Longitudinal Evaluation of a Prenatal Mentoring Program for Decreasing Anxiety in a Military Sample

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Disclosures

• No financial disclosures or conflict of interest
• The opinions expressed in this presentation are solely those of the author and do not represent the views of the various Services, the Department of Defense, or the United States Government
Background

• Prenatal maternal anxiety is predictive of:
  • Early gestational age (EGA)
  • Lower birth weights (LBW)
  • Higher rates of childhood illness
  • Physical and cognitive developmental delays

• Prenatal maternal self-esteem is predictive of:
  • Increased anxiety
  • Depression
  • Maternal-infant attachment
  • Taking-on of maternal roles
Background

Military families experience:

• Significant ongoing stress & anxiety
• Geographical separations from family & friends
• Military separations caused by deployments and military training
• Unanticipated reassignments & moves
• New cultural aspects associated with each move/assignment
• Lack of continuity

*Issues have profound effects on pregnant women who need continuity of care, and continuity within the family & life-style*
Purpose

Determine the efficacy of the Mentors Offering Maternal Support (M-O-M-S™) program for decreasing maternal prenatal anxiety
Study Methods

Design
• Randomized-controlled trial with repeated measures

Setting
• Joint military community in southern U.S.

Sample
• Recruited/consented $n = 367$ women in first trimester of pregnancy
• Complete data across 3 trimesters for $n = 246$

Measurement
• Prenatal anxiety, self-esteem, resilience and depression measured in each trimester of pregnancy
# Measures

<table>
<thead>
<tr>
<th>Variable</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prenatal Maternal Anxiety</td>
<td><em>Prenatal Self-Evaluation Questionnaire</em> – PSEQ – SF, 53 items, 7 scales (Lederman &amp; Weis, 2009)</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td><em>Rosenberg Self-Esteem Questionnaire</em> – RSE, 10 items (Rosenberg, 1979)</td>
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<tr>
<td>Resilience</td>
<td><em>Brief Resilience Scale</em> – BRS, 6 items (Smith et al., 2008)</td>
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<tr>
<td>Depression</td>
<td><em>Edinburgh Postnatal Depression Scale</em> – EPDS, 10 items (Murray &amp; Cox, 1990)</td>
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</tbody>
</table>
### Scales - Prenatal Self-Evaluation Questionnaire-SF

<table>
<thead>
<tr>
<th>Scales</th>
<th># of Items</th>
<th>Internal Consistency ($\alpha = x$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptance of Pregnancy</td>
<td>9</td>
<td>.92  .90  .90</td>
</tr>
<tr>
<td>Identification with a Motherhood Role</td>
<td>9</td>
<td>.77  .79  .70</td>
</tr>
<tr>
<td>Preparation for Labor</td>
<td>7</td>
<td>.87  .89  .88</td>
</tr>
<tr>
<td>Concerns for Well-being of Self and Baby in Labor</td>
<td>7</td>
<td>.82  .86  .87</td>
</tr>
<tr>
<td>Fear of Pain, Helpless &amp; Loss of Control in Labor</td>
<td>7</td>
<td>.74  .72  .73</td>
</tr>
<tr>
<td>Relationship with Partner</td>
<td>8</td>
<td>.85  .86  .85</td>
</tr>
<tr>
<td>Relationship with Mother</td>
<td>6</td>
<td>.93  .94  .94</td>
</tr>
</tbody>
</table>
Sample Demographics

• Ages 19-42 \( (M = 28.72, SD = 5.00) \)
• White/Caucasian (60%), Black, nonHispanic (29%), Hispanic (22%)
• Married (91%)
• Employed (63%)
• College degree (42%)
• First pregnancy (38%)
• Active duty women (40%)
• Deployed partner during pregnancy (9%)
• Enlisted (73%)
• Air Force (64%), Army (24%), Navy (9%)
Analysis

• Analysis completed for \( (n = 246) \)
• All data were entered twice into SPSS and cleaned
• All analyses were conducted in SAS 9.4

• Group differences compared
  • Two-sample \( t \) test
  • Mann-Whitney \( U \) test
  • Chi-square or Fisher exact test for discrete variables

• Efficacy of intervention for decreasing anxiety
  • Linear mixed models with autoregressive correlation structure of order one
  • Time – Individual’s weeks gestation at data collection
Analysis

- Adjusted models included:
  - Employment: (1) Yes  (0) No
  - Parity: (1) Zero  (0) Greater than zero
  - Marital status: (1) Married  (0) Not married
  - Educational level: (1) High school  (2) Some college  (3) College graduate
  - Deployment: (1) Deployment during pregnancy  (0) No deployment during pregnancy
  - Military rank: (1) E1-E4  (2) E5-E9  (3) Officer  (4) W1-W4
  - Military service branch: (1) Air Force (2) Army (3) Navy (4) Marines (5) Coast Guard
Results: M-O-M-S™ Intervention

Women in the M-O-M-S™ intervention had:

• Statistically significant decreases in anxiety related to Identification with a Motherhood Role ($p = .49$)

• Statistically significant decreases in anxiety related to Preparation for Labor ($p = .017$)
Results: Prenatal Anxiety

Deployment was a significant predictor of anxiety
• Women with deployed partners during pregnancy had significantly greater anxiety for *Identification with a Motherhood Role* ($p = .041$)

Parity was a significant predictor of anxiety
• Nulliparous women had significantly greater anxiety for *Preparation for Labor* ($p = .0001$)
Final Model-Identification with a Motherhood Role with Deployment
Final Model – Preparation for Labor with Parity

![Graph showing the relationship between weeks of gestation and preparation for labor, with different parity statuses.

- Solid line: Parity (Control)
- Dashed line: Parity (MOM\textsuperscript{TM})
- Dotted line: No Parity (Control)
- Dash-dotted line: Parity (MOM\textsuperscript{TM})]
Discussion

• Prenatal anxiety related to both *Identification with a Motherhood Role* and *Preparation for Labor* significantly decreased with the M-O-M-S™

• A woman’s level of confidence is tied to her self-image and her ability to crystalize her motherhood role

• Deployment’s effect on *Identification with a Motherhood Role* could impact later satisfaction with motherhood and maternal-infant attachment

• All *unmarried* women in the study were Active Duty

• No significant change in self-esteem or resilience scores between the M-O-M-S™ and the control group
Significance

• Female military beneficiaries make up 58% of that population

• Maternal conditions (pregnancy & pregnancy complications) account for 25% of all direct care bed days within the military healthcare system

• 50% of the pregnancies are unplanned – prenatal anxiety and depression are increased with unplanned (particularly unwanted) pregnancies

• Military readiness and morale are intricately linked.

• Well-being of the military family tied to military readiness and morale
Implications

• Military women (both active duty & wives) desire peer support from military non-professionals.

• Supportive networks, available before and after pregnancy are important for decreasing anxiety and improving outcomes.

• M-O-M-S™ mentoring decreased prenatal anxiety -- may improve pregnancy and birth outcomes.
Acknowledgements

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