Analysis of Intervention on Stressed Pregnant Women’s Social Networks

Analysis
- Psychometric behavioral data was coded and analyzed.
- Group comparisons were done on PSS, STAI, LOT-R ratios, and social supports using nonparametric inferential statistics.
- Questions were collapsed across measures to create summary variables that were graphed for trend analysis.
- Narrative data were used in the analysis as possible explanations to statements and answers in the questionnaires.

Study Purpose: To explore whether stress management interventions that were self-designed based on interests, and thus occupational-based, could reduce stress perception and enhance social relationship quality in pregnant women.

Methods
This study used data from an unpublished 2008 study by Dr. White and colleagues.

- Participants
  - Thirteen white women between 18-31 years of age, recruited from NH through prenatal healthcare providers.
  - All scored 1.5 standard deviations above mean on PSS (1) and STAI (7).
  - One participant was married, 10 had partners and two were single parents.
  - 4 participants were expecting their first child. All were heterosexual couples.
  - Participants were randomly placed in either control or the intervention group.

- Measures
  - Participants submitted questionnaires each trimester made up of various assessment tools:
    - The Perceived Stress Scale (PSS; 1)
    - The State-Trait Anxiety Inventory (STAI; 7)
    - Perceived Health Scale
    - The Life Orientation Test-Revised (LOT-R)
    - The Norbeck Social Support Questionnaire (NSSQ; 3)
    - The Edinburgh Depression Scale

Optimism/Pessimism Ratio
- Developed by dividing LOT-R Optimism Score by LOT-R Pessimism Score to create a ratio
- The higher the value, the more optimistic the mother was feeling relative to pessimism.

Social Network Score
- Developed by summing the NSSQ scores of women’s self-identified top three social supports.
- If the woman’s partner was in the top three, his score was doubled before being added to the others.

- Time period 1: up to 12 weeks gestation
- Time period 2: from 13-27 weeks
- Time period 3: from 28 weeks to delivery
- Time period 4: 2-3 months after delivery

- Intervention
  - Intervention Group (N = 6):
    - Self-designed and meaningful stress management package, including their choice of 1-2 funded activities each week such as massages, hair/nail care, yoga, and gym membership.
    - Weekly phone calls and/or e-mails asking about mothers’ weeks, including any cigarette/alcohol/drug use.
    - Submission of weekly journals reflecting upon their week.
    - MP3 players to record and listen to self-affirmations weekly.

- Control Group (N = 7):
  - Weekly phone calls and/or e-mails asking about mothers’ weeks, including any cigarette/alcohol/drug use.
  - Weekly submission of journals reflecting upon the past two weeks.
  - No funded interventions, no self-affirmation tasks.

Results
- There were no significant group differences between Social Network scores or other measures at baseline (19 weeks). Women from one group showed significant group differences between PSS & STAI scores within their period 2. The intervention group improved significantly from baseline to period 2.

In addition, both groups displayed a trend of lower stress and anxiety perception on these two measures over the entire pregnancy.

Variable trend charts revealed discernible patterns on the measures that differed between both groups. Both groups showed some modest variability in the measures across pregnancy, or by maternal-infant stability.

Means and Standard Deviations for PSS and STAI at Period 2

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean PSS</th>
<th>SD PSS</th>
<th>Mean STAI</th>
<th>SD STAI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>25.6</td>
<td>9.5</td>
<td>36.2</td>
<td>12.3</td>
</tr>
<tr>
<td>Control</td>
<td>30.2</td>
<td>11.7</td>
<td>42.1</td>
<td>15.8</td>
</tr>
</tbody>
</table>

Conclusions
- Results support the ability to provide feasible stress management interventions in highly stressed pregnant women. Most women remained in the study (2 dropped out at the end of pregnancy for reasons not related to the study).
- Results suggest that stress reduction interventions may be effective for lowering overall stress perception and anxiety at least during some portion of pregnancy.
- Since the control group also lowered stress and anxiety perception over the course of the pregnancy, the results suggest that weekly personal contact may also benefit as stress management for high risk women.
- Stress and anxiety perceptions appeared independent of social networks in this small sample. This was not anticipated; we assumed that strong supportive social networks would serve as a buffer to life stress.

References

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