Predictors of postnatal mother-child bonding: The role of antenatal bonding, maternal substance use and mental health.

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Introduction

Sensitive responses by the mother to her infant’s needs provide the foundation for a secure infant-mother bond, which in turn plays an important role in the child’s future social, emotional and cognitive development (Ainsworth, Blehar, Waters, & Wall, 1978; Belsky, Rogivne, & Taylor, 1984).

Numerous factors have been shown to be predictive of the strength of this bond, including variables during pregnancy such as maternal substance use and mental health (Quinlivan, 2005; Goecke et al., 2012; Ohoka et al., 2014).

The present study extends previous findings by examining these associations during different stages of pregnancy.

Aims

1. Examine whether antenatal bonding through pregnancy (trimesters 1, 2 & 3) predicts postnatal bonding at 8 weeks

2. Investigate whether substance use (caffeine, alcohol & tobacco) through pregnancy (trimesters 1, 2 & 3) predicts postnatal bonding at 8 weeks

3. Investigate whether mental health (stress, anxiety and depression) through pregnancy (trimesters 1, 2 & 3) predicts postnatal bonding at 8 weeks

Method

Data were derived from a large longitudinal birth cohort study (Triple B study), which examines bio-psychosocial factors relating to the health and development of Australian children and families.

N=372 pregnant women were recruited from: Royal Prince Alfred Hospital, Royal Hospital for Women and Liverpool Hospital.

The following measures were administered across Trimester 1, 2, 3 and 8 weeks postnatal:

- Bonding (Maternal Antenatal Attachment Scale (MAAS) & Postnatal Bonding: Maternal Postnatal Attachment Scale (MPAS)

- Mental Health (Stress: Depression, Anxiety, and Stress Scale (DASS); Anxiety: Depression, Anxiety, and Stress Scale (DASS))

- Substance use (Caffeine: Quantity and frequency per week; Alcohol: Quantity and frequency of alcohol; Tobacco: Quantity and frequency per week)

- Predictors of postnatal mother-child bonding:

  - Mean age 32.6 years
  - 59% born in Australia
  - 67% completed university/college
  - 49% working full time
  - 69% married
  - 47% owned own home
  - 51% have other children
  - 81% wanted to become pregnant

Results

Sample Characteristics

- Depression
- Anxiety
- Stress
- Tobacco

Birth outcomes

- Postnatal factors

- Mean age 32.6 years
- 59% born in Australia
- 67% completed university/college
- 49% working full time
- 69% married
- 47% owned own home
- 51% have other children
- 81% wanted to become pregnant

Predictors of postnatal mother-infant bonding

<table>
<thead>
<tr>
<th></th>
<th>Trimester 1</th>
<th>Trimester 2</th>
<th>Trimester 3</th>
</tr>
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<tbody>
<tr>
<td>Bonding</td>
<td>0.186</td>
<td>0.267</td>
<td>0.322</td>
</tr>
<tr>
<td>Caffeine</td>
<td>0.005</td>
<td>-0.019</td>
<td>0.027</td>
</tr>
<tr>
<td>Alcohol</td>
<td>-0.173</td>
<td>-0.100</td>
<td>-0.148</td>
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<tr>
<td>Tobacco</td>
<td>0.143</td>
<td>0.039</td>
<td>0.097</td>
</tr>
<tr>
<td>Stress</td>
<td>-0.126</td>
<td>-0.109</td>
<td>-0.008</td>
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<tr>
<td>Anxiety</td>
<td>0.076</td>
<td>-0.020</td>
<td>0.011</td>
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<tr>
<td>Depression</td>
<td>-0.140</td>
<td>-0.125</td>
<td>-0.229</td>
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</tbody>
</table>

R² =0.330
F =7.148
p=0.000

R² =0.345
F =7.148
p=0.000

R² =0.408
F =7.148
p=0.000

Discussion

Aim 1: Antenatal bonding was the strongest predictor of postnatal bonding. Bonding in trimester 1, 2 and 3 were all positively associated with postnatal bonding (p<0.001).

Aim 2: Increased alcohol use in trimesters 1 and 3 predicted poorer postnatal bonding (T1: p<0.01, T3: p<0.05).

Aim 3: Higher levels of depression in trimester 3 predicted poorer postnatal bonding (p<0.01).

Conclusion

As antenatal bonding was the strongest predictor of postnatal bonding, promoting bonding early in pregnancy is important.

The present research supports the importance of observing guidelines for alcohol use during pregnancy.

Australian research indicates that antenatal depression is experienced by 9% of women. It is important to monitor symptoms of mental health issues, particularly depression, during pregnancy.

This research extends on previous research by highlighting crucial time-points during pregnancy for intervention.

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