacy of psychotherapeutic interventions for the acute treatment of postpartum depression is strongly supported by empirical data, which suggest that counseling is of benefit as a stand-alone treatment for postpartum depression. Given the paucity of treatment trials using medication for postpartum depression, and the fact that psychotherapeutic interventions do not confer any "exposure" risks to breastfeeding infants, the data also suggest that psychotherapy should be considered a first-line treatment, rather than as an adjunct to medication treatment. There is also some data supporting the use of psychotherapy as a means of preventing postpartum depression, though research is still needed regarding the type of interventions to be used and the types of patients towards whom the interventions should be directed.

Keywords: Postnatal depression; psychotherapy; treatment; prevention.

Introduction

The efficacy of psychotherapeutic interventions for the acute treatment of postpartum depression is strongly supported by empirical data, which suggest that counseling is of benefit as a stand-alone treatment for postpartum depression. In addition, the preponderance of data also suggests that directed psychotherapeutic interventions aimed at preventing postpartum depression may be of benefit. The conclusion that psychotherapy should be considered a "first-line" treatment for postpartum depression is not only warranted by the data, but is even more compelling given the lack of data regarding the safety and efficacy of antidepressant medications.

In this paper we review the data supporting the efficacy of psychotherapeutic interventions for postpartum depression. Both preventive and acute treatment studies are described, along with the conclusions that can be drawn from each. Treatment recommendations and future research follow.

Postpartum depression: psychosocial treatments

Psychosocial treatments for postpartum depression can be placed in two categories. The first is preventive interventions which involve treatment of either large numbers of women from the general population, or involve only those who are at high risk for postpartum depression. These prevention trials typically begin during pregnancy. The second type of psychosocial intervention is designed to treat women who have already developed postpartum depression.

Preventive interventions

The majority of empirical research involving primary prevention of postpartum depression has been conducted in the last decade. Preventive interventions for postpartum depression have been applied to high-risk women as well as pregnant women in the general population who may not be at risk. Preventive interventions are divergent across a number of dimensions including the type of professional conducting the intervention (e.g., mental health vs. non-mental health professionals), individual versus group treatment, the type of interventions provided (e.g., psychoeducation vs. psychotherapy), number of sessions provided, and the timing of the inter-

vention (e.g., prenatal only vs. pre- and postnatal sessions) – see Table 1.

Gordon and Gordon (1960) conducted a prevention treatment trial in which women were randomly assigned to participate in two psychoeducational classes during pregnancy. The experimental groups included women who participated in these groups by themselves, and those who participated with their husbands. Only 15% of the women who received additional classes experienced postpartum "emotional upsets" as compared to 37% of the non-treated women. At six month follow-up, only 2% of the participant women were having such upsets compared to 28% of controls. The authors noted that the women who attended the groups with their spouses had the best outcome, but provided no data supporting this conclusion. Further, the assessment procedures were not described, nor were the measures used to assess outcome. Postpartum "upset" was not operationally defined, nor was its clinical or functional relevance described.

Halonen and Passman (1985) conducted a prevention study in which pregnant women received relaxation therapy designed to alleviate postpartum distress. After participation in a class teaching relaxation for pain control during labor, women were randomly assigned to one of four treatment conditions: discussion, exposure, relaxation training, or relaxation training and exposure combined. Forty-eight women were treated in their homes by a trained therapist. The relaxation training took place in two sessions preceding childbirth, and during a "refresher" session two days after birth. At 7 to 10 days postpartum, women in the two relaxation groups reported significantly lowers scores on the Beck Depression Inventory (BDI) (Beck et al., 1961) compared to the women in the other two groups. There were no differences between groups, however, when BDI scores at one month were compared. Moreover, the mean BDI score at intake was only 11, indicating a very mild degree of depressive symptoms, though it should be noted that the sample did not come from a high risk population.

Lavender and Walkinshaw (1998) studied the effects of one session of postnatal "debriefing" which was provided by midwives to 56 women and compared them to 58 non-treated controls. Women spent as much time as necessary discussing their labor with a midwife who had no special training in counseling. The sessions lasted between 30–120 min. Women receiving one session of debriefing were significantly less likely to have high anxiety and depression scores at three weeks postpartum based on arbitrary cut off scores on the Hospital Anxiety and Depression Scale (HADS) (Zigmond and Snaith, 1983) of 11 for both anxiety and depression. The authors provided neither a range of scores nor average scores for each group, making comparison of the groups using the continuous scoring properties of the HADS impossible. It is unclear, on this basis, whether the intervention was actually more effective across the entire group. Further, baseline scores for both groups were not reported, so that pre-post comparison of groups and comparison of groups prior to the intervention is not possible.

Small et al. (2000) conducted a randomized primary prevention trial with 1,041 women who had given birth by operative means. The women assigned to the intervention group were "debriefed" by a midwife regarding their labor and delivery experiences before they were discharged from the hospital. The debriefing session was relatively short, lasting no longer than one hour. There were no significant differences in levels of depression on the Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987) between the two groups at six months – 17% of women in the intervention group were classified as depressed (EPDS $>$ 12) compared to 14% in the control group. There were also no differences in health status as measured by the 36-item Short Form Health Survey (SF-36) (Ware and Sherbourne, 1992) between the two groups.

Wolman et al. (1993) conducted a treatment trial in which 189 nulliparous women were randomly assigned to be accompanied by a "doula" during their delivery, or were assigned to a group which received only standard medical care. Women who received support from a doula, had a mean depression score of 10.4 on the Pitt Depression Questionnaire (Pitt, 1968) at six weeks postpartum, which was significantly better than those in the control group, who had a mean score of 23.3. The results of the Wolman et al. (1993) study, however, are limited by several factors. First, depressive symptoms were not assessed during pregnancy, so that the effects of the intervention on reducing depression are not clear. Additionally, women continued to report moderate levels of depression even in the experimental group. It is also not clear how applicable this intervention would be across cultures, as the doula system is not common in many societies. Nonetheless, the authors do present

Table 1. *Summary of prevention studies*

Authors	Sample	Selection criteria	Initial point of intervention	Therapy	Control condition	Number and timing of sessions	Time and description of depression outcome measures	Results
Gordon and Gordon, 1960	92 primiparous women from childbirth education classes	unselected	during pregnancy	psychoeducational classes with or without spouse	untreated	2 classes during pregnancy	6–8 wks and 6 mths postpartum "Emotional upset"	37% of controls experienced emotional upsets vs. 15% of intervention group; at 6 mths, 28% of controls had upsets vs. 2% of intervention group
Halonen and Passman, 1985	48 primiparous women from childbirth education classes	unselected	during pregnancy	exposure, relaxation training, or relaxation training plus exposure	one discussion covering awareness of postpartum distress	2 in-home sessions during pregnancy and 1 refresher course at 2 days postpartum	days 1–10 and 1 mth postpartum BDI	2 relaxation groups had sig. decline on BDI vs. exposure and control groups; no differences at 1 mth postpartum
Lavendar et al., 1998	114 primigravida women recruited at 20 wks	unselected	2 days postpartum	midwife debriefing session	untreated	one 30–120 min debriefing session	3 wks postpartum HADS	debriefing group sig. less likely to have higher scores on HADS
Small et al., 2000	1041 postpartum women who gave birth by operative means	unselected	Before hospital discharge	midwife debriefing session	untreated	1 session lasting no longer than 1 hour	6 mths. postpartum EPDS	no sig. differences on percentage of women >12 on EPDS
Wolman et al., 1993	189 low-income nulliparous women recruited during labor	unselected	labor	Doula support	routine antenatal care	Doula support during labor/delivery	6 wks postpartum PDQ	Doula intervention had sig. lower scores on PDQ vs. control
Gorman, 1997	45 women from antenatal clinics	high risk	32 wks gestation	interpersonal psychotherapy modified for prevention	untreated	2 sessions during pregnancy and 3 postpartum sessions	1 and 6 mths. postpartum SCID DSM-IV MDE, BDI, HSCL-90	0% of IPT grp were depressed vs. 25% of control (sig.); No differences on other measures; at 6 mths, no sig. differences on any outcome
Zlotnick et al., 2001	37 low-income women from antenatal clinics	high risk	second trimester	group interpersonal psychotherapy	untreated	4 weekly group sessions	3 mths. postpartum SCID DSM-IV MDE, BDI	0% of group IPT depressed vs. 33% of control (sign.); BDI change scores sig. greater for group IPT vs. control

Table 1. *Continued*

Authors	Sample	Selection criteria	Initial point of intervention	Therapy	Control condition	Number and timing of sessions	Time and description of depression outcome measures	Results
Brugha et al., 2000	190 primiparous women from antenatal clinics	high risk	28 wks gestation	support group incorporating problems solving, emotional support, and psychoeducation. Led by nurses and occupational therapists	untreated	six 2-h group sessions during pregnancy and 1 group session at 8 wks postpartum	3 mths. postpartum GHQ, EPDS	No sig. differences on outcome measures
Stamp et al., 1995	144 pregnant women from antenatal clinics	high risk	32 wks gestation	group psychoeducation and support led by midwife educator	untreated	2 groups at 32 and 36 wks gestation and 1 group at 6 wks postpartum	6 wks, 12 wks, and 6 mths. postpartum EPDS	no sig. differences on EPDS
Hayes et al., 2001	206 primparous women from antenatal clinics	unselected	28–36 wks gestation	psychoeducation (book/audiotape)	untreated	1 meeting with midwife	8–12 wks and 16–24 wks postpartum Profile of Mood States	no sig. differences on Profile of Mood States
Oakley et al, 1990; Oakley, 1992	509 women with history of low-birth weight baby recruited from community prenatal centers	unselected	14 wks gestation	social support intervention from midwife	routine antenatal care	minimum of 3 home visits, 2 phone contacts during pregnancy, and 24 h on call assistance	6 wks and 1 year postpartum "no ppd" & "satisfied with life"	no sig. differences on outcome criteria
Elliott et al., 2000	99 women recruited at first antenatal appointment	high risk	24 wks gestation	group psychoeducation and support by psychologist and bearth visitor	untreated	5 monthly groups beginning around 24 wks gestation and 6 monthly groups in postpartum period	3 and 12 mths. postpartum EPDS, Present State Exam, Crowne Crisp Experiential Index	Sig. lower EPDS for intervention grp vs. controls (primiparous women only)

DSM IV MDE: Major Depressive Episode
BDI: Beck Depression Inventory
HADS: Hospital Anxiety and Depression Scale
EPDS: Edinburgh Postnatal Depression Scale
PDQ: Pitt Depression Questionnaire
HSCL-90: Hopkins Symptom Checklist
GHQ: General Health Questionnaire

evidence which suggests that a relatively simple intervention may provide some benefit to women, and particularly strengthen the hypothesis that social support is essential in preventing postpartum depression.

One study has examined the efficacy of Interpersonal Psychotherapy (IPT) (Stuart and Robertson, 2003; Stuart and O'Hara, 2000; Klerman et al., 1984) modified for primary prevention. Gorman (1997) randomly assigned high-risk women to receive preventive IPT (n = 24) or to a no treatment control group (n = 21). High risk women were identified using a two-phase screening process that assessed for the presence of five risk factors (personal history of depression; family history of psychiatric disturbance; high levels of depressive symptomatology during pregnancy; marital maladjustment; and negative life events) associated with postpartum depression. Women were designated as high-risk if they had at least one of these risk factors.

The intervention consisted of two individual sessions during pregnancy and three weekly sessions between two to four weeks postpartum. Sessions during pregnancy were scheduled from 32 weeks gestation up to delivery. Pregnancy sessions consisted of psychoeducation about postpartum mood disorders and discussion related to current or anticipated interpersonal difficulties. The postpartum sessions focused on the woman's mood and how it was associated with the interpersonal issues discussed during pregnancy. At one month postpartum, women receiving the intervention were significantly less likely to have experienced a major depression compared to women in the no treatment control group (0% vs. 25%). At six months postpartum this difference was not significant (15% vs. 23.5%).

Zlotnick et al. (2001) randomized 37 women at risk for postpartum depression to either four group sessions of interpersonally oriented psychoeducation (n = 18) or to a control group (n = 19). The group intervention included four to six women and involved four 60-min group sessions over a four week period. The first session provided psychoeducation about the "baby blues" and postpartum depression; the remaining three involved the IPT problem areas of role transitions and interpersonal conflict along with goal setting. At three months postpartum, none of the women in the intervention had developed postpartum depression compared to 33% in the control group, a significant difference. Change scores on the BDI from pre-intervention to three months postpartum were significantly greater for treated women. The mean BDI score for the intervention group at three months postpartum was 8.4 and was 11.3 for the control group. However, the relative changes in BDI scores for each group were not directly compared, which does limit the interpretation of the BDI findings.

Brugha et al. (2000) conducted a randomized prevention trial with 190 women who were deemed at risk based on the antenatal presence of one of six depression items from the General Health Questionnaire (GHQ) (Surtees and Miller, 1990). The intervention consisted of six 2-hour group sessions during pregnancy with an additional session at eight weeks postpartum. The sessions were educational and focused on problem solving approaches to avoiding postpartum depression. Social support was also emphasized. Groups were led by nurses and occupational therapists.

The intervention had no effect with respect to depressive symptomatology or diagnostic status at three months postpartum. Interestingly, the rates of depression were relatively low in the control group (about 20%), considering that the entire sample was selected to be at risk for postpartum depression. The selection strategy was quite inclusive – only one antenatal symptom of depression was required for eligibility, and 400 of the 1,300 women screened met inclusion criteria (roughly 30%). The authors also noted that about 55% of women completing the outcome assessment at three months postpartum were not compliant in attending sessions, suggesting that many women may not have received a "therapeutic" dose of the intervention.

Stamp et al. (1995) also described poor compliance by pregnant women at high-risk for depression. In this study, 144 women deemed vulnerable to depression were randomly assigned to an intervention group or to a no treatment control group. The group intervention consisted of two antenatal sessions at 32 and 36 weeks gestation and a final session at six weeks postpartum. Partners were also invited to attend, although only two partners did so. The sessions were conducted by a midwife educator and were designed to inform women about issues surrounding childbirth, and to help them develop and extend their social support networks. The postnatal session at six weeks postpartum was designed for women to tell their birth stories and to discuss the impact of the transition to motherhood.

There were no significant differences between the intervention and control group with respect to the percent of women scoring above 12 on the EPDS at 6 weeks, 12 weeks, or 6 months postpartum. Although the results suggest that the treatment was ineffective in preventing depression in vulnerable women, many may not have received adequate exposure to the intervention – the overall attendance was only 31%. Taken in conjunction with the Brugha et al. (2000) study, these figures suggest that many women, even those at high risk, are simply not motivated to seek preventive treatment when euthymic.

Hayes et al. (2001) examined the effectiveness of antenatal psychoeducation in reducing postnatal depression. Two hundred six primiparous women were randomized to either a no treatment control group or an intervention group which was provided with an information booklet about postpartum mood disorders and an audiotape containing a personal account of one woman's experience of postnatal depression. Women were given the option of reviewing the information in their home or in the antenatal clinic between 28–36 weeks gestation. In either setting, an experienced midwife guided them through the material. Mood was assessed with the Profile of Mood States (POMS) (McNair et al., 1981) before the intervention was administered at 8–12 weeks postpartum and 16–24 weeks postpartum. No significant intervention effects were found between the two groups at either postnatal assessment of mood with the POMS.

Oakley et al. (1990) studied women who were recruited from community prenatal centers in England who had a history of at least one low-birth weight delivery unassociated with congenital malformation. Five hundred and nine women were randomly assigned to receive a social support intervention from midwives during their pregnancy or to receive only routine antenatal care. The social intervention package consisted of a minimum of three home visits plus two telephone contacts during pregnancy. The first contact usually occurred at about three to four months of pregnancy. Midwives provided "as much extra support as the women requested and their own work-loads were able to tolerate" and were actually on-call 24 h a day for the study women. Seventy percent of the women in the intervention group received "more" than the minimum package, but the details of the number of home visits were not provided. Midwives did not provide any clinical care, and were instructed to give advice or information to women only if specifically asked to do so. They were also instructed to assist women with referrals to other social agencies and other health professionals as needed – 80% of the women in the intervention group received such referrals.

At one year, 95% of the women in the social support group, and 90% of the women in the control group reported that they had not had problems with postpartum depression. Ninety-two percent and 87% of the women in the experimental and control group respectively reported that they were "satisfied with life" at one year. No other assessment of psychological well-being was conducted, and the differences between the two groups were not significant.

Elliott et al. (2000) reported on the preventive effects of group treatment provided from early in pregnancy to six months postpartum. Women were selected for treatment if they had:

1. a previous psychiatric history;
2. high levels of anxiety;
3. a poor marital relationship; and
4. no confidant.

The authors described the psychoeducational component as "anticipatory guidance" aimed at helping women to anticipate changes that would occur after childbirth, as well as providing practical advice on how to avoid potential problems. Therapists provided specific information about postpartum depression and the need to establish adequate social supports. The treatment was marketed as an "educational program" rather than as psychological counseling.

The groups met monthly beginning around 24 weeks of pregnancy. Each had between 10 to 15 members and was led by a psychologist and a health visitor. Early sessions were structured and psychoeducational, while the latter sessions had increased time for "open discussion." Both first and second time mothers were treated, though in separate groups. First time mothers attended an average of 7 of 11 sessions, while second time mothers attended an average of only 4 of 11 meetings.

Women were not interviewed for the presence of depression during the antepartum period, and mood symptoms were not assessed prior to beginning in the treatment trial. Only for first-time mothers were there significant differences with respect to level of depressive symptomatology at three months

postpartum. Median EPDS scores for treated and control subjects were 3.0 and 8.0 respectively.

The treatment trials designed to prevent postpartum depression have generally not demonstrated marked effects. Though there have been some well-designed programs which have addressed the psychoeducational, social, and interpersonal needs of pregnant and postpartum women, the efficacy of these programs is not impressive. They remain intuitively appealing, but there are few data which suggest that the cost-benefit ratio is such that they should continue to be offered as they are currently constructed.

There are a number of factors which may account for the discrepancy between the clinical experience which suggests that preventive interventions are helpful and the mixed empirical findings which do not strongly support their efficacy. First, the goal which the interventions should be targeting is not well defined. Is it sufficient, particularly from a cost-benefit standpoint, to reduce depressive symptoms, or is a more appropriate target to prevent syndromal depression entirely? Second, the magnitude of change which is to be expected is not clear. Again, this issue depends to some degree on cost-benefit decisions which have simply not been studied. Is the investment in an extensive preventive counseling program worth the effort and expense if symptoms are moderately improved – practically speaking, is a treatment which reduces mean EPDS scores from 11 to 8 (both of which are below the screening threshold for depression) clinically and functionally worth the expense?

In addition, the determination of "risk" for postpartum depression is unclear. It seems clear from the data that intensive preventive interventions should not be used for women who are not at risk for postpartum depression. However, the factors that should be used to determine risk, and the extent of risk which makes preventive treatment viable, are yet to be determined. Moreover, the question is not simply one of risk for development of postpartum depression, but which risk factors are also associated with response to a particular psychosocial intervention. Reasonable hypotheses, for example, might be that women with "psychosocial" risk factors such as poverty might benefit from directive interventions designed to assist them to obtain practical financial support; those that face relationship conflicts may benefit more from an interpersonally based treatment; and those with "biological" risk factors such as a family history of depression may benefit more from a structured psychotherapy or medication.

In essence, there is little information about what an effective treatment ought to "look like." Should it be psychoeducational, directive, experiential, or cognitive? The modality which is most cost-effective is unclear – many interventions are provided in a group format; though these are clearly less costly than individual treatments, they have yet to be proven more effective. There is also no information about the "dosing" of therapy. At what point should the treatment begin? During pregnancy, after delivery, or at some point postpartum? How many sessions are adequate? In fairness, it should be clearly noted that these questions must also be asked for the prevention of postpartum depression using medication – there is no empirical evidence at all that prophylactic antidepressant medication prevents the onset of postpartum depression. Further, there are few data regarding the appropriate "dosing" of psychotherapeutic treatments designed to prevent depression in general.

Finally, there appears to be a substantial problem with compliance with preventive treatment. In short, women who are not acutely symptomatic do not appear to be highly motivated to attend treatment sessions. The studies of Brugha et al. (2000) and Stamp et al. (1995) illustrate this point clearly. Further, clinical experience suggests that it is often the women who may be most in need of preventive treatment who are least likely to attend – those with difficult psychosocial situations which lead them to be at great risk for depression often have chaotic lives which make it difficult for them to engage in treatment. Many such women are simply not "active treatment seekers" – they tend to be passive recipients of treatment even in the face of acute problems, and are not inclined to seek out or participate in any treatments, much less preventive interventions.

In sum, there is only equivocal evidence that the preventive interventions studied to date are effective in preventing postpartum depression. Rather than abandoning preventive treatments, however, the compelling clinical experience with perinatal women suggests that preventive interventions need to be reconceptualized along the following principles:

1. the interventions should be directed towards high risk women;

2. the risk factors for postpartum depression which are also associated with response to treatment need to be better characterized;
3. the interventions should be based on clear rationales which direct the interventions, such as the provision of psychoeducational materials or discussion of social support;
4. there should be no assumption that "one size fits all," but rather that there are likely to be subgroups of women who respond to different interventions.

Further, these concepts must be examined in rigorously designed outcome studies, which should always include some analysis of the cost-benefit of the intervention.

Acute treatment trials

Several acute interventions have been designed to treat the symptoms of postpartum depression once they develop. In contrast to preventive interventions, all of the women who receive acute treatment are specifically selected because they are experiencing postpartum depression. The criteria used to define postpartum depression and outcome measures, however, vary among the studies – see Table 2.

Holden et al. (1989) conducted a study involving 50 women who met Research Diagnostic Criteria (RDC) (Spitzer et al., 1978) for either major or minor depression at 12 weeks postpartum. The women were divided into two groups: those who received 8 weekly sessions of counseling provided by health visitors (most of whom had midwife experience and several of whom had additional psychiatric training) and those in a no treatment control group. The counseling was designed to be non-directive in orientation, and each session was to last at least one-half hour. The sample had a median score of 15.8 on the EPDS at intake (mean scores were not reported). The vast majority of women were multiparous, and about 40% had suffered a previous episode of depression. Patients in the treatment group received a mean of 8.8 sessions of therapy over about 13 weeks. Twelve of the women in the study were receiving antidepressant medication in addition to the counseling.

A significantly higher percentage of women in the treatment group (69%) no longer met criteria for either RDC major or minor depression at the conclusion of treatment than in the control condition (38%). Additionally, the median score on EPDS decreased from 15.5 to 12.0 in the control group compared to 16.0 at intake and 10.5 post-treatment in the group receiving counseling, a significant change only for treatment group. The outcome scores, however, were compared only within each group, rather than between the two groups.

Wickberg and Hwang (1996) studied the effects of non-directive counseling provided by child health nurses. Women were recruited during routine visits to a Child Health Care clinic and were eligible for randomization if they had scores of 12 or more on the EPDS at both two and three months postpartum, had Montgomery-Asberg Depression Rating Scale (MADRS) (Montgomery and Asberg, 1979) scores of 10 or more, and met DSM-III-R (American Psychiatric Association, 1987) criteria for major depression. The treated group received six weekly non-directive counseling sessions, and the control group received routine care.

Twelve of 15 women in the treatment group compared to 4 of 16 women in the control group no longer met criteria for DSM-III-R major depression at the completion of treatment. The decrease in MADRS scores in the group receiving counseling (19.6 to 10.9) were significantly greater than those in the control group (17.1 to 14.7). Given the duration of treatment in this study, the decline in MADRS scores is notable – conventional wisdom is that psychotherapeutic treatments for mild to moderate depression should be provided for at least 10 to 12 weeks. However, the authors noted that 4 severely ill women had to be dropped from the study, which limit the findings to postpartum women with mild to moderate depression.

Cooper and Murray (1994) compared eight weeks of non-directive counseling, cognitive behavioral therapy, or psychodynamic psychotherapy to a no treatment control group. A total of 170 primiparous women screened from the community meeting DSM-III-R criteria for major depression at six weeks postpartum were randomized to one of the four treatments. All of the treatments significantly advanced the remission of depression compared to the control group. Remission occurred in 75% of the women treated with non-directive counseling, 60% of the women receiving CBT, 50% of the women treated with psychodynamic psychotherapy, and 40% of the women in the control group. EPDS scores dropped from 14 to 10 in the non-directive counseling group, 13.5 to 9 in the CBT group, 12.7 to

Table 2. *Summary of acute treatment studies*

Authors	Sample	Study entry criteria	Initial point of intervention	Therapy	Control condition	Number and timing of sessions	Outcome measures	Results
Holden et al., 1989	50 women	RDC major or minor depression	12 weeks postpartum	client centered Rogerian counseling with health visitor	untreated	8 weekly sessions	EPDS, RDC major or minor depression	sig. decline on EPDS for treatment grp only; 62% of controls still depressed vs. 31% of treated
Wickberg and Hwang, 1996	31 women recruited during routine child health visits	12 or more on EPDS at both 2 and 3 mths postpartum, 10 or more on MADSR, and DSM-III-R MDE	3 mths postpartum	non-directive counseling by child health visitor	untreated	6 weekly sessions	MADRS, DSM-III-R MDE	sig. greater decline in MADRS for treatment grp, 75% of controls still depressed vs. 20% of treated
Cooper and Murray, 1994	170 primiparous women from community	DSM-III-R MDE	6 weeks postpartum	non directive counseling, CBT, or psychodynamic psychotherapy	untreated	8 weekly sessions	DSM-III-R MDE remission, EPDS	remission rates for all therapeutic groups sig. higher than control
Appleby et al., 1997	87 postpartum women	11 or more on EPDS and RDC critieria for major or minor depression	6–8 weeks postpartum	fluoxetine and counseling or counseling	none	fluoxetine plus 1 session counseling, fluoxetine plus 6 sessions counseling, placebo plus 1 session counseling, or placebo plus 6 sessions counseling (12 week treatment duration)	HRSD, EPDS	sig. improvement for all groups on all measures; Fluoxetine sig. better than placebo on HRSD, EPDS; 6 sessions counseling better than 1 session on HRSD
O'Hara et al., 2000	120 community women	DSM-IV MDE and HRSD >= 12	5 mths postpartum	interpersonal psychotherapy	waiting list (WLC)	12 weekly sessions	DSM-IV MDE, HRSD, BDI	IPT sig. better on HRSD/BDI than WLC

RDC: Research Diagnostic Criteria.
MADRS: Montgomery Asberg Depression Rating Scale.
HRSD: Hamilton Rating Scale for Depression.
BDI: Beck Depression Inventory.
DSM-III-R/IV MDE: Major Depressive Episode.
EPDS: Edinburgh Postnatal Depression Scale.

8.8 in the psychodynamic group, and 12.4 to 11.3 in the control group. No information regarding the significance of these comparative scores were given by the authors.

Appleby et al. (1997) reported on the treatment of postpartum depression using counseling based loosely on the cognitive behavioral therapy model. Eighty-seven women were randomized to treatment if they scored above 10 on the EPDS and met RDC criteria for major or minor depressive disorder at six to eight weeks postpartum. The interventions included:

1. treatment with fluoxetine and one session of counseling;
2. treatment with fluoxetine and six sessions of counseling;
3. treatment with placebo and one session of counseling; and
4. treatment with placebo and six sessions of counseling.

The medication arm of the study was double-blinded, and the total duration of the study was 12 weeks.

Each counseling session was structured to provide reassurance to mothers and to offer practical advice in four areas: feelings of difficulty in coping, lack of pleasurable activities, lack of practical support, and caring for any older children. The first session lasted about an hour, and subsequent visits lasted about 30 minutes and were provided once every two weeks for women who received six sessions of counseling.

Highly significant improvements were seen in all four of the treatment groups, and fluoxetine was superior to placebo on all measures. Six sessions of counseling were superior to one session on the Hamilton Rating Scale for Depression (HRSD) (Hamilton, 1976), but not on the EPDS. There were no interaction effects between medication and psychotherapeutic treatment. The study was notable for a fairly high number of dropouts in each cell–roughly 25 to 30% in each group. Women completing the fluoxetine plus one session of counseling treatment had a decline in their HRSD from 13.3 to 2.9, and ratings of the women in the fluoxetine plus six sessions group declined from 13.2 to 2.8. The HRSD scores of women receiving placebo and one session declined from 14.7 to 7.5, and from 13.3 to 3.7 if they received placebo and six counseling sessions. The authors noted the "unexpected" finding that many women improved greatly within one week after entering the treatment trial. They suggested that this may have been due either to a more rapid than anticipated response to fluoxetine, or to the benefits of women's expectations of entering into counseling. This is the only study which has examined the effects of combining psychotherapy and medication for the acute treatment of postpartum depression.

O'Hara et al. (2000) evaluated the use of IPT in a sample of 120 postpartum women from the community who met criteria for DSM-IV (American Psychiatric Association, 1994) major depression. Depressed women were assigned to either 12 weekly sessions of IPT or to wait for 12 weeks before receiving weekly IPT. Therapists were Ph.D. clinical and counseling psychologists in clinical practice who were specifically trained as IPT therapists.

Multivariate analyses of variance indicated significant effects for the IPT condition for both the HRSD and BDI measures. Average HRSD scores for the IPT condition dropped from 18.4 to 8.3 and in the waiting condition scores dropped from 19.8 to 16.8. Similar changes were noted for the BDI as well. For both the HRSD and the BDI significant differences emerged by four weeks into therapy. Significant effects were also observed for several of the measures of social adjustment, including the Social Adjustment Scale (Weissman and Bothwell, 1976) and the Postpartum Adjustment Questionnaire (PAQ) (1992). This study is notable in that it was the first to evaluate an established psychotherapy for postpartum depression. It was also notable in using psychotherapists who practiced in the community and who treated study patients as part of their practice in contrast to many psychotherapy studies in which patients are treated in academic centers.

Conclusion

At present, the majority of the empirical data regarding preventive psychotherapeutic interventions for postpartum depression support its efficacy, though there are a number of studies which have not demonstrated benefit. The literature regarding primary prevention suggests that outcome may be improved by focusing on at least two specific factors: appropriate selection of patients who are at high risk, and aggressive measures to assure patient retention in treatment. The latter is important from a public health standpoint, as cost-benefit analyses are an important issue in prevention in general. Both of these propositions remain to be empirically tested, however. More research is clearly needed regarding

which factors are associated with response to treatment, and which women are likely to become depressed postpartum. Further research involving replication, and therapeutic component analysis or dismantling strategies are also warranted.

In contrast, the efficacy of psychotherapeutic interventions for the acute treatment of postpartum depression is strongly supported by the data. The strength of study designs, the large number of subjects in the trials, and the impressive results all suggest that counseling is of benefit as a stand-alone treatment for postpartum depression. Given the paucity of treatment trials using medication for postpartum depression, and the fact that psychotherapeutic interventions do not confer any "exposure" risks, the data also suggest that psychotherapy should be considered a first-line treatment, rather than as simply an adjunct to medication treatment.

Despite the data, there are a number of common misperceptions regarding the prevention and treatment of postpartum depression that continue to have an effect on practitioners and patients alike. First and foremost, there is an unsupported belief that there are unequivocal data demonstrating the safety of antidepressant medications used during breastfeeding. Second, there is an unwarranted belief that data support antidepressant medication as the "treatment of choice" for postpartum depression. Finally, there is an inaccurate belief that there is empirical evidence supporting the use of combined treatment for postpartum depression, and that the use of antidepressant medications and psychotherapy together improves outcome or treatment response.

In reality, there are few data regarding the safety of antidepressant medications that are used while breastfeeding. While there are some data regarding the transmission of antidepressant medication in breast milk, there are no data regarding its effects on the developing infant. The lack of data is particularly important given the likelihood that movement of drugs across the infant's blood-brain barrier, drug metabolism, and neuroreceptor affinities and binding in the infant are different than in adults.

There are only three published studies regarding the effectiveness of antidepressant medication for postpartum depression (Appleby et al., 1997; Stowe et al., 1995; Cohen et al., 2001), only one of which included a control group (Appleby et al., 1997). In contrast, there is a substantial body of literature supporting the efficacy of psychotherapeutic interventions for the acute treatment of postpartum depression. Most of these studies have utilized psychotherapy as a "stand-alone" intervention, and the data indicate that counseling is effective for a wide range of depression severity.

Finally, there is only one study of combined use of antidepressant medication and psychotherapy (Appleby et al., 1997), and that study did not show any additive effects when combination treatment was utilized. Psychotherapy is largely considered as an "adjunct" to medication in many circles, a position that is not supported by the available data. The empirical data strongly suggest, in contrast, that psychotherapy for postpartum depression is an effective treatment for even severe depression, and that, given the lack of safety and efficacy data, medication might be considered as an adjunct for breastfeeding women rather than vice versa.

Common clinical practice, which often revolves around the use of antidepressant medications as the "best" and first-line treatment, is simply not supported by the current empirical data regarding the treatment of postpartum depression. While clinical experience often supports the use of medication and combined treatment, it is incumbent upon all practitioners to be familiar with the data, particularly the empirical evidence supporting a variety of psychotherapeutic interventions (see Table 1 and 2), so that they can make an informed decision about the best course of treatment for their patients.

Though there are at present only a few data which support the efficacy of medication for postpartum depression, clinical experience supports its benefit for many women. However, given the potential risks involved, and the preference of many women to avoid medication if possible, we recommend that the use of antidepressants should also be incorporated into the hierarchy of treatment described above. Rather than using medication as a first-line treatment, it could be reserved for more severe depression that does not respond to counseling. In addition, the use of combination treatments clearly needs to be studied further.

A number of additional factors warranted further investigation. First, the efficacy studies of the treatment of acute postpartum depression suggest that there may be benefit to a step-wise approach to treatment. For instance, there are several studies which suggest that "non-directive counseling"

provided by public health nurses is of benefit for women with mild to moderate depression. More intensive interventions, such as having highly trained psychologists provide IPT as in the O'Hara et al. (2000) study, are clearly effective for more severe depression as well. A reasonable approach may be to utilize less costly interventions as a first-line treatment for depressed women, with those that do not respond to a non-directive approach moving on to more intensive interventions such as IPT. Further, there has been little research into the effects of more cognitive-behavioral approaches to postpartum depression. Perhaps the step-wise interventions above could include simple behavioral steps such as scheduling of pleasurable activities – interventions that could easily be provided by visiting nurses without extensive training.

Another aspect of the treatment of postpartum depression that has received no study is the use of either counseling or medication as a maintenance treatment. As with depression in general, there are a substantial number of women who relapse after acute treatment of depression is concluded, whether that treatment be with medication or with psychotherapy. Several maintenance trials are currently underway, but this area clearly needs more intensive study as well.

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