Low Literacy and Depression?

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Depression and Low Literacy
Shared Characteristics

**Low Literacy**
- Worthlessness
- Shame
- Low self-esteem
- Poor self-efficacy
- External locus of control

**Depression**
- Worthlessness
- Guilt or shame
- Low self-esteem
- Poor self-efficacy
- External locus of control
The Question

- If depression and low literacy have similar characteristics, can improving literacy skills result in improvement in depression (in people who have both low literacy and depression)?
Objective

- Which is better for patients who have depression and low literacy?
  - Standard depression treatment
  - OR
  - Standard depression treatment plus literacy education
Methods

Screen for Depression with PHQ-9 \( \geq 5 \)

Screen for Low Literacy with REALM \( \leq 60 \)

Both Low Literacy and Depression

Randomize

Intervention Group \( (N=38) \)
- Routine depression care
- Offer adult basic education

Control group \( (N=32) \)
- Routine depression care
- Do not offer adult basic education

Follow both groups with interval assessments of PHQ-9 depression scores up to 1 year
Results - Change in Depression Score

<table>
<thead>
<tr>
<th>Baseline</th>
<th>1-3 mo Follow-Up</th>
<th>3-6 mo Follow-Up</th>
<th>8-12 mo Follow-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHQ-9</td>
<td>Intervention</td>
<td>Control</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
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<tr>
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<td></td>
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<tr>
<td>10</td>
<td></td>
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<td></td>
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<tr>
<td>8</td>
<td></td>
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<td></td>
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<tr>
<td>6</td>
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<td></td>
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<tr>
<td>4</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
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</table>

> 5 = mild
>10 = mod
>15 = mod severe
>20 = severe
Conclusion

- Adding literacy education to depression treatment (for people with both low literacy and depression) may result in better outcomes.
Another Idea

IF...

- Low literacy is a risk factor for depression

THEN....

- Is low literacy a risk for postpartum depression?

AND IF THAT’S TRUE, AND IF

- “Treating” low literacy improves depression

THEN MAYBE....

- Literacy education can lessen the risk or severity of postpartum depression?
Objective

- Determine if low literacy is a risk factor for postpartum depression
Methods

Postpartum women with healthy infant

Assess literacy skills in hospital on postpartum day 1 or 2

Phone interview to screen for depression at 6-10 weeks

Compare

Rate of postpartum depression in women with lower literacy

Rate of postpartum depression in women with higher literacy
**Nutrition Facts**

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Amount</th>
<th>%DV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serving Size</td>
<td>½ cup</td>
<td></td>
</tr>
<tr>
<td>Servings per container</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Calories</td>
<td>250</td>
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<tr>
<td>Fat Cal</td>
<td>120</td>
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</tr>
<tr>
<td>Total Fat</td>
<td>13g</td>
<td>20%</td>
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<tr>
<td>Sat Fat</td>
<td>9g</td>
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<tr>
<td>Cholesterol</td>
<td>28mg</td>
<td>12%</td>
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<tr>
<td>Sodium</td>
<td>55mg</td>
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<tr>
<td>Total Carbohydrate</td>
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<td>12%</td>
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<tr>
<td>Dietary Fiber</td>
<td>2g</td>
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</tr>
<tr>
<td>Sugars</td>
<td>23g</td>
<td></td>
</tr>
<tr>
<td>Protein</td>
<td>4g</td>
<td>8%</td>
</tr>
</tbody>
</table>

*Percent Daily Values (DV) are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

**Ingredients:** Cream, Skim Milk, Liquid Sugar, Water, Egg Yolks, Brown Sugar, Milkfat, Peanut Oil, Sugar, Butter, Salt, Carrageenan, Vanilla Extract.
Receiver-Operator Characteristics (ROC) Curve for the NVS

AUC = .88
Edinburgh Postnatal Depression Scale

Scores range from 0-30
Scores $\geq 9$ signify $>92\%$ chance of postpartum depression

In the past 7 days:

1. I have been able to laugh and see the funny side of things
   - As much as I always could
   - Not quite so much now
   - Definitely not so much now
   - Not at all

2. I have looked forward with enjoyment to things
   - As much as I ever did
   - Rather less than I used to
   - Definitely less than I used to
   - Hardly at all

3. I have blamed myself unnecessarily when things went wrong
   - Yes, most of the time
   - Yes, some of the time
   - Not very often
   - No, never

4. I have been anxious or worried for no good reason
   - No, not at all
   - Hardly ever
   - Yes, sometimes
   - Yes, very often

5. I have felt scared or panicky for no very good reason
   - Yes, quite a lot
   - Yes, sometimes
   - No, not much
   - No, not at all

6. Things have been getting on top of me
   - Yes, most of the time I haven’t been able to cope at all
   - Yes, sometimes I haven’t been coping as well as usual
   - No, most of the time I have coped quite well
   - No, I have been coping as well as ever

7. I have been so unhappy that I have had difficulty sleeping
   - Yes, most of the time
   - Yes, sometimes
   - Not very often
   - No, not at all

8. I have felt sad or miserable
   - Yes, most of the time
   - Yes, quite often
   - Not very often
   - No, not at all

9. I have been so unhappy that I have been crying
   - Yes, most of the time
   - Yes, quite often
   - Only occasionally
   - No, never

10. The thought of harming myself has occurred to me
    - Yes, quite often
    - Sometimes
    - Hardly ever
    - Never
Results

263 asked to participate

235 (88%) agreed to participate and completed literacy assessment

134 (58%) contacted and interviewed at 6-10 weeks

23 (17%) lower literacy
26% postpartum depression

111 (84%) higher literacy
9% postpartum depression

RR = 2.67 (95% CI 1.23-5.77)
## Covariates

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Significant?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literacy</td>
<td>Yes</td>
</tr>
<tr>
<td>Mean Number of Children</td>
<td>Yes</td>
</tr>
<tr>
<td>Prior Depression</td>
<td>Borderline</td>
</tr>
<tr>
<td>Education</td>
<td>No</td>
</tr>
<tr>
<td>Employment</td>
<td>No</td>
</tr>
<tr>
<td>Ethnic Group</td>
<td>No</td>
</tr>
<tr>
<td>Primary Language</td>
<td>No</td>
</tr>
</tbody>
</table>
Conclusion

- Low literacy appears to be a risk factor for postpartum depression
- May co-vary with number of children

- Implication - maybe sending women with low literacy for literacy education during pregnancy will less the risk of postpartum depression??