Project: Development of the Best-practice Guidelines for

the Prevention of Postpartum Depression

by

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## ABSTRACT

Postpartum depression poses a major public health problem with approximately thirteen percent of women experiencing this mood disorder after the birth of their baby. The significance of addressing postpartum depression lies in the potential to mitigate its negative effects on the health of women and their families, and the impact on their transition to parenthood. Further, prevention, early identification and treatment of this disorder are essential to reduce the suffering of women and their families. Best Practice Guidelines based on research evidence provide clinicians with ready access to a summary of the current state of evidence in a particular field, thus enabling clinicians to use quality evidence to enhance their clinical practice. The objective of this project was to augment the *Perinatal Depression and Anxiety Best Practice Guidelines* developed by the Ministry of Health and the British Columbia Reproductive Mental Health Program with a section on the prevention of postpartum depression.

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# Literature Review

## *Postpartum Depression*

### *Postpartum Depression: An Overview*

Postpartum depression (PPD)[1] poses a major public health problem with approximately 13% of women experiencing this mood disorder after the birth of their baby (O'Hara & Swain, 1996)[2]. PPD is an umbrella term used to describe a group of symptoms that can negatively affect the mother and her family once her baby is born. It is a major depressive disorder included in the Diagnostic and Statistical Manual of Mental Disorders, fourth edition, text revision (DSM-IV-TR). Symptoms include low mood, tearfulness, loss of interest or enjoyment in things previously enjoyed, loss of confidence, inability to sleep, poor concentration, guilt, anxiety and thoughts of suicide or self harm (Davies, Howells, & Jenkins, 2003; Templeton, Velleman, Persaud & Milner, 2003). PPD can begin in pregnancy, immediately after the birth, or anytime in the first year after the baby is born (Cooper, Campbell, Day, Kennerley & Bond, 1988; Templeton et al.). As with any type of depression, PPD can be mild and self-limiting, moderate or severe. Approximately 10-15% of women will experience this mood disorder during the first year after delivery, making it a significant public health concern (Beck & Gable, 2000; O'Hara & Swain, 1996; Reay, Fisher, Robertson, Adams & Owen, 2006). As not all PPD will be reported to or identified by health care providers, the actual prevalence is likely to be higher than estimated here (Seeley, Murray & Cooper, 1996). The significance of

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[1] PPD needs to be differentiated from 'postpartum blues' (also called 'baby blues' or 'maternity blues') which may be a normal reaction to the dramatic physiologic changes occurring after childbirth (Beck, 2006). The blues last from a few days to a few weeks but resolve without clinical intervention (Beck & Driscoll, 2006).

[2] Based on birthrates from 2004, approximately 5 264 women in British Columbia and 43 819 women in Canada will experience PPD (Statistics Canada, 2006).

studying PPD lies in its' potential negative effects on the health of women and their families and the impact on their transition to parenthood (Mayberry & Affonso, 1993).

*Morbidity Associated with Postpartum Depression*

PPD poses a serious threat to the health and well-being of mothers, their partners and their infants (Beck, 1995, 2001; Beck & Driscoll, 2006; Boath, Pryce & Cox, 1998; Miller, 2002). Women who have suffered from PPD are twice as likely to experience future episodes of depression over a 5-year period (Cooper & Murray, 1995). In the United Kingdom, the most common cause of indirect[3] deaths and the largest cause of maternal deaths overall is psychiatric illness (Royal College of Obstetricians and Gynaecologists, 2004). According to Lindahl, Pearson and Colpe (2005), suicides account for up to 20% of mothers' deaths during the postpartum period. PPD is involved in a number of these tragic cases.

Evidence suggests that fathers are significantly more likely to suffer from depression if their partners are diagnosed with PPD (Ballard, Davis, Cullen, Mohan & Dean, 1994; Goodman, 2004). This is significant in the context of the detrimental effects the depressed partners will have on each other and on their ability to care for their child or children, and in turn overall family functioning.

Maternal depression has been shown to negatively impact the behavior and development of children, mother-child interactions and family functioning (Beck, 1995; Beck, 1998; Edhborg, Seimyr, Lundh & Widström, 2000; Field, 1998). Numerous studies show that untreated PPD is associated with detrimental effects on the short and long term behavioural, cognitive, emotional and social development of children (Beck, 1998; Field

[3] *Indirect* maternal deaths are those resulting from previously existing disease or disease that develops during pregnancy and which were not due to direct obstetric causes but which were aggravated by physiologic effects of pregnancy.

et al., 1988; Misri et al., 2004; Murray & Cooper, 1997). PPD can cause impaired maternal-infant interactions and contribute to mothers perceiving their infant's behavior as negative (Mayberry & Affonso, 1993). Righetti-Veltema, Conne-Perreard, Bousquet and Manzano (2002) investigated the effects of PPD on the mother-infant relationship at three months of age and found that infants of depressed women displayed functional disorders such as eating and sleeping difficulties. With regards to the relationship between the depressed mother and child, this dyad presented less vocal and visual communications, less corporal interactions and less smiling. Similarly, Righetti-Veltema, Bousque and Manzano (2003) explored the impact of PPD on depressed mothers and their 18-month-old infants and found that these dyads demonstrated less verbal and playing interactions. Infants of depressed mothers were more likely to show insecure attachments to their mothers and were less likely to perform well on cognitive tasks.

However, conflicting results exist in the literature with respect to the effects of PPD on children since evidence to date reflects a range of outcomes for children of depressed mothers (Teti, Gelfand, Messinger & Isabella, 1995). For example, in addition to the aforementioned studies, researchers in Taiwan found that PPD negatively affects the psychosocial health of women but failed to find a relationship between PPD and the overall development of their infants (Wang, Chen, Chin & Lee, 2005). And studies reported by Campbell, Cohn and Meyers (1995) and Murray, Fiori-Cowley, Hooper and Cooper (1996) failed to identify clearly different profiles of infant behaviors of depressed and well mothers. Although two meta-analyses have shown that PPD has a small but significant effect on children's cognitive and emotional development (Beck, 1998) and a moderate to large effect on maternal-infant interaction (Beck, 1995), further research is

needed in this area. Because the mother often constitutes the infant's primary social environment during the first months of life, the effects of PPD on the developing child need to be determined (Beck, 1995).

*Predictors of Postpartum Depression*

The cause of PPD remains unclear (Cooper & Murray, 1995) with research suggesting a multifactorial etiology (Locicero, Weiss & Issokson, 1997; Ross, Gilbert Evans, Sellers & Romach, 2003; Ross, Sellers, Gilbert Evans & Romach, 2004). It seems likely that a variety of psychological, socio-cultural and biological variables interact creating a situation within which some women are vulnerable to developing PPD. The triggers or causes of PPD likely vary from woman to woman. The strongest predictors of PPD are: prenatal depression, prenatal anxiety, experiencing stressful life events during pregnancy or in the postpartum period (e.g., moving, changing jobs, illness in the family), low levels of social support and a history of depression (Beck, 2001; O'Hara & Swain, 1996; Robertson, Grace, Wallington & Stewart, 2004; Sutter-Dallay, Giaconne-Marcesche, Glatigny-Dallay & Verdoux, 2004). Marital status, socio-economic status and unplanned or unwanted pregnancy are weak predictors of PPD (Beck, 2001). Maternal age, level of education, parity and length of time with partner were not found to be associated with PPD (Robertson, 2004). Early identification and treatment of this disorder are essential to reduce the suffering for women and to minimize the potential risks to infants (Beck, 2001; Davies, Howells & Jenkins, 2003).

*The transition to parenthood.*

Pregnancy and the birth of a child imply great changes to the mother (Dennis & Ross, 2006), her partner and the whole family (Berggren-Clive, 1998; Tammentie,

Tarkka, Åstedt-Kurki, Paavilainen & Laippala, 2004). These significant changes to the existing family unit require adjustment on the part of family members as they make the transition to parenthood. This transitory period has been characterized as one that puts women (and her family) in a psychologically vulnerable position (Righetti-Veltema, Bousquet & Manzano, 2003). Nurses work with women and families at all stages of the transition period to parenthood. Consequently, they are ideally situated within the health care system to facilitate strengthening environments, increasing capacity and increasing the ability of women and their partners to adjust to parenthood.

*Treatment of Postpartum Depression*

Researchers continue to search for the best treatment options for PPD. Treatment interventions are diverse and include group psychotherapy [counselling and cognitive behavior therapy] (Reay et al., 2006; Ryding, Wiren, Johansson, Ceder & Dahlström, 2004; Milgrom, Negri, Gemmill, McNeil & Martin, 2005; Zlotnick, Johanson, Miller, Pearlstein & Howard, 2001), individual counselling (Leichsenring, Rabung & Leibing, 2004; Milgrom et al., 2005), brief psycho-educational group therapy (Honey, Bennett & Morgon, 2002), interpersonal psychotherapy (O'Hara, Stuart, Gorman & Wenzel, 2000; Spinelli & Endicott, 2003) debriefing (Small, Lumley, Donohue, Potter & Waldenström, 2000), antidepressant therapy (Appleby, Warner, Whitton & Faragher, 1997; Lewis-Hall, Wilson, Tepner & Koke, 1997; Wisner, Gelenberg, Leonard, Zarin & Frank, 1999), weekly support group meetings facilitated by a nurse (Chen, Tseng, Chou & Wang, 2000), lay person support (Cohen, Underwood & Gottlieb, 2002; Dennis, 2003) and dietary supplements (Rees, Austin & Parker, 2005).

*Prevention of Postpartum Depression*

Given the evidence on the impact of PPD on individual mothers, fathers and children, and on family functioning in light of the high prevalence of this condition, prevention should be a priority. Thus, it is laudable that the Ministry of Health and the Reproductive Mental Health Program *Perinatal Depression and Anxiety Best Practice Guidelines* encompass prevention. Effective preventive practices contribute to strengthening the environment within which the transition from pregnancy to parenthood occurs. A wide variety of interventions aimed at preventing PPD have been evaluated in the last 10 years. Interventions vary on many dimensions including the type of health care professional providing the intervention (e.g., midwife, registered nurse, lay person, physician and psychologist), intervention format (e.g., group, individual, one session or multiples sessions), intervention type (e.g., psychoeducation, psychotherapy, pharmacotherapy, supportive counselling or debriefing), the timing of the intervention (e.g., antenatal, antenatal and postpartum, postpartum only) and participants (e.g., all prenatal women, women in labour, all postpartum women, only women at risk for postpartum depression). Certain interventions will be transferable across disciplines (e.g., educating women and partners about PPD) whereas others will be more discipline specific (e.g., cognitive behavior therapy done by psychologists). Interventions appropriate for nurses include telephone support, group support and educational sessions, provision of anticipatory guidance, and supportive counselling. However, results from numerous systematic reviews (Bick, 2003; Dennis, 2005; Lumley & Austin, 2001; Lumley, Austin & Mitchell, 2004; Ogrodniczuk & Piper, 2003; Stuart, O'Hara &

Gorman, 2003) indicate that the effects of preventive interventions for PPD are far from consistent.

## *Mental Health Promotion*

### *Mental Health Promotion: An Overview*

Health promotion has been an integral part of nursing practice since at least the days of Florence Nightingale (Young & Hayes, 2002) and it is now inclusive of mental health promotion as an area of study and practice. Mental health promotion is an approach that fosters the enhancement of individual resilience and control and promotes the development of socially supportive environments (Public Health Agency of Canada, n.d.). By increasing self-esteem, coping skills, social support and well-being in all individuals and communities, mental health promotion empowers people and communities to interact with their environments in ways that enhance emotional and spiritual strength. In turn, this increases people's abilities to cope with challenging situations in their lives (Willinksy & Pape, 2002). Mental health promotion addresses issues that affect everyone (Willinsky & Pape) and applies to the entire population, including those with mental illness (Pape & Galipeault, 2002). This is based on the belief that mental health and mental illness are not mutually exclusive. Mental health promotion works to challenge discrimination against those with mental health problems. Respect for culture, equity, social justice, interconnections and personal dignity is essential for promoting mental health for everyone. Therefore, good mental health promotion should include interventions that enhance individual capacities as well as improve people's external environments (Pape & Galipeault).

Mental health promotion is similar to health promotion approaches with its' orientation toward building strengths, resources and assets for health collaboratively with the people and communities involved (Pape & Galipeault, 2002; Public Health Agency of Canada, n.d.). Mental health promotion initiatives may focus on the individual, the family or the community as a whole (Hodgson, Abbasi & Clarkson, 1996). That is, mental health promotion attempts to improve the quality of life of entire populations as well as particular groups of people and individuals within the population (Willinsky & Pape, 2002). Further, mental health promotion is an approach that sees all people as holistic beings, regardless of psychological or medical diagnosis. Mental health promotion applies to all people including those with mental health disorders. It rejects reducing or confining individuals with vulnerabilities into an illness or disorder, and emphasizes how mental health promotion approaches can improve well-being and quality of life. Rather than focus on illness and disability, this approach highlights the capacities and strengths of individuals, families and communities (Public Health Agency of Canada, n.d.). Mental health promotion efforts are not meant to treat, cure or prevent the occurrence of mental health illnesses (Pape & Galipeault, 2002; Willinsky & Pape, 2002). Rather, they are meant to enhance mental health through capacity and strength- building of those with and without mental health illnesses.

### *Mental Health Promotion Conceptual Model*

Willinsky and Pape (2002) put forward a conceptual model of mental health promotion that can be used to plan and evaluate mental health promotion initiatives (see Figure 1).

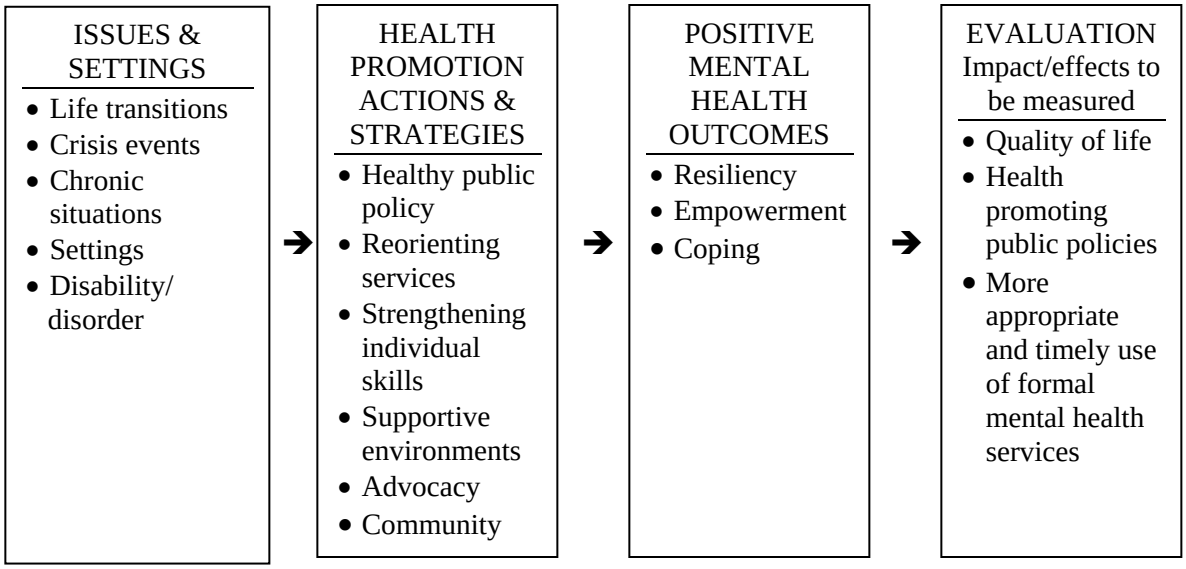


Figure 1: Conceptual Model of Mental Health Promotion (Willinsky & Pape, 2002).

The model has many strengths. The authors situate mental health promotion within the broad determinants of health[4], which encourage consideration of the range of factors influencing health such as social support, income and education. The model acknowledges that transitional periods throughout the lifespan put individuals at increased risk for facing mental health challenges (e.g., loss and grief, marriage, parenthood, changes to employment). Additionally, the authors recognize that living with disease or disability creates situations where people would benefit from mental health promotion initiatives. The conceptual model is in line with the principles of primary health care which are inclusive of enhancing public policy; reorienting health services away from illness models to be more inclusive of health promotion strategies; building upon the capacity of individuals, families and communities; creating supportive environments and

[4] Factors such as income, social support networks, biology and genetic endowment, personal health practices and coping skills, health services, physical environments, education and employment are considered 'determinants of health'. They do not exist in isolation from each other. It is the combined influence of the determinants of health that determines health status (Public Health Agency of Canada (PHAC), 2004).

enhancing community action (Gottschalk & Scoville Baker, 2000). The “positive outcomes” presented in the model are not necessarily synonymous with the absence of mental health illness. Rather, it is a broader concept that includes increased ability to cope, increased resiliency and empowerment. The model also has an evaluative component that holds value in the current health care system where programs and interventions need to be shown to be effective.

## *Best Practice Guidelines*

### *Best Practice Guidelines: An Overview*

The use of BPGs and the adoption of evidence-based nursing practice have become more commonplace and have given rise to considerable debate (Polit & Beck, 2004). Supporters contend that BPGs enable nurses and other health care professionals to provide the best possible care to people with the most cost-effective use of resources. Critics caution that evidence-based practice is embedded in a positivist philosophy that places too much emphasis on quantitative evidence (Walker, 2003) gathered from ‘rigorous’ research studies such as the randomized control trial (RCT) (Polit & Beck). Walker warns that relying on a particular conception of truth (i.e., quantitative evidence) provides a skewed and biased representation of the topic under investigation. Because qualitative data provides insight into the human elements of clinical practice and because quantitative studies can only answer certain types of questions, both types of evidence should be used to guide evidence-based practice and BPGs. Using an evidence-based approach enables clinicians to improve the mental health of mothers, their infants and their partners by using interventions supported by scientific evidence that consistently shows improved patient outcomes (Beck, Records & Rice, 2006).

Clinical guidelines[5] based on research evidence provide clinicians with documentation of the current state of evidence relating to a particular disease or intervention (Benton, 1999). Such guidelines can provide a means of communication between the researchers within the scientific community and the practitioners and patients who can use and take advantage of the best-known treatment interventions. Using BPGs facilitates the development and enhancement of clinical practice for health care providers. "Development of practice is about implementing initiatives that promote change or maintain good practice in order to enhance care, and as such should be an essential component in care delivery in any setting" (Joyce, 1999, p. 109).

*Development of Best Practice Guidelines*

The quality of BPGs will be dependent upon the quality of the evidence used to develop them. Woolf and George (2000) suggest that the strength of recommendations made in BPGs should be explicitly linked to the quality of the evidence and that the review of evidence be comprehensive, objective and of high quality. Systematically searching multiple bibliographic research databases based upon predetermined selection criteria help to ensure that evidence is identified in an unbiased and efficient manner (Harris et al., 2001).

Once studies have been identified, those chosen for potential inclusion in the development of clinical guidelines need to be assessed to determine their strengths and weaknesses. There are many published schemas available that can be used to grade evidence. The standard approach to evaluating the quality of individual studies has been based on a hierarchical grading system of research design in which randomized control

[5] Also called 'evidence-based guidelines', 'evidence-based practice guidelines', 'best practice guidelines' or 'evidence-informed practice'.

trials (RCTs) received the highest score (Harris et al., 2001). Guyatt et al. (2000), Khan, Kunz, Kleijnen and Antes (2003) and Malloch and Porter-O'Grady (2006) have put forward a variety of such hierarchies. These hierarchies have been criticized for giving inadequate consideration to the internal validity of the studies (Lohr & Carey, 1999). The Agency for Healthcare Research and Quality (AHRQ) supported the publication of a guide to systems used to rate the strength of scientific evidence (West, King, Carey, Lohr, McKoy, Sutton & Lux, 2002). Gaps were identified in rating quality, strength of evidence and application of grading schemas to "less traditional" sources of evidence such as observational and qualitative studies. Melnyk and Fineout-Overholt (2005) modified the ranking systems for the hierarchy of evidence put forward by Harris and colleagues (2001) and Guyatt and colleagues (2000) to include evidence from qualitative studies. Currently, there is no single approach that is universally accepted as being appropriate (Higgins & Green, 2006). It is currently up to individual authors to select an approach to summarizing the strength of evidence that is appropriate for the question under review.

## Prevention of Postpartum Depression: Best Practice Guidelines

### *Rationale for the Development of Prevention Guidelines*

In a collaborative project, the British Columbia Reproductive Mental Health Program and the British Columbia Reproductive Care Program and Ministry of Health in the process of revising the *Perinatal Depression and Anxiety Best Practice Guidelines* decided to include a section addressing "prevention of PPD". The objective of this project was to develop primary prevention[6] recommendations within a mental health promotion

[6] Prevention is often classified as primary, secondary and tertiary (Mrazek & Haggerty, 1994). Primary prevention seeks to reduce the number of new cases of a disease (i.e., incidence). Secondary prevention activities are geared towards reducing the number of established cases of a disease (i.e., prevalence). Finally, tertiary prevention seeks to reduce the amount of disability associated with an existing disease.

framework through collaboration with members of the Best Practice Guidelines (BPG) advisory committee (e.g., the research expert and the project lead). The BPG project lead and the advisory committee are compiling the complete *Perinatal Depression and Anxiety Best Practice Guidelines*. The guidelines will be disseminated to health care providers working with pregnant and postpartum women so that clinical decisions regarding mental health issues will be made based on current evidence. Providers include: nurses (e.g., public health, mental health, antenatal, postpartum, labour and delivery), physicians, psychologists, psychiatrists, counsellors, midwives, doulas, lactation consultants and community support organizations (e.g., Pacific Post Partum Support Society [PPPSS]). Providing health care providers with evidence-based BPGs developed using the most current and valid research findings will enable them to reduce the impact of PPD on women and their families by supporting changes to family units and transitions to parenthood. BPGs assist clinicians to provide care that is based on the best available knowledge related to meeting patient's needs (Malloch & Porter-O'Grady, 2006).

### *Collection and Analysis of Evidence*

Medline, CINAHL, Web of Science, Cochrane Database of Systematic Reviews, Cochrane Central Register of Controlled Trials, HealthSTAR, EBMR (Evidence Based Medicine Reviews) and PsychInfo were searched from 1990 through to 2007 using the search terms antenatal, postnatal, postpartum, pregnancy, mood disorder, depression, prevention and primary. Together with the research expert from the advisory committee[7] for the development of the BPGs, inclusion criteria were established. Research studies to be included in the guidelines were evaluated to assess for methodological weakness and

[7] The advisory committee is diverse and includes psychiatrists, pediatricians, midwives, physicians, advance practice nurses, researchers, pharmacists, public health nurses and community members.

the evidence presented in each of them was graded against the chosen evidence hierarchy template[8] (See Figure 2). Guidelines were created based on the evidence reviewed. The inclusion criteria were: articles were written in English; peer reviewed; used a validated measurement tool for the assessment of depression; and focused on interventions aimed at preventing PPD. Meta-analyses and systematic reviews whose focus was on the primary prevention of postpartum depression were included. Additional searches were conducted using the reference lists of published papers and chapters. Of the 35 studies initially included, 15 were excluded based on methodological flaws (e.g., misuse of the Edinburgh Postnatal Depression Scale [EPDS][9], depression score data not reported, lack of standardized tool to assess for PPD). See Appendix A for summary table of excluded studies. Results from 20 studies and 2 meta-analyses formed the basis for the prevention of PPD guidelines. Of the 20 studies, 4 were selective[10] antenatal studies, 9 were selective postpartum studies and 7 were universal[11] postpartum studies. See Appendix B for summary table of included studies.

| | |
|---|---|
| Level I | Supported by a meta-analysis or replicated randomized controlled trial (RCT) |
| Level II | Supported by at least one well-designed RCT |
| Level III | Supported by nonrandomized studies or expert opinion |

Figure 2: Rating system for the hierarchy of evidence (BC Health Services, n.d.).

[8] This hierarchy was chosen by the *Perinatal Depression and Anxiety Best Practice Guidelines* advisory committee's project lead and research expert to be consistent with the hierarch used by BC Health Services guideline for the "Diagnosis and Management of Major Depressive Disorder".
[9] The EPDS is a validated tool for the detection and assessment of severity of PPD (Cox, Holden & Sagovsky, 1987).
[10] Selective studies were defined as those designed to be offered to women at increased risk for developing PPD.
[11] Universal studies were defined as those designed to be offered to all pregnant or postpartum women, not only those at increased risk for PPD. These two classifications are consistent with those used by Lumley, Austin and Mitchell (2004).

*Recommendations*

Due to the limited scope of this project, not all elements of the mental health promotion conceptual model put forward by Willinsky and Pape (2002) could be addressed. However, the model was used to guide the development of the prevention guidelines. As much as possible, the recommendations were made in an effort to promote resiliency, enhance capacity and empower women and their families. By increasing self-esteem, coping skills, social support and well-being in all individuals and communities, mental health promotion empowers people and communities to interact with their environments in ways that enhance emotional and spiritual strength. In turn, this increases people's abilities to cope with challenging situations in their lives (Willinksy & Pape, 2002)

*Recommendation One:* Women identified to be at risk[12] for developing PPD should be offered additional antenatal and postpartum support. [*Level of evidence: I*]

Evidence from two small studies suggests that antenatal group interventions have a preventative effect on the development of postpartum depression. Zlotnick, Johnson, Miller, Pearlstein and Howard (2001) investigated the effects of a group intervention based on the principles of interpersonal psychotherapy[13] administered to pregnant women to prevent PPD. Thirty seven pregnant women receiving public assistance who had at

[12] The strongest predictors of PPD are: prenatal depression, prenatal anxiety, experiencing stressful life events during pregnancy or in the postpartum period (e.g., moving, changing jobs, illness in the family), low levels of social support and a history of depression (Beck, 2001; O'Hara & Swain, 1996; Robertson, Grace, Wallington & Stewart, 2004; Sutter-Dallay, Giaconne-Marcesche, Glatigny-Dallay & Verdoux, 2004). All of these risk factors can be ascertained during routine prenatal care. Antenatal health care providers need to be aware of these risk factors and assess for them. In addition, pregnant women and their partners (and/or family members) need to be educated about the risk factors (Robertson et al.).

[13] Interpersonal psychotherapy provides a practical, time limited and focused approach to the treatment of major depression. It promotes attention to the relationship-based issues that are central to the experience of many depressed patients. The treatment attends to difficulties arising in the daily experience of maintaining relationships and resolving difficulties while suffering an episode of major depression (International Society for Interpersonal Therapy (n.d.).

least one risk factor for PPD (e.g., previous history of depression, poor social support, recent stressful life event) were randomly assigned to a four-session group intervention (N=17) or to a treatment-as-usual control intervention (N=18). Within three months postpartum, six (33%) of the women in the treatment as usual condition had developed major depression compared with none of the 17 women in the intervention condition. Elliot and colleagues (2000) investigated the effectiveness of a psychosocial intervention for the prevention of PPD. Women expecting their first or second child who were designated as 'more vulnerable' (vulnerability determined with depression and anxiety questionnaires) to developing PPD were allocated to preventive intervention (N=47) or control group (N=52) based on their estimated due date. Women in the preventive intervention group received 5-group antenatal psycho-education sessions (monthly) and 6 monthly postpartum sessions facilitated by a psychologist and health visitor[14]. During the first 3 months postpartum, 19% of the women in the treatment group as compared to 39% of the women in the control group were depressed. These findings by Elliot and colleagues (2002) and Zlotnick and colleagues show promising results but need to be replicated in larger, randomized control trials. The findings from Dennis and Creedy's (2004) meta-analysis indicated that antenatal and postnatal classes had no preventative effect. In addition, interventions that started antenatally and continued postpartum did not reduce the likelihood of PPD. Similarly, the six selective antenatal trials included in Lumley, Austin and Mitchell's (2004) meta-analysis showed no effect.

The evidence in support of selective postpartum interventions is more compelling. Numerous studies assessing the effectiveness of selective postpartum interventions such

[14] A health visitor is a registered nurse or midwife who has undergone additional training in primary health care. Generally, their role focuses on the prevention of disease and the promotion of health (National Health Services, n.d.). Retrieved from: http://www.nhscareers.nhs.uk/details/Default.aspx?Id=807

as home visits, counselling, multidisciplinary health care professional support and debriefing have shown promising results. Armstrong, Fraser, Dadds and Morris (1999, 2000) found that providing additional home visits by a nurse to families at risk for poor health and developmental outcomes significantly reduced the development of PPD at 6 weeks postpartum. Women in the intervention group had lower EPDS scores at 6 weeks postpartum than women in the control group (5.8% vs. 20.7%). These results were not maintained at 6 months postpartum. Gamble, Creedy, Moyle, Webster, McAllister and Dickson (2005) assessed a postpartum counselling intervention (given by midwives in the postpartum hospital unit and at 4-6 weeks in the women's homes) for women showing trauma symptoms and found that women who received the additional postpartum support were less likely to score above 12 on the EPDS at 4-6 weeks (32% vs. 34%) and 3 months postpartum (8% vs. 32%). In a small study by Meyer and colleagues (1994) (N=34), families of pre-term infants were offered multidisciplinary team support in the postpartum period while the infants remained in hospital. The intervention included four domains including: infant behavior and characteristics; family organization and functioning; caregiving environment; and home discharge and community resources. At the time of discharge from hospital, significantly fewer women in the intervention group were depressed (11% vs. 44%). These findings are consistent with findings from Dennis and Creedy's (2004) meta-analysis, which indicated a positive trend in relation to providing women with a debriefing session to discuss their labour experience while in hospital (five trials, n=3051; RR: 0.57; CI: 0.31-1.04). The additional support provided in these prevention intervention trials may have been effective at improving mental health outcomes because the participants were provided with opportunities to increase self-

esteem, social supports and coping skills. Subsequently, they would be better able to deal with the challenging situations faced in the postpartum period.

*Recommendation Two:* Health care professionals should provide individualized, flexible postpartum care to women and their partners. [Level of Evidence: I]

Evidence suggests that supportive care in the postpartum period is effective at preventing PPD in the general population of postpartum women. Results from the meta-analysis conducted by Dennis and Creedy (2004) indicate that providing flexible, supportive home visits by a health care professional in the postpartum period has preventive effects. MacArthur and colleagues (2002) evaluated the effectiveness of extended community based midwifery care in the postpartum period. Women in the intervention group received individualized, extended home visits by a midwife until 28 days postpartum. At 4 months postpartum, women in the intervention group were less likely to score above 12 on the EPDS when compared to the women in the control group (14.4% vs. 21.3%). Similarly, results from a randomized control trial conducted by Lavender and Walkinshaw (1998) (N=114) showed that receiving a 30-120 minute debriefing session from a midwife after delivery and while in hospital, had a preventive effect on the development of anxiety and depression three weeks postpartum. Women in the intervention group were significantly less likely to score greater than 10 on the Hospital Anxiety and Depression (HAD) Scale for anxiety (7% vs. 50%) and depression (9% vs. 55%). Conflicting evidence does exist for universal postpartum interventions. Studies by Reid, Glazener, Murray and Taylor (2002), Priest (2003) and Waldenstrom et al. (2000) that evaluated group sessions and self-help materials, single debriefing sessions and team midwifery care respectively, showed no effect on preventing PPD. Results from

the meta-analysis by Lumley, Austin and Mitchell (2004) failed to show a preventative effect of universal postpartum interventions.

The postpartum period represents a significant, transitory, life changing period to women and their families. The addition of a new baby into a family requires increased emotional, financial and personal resources, which may culminate with experiences of increased stress by the mother and her partner (Horowitz, Damato, Duffy & Solon, 2005). This period of transition that is often accompanied with elevated levels of stress put the mother and her partner at increased risk for developing mental health problems (Horowitz et al.; Willinsky & Pape, 2002). Providing flexible postpartum care to women and their families may be showing positive effects and contributing to positive mental health outcomes because the health care providers are able to facilitate a smoother postpartum transition by increasing individual skills (e.g., parenting, self care) and creating supportive environments (e.g., involving the partner and family in care planning, facilitating access to greater social supports, creating an environment conducive to open communication).

*Recommendation Three:* Refer women at risk for PPD to community support groups and resources. [Level of Evidence: II]

Dennis (2003) evaluated the effectiveness of a peer support (mother-to-mother) intervention on depressive symptomatology among mothers identified as being at high-risk for developing PPD. Forty-two women were randomly assigned to a control group (standard community postpartum care) or an experimental group (standard care plus telephone based peer support from a mother who had previously experienced PPD and who had received volunteer training). Evidence from this study suggests that providing

peer postnatal telephone support to women at risk for PPD has a preventive effect. At the 4-week assessment, 40.9% of women in the control group versus 10% of women in the intervention group scored >12 on the EPDS. At the 8-week assessment, 52.4% of women in the control versus 15% of women in the intervention group scored >12 on the EPDS. The intervention was very well received with 87.5% of women in the intervention group being satisfied with their peer-support experience. Although this study reports on important preliminary clinical findings, more research is warranted.

This research speaks to the importance of building and utilizing community resources and is consistent with data gathered in qualitative studies. Interacting with women who have had similar experiences has been shown to be an effective strategy in surviving PPD (Beck, 2002). Attending support groups provides solace to women recovering from PPD (Beck, 1993) and helps mothers to realize that they are not alone (Berggren-Clive, 1998). Developing social support networks, creating supportive environments and promoting self-help interventions are mental health promotion strategies that are known to promote resilience, which increases people's ability to cope with life's challenges (Health Canada, 2002; Pape & Galipeault, 2002; World Health Organization [WHO], 2004). Health care professionals should refer women who are either at risk for depression or showing symptoms of depression to local support groups (e.g., Pacific Postpartum Support Society, community health centres).

### *Practical Applications of Recommendations*

1. Develop trusting, collaborative relationships with the women and families that they work with. Women need to feel able to speak openly about their feelings about pregnancy, parenthood and their new baby.

2. Enhance resiliency and encourage the development of coping skills by discussing and recommending self-care strategies (e.g., moderate daily exercise, adequate rest and nutrition) to postpartum women.
3. Assess for risk factors for PPD throughout the antenatal and postpartum period (e.g., presence of life stressors, history of depression or anxiety, availability of emotional support). Those women at risk for PPD should be supported, closely monitored and referred to appropriate social programs and mental health care professionals as appropriate.
4. Provide the partner and family members with strategies to promote mental health wellness (e.g., providing postnatal women with the opportunity to rest, eat, relax, take time for themselves; encourage communication within the family to discuss needs; discuss coping skills).
5. Refer postpartum woman and their families to community supports (e.g., mom and baby groups, community centre programs, Pacific Post Partum Support Society).
6. Provide emergency mental health telephone hotline numbers; discuss services provided by emergency departments (including when to go and which hospital to go to); make a plan to deal with worsening symptoms.
7. Women showing signs and symptoms of depression should be monitored closely. Follow up assessments should be done in approximately 2 weeks to reassess for symptoms of depression.

[Strategies modified from the “Best Start” program recommendations (Best Start, 2006).]

## *Considerations for Implementing the Guidelines*

### *Development of Trusting Relationships with Women and Their Families*

To promote mental health, health care professionals need to develop trusting relationships with the women and families they work with (National Institute for Health and Clinical Excellence [NICE], 2007), while respecting their personal dignity (Pape & Galipeault, 2002). Once trust is established, the health care professional should explore the woman's ideas, concerns and expectations; and discuss with the woman's partner and family members their role in supporting the woman and their level of involvement. The health care professional needs to be sensitive to cultural issues, each woman's values and beliefs, and the issues of stigma and shame in relation to mental illness as these may influence their expectations and experiences towards motherhood (Beck, 2002).

Beck (2002) conducted a meta-synthesis[15] of 18 qualitative studies on postpartum depression. She uses the metaphor of PPD being a chameleon – something that takes on a different appearance depending upon who is experiencing it. This has significant clinical relevance. Because of the many faces of PPD, health care professionals need to create environments with women that are conducive to discussing more than just 'depressive symptoms'. Women need to be given permission to talk openly about their relationships with their partners; disappointments, frustrations or stresses experienced in their new roles; positive and negative feelings towards the baby (e. g., frustration, resentment); feelings of anger, isolation, being overwhelmed and anxious; and feelings of self-harm or harm towards the baby. In addition, to promote the mental health of these women, health care providers need to focus on identifying strengths and building upon existing capacities (Willinsky & Pape, 2002).

[15] Metasytheses involve interpreting data garnered from qualitative research studies (Beck, 2002).

*Inclusion of the Family*

Although much of the current literature on PPD focuses on the individual (e.g., mother, child, father of baby etc.), these guidelines need to take a wider view of the "client" to be inclusive of the family. Supporting and providing families with care at various life stages is central to health-promoting nursing practice (Doane & Varcoe, 2005). Nurses work with women and their families in the prenatal and postpartum periods and consequently, need to incorporate spouses, family members and social support people when care planning. Because experiencing stressful life events during pregnancy or the early postpartum period and having low levels of social support are significant risk factors for the development of PPD, it is critical that nurses working with women in the antenatal period include spouses (or significant family members or friends) in care planning and teaching. Including family members increases their capacity to move through the transition associated with parenthood with greater resiliency. For example, the family could create ways to be supportive of the woman, while reducing unnecessary stressful life events (e.g., moving houses close to the due date).

*Consideration of the Determinants of Health in Mental Health Promotion*

The need to consider the determinants of health when promoting mental health and preventing mental illness has been well established (Health Canada, 2002; Pape & Galipeault, 2002; WHO, 2004; Willinsky & Pape, 2002). At the individual level, this includes such factors as good parenting, social supports, meaningful employment, adequate income, positive interpersonal interactions, physical activity and having an internal locus of control. These factors strengthen mental health and indirectly reduce the impact of mental health problems on people's lives (Health Canada, 2002). System level

mental health promotion strategies that address the determinants of health include: building supportive environments, strengthening community action, reorienting health services, developing community networks, improving access to education, housing and adequate nutrition. The World Health Organization (2004) suggests that effective mental health promotion strategies be integrated across different sectors (i.e., environment, housing, social welfare, employment, education and human rights) and at local and at national levels.

*Addressing the Barriers to Postpartum Depression Prevention Interventions*

*Increasing public and health care professional awareness*.

"It remains both a popular and professional assumption that becoming a mother equates with 'happiness' despite the high incidence of some kind of negative emotional reaction" (Nicholson, 1990, p. 694). Myths of motherhood created by our society do little to promote the mental health of women in the postpartum period. Rather, they set expectations for women that are impossible to achieve, placing their mental health at risk (Berggren-Clive, 1998). When women take these myths to be truths, they are left to believe that they are suffering alone – that other mothers do not share such negative reactions to childbirth (Beck, 2002). McIntosh (1993) and Ugarriza (2004) describe how some women with PPD avoid seeking help because they feel shame and embarrassment at having PPD. These women fear being labelled as bad mothers or are concerned with being perceived as failures at mothering. Berggren-Clive (1998) found that some women did not seek help because they did not want to face the stigma[16] that is associated with

[16] "Stigma refers to a collection of negative attitudes, beliefs, thoughts, and behaviors that influences the individual, or the general public, to fear, reject, avoid, be prejudiced, and discriminate against people with mental disorders. It is manifest in language, disrespect in interpersonal relationships, and behaviors." (Gary, 2005, p. 980)

being depressed after having a baby. Consequently, women with PPD do not always feel comfortable talking about how they really feel about their postpartum experience with peers, family members or health care professionals. Worse yet, women who seek help from health care providers do not necessarily find the care they seek. Sometimes their cries for help are minimized or ignored (Berggren-Clive) leaving women feeling frustrated, disappointed, humiliated and angry (Beck, 1993). It is imperative that nurses and all health care providers working with women in the antenatal period become knowledgeable about PPD and create environments in which mothers can speak freely about the realities of motherhood.

Mental health promotion is inclusive of challenging the discrimination that exists towards people with mental health problems (Pape & Galipeault, 2002). The stigma that is attached to mental illnesses presents a barrier to diagnosis and treatment, and to acceptance within the community (Health Canada, 2002). Educating the public about mental illness is an important first step in reducing stigmatization and promoting acceptance. As leaders within the health care system, advance practice nurses have an integral role to play in taking the initiative to educate their colleagues and advocate for increased public awareness (Canadian Nurses Association, 2002). Creating supportive environments for all antepartum women, developing community education programs to dispel myths about PPD and implementing community based strategies to prevent and treat PPD are examples of health promotion actions and strategies that are consistent with the Mental Health Promotion Model put forward by Willinsky and Pape (2002).

*Logistical barriers: Childcare and time constraints.*

Once women overcome the barrier of stigmatization and shame related to PPD, childcare issues often complicate seeking treatment. For example, in a study done by Ugarriza (2004), despite childcare and food being provided, women still had difficulty attending the group sessions. Most often the group session interfered with other family obligations. Even when women had the opportunity to leave their child with a family member (e.g., husband, mother, mother-in-law), they often did not want to attend therapy without the child. Another barrier to accessing treatment options is the very time it takes to attend treatment appointments. During the postpartum period, depressed mothers are already overwhelmed with what they need to get accomplished in a day and are often reluctant to take on any additional activities – even if the activities will be of benefit to them (Ugarriza). This has significant clinical relevance as nurses and other health care providers strive to develop effective interventions that will prevent PPD and promote mental health wellness in the antenatal period. Including the target audience in the planning process would help to create programs and interventions that are reflective of their needs and are sensitive to issues such as access.

### *Common Methodological Issues From the Literature*

After reviewing the PPD prevention literature, some common methodological issues were identified. These include: small sample size; lack of assessment for presence of depression before the intervention was initiated; range of ‘interventions’ (e.g., pamphlet on PPD, one session of cognitive behavioural therapy, or multiple weeks of psychotherapy or education); confounding variables such as providing the intervention at a time when up to 75% of women will be experiencing the ‘postpartum blues’ (i.e., 3-5 days postpartum); and participation and attrition rates. The percentage of women

consenting to participate in the interventions varied greatly – from 18% (Reid, Glazener, Murray & Taylor 2002) to 100% (Lavender & Walkinshaw, 1998). Similarly, the percentage of women who completed study protocols varied from 21% (group intervention arm in Wiggins, Oakley, Turner, Rajan, Austerberry, Mujica and colleagues (2005) to 100% (Gamble, Creedy, Moyle, Webster, McAllister & Dickson, 2005). Participation and completion rates were worst in studies evaluating group interventions. Women were more likely to participate and complete study protocols when interventions were offered in their homes or while they were in hospital. Possible reasons for poor participation in groups include: lack of childcare options, perceived stigma of mental health concerns in the postpartum period and lack of time to attend the session (s).

Aside from purely methodological concerns observed after reviewing the literature, there exists a fundamental problem with regards to the way in which prevention interventions are being designed. PPD is a disease with a multifactorial etiology. Consequently, it seems unlikely that interventions of a narrow scope (e.g., education) will be sufficient to prevent PPD from developing. To adequately prevent such a complicated disease from manifesting, multifaceted interventions need to be developed and evaluated. The research questions regarding the prevention of PPD need to be broadened. In addition, women who have experienced PPD hold valuable knowledge and expertise with regards to factors that contribute to both the development and treatment of PPD. This knowledge base needs to be explored through more extensive qualitative research studies.

### *Approval and Dissemination of Best Practice Guidelines*

The BPGs will be subject to an approval process. The guidelines will be reviewed by the psychiatrists and clinical staff at the Reproductive Mental Health Program,

members of the Provincial Outreach Steering Committee (consisting of a family doctor, mental health worker, public health nurse (infant specialist), pregnancy outreach co-ordinator, Ministry of Health and Ministry of Mental Health & Addictions representative) and the British Columbian Reproductive Care Program Advisory Board (members are currently being selected). In collaboration with the British Columbia Reproductive Mental Health Program and the Ministry of Health, the *Perinatal Depression and Anxiety Best Practice Guidelines* will be distributed to antenatal, postpartum, labour and delivery and psychiatric units in every British Columbian hospital, to public health nurses, mental health and addictions professionals, BC Nurse Line, psychologists, clinical counsellors, midwives, doulas, lactation consultants, related non-governmental agencies (e.g., Pacific Postpartum Support Society) and to physicians. The content in the guidelines will be presented to relevant health care providers in the five provincial health authorities in a three-day workshop.

### *Future Research Recommendations*

Further research is required to ensure that women do not suffer needlessly from the effects of PPD. Possible research questions include:

1. Do educational interventions influence women's treatment seeking behavior – that is, do they seek help more often because they have been aware of the symptoms of PPD and recognize these in themselves (or their partner recognizes them); Do any complementary therapies (e.g., acupuncture, massage, naturopathic medicine) assist in the prevention of PPD?
2. What are mother's perceptions of prevention interventions?

3. What are the effects of peer support interventions (e.g., telephone or group supports)?
4. Are supportive interventions more effective when provided by laypeople versus a health care professional?

## Conclusion

PPD poses a significant public health problem and efforts need to be made to prevent its' occurrence. Nurses working with women and families at all phases of the transition to parenthood have a significant role to play in ensuring that this transition is made with adequate support and guidance. Providing nurses and other health care providers with BPGs enables them to improve the mental health of women, their partners and their families by using interventions that are supported by scientific evidence. Situating these guidelines within a mental health promotion framework encourages the professionals implementing the guidelines to build upon the strengths of the women and families they work with.

APPENDIX A: Summary of Excluded Studies

| Summary of Excluded Studies | |
|---|---|
| Author (s) | Reasons for exclusion |
| Biro, Waldenstrom & Pannifex (2000) | Do not assess for PPD. |
| Buist, Westley & Hill (1999) | No useable outcome data (do not report EPDS scores); unclear randomization process; unclear how the treatment intervention differed from the control group except that the intervention group received 8 antenatal + 2 postpartum visits and control received 6 antenatal visits. |
| Chabrol, Teissedre, Saint-Jean, Teisseyre, Roje & Mullet (2002) | Misuse of EPDS – high risk status was determined using EPDS scores of ≥ 9 at *3-5 days postpartum* (which is not a valid use of the scale); data not analyzed with intention to treat; no comparisons were done before the intervention to determine if there were significant between group differences |
| Gordon, Walton, McAdam, Derman, Gallietero & Garret (1999) | Measure of PPD was based on a single question and subscore from the Mental Health Index (Short Form 36/ SF-36); no data provided on the depression scores |
| Halonen & Passman (1985) | This was the only 'relaxation study' and therefore there is not enough data to make recommendations on this type of intervention; unclear randomization process; small N: 48 women were divided among 4 different treatment groups |
| Hodnett, Lowe, Hannah, Willan, Stevens, Weston et al. (2002) | It is the only labour support and therefore there is not enough data to make recommendations on this type of intervention; it is unlikely that the 2 groups of nurses (specially trained vs. labour & delivery) are not different enough to make a difference in the outcomes of the women; [the "intervention" is having a nurse who has special labour support training vs. a nurse with no special training] |
| Marks, Siddle & Warwick (2003) | Weak methodology for a 'prevention' study – 25% of the women were depressed before the birth yet were included in the study; 49% of the women had depression during the perinatal period; significant differences existed between the participants and those who refused to participate |
| Oakley, Rajan & Grant (1990) | Outcome measures for PPD were not standardized; authors do not specify how they measured for PPD |
| Saisto, Salmela-Aro, Nurmi, Könönen & Halmesmaki (2001) | Statistical results related to depression scores not reported; risk status based upon fear of childbirth (& the intervention was aimed at reducing fear, not preventing PPD); no standardized measurement tool was used to assess for PPD |
| Shields, Reid, Cheyne, Holmes, McGinley, Turnbull et al (1997) | No validated measurement tool was used to assess for PPD (the self-harm item was taken out of the EPDS) |
| Sikorski, Wilson, Clement, Das & | Do not report statistics related to PPD rates in the study population |

| | |
|---|---|
| Smeeton (1996) | |
| Tam, Lee, Chiu, Ma, Lee & Chung (2003) | Risk status was based on obstetrical risk, not risk of PPD; not clear if women who were depressed at the start of the study were included in the study; significant differences between participants and non-participants; inaccurate reporting – the numbers stated for N are different in the abstract than they are in the text of the paper; very unclear reporting of data regarding depression (e.g., data presented in the tables – it is not clear if the data represents depression scores gathered at 6 weeks or 6 months postpartum) |
| Turnbull, Holmes, Shields, Cheyne, Twaddle, Gilmour et al (1996) | Do not report how they assessed for PPD and do not give statistics related to PPD; women not assessed for depression before the study began; not a study to prevent PPD |
| Webster, Linnane, Roberts, Starrenburg, Hinson & Dibley (2003) | Questionable "intervention" – giving women in the intervention group a booklet and list of phone contacts was not considered to be sufficient enough to be considered a preventative intervention. |

# APPENDIX B: Summary of Included Studies

| Selective Antenatal Interventions | | | | | | | |
|---|---|---|---|---|---|---|---|
| Authors | Study Design | Sample | Participation Rate | Timing of Intervention | Intervention | Depression Outcome Measure | Results |
| Brugha, Wheatley, Taub, Culverwell, Friedman, Kirwan, Jones & Shapiro (2000) | RCT[17] | N= 209 UK women who screened positive for being at risk for PPD | Participation rate of 72%<br><br>190 women (91%) completed data 3-months postnatally<br><br>45% in intervention group could be considered "attenders" (i.e., attended 2 or more classes) | Antenatal (28 weeks gestation) | Group classes aimed at increasing awareness of social & emotional problems of pregnancy; information about PPD; increasing and using support skills; problem-solving; negative thought exploration<br><br>Led by occupational therapists and RNs<br><br>6 antenatal sessions + one initial meeting. One postpartum reunion session (~8 weeks postpartum) | GHQ[18], EPDS, Schedules for Clinical Assessment in Neuropsychiatry; [EPDS >10 at 12 weeks postpartum] | Participation in the prevention intervention did not significantly reduce the occurrence of PPD |
| Elliot, Leverton, Sanjack, Turner et al (2000) | Controlled trial (No random assignment; assignment based on due date) | N=99 UK women recruited at first antenatal visit | 82% of eligible women agreed to participate<br><br>85% participated in the 3 month postnatal interview | 24 weeks gestation | 5 group antenatal psychoeducation sessions (monthly) + 6 monthly postpartum sessions + home visit by a health visitor (RN) during pregnancy<br><br>Sessions led by psychologist and health visitor (RN) | EPDS, Present State Exam, Crowne Crisp experimental Index | Significantly lower EPDS scores for intervention group but only for primiparous women |
| Stamp, Williams & Crowther (1995) | RCT | N=144 pregnant women in Australia | 100% of eligible women consented<br><br>31% of women attended the group sessions | 32 weeks gestation | Group psychoeducation + support led by midwife<br><br>2 antenatal + 1 postpartum group sessions | EPDS >12 at 6, 12, 24 weeks postpartum | No significant differences between groups |
| Zlotnick, Johnson, Miller, Pearlstein, Howard (2001) | RCT but randomization process not clear | N=37 women receiving social assistance with at least one risk factor for PPD in the USA | 50% of eligible women consented<br><br>43% of eligible women participated<br><br>88% of participants attended at least ¾ sessions | Second trimester | - 4 X (60 minute) antenatal sessions of interpersonal-therapy-oriented group intervention over a 4-week period<br><br>Unclear who led the groups (i.e., nurse, MD, counsellor, midwife etc) | BDI[19] done pre and post intervention (assume this means that BDI was done prior to the first session and after the 4th session)<br><br>SCID[20] done at 3 months PP. | 33% in control group had developed PPD by 3 months vs. 0 women in intervention group |

[17] RCT is a randomized control trial
[18] GHQ is the General Health Questionnaire
[19] BDI is the Beck Depression Inventory
[20] SCID is the Structured Clinical Interview for DSM-IV

| Universal Antenatal Interventions | | | | | | | |
|---|---|---|---|---|---|---|---|
| Authors | Study Design | Sample | Participation Rate | Timing of initial point of intervention | Intervention | Depression Outcome Measure | Results |
| Hayes (2001) | RCT | N= 206 primiparous women in Australia | Unclear what the participation/consent rate was<br><br>91% completion rate | 28-36 weeks gestation | Antenatal psychoeducation session for woman and her family (designed to inform women of mood changes in prenatal and postpartum periods) given by a midwife. Also provided participants with self-directed resources (audiotape and book) Education session done in the family's home or at an antenatal clinic (family chose) | Profile of Moods State (POMS)[21] antenatally (12-28 weeks) and at 8-12 weeks and 16-24 weeks postpartum | Participation in the prevention intervention did not significantly reduce the occurrence of PPD |

[21] POMS assesses mood, not depression and provides information about the woman's mood at a single point in time.

| Selective Postpartum Interventions | | | | | | | |
|---|---|---|---|---|---|---|---|
| Authors | Study Design | Sample | Participation Rate | Timing of initial point of intervention | Intervention | Depression Outcome Measure | Results |
| Armstrong, Fraser, Dadds & Morris (1999) | RCT | N=181 women in families at risk for poor health and developmental outcomes in Australia | Preliminary data gathered from 97.2% (176) & 6 week data from 96.1% (174) of participants | Not clear if preliminary data was gathered in hospital prior to discharge | Home visits by child health nurse (weekly to 6 wks, fortnightly to 3 months); intervention involved general support & education aimed at increasing parent-child interaction & preventive health practices; control group received 1 home visit | EPDS >12 at 6 weeks postpartum | Significantly more women in control group had EPDS>12 at 6 weeks; women in intervention group had sig. lower EPDS scores |
| Armstrong, Fraser, Dadds & Morris (2000) | RCT | N=181 women in families at risk for poor health and developmental outcomes in Australia | 89% completed study | Sometime between 1-6 weeks postpartum (unclear in narrative) | Home visits by child health nurse (weekly to 6 wks, fortnightly to 3 months); intervention involved general support & education aimed at increasing parent-child interaction & preventive health practices | EPDS >12 at inception of program, 6 weeks and 4 months follow-up | No significant differences between groups on EPDS scores<br><br>Effect was not maintained after 6 weeks |
| Dennis (2003) | RCT | N=42 women at risk for PPD in British Columbia | 67% enrolment rate<br><br>98% completed the study | Postpartum – unclear how soon after delivery | Telephone support by trained volunteers who have had PPD | EPDS>12 at 4 and 8 week assessment | Significant differences in probable depressive symptom-atology at 4-week and 8-week assessment |
| Gamble (2005) | RCT | N=103 mothers assessed for trauma risk in immediate postpartum period in Australia | 100% of eligible women agreed to participate<br><br>100% completed the study | Within 72 hours of birth (on ward) and again at 4-6 weeks postpartum via telephone | Counselling by midwife within 72 hours of birth (on ward) and at 4-6 weeks postpartum (40-60 minute sessions)<br><br>* this intervention does not require sophisticated psychotherapeutic skills | EPDS>12 at 4-6 weeks and 3 months postpartum | At 4-6 weeks, 16 women in intervention group (32%) & 18 in control group (34%) had EPDS>12; At 3 months, sig. more women in control group had EPDS>12 |

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|---|---|---|---|---|---|---|---|
| Hagan, Evans & Pope (2004) | RCT | N=199 mothers of pre-term (<33 weeks) or low birth weight (<1500g) babies in Australia | 51% of eligible women consented to participation<br><br>90.8% of control group completed trial; 86.1% of intervention group completed<br>- 80% attended at least 3/6 sessions; 60% attended all sessions | 2 weeks postpartum– women had a short debriefing session with midwife about pregnancy experience | Midwife facilitated group sessions (6 weekly sessions of 2-hr duration); sessions based on cognitive behavior therapy [CBT] model but also included educational component | EPDS, BDI & SADS (structured interview to make diagnosis of depression based on DSM-IV) @ 2, 6 & 12 months | - No differences between groups in depression diagnoses or in depression screening question-naires at any time period; # of sessions did not affect outcomes<br>- Overall, 74 women (37% of 199) met criteria for diagnosis of psychologica l morbidity [25 in control % 29 in treatment] |
| Meyer (1994) | RCT | N=34 mothers of pre-term infants (<1500g) in the USA | 100% participation rate assumed (authors do not mention that any one refused to participate)<br><br>100% of those randomized for study completed the study | In hospital as soon as infant was medically stable | Individualized, family based interventions that addressed concerns related to infant behaviour & characteristics, family organization & functioning, care giving environment, & home discharge [duration of sessions ranged from 2-8 weeks; # of interventions ranged from 3-17]<br><br>Intervention provided by multidisciplinary team (RNs, psychology, physiotherapists) | BDI $\geq$ 9 at baseline and at discharge from hospital | At baseline, no significant differences in BDI scores between 2 groups; at discharge, significantly fewer mothers in intervention group were depressed & more mothers in intervention group had decreases in level of depression |
| Ryding (2004) | RCT | N=162 Swedish women who had emergency c-sections | 75% participation rate<br><br>72% of women enrolled completed the study | Approximately 2 months postpartum | 2 group counselling sessions (2-3 week interval) facilitated by a midwife and a maternal-child psychologist; sessions were 2 hours in length | Wijma Delivery Expectancy/Experien ce Questionnaire (W-DEQ); Impact of Event Scale (IES); EPDS>12; All questionnaires given at 6 months postpartum | No differences between groups on any of the 3 scales. NB – Women greatly appreciated the intervention |

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|---|---|---|---|---|---|---|---|
| Small, Lumley, Donohue, Potter & Waldenström (2000) | RCT | N=1041 women who had operative births in Australia | 79% participation rate<br><br>88% completion rate | Postpartum – while in hospital | Midwife led debriefing session (unstructured) before discharge from hospital | EPDS ≥ 13 and overall health status (SF-36 subscales) at 6 months postpartum (by postal questionnaires) | No significant differences between women who had been debriefed on EPDS and SF-36 scores. Debriefed women had higher EPDS scores but they were not statistically significant |
| Wiggins (2005) | RCT | N=731 disadvantaged, inner city mothers in the UK | 58% of eligible women agreed to participate; between 80-90% of participants completed first and second follow up questionnaires; 35/165 (21%) in support group arm accessed the support groups; 172/180 (96%) in home visit arm used the home visits | 10-15 days postpartum | 2 intervention groups: 1) monthly supportive home visits by support health visitor (RN) for 1 year, 2) community drop-in groups, home visiting &/or phone support | EPDS ≥ 12 at 8 weeks and 14 months postpartum | No significant differences in any group in EPDS scores. Women in home visit arm had less GP visits, were less anxious and were very satisfied with their intervention |

| Universal Postpartum Interventions | | | | | | | |
|---|---|---|---|---|---|---|---|
| Authors | Study Design | Sample | Participation Rate | Timing of initial point of intervention | Intervention | Depression Outcome Measure | Results |
| Gunn, Lumley, Chondros & Young (1998) | RCT | N=683 healthy women in Australia | 67.2% participation rate<br><br>69.7% completed 3 month follow up survey and 65.3% completed 6 month follow up survey | One week after hospital discharge | Early postnatal check up by a GP (one week after hospital discharge)<br><br>Control group had appointment with GP at 6 weeks post hospital discharge | EPDS>12 at 3 and 6 months postpartum | No significant differences on EPDS scores at 3- or 6-months postpartum * women in intervention group were more likely to discuss labour experience, their baby and the adjustment to parenthood |
| Lavender (1998) | RCT | N = 114 primiparous women in the UK | 100% participation rate<br><br>95% completion rate | Before hospital discharge | One debriefing session 30-120 minutes in length by midwife (no formal training) | HADS[22] > 10 at 3 weeks postpartum | Women in intervention group had significantly less anxiety and depression 3 weeks after delivery |
| MacArthur, Winter, Bick, Knowles, Lilford, Henderson et al (2002) | Clustered RCT | N=2064 UK mothers | 40% of eligible women for treatment group and 44% for control group were not recruited (authors didn't specify reasons)<br><br>77% in intervention and 76% in control responded at 4 month follow up | Not specified – sometime postpartum | Individualized, extended home visits by midwife to 28 days postpartum | EPDS> 12 at 4 months postpartum | Women in treatment group were significantly less likely to be depressed |

[22] HADS is a scale that omits somatic symptoms, which is appropriate for this population. Conducting the assessment at 3 weeks postpartum should detect women who are suffering more than the "baby blues"

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|---|---|---|---|---|---|---|---|
| Morrell, Spiby, Stewart, Walters & Morgan (2000) | RCT | N = 623 UK women | 37% participation rate<br><br>79% of participants completed the study; 12% declined all home visits but completed follow-up questionnaires | Sometime in the first month postpartum | Postnatal care at home by midwives + up to 10 home visits in first month postpartum (up to 3 hours in length) provided by a community postnatal support worker; mothers provided with practical and emotional support; session length: 10-375 minutes | EPDS > 12 at 6 and 24 weeks postpartum | At 6 weeks, control group had lower EPDS scores; at 6 months, there were no differences; most women had 6 home visits |
| Priest, Henderson, Evans & Hagan (2003) | RCT | N=1745 women who delivered healthy term infants | 68% of eligible women agreed to participate; between 80-96% participation rate at 2, 6, and 12 month follow-ups | Within 72 hours of delivery | One standardized debriefing session based on the principles of critical incident stress debriefing – provided by a midwife (sessions were 15-60 minutes long) | EPDS > 12 at 2, 6, 12 months postpartum (women who scored >12 were then assessed for minor and major depression based on DSM-IV) | No significant differences found between groups; NB: 17.8% of women in intervention and 18.2% of women in control group met criteria for minor or major depression |
| Reid, Glazener, Murray & Taylor (2002) | RCT | N=1004 UK women all primiparous attending antenatal clinics [1173 women were invited to participate] | - 18% of women invited to groups participated (of these, 40% attended 6 classes or more)<br>- 83% completed baseline questionnaire, 73% completed 3-month questionnaire and 71% completed 6 month questionnaire | 2 weeks postpartum | 2 intervention arms 1) invitation to postpartum support group run on weekly basis by midwives 2) mailed self-help support manual posted 2 weeks postpartum | EPDS ≥ 12 at 'baseline', 3 and 6 months postpartum | No significant differences on EPDS between treatment and control groups at 3 or 6 months postpartum. |
| Waldenstrom (2000) | RCT | N = 1000 pregnant, low risk mothers in Australia | Unclear what percentage agreed to participate<br><br>72.9% of women in treatment group completed 2 month follow-up; 64% of women in control group completed 2 month follow-up | Early pregnancy (max. 24 weeks gestation) | Team midwifery care provided antenatally and postnatally | EPDS > 12 at 8 weeks postpartum | No differences on EPDS at 8 weeks postpartum |

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