Best Evidence for the Detection, Prevention and Treatment of Perinatal Depression

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Clinical Importance of Depression

- Depression is a common, universal, and debilitating public health problem that is projected to be responsible for the highest global burden of disease by the year 2030
- It has been estimated that for 30-50% of adults, depression is a chronic recurring condition

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Perinatal Depression

- Although depression affects individuals throughout the lifespan, women are at increased risk during their reproductive years
- **Perinatal depression** is an episode of depression with an onset either during pregnancy or the first 12 months postpartum

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Prevalence

Antenatal Depression

- Prevalence across pregnancy: 18.4% (12.7% major depression) *(Gavin et al, 2005)*
- Prevalence by trimester: 1st =7.4%; 2nd =12.8%, 3rd =12% *(Bennet 2004)*

Postpartum Depression (PPD)

- Prevalence in the first 12 weeks postpartum: 13% *(O'Hara & Swain, 1996)*

→ For women with a history of depression, 25% PPD rate is estimated
→ For women with depression during pregnancy, 50% PPD rate

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Most frequent form of maternal morbidity following childbirth

Persistence of PPD

- For the majority of mothers, PPD starts within the first 12 weeks postpartum
- However, national Canadian data suggest 8% of mothers will continue to experience PPD past the first 4 months postpartum and into the following year *(Dennis, et al 2012)*

→ this rate is more than 4 times the 1.4% point prevalence for depression among women found in the Canadian Community Health Survey

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Symptoms

- Feelings of sadness
- Inability to sleep, even when the baby is sleeping
- Changes in appetite eating much more or much less
- Irritability, anger, worry, agitation, anxiety
- Inability to concentrate or make decisions
- Inability to enjoy things that she used to
- Exhaustion; feeling "heavy"
- Uncontrollable crying
- Feelings of guilt or worthlessness
- Feelings of hopelessness or despair
- Fear of being a "bad" mother, or that others will think that she is
- Fear that harm will come to the baby
- Thoughts of harming the baby or self
- Thoughts of death or suicide

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Causes of Depression

- The dramatic hormonal changes during and after pregnancy have resulted in a significant focus on the biological and hormonal causes of PPD
- Growing agreement ⟶ PPD is not <u>different</u> from depression at other times

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Two Main Perspectives

1. Biological Perspective
2. Environmental and Personal Perspective

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Biological Perspective

- Genetic, neurological, hormonal, immunological, and neuro-endocrinological mechanisms appear to play a role in the development of major depression, and many of these factors center around reactions to stressors and the processing of emotional information

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Environmental and Personal Perspective

- Environmental Factors
  1. Acute life events
  2. Chronic stress
  3. Exposure to early adversity
- Personal Factors
  1. Cognitive vulnerability
  2. Interpersonal vulnerabilities

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1. Acute Life Events

- There is ample evidence that many major depressive episodes are triggered by stressful life events *(see reviews by Hammen, 2005; Kessler, 1997; Mazure, 1998)*
- There is some evidence of a generally linear association between severity and number of negative events and the probability of depression onset *(Kendler, Karkowski, and Prescott, 1998)*

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2. Chronic Stress

- Another cause of depression is exposure to enduring, long-term stressful circumstances
- An important feature of chronic stress is the **bidirectional effect**
- The strains of poverty or unemployment or displacement may trigger depression, but depression erodes the individual's ability to cope with or change his or her circumstances

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3. Exposure to Early Adversity

- There is ample evidence of a significant association between childhood emotional, sexual or physical abuse and adult depression particularly among women *(e.g., Alloy et al., 2006; Brown et al., 1999; Kendler et al., 2000; MacMillan et al., 2001)*
- Mothers with a history of trauma or abuse are at significanlty higher risk to develop PPD

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Childhood Adversities and Depression

- Kessler & Magee (1993) in a large-scale retrospective epidemiological study examined associations between adverse experiences and depression
- The following childhood adversities were **predictive of later developing depression**:
  - parental mental illness
  - family violence (physical, sexual, emotional abuse)
  - parental marital problems
  - death of mother or father
  - lack of a close relationship with an adult
  - parental drinking

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- Three early adversities were also **predictive of depression recurrence**:
  - Parental mental illness
  - Family violence
  - Parental divorce

Personal Vulnerabilities

1. Cognitive Vulnerability

- Cognitive style models
  - Excessively pessimistic and self-critical
  - Perceptions of helplessness/hopelessness about changing their situations
- Information-processing perspectives
  - Dysfunctional cognitive processes, such as biases in attention and memory, and overgeneralized thinking style

2. Interpersonal Vulnerability

- Depression is known to be associated with considerable impairment in interpersonal functioning:
  - Marital conflict
  - Intimate partner violence
  - Low social support

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Maternal PPD Risk Factors

- Depression during pregnancy
- Prenatal anxiety
- Previous history of depression

- Childcare stress
- Life stress
- Lack of social support
- Marital dissatisfaction
- Low self-esteem
- Low socio-economic status
- Marital status
- Unwanted/unplanned pregnancy

(Beck 2001)

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Unfortunately, PPD occurs at a time when the infant is:

- Maximally dependent on parental care
- Highly sensitive to the quality of the interaction

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- Given the persistence of PPD and its association with recurrent depressive episodes *(Copper et al 2003; Nylen et al 2010),* concern for child development is warranted as maternal depression can:
  1. Be incompatible with good parenting cognitions and behaviours
  2. Cause significant distress for children due to a stressful home environment *(Goodman &Gotlib 1999)*

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Health Promotion Consequences

- Research suggests maternal health promotion behaviours are diminished as mothers with PPD are less likely than non-depressed mothers to:
  - Breastfeed
  - Attend well-child visits
  - Complete immunizations
  - Use home safety devices
  - Put infants to sleep in recommended sleeping position
  - Correctly use car seats

(Zajicek-Farber 2009; Cadzow et all 1999)

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Child Developmental Consequences

- Mothers with PPD also have children with poorer developmental trajectories
- Risk transmission through altered maternal-child interaction *(Rishel, 2012)*

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- Several patterns of negative maternal-child interactions have been consistently documented *(Field 2010)*
- Depressed mothers have more negative appraisals of, and lower tolerance for, their children's behaviours *(Goodman & Gotlib, 1999)*
- Both of these variables are associated with more punitive parenting and having a higher threshold for rewarding behaviour
- Maternal depression correlates with criticism, hostility, and rejection expressed towards children *(e.g., Lovejoy et al 2000; Marchand &Hock, 1998)*

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What are the effects of maternal-child interaction difficulties on child development?

- Cognitive development
- Behavioural development
- Emotional development

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Cognitive Development Consequences

- Literature is well established
- General consensus that PPD predicts poorer language and IQ development in children and that this effect is found across childhood into adolescence
- The effect may be more pronounced in boys than in girls
- Amount of exposure is a critical issue

(Brand 2009; Grace 2003; Sohr-Preston 2006; Stein 2008)

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How do maternal-child interaction difficulties affect cognitive development?

1. ↓ general responsiveness *(Murray et al., 1993; NICHD, 1999; Milgrom et al., 2004)*
2. ↓ contingency and learning *(Tronick & Weinberg, 1997; Stanley et al., 2004)*
3. ↓ interactions to sustain attention & scaffolding *(Kaplan et al, 1999; Gaffan et al., 2010; Vygotsky; Bruner)*
4. ↓ responsive book sharing *(Reissland et al., 2002; Paulson et al., 2006)*

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1. General responsiveness

- Without stimulation and responsiveness, the infant withdraws from the environment

2. Contingency

- By experiencing their parent's consistent and predictable responses to their own behaviour and cues, infants learn associations between stimuli and responses→ this teaches basic cognitive skills and helps infant interact appropriately with their environment

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3. Attention regulation and scaffolding

- When parents present objects they adjust stimulation to sustain attention *(Brazelton, 1974; Kaplan et al, 1999)*
- With facilitation and 'scaffolding', parents strengthen child competencies and help organise their cognitions *(Vygotsky; Bruner)*

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4. Book sharing

- Supports attending for extended periods
- Parents make book-sharing a 'language acquisition device'
- Around 3/4 of all 'labelling' to 1 year-olds occurs in book sharing
- Frequency of book sharing predicts child literacy and language, independent of SES
- Quality important -parent adjusts to developmental level, draws child in as active participant

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Behavioural Development Consequences

- Meta-analysis of 193 studies→ small but significant association between maternal depression and child behavioural outcomes:
  - Internalizing problems (*children direct feelings and emotions inward i.e., withdrawn behaviour, depression, eating disorders, substance abuse*)
  - Externalizing problems (*children express feelings and emotional responses into behaviours that are directed outward into delinquent, aggressive or hyperactive behaviour*)
  - Negative emotionality (*temperament, self-regulation → response to stress*)

(Goodman et al., 2011)

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- Researchers have found maternal depressive symptoms experienced during the first 6 months postpartum are associated with behavioural problems from early childhood to adolescence *(e.g., Avan et al 2010; Murray et al., 2011)*

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How do maternal-child interaction difficulties affect behavioural development?

- Maternal difficulty in aiding the infant's recovery from distress *(Tronick & Gianino, 1986;Jaffe et al, 2001;Jameson et al, 1997)*
- Maternal intrusive and hostile interactions disrupt and dysregulate infant behaviour and physiological state *(Murray et al, 1996; Morrell & Murray, 2003; Maughan et al., 2007)*

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Emotional Development Consequences

- Meta-analyses → consistent associations between PPD and insecure attachment *(Martins and Gaffan, 2000; Atkinson et al., 2000; Campbell et al., 2004)*
- For infants, insensitive or unresponsive parenting has been found to be among the strongest predictor of insecure attachment *(e.g., Egeland & Farber 1984)* and infants' difficulty in establishing effective self-regulation skills *(e.g., Tronick & Gianio 1986)*

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Consequences of Impaired Attachment

- Impaired attachment occurs at a critical time for early infant brain development
- May lead to:
  - A negative effect on infant brain morphology and physiology
  - Altered stress reactivity (e.g., rigid or limited coping strategies)

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Intergenerational Effect

- Point prevalence rates for psychiatric disorders among children of depressed mothers are 2 to 5 times above normal (41–77%) *(Beardslee et al, 1998)*

  → signifying a strong intergenerational effect

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PPD = Major Childhood Adversity

International experts have clearly identified parental depression as a major childhood adversity and that effective interventions to address this condition are one of the most important public health preventive strategies we can implement to reduce the long-term negative outcomes among children

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Postpartum Depression:

A Family Affair

Paternal PPD Prevalence

- A recent meta-analysis suggests that approximately 10.4% of fathers will experience depression in the first year postpartum
- This rate is significantly higher than the 12-month prevalence of 4.8% found in US national data for general depression in men.

(Paulson et al. 2010)

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- Some evidence that PPD in fathers begins later, often following the onset in mothers and with the rate increasing over the first year postpartum

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Paternal PPD Risk Factors

- History of depression
- Antenatal depression/anxiety
- Depressed partner
- Poor marital relationship
- Low social support
- Low perceptions of parenting self-efficacy
- High parenting stress
- Lack of information about pregnancy/childbirth

(Wee et al. 2011; deMontigny, in press)

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Paternal PPD Consequences

- Evidence is beginning to accumulate that fathers can also have a serious negative influence on child outcomes
- While fathers' roles vary widely between and within different social and cultural groups, in most countries fathers have an active role in childcare
- The potential effects of fathers' psychiatric disorders on their ability to nurture their children are clearly important

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Paternal Parenting Behaviours

- Depressed fathers more likely than non-depressed fathers to:
  - Spank *(Davies 2011)*
  - Not read to their children *(Davies 2011;Paulson 2008)*
  - Not play outside *(Paulson 2006)*
  - Not participate in enrichment activities (reading, singing, story telling) *(Paulson 2006)*
  - Withdraw from co-parenting (disengagement) *(Elliston 2008)*

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Father-Infant Attachment/Interaction

- Increased paternal depression associated with:
  - ↓ father-infant attachment *(Ferketich 1995; Hjelmstedt 2008)*
  - ↓ father-infant interaction *(Goodman 2008)*
  - ↓ quality of attachment and ↑ hostility *(Buist 2003)*
  - ↓ postpartum bonding *(Edhborg 2005)*
  - ↑ parent-child dysfunction *(Goodman 2008)*

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Child Development Consequences

- Paternal PPD predicted internalizing and externalizing behaviours and emotional problems at 2-3 years *(Carro, 1993)*
- Paternal PPD was associated with increased risk of high total problems, behavioural problems and hyperactivity at 3.5 years *(Ramchandani 2005)*
  - Paternal PPD and behavioural problems stronger in boys than in girls
- Paternal PPD associated with child being diagnosed with 'any psychiatric disorder' (6% vs 12%) at 7 years
  - ↑ negative prosocial behaviours, hyperactivity, conduct problems, and peer problems (Ramchandani 2008)

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Stressful Home Environment

- Depressed versus non-depressed fathers more likely to report:
  - ↓ marital satisfaction, affection, cohesion
  - ↑ criticism towards partner
  - ↑ parenting stress
  - ↓ satisfaction in friendships

(Bost 2002; Buist 2003; Goodman 2008; Ramchandani 2011)

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Dual Parental Depression

Dual Parental PPD

- The percentage of families in which at least one parent will experience PPD is potentially high, with rates around 22% in small community samples *(Soliday et al. 1999; Raskin et al. 1990)*
- A paternal PPD systematic review found depression in one partner was significantly correlated with depression in the other *(Paulson & Bazemore, 2010)*
- Unfortunately, little is known about "dual parental PPD" where *both* parents suffer from PPD at the same time

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- One Canadian study reported that when mothers were diagnosed with a psychiatric disorder at 2 and 6 months postpartum nearly a quarter of fathers were also diagnosed with a psychiatric disorder *(Zelkowitz & Milet, 2001)*
- Preliminary evidence indicates that dual parental PPD may be especially high when the father, as opposed to the mother, is the index case *(Matthey et al 2000; 2003)*

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- It has been hypothesized that dual parental PPD has an additive effect on infants, placing them at even higher risk for adverse outcomes than those who only have one depressed parent

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Does treating maternal PPD improve child developmental outcomes?

- Growing evidence that treatment for maternal depression can change the trajectory of a child's development
- In the Sequenced Treatment Alternatives for Depression (STAR-D) trial, treatment for maternal depression reduced emotional and behavioural problems in school-age children and prevented the development of new problems in prospective follow-up *(Weissman et al, 2006)*
- Importantly, the more quickly a mother obtained remission, the more quickly there was an improvement in the child's functional status *(Wickramaratne et al, 2011)*

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- A systematic review that examined associations between improvements in parents' depression and their children's psychopathology confirmed the positive effects of treatment *(Gunlicks & Weissman 2008)*

⟶ Need to treat to complete remission

⟶ Trials with younger children were less effective

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- These lines of evidence converge to underscore the importance of early treatment for maternal depression on child development
- To maximize depression treatment effects need to consider:
  - Environmental context
  - Timing of exposure to depression
  - Maternal-infant relationship

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Environmental Context

- A depressed mother and her environmental context influence one another over time
- Multiple contextual risks (e.g., low social support, low income, family conflict) strongly affects child psychopathology
- With exposure to each additional risk factor there is at least a 20% increase in the odds for externalizing and internalizing disorders in children *(Barker et al., 2012)*

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Timing of Exposure

- Exposure to risk factors in certain periods of development may influence and change a child's developmental pathway
- 0 to 2 years → a critical developmental period for:
  - Brain maturation (i.e., hippocampus)
  - Mother-child attachment
  - Foundation for cognitive and socio-emotional competence *(Lupien et al 2009)*
- Early disturbances in normative development can have lasting effects on child well-being *(Costello et al 2003)*

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Mother-Infant Relationship

- Increasingly, interventions for mothers with depressive symptoms have focused on mother-infant relationship
- Adjunct to PPD treatment
  - Behavioural interventions → important
  - Mother-infant attachment interventions → essential

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Management of Perinatal Depression

Case Identification

- The first step in the management of PPD is case identification
- Research consistently demonstrates that informal surveillance is imprecise with less than 50% of mothers with perinatal depression identified despite various interactions with health professionals *(Yawn et al 2012; Goodman & Tyer-Viola, 2010)*

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- A UK Health Technology Assessment *(Hewitt et al., 2009)* identified 5 different classification strategies aimed at increasing detection of perinatal depression:

1. Postpartum screening with specialized depression screening tool
2. Postpartum screening with generic depression tool
3. Antenatal screening with standardized questionnaires to identify current depression or risk of future depression
4. Antenatal assessment of known risk factors to identify women likely to develop depression
5. Targeted training of health professionals to enhance recognition of clinical symptoms

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- Distinction is made between approaches designed to detect current depression and those that attempt to predict future depression in non-depressed women
- The predictive antenatal approach to identify future PPD has a long history

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Antenatal Screening

- An excellent systematic review summarized 16 studies that included antenatal screening for PPD *(Austin & Lumley, 2003)*
- No screening instrument met the criteria for routine application in the antenatal period
- The unacceptably low positive predictive values in all these studies make it difficult to recommend the use of screening tools in routine antenatal care

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- You can screen antenatally but only if it is to identify women with current depressive symptoms needing intervention → not to identify asymptomatic women at risk of developing PPD

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Screening Tools

- Various generic depression screening tools have been used in perinatal population
- However, the majority of clinicians and researchers use a specialized depression screening tool
- The most widely used is the Edinburgh Postnatal Depression Scale (EPDS)

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Edinburgh Postnatal Depression Scale (EPDS)

- 10-item self-report instrument
- Scores range from 0 to 30
- Cut-off 12/13 (> 12) – probable PPD
- Cut-off 9/10 (> 9) – possible PPD
- Widely available and free
- EPDS has been validated among diverse cultures

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EPDS

- Validated for antenatal use
- Translated and psychometrically tested in many non-English populations
- Validated for use in fathers

- Critical factor→ Internationally recognized and used
- Provides a common language
- Enables comparability of clinical and research results

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Minimize Harm

- Such potential harms through misdiagnosis, misinterpretation, labelling, and stigma are some reasons why is it always good practice to systematically follow every positive screen (e.g., re-administer 2 weeks later or offer a more detailed assessment)

- The cost-effectiveness of routine screening seems to be maximized when all positive screens results are followed by a confirmatory diagnostic stage as it cuts the cost of initiating treatment in 'false positive' cases *(Paulden et al 2009)*

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Additional Clinical Benefits of the EPDS

- Some evidence that when a detailed assessment is completed and does not reveal a depressive condition, follow up of a positive EPDS result can be important

  → other common mental disorders may be prevalent

- In an Australian screening study of 4168 women, 85% with a positive score on the EPDS had either depression or another DSM-IV diagnosis (e.g., bipolar, anxiety, etc) *(Milgrom et al. 2005)*

- A similar result was found in a large US-based study screening cohort of 10,000 postpartum women *(Wisner et al., 2013)*

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Self-Harm

- EPDS contains an item (item 10) regarding thoughts of self-harm and suicidal ideation
- Allows any score > 0 on this item to be acted upon rapidly and decisively

Clinical Relevance

- Maternal death associates with psychiatric morbidity has become one of the leading causes of maternal deaths in high income countries *(Oates 2003; Austin et al 2007)*
- There is a 70 fold increase of suicide in the first postpartum year after admission for a severe psychiatric episode compared to at other times in a woman's life *(Appleby et al., 1998)*

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Often Forgotten Point

- There is a strong argument for considering screening as part of routine care where physical and emotional care is integrated within the primary health care context

- While some clinicians may disagree with routine use of a depression screening tool, all would agree that examining maternal emotional health has value in its own right:

1. Opens up the conversation about emotional and psychosocial issues
2. Raises awareness and educates women and their partners that emotional and psychosocial issues deserve to be treated and that treatment and supports are available should problems arise

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What is the acceptability of screening for perinatal depression?

- Reasonable evidence now shows that most women and health professionals find the process acceptable
- Surveys of large samples of perinatal women have found acceptability to be high (80-90%) but not universal
- Qualitative studies suggest :
  - Process may be intrusive and potentially stigmatizing
  - Some women may not answer questions honestly
- Most acceptability studies with the EPDS

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Women's Preferences

- A familiar setting and prior notification about the process
- A familiar health professional who was engaged and empathetic
- Verbal feedback and discussion rather than a report of their test score

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Does perinatal depression screening increase the number of mothers who recover?

- Research clearly suggests that screening alone is insufficient to ensure the provision of appropriate treatment and thus ultimately improving clinical outcomes

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- The U.S. Preventive Services Task Force recommends screening adults for depression in clinical practices that have systems in place to assure:

1. Accurate diagnosis
2. Effective treatment
3. Follow-up

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- Three cluster randomized controlled trials of reasonable quality were specifically designed to test the effect of screening interventions on clinical outcomes *(Morrell et al., 2009; Leung et al., 2011; Yawn et al., 2012)*
- The Agency for Healthcare Research and Quality (AHRQ) graded theses as providing low to moderate strength of evidence for the clinical efficacy of perinatal depression screening in reducing morbidity

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Integrated Care - Essential

1. Integration across health care disciplines and between primary and secondary/tertiary health care systems
2. Integration between components of the screening program including:
   - The screening assessment itself
   - Clinician training and supervision
   - Clear clinician decision making guidelines around appropriate care planning and referral pathways
3. Integration across time periods (antenatal and postnatal) and service settings (hospital and community)
4. Integration of screening with mainstream perinatal care

(Austin, 2014)

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Treatment of Postpartum Depression

Effective treatment aimed at reducing or eliminating depression among parents constitutes a significant preventive intervention for children

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Treatment Tools

Pharmacological

Psychological

- –Interpersonal psychotherapy (IPT)
- –Cognitive behavioural therapy (CBT)
- –Mindfulness-based strategies

Psychosocial

- –Peer support /support groups
- –Non-directive counselling

Alternative

- –Relaxation/Massage
- –Exercise
- –Yoga

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Pharmacotherapy

- Antidepressants are among the most commonly prescribed medications in health care today
- For the treatment of major depression, it is widely believed that roughly two-thirds of patients will respond to the first antidepressant that is initiated *(Fava &Davidson, 1996)*
- Important treatment option for mothers with moderate to severe depression
- May not directly address the cause of depression

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Breastfeeding

- Although the risks of antidepressant transmission through breast milk are a common concern, it should be remembered that the risks of untreated depression are also readily transmitted to infants
- Motherisk: www.motherisk.org/
  - – Drugs in Pregnancy
  - – Breastfeeding and Drugs

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Psychotherapy

- Given concerns about antidepressant medication→ psychological and psychosocial treatments for depression are an important alternative

1. Cognitive Behavioural Therapy (CBT)
2. Interpersonal Psychotherapy (IPT)
3. Mindfulness-Based Cognitive Therapy

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Cognitive Behavioural Therapy (CBT)

- CBT is based on the idea that the way a person perceives an event determines how they will respond both emotionally and behaviourally
- CBT helps women identify and correct self-critical beliefs and distortions in thinking to reduce distress and enhance coping efforts

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Cognitive Behavioural Therapy (CBT)

- CBT is widely used for the treatment of depression
- Recent studies have found that CBT is as efficacious as medications for even severely depressed patients *(DeRubeis et al., 2005)*
- There is also evidence that the effects of CBT last beyond the end of treatment *(Hollon, Stewart, and Strunk, 2006)*, and studies have shown that patients treated with CBT are less likely to relapse after treatment termination than are patients treated to remission with medications

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Interpersonal Psychotherapy (IPT)

- IPT is a brief, highly structured, manual-based psychotherapy that addresses interpersonal issues in depression:
  - Role disputes
  - Social isolation
  - Prolonged grief

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Interpersonal Psychotherapy (IPT)

- Addresses risks such as low social support and relationship conflict
- Intervention teaches:
  - More effective communication with family and friends
  - Skills for obtaining social support
  - Effective coping techniques to use during times of need and during life changes

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Mindfulness-Based Cognitive Therapy (MBCT)

- A brief group intervention that specifically targets risk factors for depression relapse
- Focused on the role of cognitive reactivity to negative emotion
- Combination of mindfulness meditation, yoga, psycho-education, and cognitive-behavioural strategies
- Teaches skills to interrupt reactive, habitual, escalating patterns between negative emotion and thought

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Psychosocial Interventions

- Peer Support (Mother-to-mother support)
  - Provide social comparisons
- Non-directive counselling
  - "Listening visits"
  - Provided in home by nurse

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Alternative Therapies

- **Omega-3 Fatty Acids** – studies quite small, and little is known about the effective dosing range
- **Phototherapy** – "Bright light therapy" 7,000–10,000 lux of bright light for up to 1 hour daily
- **Exercise**
- **Yoga** – 5 RCTs evaluating the efficacy of yoga in the treatment of depression were identified in a systematic review *(Pilkington et al., 2005)* – no trials with perinatal women
- **Acupuncture** – A Cochrane review that examined the efficacy of acupuncture for depression included seven trials *(Smith &Hay, 2005)*

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- Other therapies, such as **aromatherapy**, **massage therapy**, and **reflexology**, have also been investigated as adjunctive therapies for depression
- The evidence is inconclusive, and further research is needed

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Interpersonal Psychotherapy Trial

An RCT to Evaluate the Effectiveness of Telephone-Based Interpersonal Psychotherapy for the Treatment of Postpartum Depression

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Interpersonal Psychotherapy (IPT)

- Interpersonal psychotherapy (IPT) has been shown to be an effective treatment option for depression in the general population
- At least 8 studies have evaluated the effect of IPT on depression during the pregnancy and postnatally
- Unfortunately, IPT may not widely available → especially in rural and remote areas

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Telepsychiatry

- To improve access to care, telepsychiatry has been introduced and includes the provision of psychiatric services via telephone
- Telepsychiatry can play an important adjunct role within an integrated health care system
- It is predicted to become an increasingly acceptable alternative to traditional face-to-face services
- The provision of treatment by trained nurses can also increase the clinical utility and feasibility of this treatment option

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Purpose

- To evaluate the effect of telephone-based IPT provided by trained nurses for the treatment of PPD

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Design Overview

- Randomized controlled trial with stratification based on depression severity and province
- 36 health regions across Canada participated in the trial from 6 provinces:
  - Nova Scotia
  - Ontario
  - Manitoba
  - Saskatchewan
  - Alberta
  - British Columbia

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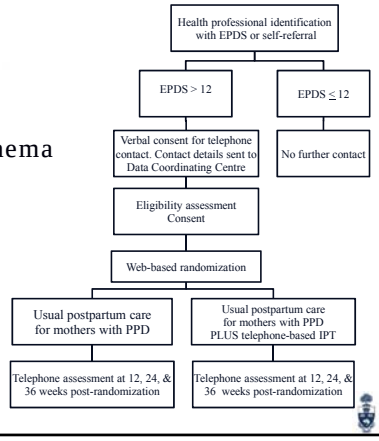
Trial Schema



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Randomization

- Consented: **241**
- Web-based randomization (www.randomize.net)
  - 120 mothers → IPT group
  - 121 mothers → control group
- No significant differences between groups on baseline variables

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IPT Nurses

- 7 nurses recruited and trained to provide IPT:
  - 3 nurses with psychiatric experience
  - 2 public health nurses
  - 1 pediatric nurse
  - 1 ER nurse

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Supervision of IPT

- Weekly group supervision sessions by psychiatrists
- 1.5-2 hours duration
- Listened to sessions recently completed
- Discussed key issues, appropriate responses and any challenges
- IPT supervisors were also available as necessary to address any immediate concerns

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Clinical Depression: SCID Positive at 12 & 24 weeks post-randomization

Weeks Follow-up	IPT Group n (%)	Control Group n (%)	χ^2	p	OR	95% CI
12 weeks (N = 204)	11 (10.6)	35 (35)	17.41	<.001	4.55	2.16-9.62
24 weeks (N = 202)	11 (10.9)	34 (33.7)	15.13	<.001	4.15	1.96-8.79

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Depressive Symptoms: EPDS > 12

Weeks Follow-up	IPT Group n (%)	Control Group n (%)	χ^2	p	OR	95% CI
12 weeks (N = 204)	22 (21.2)	51 (51)	19.76	<.001	3.88	2.10-7.16
24 weeks (N = 202)	12 (11.9)	53 (52.5)	38.13	<.001	8.19	4.0-16.79

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Anxiety Symptoms: STAI > 44

Weeks Follow-up	IPT Group n (%)	Control Group n (%)	χ^2	p	OR	95% CI
12 weeks (N = 204)	42 (40.4)	65 (65)	12.39	<.001	2.74	1.55-4.84
24 weeks (N = 202)	23 (22.8)	60 (59.4)	27.99	<.001	4.96	2.69-9.15

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Relationship Quality
Dyadic Adjustment Scale (DAS) Mean Scores

Weeks Follow-up	IPT Group M (SD)	Control Group M (SD)	t	p	Mean Difference
12 weeks (N= 191)	111.02 (18.65)	101.61 (24.75)	2.98	.003	9.41
24 weeks (N = 180)	113.28 (17.38)	104.46 (25.28)	2.74	.007	8.82

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Discussion

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Clinical Outcomes

- Telephone-based IPT is an effective treatment for clinically depressed mothers
- May be effectively delivered to mothers in rural and remote areas

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- Significant effect on maternal anxiety across time
- Improved relationship quality with significant others especially in relation to dyadic consensus (agreeing with partner) and cohesion (participating in activities together)
- Have yet to analyze health service utilization data and complete the economic evaluation

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Maternal Evaluation

- Mothers felt the IPT nurses were competent and well-trained
- Telephone-based IPT was convenient and met their needs
- There were very few negative comments – would like more sessions
- Overall, mothers were highly satisfied and would recommend it to a friend

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Is there any evidence to suggest we can effectively PREVENT postpartum depression?

Cochrane Systematic Review

Psychosocial and Psychological Interventions for the Prevention of Postpartum Depression:
An Update

Dennis, C-L., Dowswell, T. (2013). Psychosocial and psychological interventions for preventing postpartum depression. The Cochrane Database of Systematic Reviews, Issue 2.

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Review Characteristics

- 28 trials
- Almost 17,000 women
- Published between 1995 and 2010
- Conducted primarily in Australia and the UK
- Five trials were conducted in the USA
- One trial was conducted in the follow countries: Canada, China, Germany, and India

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Postpartum Depression at Last Assessment
(Variously Defined)

- Overall, a beneficial effect was found related to the prevention of depressive symptomatology (all interventions included)

  (20 trials, n = 14,727, RR 0.78, 95% CI 0.66 to 0.93)

- A significant preventative effect was found among the few trials that included a clinical diagnosis of depression

  (5 trials; n = 939; RR = 0.48, 95% CI 0.31 to 0.74)

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Effect of Intervention Type

- Psychosocial interventions had a beneficial effect in decreasing the risk of depressive symptomatology at last study assessment

(12 trials; n = 11,322; RR 0.83, 95% CI 0.70 to 0.99)

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- A beneficial effect was found when the intervention involved:
  - Postpartum home visits by a health professional

    (2 trials, n = 1262; RR = 0.56, 95% CI = 0.43 to 0.73)

  - Postpartum telephone-based peer support

    (1 trial, n = 612; RR = 0.54, 95% CI = 0.38 to 0.77)

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Effect of Intervention Type

- Psychological interventions also had a beneficial effect in decreasing the risk of depressive symptomatology at last study assessment:

(8 trials; n = 3405; RR = 0.61, 95% CI 0.39 to 0.96)

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- A beneficial effect was found when the intervention involved:

  – Interpersonal psychotherapy (IPT)

(5 trials, n = 366; SMD = -0.27, 95% CI -0.52 to -0.01)

Effect of Intervention Mode

- Analysis of 14 trials evaluating individually-based interventions suggested a possible benefit in preventing PPD at the last study assessment

  (n = 12,914; RR = 0.75, 95% CI 0.61 to 0.92)

- Of the 6 trials evaluating group-based interventions, there was no apparent reduction in depressive symptoms at last study assessment

  (n = 1813; RR = 0.92, 95% CI 0.71 to 1.19)

Effect of Intervention Duration

- No beneficial effect related to single-contact interventions (e.g. psychological debriefing, early postpartum follow up)

  (4 trials, n = 2877; RR = 0.70, 95% CI = 0.38 to 1.28)

- A significant beneficial effect related to multiple-contact interventions

  (16 trials, n = 11,850; RR = 0.78, 95% CI 0.66 to 0.93)

Effect of Intervention Onset

- Antenatal only – no beneficial at final study assessment
  (4 trials, n = 1050; SMD 0.03, 95% CI -0.09 to 0.16)
- Interventions that began antenatally and continued postnatally – no beneficial at final study assessment
  (8 trials, n = 1941; RR = 0.96, 95% CI 0.75 to 1.25)
- Postnatal only – a preventive effect was found
  (12 trials, n = 12,786; RR = 0.73, 95% CI 0.59 to 0.90)

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Effect of Sample Selected

- Trials selecting participants based on "at-risk" criteria had more success in preventing PPD
  (8 trials, n = 1853; RR = 0.66, 95% CI 0.50 to 0.88)
- than those that enrolled women from the general population
  (12 trials, n = 12,874; RR = 0.83, 95% CI 0.68 to 1.02)

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Summary

- Overall psychosocial and psychological interventions may decreased the risk of developing PPD by approximately 22%

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- There is beginning evidence to suggest the importance of:

1. Additional professional support initiated postnatally
2. Telephone-based peer support initiated postnatally
3. Interpersonal psychotherapy (IPT)

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- Interventions are more likely to be beneficial if they are:
  - Initiated postnatally
  - Individually-based
  - Include multiple contacts
  - Target 'at risk' women

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- Postnatal interventions that were successful →administered Edinburgh Postnatal Depression Scale (EPDS) early in the postpartum period to identify depressive symptomatology

- Secondary preventive interventions

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Canadian PPD Prevention Trial

Postpartum Depression Peer Support Trial

(Dennis, C-L., Hodnett, E., Kenton, L., Weston, J., Zupancic, J., Stewart, D., & Kiss, A. (2009). The effect of peer support on prevention of postnatal depression among high-risk women: a multi-site randomized controlled trial. *British Medical Journal*, 338:a3064).

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Purpose

- To evaluate the effect of peer (mother-to-mother) support on the prevention of PPD among mothers identified as high-risk

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Design Overview

- A randomized controlled trial with stratification based on previous history of depression including PPD was conducted
- Seven Ontario health regions participated in the trial:
  - Halton
  - Ottawa
  - Peel
  - Sudbury
  - Toronto
  - Windsor
  - York

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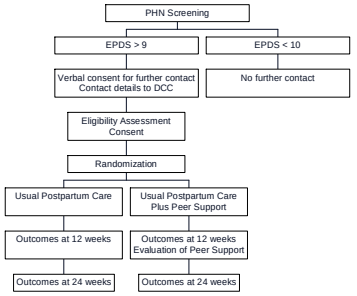
Trial Schema



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Randomization

- 701 mothers randomized using web-based randomization (www.randomize.net)
  - 349 mothers – intervention group (usual care plus telephone-based peer support)
  - 352 mothers – control group (usual care)
- No significant differences between groups on baseline variables

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Peer Volunteers

- Peer volunteer selection criteria was:
  - Ability to speak and understand English
  - Self-reported history of and recovery from PPD
  - Not currently suffering from depression
- Over 205 peer volunteers were recruited and attended a 4-hour training session
- Provided with a training manual and a list of local community resources for new mothers

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Intervention Dosage

- Mothers received a mean of 8.8 (SD=6.0) contacts with their peer volunteer
- 49.5% were telephone conversations initiated by the peer volunteer
- The mean duration of these discussions was 14.1 minutes (SD=18.5)
- 33.4% of contacts were messages were left on mothers' answering machines
- Only 6.5% contacts were initiated by the mothers
- 2.3% were email interactions

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Postpartum Depression: EPDS > 12 at 12 weeks

Peer n (%)	Control n (%)	χ^2	p	OR	95% CI
40 (14%)	78 (25%)	12.5	0.0004	2.11	1.38-3.20

Number needed to treat = 8

Relative risk reduction = 0.46 (0.24-0.62)

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Summary

- Telephone-based peer support may be effective in preventing PPD among high-risk mothers
- Mothers who received peer support were at half the risk to develop PPD
- This trial is consistent with a Cochrane review that suggested interventions to prevent PPD are more likely to be successful if they are:
  - Individually based
  - Initiated postnatally
  - Target high-risk women

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Summary

- Prevalence, symptoms, aetiology, risk factors
- Consequences for children and fathers
- Management Strategies
  - Effective identification
  - Treatment options
  - Prevention
- Recently completed IPTtreatment trial

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Questions

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