INTRODUCTION

Stress occurs on a daily basis. While stress is a normal part of life, it can cause the body to react to changes that occur from feelings, situations and people. A growing body of human, primate, and rodent research indicates that stress can cause problems to the fetus (1, 2 & 3). Primate models have shown that prenatal stress can alter birth weight, stress reactivity, sensitivity to tactile stimulation and dopaminergic function (4). Stress pathways are diverse and involve many regions of the brain (5). Although there are various pathways within the stress system, the exact mechanism by which stress affects fetal development has not been determined.

PURPOSE

This project used guided imagery techniques with pregnant adolescent girls in order to reduce their stress levels.

METHODS

Participants: Five pregnant teenagers 15-18 years old volunteered for the project from the School-age Parenting Program (SAPAR) in the Madison Wisconsin Public School District.

Procedure: The classroom teacher administered the Depression, Anxiety, and Stress Scales (DASS21) in order to assess stress levels in subjects before and after the guided imagery intervention.

Intervention: Participants listened to a guided imagery session on a CD for a total of twenty minutes each session. The CD was developed by Guided Imagery Inc. featuring Diane L. Tusek and music by Steven Mark Kohn (7). It consists of soft music and vocals guiding the listener through stories and various scenarios to assist them resolving stressful situations.

OUTCOME MEASURES

Completed DASS 21 scales were received from the classroom teacher and analyzed. A total of seven stress questions were used and scored on a 0 (“did not apply to me”) – 3 (“applied to me most of the time”) rating scale. The raw stress scores were multiplied by two as described by the test directions to get the total stress score for each participant (8). The higher total score reflected a higher self stress report.

Table 1. The rating scale is as follows:

<table>
<thead>
<tr>
<th>Rating</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

RESULTS

Figure 1 depicts Subject 1 who showed relatively high stress which decreased substantially on 3/3 sessions.

Figure 2 shows that subject 2 showed high stress on days 1 & 2 which were reduced by the intervention, but on day 3 there was a floor effect (low baseline measure).

Figure 3 & 4 show that subject 3 showed high baseline stress on 3 days, moderate levels on 3 days and that the intervention reduced stress levels on all 6 days.

Figure 5 & 6 show a similar pattern of reduction after intervention. In addition baseline values appear to decrease across sessions.

Figure 7 & 8 show a subject with high baseline stress that was reduced substantially by the intervention.

DISCUSSION

Nearly all subjects were positively impacted by the intervention. In one case, (Figure 2), stress levels were already low on day 3 (floor effect) so there was no effect of the treatment in lowering the score.

Another interesting finding was that subject 4 (Figure 6) showed a decrease in baseline stress level across days suggesting that the treatment carried over to the subsequent day. Further research to obtain more data points would determine the consistency of day-to-day stress levels.

CONCLUSION

Participants appeared to show a reduced stress level after listening to the guided imagery CD.

REFERENCES


