Cognitive stress management training associated with lower depression, perceived stress and waist circumference in women with a positive family history of breast cancer

Rachel M. Ceballos, Emily D. Dolan, and Denise L. Albano, and Bonnie A. McGregor

University of Washington, Fred Hutchinson Cancer Research Center

Introduction
Increased body fat, especially central adiposity, is associated with increased risk for breast cancer. Psychological distress is associated with increased body weight, and greater waist circumference. This is especially important for women with a family history of breast cancer, because women at elevated risk for breast cancer experience significant levels of distress; this stress could lead to increased body weight which would increase their cancer risk even further.

To our knowledge, no one has tested the effects of a stress management intervention on factors of distress and body measurements. Thus, it is unknown how stress management interventions affect distress and body measurements in stressed but otherwise healthy people, such as women at elevated risk for breast cancer.

Goal
The goal of this study is to test the efficacy of an ongoing Cognitive Behavioral Stress Management (CBSM) group intervention on measures of distress and body weight in women with a positive family history of breast cancer.

Methods
Participants
- Forty-three women
- Age 18-60 years
- Family History Positive
- Fluent in English

Measures
- Perceived Stress Scale
- Profile of Mood States
- Impact of Events Scale
- Cancer Worry Scale

Procedure
- Ten week program
- One 2-hour session per week
- Closed structured groups
- 4 to 6 women

Cognitive stress management
- Cognitive Appraisal (weeks 1-4)
- Coping skills training (week 5)
- Health behavior change (week 6)
- Social support (week 7)
- Anger management (week 8)
- Assertion training (week 9)
- Summary of the program (week 10)

Relaxation/Imagery
- Deep breathing
- Guided imagery
- Autogenics
- Meditation
- Progressive muscle relaxation

Results

<table>
<thead>
<tr>
<th>Table 2. Body Measurements: Mean values (SE) and p-value testing group differences in change score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Mean ± SD</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>Waist Circumference (cm)</td>
</tr>
<tr>
<td>Wait to Hip Ratio (cm)</td>
</tr>
<tr>
<td>Body Mass Index (kg/m²)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 2. Psychosocial Factors: Mean values (SE) and p-value testing group differences in change score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Mean ± SD</td>
</tr>
<tr>
<td>Perceived Stress Scale (PSS)</td>
</tr>
<tr>
<td>Depression (CESD)</td>
</tr>
<tr>
<td>Impact Events Scale (IES)</td>
</tr>
<tr>
<td>Profile of Mood States (POMS)</td>
</tr>
<tr>
<td>Cancer Worry Scale (CWS)</td>
</tr>
</tbody>
</table>

Figure 1. Selected Demographic Factors

<table>
<thead>
<tr>
<th>Figure 1. Mean depression score for treatment and delayed groups at T1 and T2</th>
</tr>
</thead>
</table>

Acknowledgments
This work was supported by NCI (Patrick, 3R25CA092408-07S1 and McGregor, SK07CA107085-03). We thank the Health SMART Research Assistants for their support in conducting this research. Author Contact Information: 1100 Fairview Ave. N. M3-B232, Seattle, WA 98109; (206) 667-7806; rceballo@fhcrc.org