Maternal Depression, Mother-Child Interaction and Attachment

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Purpose

• Present state of knowledge of:
  - Postpartum depression and maternal depression
  - Depression and child development and health
  - Depression & maternal-child interaction
  - Depression and attachment
  - Intergenerational questions
Clinical Model of Parent-Infant Interaction (Letourneau, 1996)

**Assessment**
- Infant characteristics
  - Parental depression
  - Adolescent parenting
  - Low education
  - Poverty
  - Intimate partner violence

**Intervention**
- High-Quality Parent-Infant Interaction
- Attachment Security

**Evaluation/Outcome**
- Resiliency
  - Cognitive Ability
  - Language Ability
  - Social Ability
  - Peer Competence

*Resiliency - Infant characteristics - Parental depression - Adolescent parenting - Low education - Poverty - Intimate partner violence*
Postpartum Depression

- Postpartum depression prevalence 13-15%
- Maternal depression 5-7%
- Onset can occur any time during the first year postpartum
- Beyond first year postpartum, symptoms of depression are not attributed to the postpartum period.
Postpartum Depression

- Risk of severe major depression greater in the postpartum period than any other time in a woman’s life.
- 50% of mothers with PPD remain clinically depressed at 6 months postpartum.
- 25% untreated mothers remain depressed > 1 year.
Postpartum Depression

• 300% (3X) more likely to experience a recurrence following subsequent pregnancies.

• Twice as likely to have recurrence of depressive symptoms within 5 years.

• 63% have recurrence of depression within 12 years.

-NLSCY, Statistics Canada
PPD Symptoms

- Depressed Mood
- Weight Loss/Gain
- Fatigues/Loss of Energy
- Anxiety
- Reduced Thinking/Concentration/Decisiveness
- Guilt
- Loss of Interest or Pleasure
- Psychomotor Agitation or Retardation
- Insomnia/Hypersomnia
- Emotional Lability
- Loneliness
- Suicidal Ideation
Duration & Function

• Symptoms lasting longer than 1 week

• Symptoms affect functional ability to look after self or child
Multi-factorial Etiology

- Hormonal changes
- Thyroid dysfunction
- Dopamine sensitivity
- Negative psychosocial events
  - stress, childcare stress, marital conflict, lack of social support
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Attachment History, McMahon et al., 2008
Treatment

- Pharmacological
- Hormonal
- Psychotherapy
- Social Support
• Meta-analysis and systematic review both suggest that PPD has a significant effect on infants’ cognitive and social development (Beck, 1998; Grace, Evindar & Stewart, 2003)
Beck (1998)

- Nine studies
- 1300 + participants, 1 to 14 years of age
- Mean Cohen’s d = .45
- Mean r-indicator = .22 (CI = .125-.230)
- Both indicators small to moderate range
Beck (1998)

• More behaviour problems
  – Child Behaviour Checklist & Behaviour Screening Questionnaire
  – Depression, withdrawal, hyperactivity, aggression

• Lower cognitive functioning
  – Reynell Scales of Language Development & McCarthy Scales
  – Verbal, perceptual, quantitative skills
PPD & Child Development

3 to 7 month old infants:

- more tense, less content
- fewer positive facial expressions
- more negative expressions and protest behavior
- drowsy, withdrawn, avoidant
- more fussy and disruptive
- reduced sociability to strangers and performance on learning tasks
- disengaged in maternal-infant interactions and in toy play
PPD & Child Development

19 month old infants:

• show less sharing, concentration, and sociability to strangers

• lower overall rate of interaction

• less responsive and interactive

• show decreased positive affect
3 to 5 year old children:

- are more “difficult”
- respond in negative manner to friendly approaches by other children
- boys most likely to show behaviour problems
PPD & Child Development

Long-term effects:

• Parental mental health problems can compromise 12 year-old children’s behavioral adjustment

• Children of mothers who experienced PPD are two to five times more likely to develop long-term behavioral problems
Letourneau et al. (2006) study:

- Four cycles of NLSCY data were used:
  Cycle 1 (1994-95), Cycle 2 (1996-97),
- 3533 mother-child pairs
- 691 mothers were depressed when their infants were less than 2 years of age.
Behaviour Measures

- Anxiety
- Hyperactivity
- Aggression
- Prosocial
- 1 = Never or not true, 2 = Somewhat or sometimes true, and 3 = often or very true
- Higher scores show increased presence of behavior in the child.
Method

- Hierarchical linear modeling
- Allows analysis of growth trajectories
- Regressed child behaviour alone and with parenting style on depressive status

Letourneau et al., 2007
Findings

Non-Depressed and Depressed: Prosocial Behaviour

Depressed: Hyperactivity

Depressed: Anxiety

Non-Depressed: Anxiety

Depressed: Aggression

Non-Depressed: Aggression

Non-Depressed: Hyperactivity
PPD & Child Development

Sex differences:

• Boys of depressed mothers tend to display more externalizing behaviors including aggression and hyperactivity characterized by antisocial, active, and distractible behaviors.

• Girls of depressed mothers tend to display more internalizing behaviors such as anxiety and withdrawal.
PPD & Child Health

• More likely to have reported health problems
• More likely to be hospitalized for poor health
• More likely to be reported in fair or poor health since birth
PPD & Child Health

- Research suggests a relationship between maternal depression and asthma (Klinnert et al., 2001; Mrazek et al., 1999; Shalowitz et al., 2006)
PPD & Maternal-Child Interaction

Depressed mothers often:

- have impaired maternal-infant interactions
- have negative perceptions of normal infant behavior
- less likely to pick up on their infants’ cues or respond to needs
PPD & Maternal-Child Interaction

Depressed mothers often:

- have less sensitive and appropriate interactions
- are more negative in their play
- speak more slowly and less often
- are less emotionally expressive and responsive
- are less affectionate and more anxious
PPD & Maternal-Child Interaction

Maternal depression reduces maternal-child interaction quality and enjoyment in maternal role (moderate to large effect, Beck 1995)
PPD & Maternal-Child Interaction

More likely to be:
- punitive
- harsh
- insensitive
- inappropriate
- negative in play
- anxious with older children
Maternal depression was linked with the use of ineffective behavior-management practices (e.g. harsh/inconsistent discipline, inadequate supervision, which in turn contribute to the development and maintenance of child behaviour problems, which feedback to promote depression chronicity.

(Garstein, 2004)
PPD & Maternal-Child Interaction

Letourneau et al. (2008) follow-up study:

• Four cycles of NLSCY data were used: Cycle 1-6 (1994-2005).
• 3533 mother-child pairs
• 691 mothers were depressed when their infants were less than 2 years of age.
• 63% presented with repeat episodes.
Firm and Consistent Scores

Age in Years

Warm and Nurturing Scores

Age in Years

Positive Disciplinary Scores

Age in Years
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(Garstein, 2004)
Firm and Consistent Scores

Age in Years

Acute Depression
Chronic Depression

Warm and Nurturing Scores

Age in Years

Acute Depression
Chronic Depression

Positive Disciplinary Scores

Age in Years

Acute Depression
Chronic Depression
Attachment

Ainsworth, Bowlby, Crittenden:

- Type A (Insecure-Avoidant; 20%)
- Type B (Secure; 65%)
- Type C (Insecure-Ambivalent; 15%)

Van IJzendorn et al., 1992 (review)
Insecure Attachment

Mothers tend to be:
• Insensitive
• Disengaged
• Uninvolved
• Emotionally flat
Depressed Mood

Fatigues/
Loss of Energy

Anxiety

Reduced Thinking/
Concentration/
Decisiveness

Guilt

Loss of Interest
or Pleasure

Weight Loss/Gain

Psychomotor Agitation
or Retardation

Insomnia/
Hypersomnia

Emotional Lability

Loneliness

Suicidal Ideation
PPD & Maternal-Child Interaction

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Cassidy & Shaver, Handbook of Attachment
Secure Attachment

- Sensitivity and parental availability are key determinants of secure attachment.
Secure Attachment

- Use caregiver as secure base from which to explore
- Display clear preference for comfort received from caregiver
- Greet caregiver with smile or vocalization and will initiate contact

Cassidy & Shaver; Van IJzendoorn, 1992
Dynamic Maturation Model - Infancy

A1 - Pre-compulsive
A1 - 2 Avoidant
B1 - 2 Reserved
B3 - Comfortable
B4 - 5 Reactive
C1 - 2 Resistant/Passive
C+ Pre-coercive

Insecure Attachment-Infancy

Avoidant:
• Show signs of ignoring, looking or turning away from caregiver
• make no effort to maintain contact with caregiver

Ambivalent:
• Seek contact with caregiver then resist contact angrily once achieved

Cassidy & Shaver, Handbook of Attachment
When I tried to encourage some social interaction with her newborn, Stephanie would respond that she often just stared at Emma. While other relatives laughed and cooed to the baby, Stephanie claimed that she did not know how and had no desire to do that. Some of her responses were “I don’t know what to say”, “Is it bad that I just stare at her?” and “Am I being a bad mother?”

From Zauderer (2008)
PPD & Attachment: Infancy

• Forman et al. (2007)
  – Depressed mothers less responsive
  – Viewed their infants more negatively
  – 18 months later
    • Depressed mothers rated their children as:
      – Low in attachment security (A Q-Set)
      – Higher in behaviour problems
      – More negative in temperament
• Teti, Gelfand, Messinger, & Isabella (1995)
  – n=104 mother-child pairs (61 depressed and 43 nondepressed
  – ASS (50 children < 21m) or PAA (54 children ≥ 21 m) used
  – Sig difference between depressed and non-depressed attachment classification

PPD & Attachment: Infancy
PPD & Attachment: Infancy

Non-Depressed

- Type B: 70%
- Type A: 10%
- Type C: 10%
- Type D: 10%

Depressed

- Type B: 20%
- Type D: 40%
- Type C: 23%
- Type A: 17%

Teti, Gelfand, Messinger, & Isabella (1995)
PPD & Attachment: Infancy

• Murray et al. (1996)
  – Infants assessed at two months and 18 months:
    • Maternal postnatal depression was found to increase the risk of insecure attachment
    • Insecure attachment more likely when mother had experienced postnatal depression apart from whether or not she had experienced adversity
PPD & Attachment: Infancy

- Cicchetti, Rogosch & Toth (1998)
  - N=156 mother-infant pairs; mean age 20 m
  - 104 mothers with hx of Major Depressive Disorder (DSM-IV)
  - Examined effect of PPD on attachment, accounting for contextual factors:
    - daily hassles, interpersonal support, perceived stress, dyadic adjustment, family environment
  - No measure of parent-child interactive beh.
## PPD & Attachment: Infancy

<table>
<thead>
<tr>
<th>Group</th>
<th>Depressed</th>
<th>Non-Depressed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure</td>
<td>56.5%</td>
<td>81.8%</td>
<td>65.1%</td>
</tr>
<tr>
<td>Insecure</td>
<td>43.5%</td>
<td>18.2%</td>
<td>34.9%</td>
</tr>
</tbody>
</table>

Cicchetti et al., 1998, $X^2 (1) = 8.20$, $p=0.004$
PPD & Attachment: Infancy

- Postnatal depression
- Contextual factors
- Current depression
- Attachment
- Child Behaviour

Cicchett et al. 1998
Dynamic Maturation Model - Preschoolers

- A3-4 Compulsively Caregiving/Compliant
- A1-2 Socially Facile/Inhibited
- B1-2 Reserved
- B3 Comfortable
- B4-5 Reactive
- C1-2 Threatening/Disarming
- C3-4 Aggressive/Feigned Helpless

Insecure Attachment - Preschoolers

- Less tolerant of frustration
- More likely to be socially withdrawn
- Less likely to display sympathy for peers
- Liked less by classmates
- Less willing to interact with friendly adults

Cassidy & Shaver, Handbook of Attachment
PPD & Attachment: Preschoolers

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  - n=104 mother-child pairs (61 depressed and 43 nondepressed)
  - ASS (50 children < 21m) or PAA (54 children ≥ 21 m) used
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PPD & Attachment: Preschoolers

Non-Depressed

- Type B: 43%
- Type C: 22%
- Type AD-A/C-IO: 9%
- Type A: 26%

Depressed

- Type B: 13%
- Type C: 29%
- Type AD-A/C-IO: 29%
- Type A: 19%

Teti, Gelfand, Messinger, & Isabella (1995)
PPD & Attachment: Preschoolers

• Campbell et al. (2004)
  – Course and timing of depressive symptoms related to attachment security (via modified ASS) at 36 months.
  – Intermittent and chronic more likely to have insecurely attached preschoolers.
  – Mothers who were sensitive and symptomatic had secure toddlers.
PPD & Attachment: Preschoolers

- Murray, Sinclair, Cooper, Ducournau & Turner, 1999
  - Five year follow up of children recruited at 2 months postpartum
  - 55 Depressed & 39 Non-depressed
  - Measures
    - Ainsworth Strange Situation
    - Mother-child interaction
    - Family adversity & parental conflict
    - Child behaviour
Insecure Attachment: Preschoolers

Current Depression
NO EFFECT

Postpartum Depression

Maternal-Child Interaction
At 5 Years

Child Security of Attachment
At 18 Months

Child Behaviour
At 5 years

Murray et al., 1996
Insecure Attachment: Preschoolers

Current Depression
NO EFFECT

Postpartum Depression

????

Child Security of Attachment At 18 Months

Maternal-Child Interaction At 5 Years

Child Behaviour At 5 years

Murray et al. 1996
Teti et al. (1995) also found that “mothers of secure infants were rated as significantly more competent in their behavior with their infants than were insecure mothers”
Dynamic Maturation Model – School Age

- A3-4 Compulsively Caregiving/Compliant
- A1-2 Socially Facile/Inhibited
- B1-2 Reserved
- B3 Comfortable
- B4-5 Reactive
- C1-2 Threatening/Disarming
- C3-4 Aggressive/Feigned Helpless
- C5-6 Punitive/Seductive

Insecure Attachment - School Age

- More severe behaviour problems
  - aggression, disobedience
No literature identified that examined effects of PPD or maternal depression on children’s attachment in school age.
Intergenerational Transmission

• Whiffen, Kerr & Kallos-Lily (2005)
  – 46 mothers clinically depressed mothers rated attachment security (via Close Relationships Questionnaire), marital intimacy, and symptoms shown by children at age 8-12 y.
  – Maternal avoidance of closeness (in any relationship) predicted increased internalizing symptoms over a 6 month period.
Intergenerational Transmission

• McMahon, Trapolini & Barnett (2005 & 2008)
  – 92 clinically depressed mothers followed between 1 and 4 years postpartum
    • attachment security (via AAI) marital quality.
  – AAI classification at one year predicted persistence of depressive symptoms.
  – 78% with persistent depression were classified insecure, versus 42% recovered women.
Intergenerational Transmission

**Insecure Children**
- Faulty working models of self and others
- Problems with intimacy and affection

**Predisposing Maternal Factors**
- Insensitivity
- Inadequate care
- Disengagement
  - Flat affect
  - Unresponsiveness

**Insecure Adults**
- Difficulty maintaining relationships
Clinical Model of Parent-Infant Interaction (Letourneau, 1996)

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- Infant characteristics
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Intervention
- High-Quality Parent-Infant Interaction
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Evaluation/Outcome
- Cognitive Ability
- Language Ability
- Social Ability
- Peer Competence

Risk Factors
- Protective Factor

Resiliency
PPD & Attachment

• Concluding remarks:
  – Maternal depression contributes to insecure attachment in infants and toddlers, and altered health and developmental trajectories.
  – We know very little about PPD effects on older children; however, development is affected.
PPD & Attachment

• Concluding remarks (cont’d)
  – Strong suggestion of intergenerational transmission.
  – Are anxious withdrawn girls more likely to become depressed as mothers?
  – Differing evidence for effect of acute, intermittent or chronicity of depressive illness on either parenting or attachment.
My burning question:

How do we promote attachment and optimal maternal-child interactive behaviours using population-based samples of mothers with depression? Can we?
Acknowledgements

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Thank You.