Treating Depression During Pregnancy and the Postpartum: A Preliminary Meta-Analysis

A presentation based on the work of Sarah E Bledsoe and Nancy K. Grote


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INTRODUCTION

This study is a meta-analysis that evaluates treatment effects for non-psychotic major depression during pregnancy and postpartum. It compares interventions by type, as well as timing of the intervention.
Impact of Maternal and Postpartum Depression

- Depression during pregnancy and postpartum is prevalent among women during and after pregnancy
  - Approximately 10% of women develop postpartum depression following delivery (Cooper, Cambell, Day, Kennerley, & Bond, 1988)
  - A recent study found that 13.5% of sample population met conditions of major depression during pregnancy
  - 9.1% of the same sample population met conditions of major depression postpartum (Evans, Heron, Francomb, Oke, & Golding, 2001)
  - Higher rates of depression (26%) during pregnancy were found in lower income populations (Hobfoll, Ritter, Lavin, Hulszier, & Cameron, 1995)
Impact of Maternal and Postpartum Depression cont.

- Postpartum depression has lasting effects on women, children, and families
  - Infant and child well-being (Moore, Cohn, & Campbell, 2001)
  - Quality of the couples’ relationship (Moore, Cohn, & Campbell, 2001)
  - Mothers’ and fathers’ mental health (Areias, Kumar, Barros, & Figueiredo, 1996)

- Depression during pregnancy predicts postpartum depression (O’Hara & Swain, 1996)
  - Negative outcomes for mother and fetus or infant well-being
  - Higher levels of stress and anxiety are associated with maternal depression and infant health (Sandman et al., 1994)
Impact of Maternal and Postpartum Depression cont

- Pregnant women are more open to interventions that attempt to improve their own mental health before the birth of their child (Cowen & Cowen, 2000)

- Therefore, it is important for health care workers to know effective evidence-based interventions for working with this population.
Goals of This Review

1) Analyze and evaluate the effects of treatment interventions for major depression during pregnancy and the postpartum.

2) Compare the different effect sizes of the different types of interventions for non-psychotic major depression during pregnancy and the postpartum.

3) Evaluate the effect of time (during and after pregnancy) of intervention targeting major depression during pregnancy and postpartum.
Method

- Literature search for treatment trials that:
  - evaluated interventions for non-psychotic major depression during pregnancy and postpartum
  - used either a randomized control trial, or pretest/posttest design (without comparison or control group)
Description of Studies

- Eleven studies describing 16 intervention trials met inclusion criteria for the review.

- Edinburgh Post Natal Depression Scale was used as the primary outcome measure for the meta-analysis (Cox, Holden, & Sagovsky, 1987).
  - Studies that did not include EPDS included the Hamilton Rating Scale for Depression (Hamilton, 1960), and the Profile of Mood States (McNair, Lorr, & Droppleman, 1981).
The 16 interventions were organized into 8 different types of interventions:

- Medication + Cognitive Behavioral Therapy (CBT)
- Medication
- Group therapy with CBT, educational, transactional components
- Interpersonal Psychotherapy
- CBT
- Psychodynamic
- Counseling
- Educational
Results

- First objective was to evaluate the effects of all treatment interventions on major depression for the target population.
  - Overall effect size of all interventions in the analysis was .673 (p < .001)
  - Of all 16 interventions, 14 had a positive effect size
    - 8 between 1.193 and 4.718 (p < .02)
    - 5 between .434 and .955 (p < .047)
    - The final 3 (Counseling, education, and CBT) did not show any significant effect size
The second objective was to compare the impact of the different types of interventions on major depression during pregnancy and postpartum.

- Of the 8 different types of interventions, four had a positive effect size between 1.2 and 3.8.
- Three had an effect size between .41 and .64, while the last intervention did not have a significant effect size.
Table 1: Intervention effect size by type

<table>
<thead>
<tr>
<th>INTERVENTION</th>
<th>EFFECT SIZE</th>
<th>*(P &lt; .01) * *(P &lt; .05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication + CBT</td>
<td>3.871**</td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>2.046**</td>
<td></td>
</tr>
<tr>
<td>IPT</td>
<td>1.260**</td>
<td></td>
</tr>
<tr>
<td>Medication</td>
<td>3.048**</td>
<td></td>
</tr>
<tr>
<td>CBT</td>
<td>.642*</td>
<td></td>
</tr>
<tr>
<td>Psychodynamic</td>
<td>.526*</td>
<td></td>
</tr>
<tr>
<td>Counseling</td>
<td>.418*</td>
<td></td>
</tr>
<tr>
<td>Educational</td>
<td>.100</td>
<td></td>
</tr>
</tbody>
</table>

The third objective was to evaluate the effect of time (during and after pregnancy) of intervention targeting major depression during pregnancy and postpartum.

- Two analysis were conducted to control for the effect of medication.
  - First: 11 interventions were implemented postpartum, and 5 during pregnancy.
    - Post: effect size = .837 (p < .001)
    - During: effect size = .377 (p < .001)
  - Second: The 3 interventions using medication (all postpartum) were removed from the analysis.
    - Post: effect size = .703 (p < .001)
Discussion

- Social workers are doing most of the ‘frontline’ work with individuals experiencing mental illnesses. (Insel, 2004)

- It is necessary for social workers to be aware of effective interventions with regard to individuals experiencing depression, particularly during pregnancy and postpartum.

- Therefore the findings of this review are relevant to social workers who work with populations experiencing psychological distress.
The Impact of Interventions on Depression during Pregnancy and Postpartum

- Findings suggest that medication, alone or in combination with CBT; Group therapy*; Interpersonal therapy, and CBT alone, have the largest effect size.

- Interventions using treatments such as counseling, psychodynamic, or educational approaches, had smaller effect sizes.

*Group therapy: Combination of CBT, educational, transactional components
Compared Impact of Different Types of Interventions Relative to Each Other

- From Table 1, one can see that the inventions having the largest effect were medication with CBT, medication alone, group therapy with cognitive behavioral, educational and transactional analysis components, and IPT.

- These findings are consistent with the findings of the National Institute of Mental Health Treatment of Depression Collaborative Research Program (NIMHTDCRP; Elkin et al., 1989) with two exceptions
  - Group therapy (not examined in NIMHTDCR)
  - CBT alone (Effect size was surprisingly small)

- This suggests treatment for depression in women during and after pregnancy is on the whole similar to treatment at any other point in women’s lifecycle
Limitations

- This review did not assess all reliable and valid measures of depressive symptomatology used to measure outcomes in the studies. Further research should involve use of other depression measures.

- Due to the lack of studies on depression during pregnancy and postpartum, this review mixed randomized and nonrandomized studies.

- Publication bias may be a limitation, future meta-analysis would require a larger number of trials and participants.
Implications for Practice

- This review describes the impact of various treatments of depression during pregnancy and postpartum.
  - Preliminary findings suggest medication combined with CBT, group therapy*, interpersonal therapy, and CBT produce the largest effect.
  - Many women may be reluctant to use medication during pregnancy. Therefore, there is a need to develop alternative, non-pharmacological approaches to depression during pregnancy.
  - This review makes steps toward this by identifying treatments that show to have a positive impact on depression during pregnancy and postpartum.

* Group Therapy: Combining cognitive behavioral, educational, and transactional analysis components.
Further Research

- Further research should address the safety of pharmacological treatments for depression during pregnancy and postpartum.

- Further research should address the need for non-pharmacological treatments as many women prefer alternatives to medication during pregnancy and postpartum.

- Further research should also address culturally relevant treatments as low income and ethnic minorities have a higher rate of depression during pregnancy and postpartum (Hobfoll et al. 1995).
References

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