Integrating Best Evidence into Practice: Outcomes of a Community-Based 12-week Exercise and Education Intervention in Women with Cancer

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Integrating Best Evidence into Practice:
Outcomes of a Community-Based 12-week Exercise and Education Intervention in Women with Cancer

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Funding Source: The Bryan Foundation, Lincoln, NE

CONCLUSION
• Our findings indicate that implementation of an evidence-based exercise and education intervention in a medically-based wellness center is effective in improving self-reported outcomes (fatigue, pain, depression, sleep disturbance, and quality of life) for women with cancer.
• The most significant impact of the intervention appeared to be in decreasing fatigue for women on active cancer treatment.

RESULTS
• We found significant decreases in the perceptions of self-reported fatigue, pain, depression, sleep disturbance, and quality of life.
• Approximately 80% completed the intervention.

EDUCATION TOPIC | EXERCISE
--- | ---
Welcome, Exercise Information | stretch, aerobic exercise, strength with resistance bands
Benefits of Exercise | stretch, aerobic exercise, strength with resistance bands
Lymphedema | aerobic exercise followed by Yoga
Nutrition | aquatic exercise in warm water therapy pool
Menopause | stretch, aerobic exercise, strength with dumbbells
Nutrition | stretch, aerobic exercise, strength with dumbbells
Healing Arts | aerobic exercise followed by BODYFLOW™
Communication and Coping | aerobic exercise followed by Pilates
Stress Management | stretch, aerobic exercise, strength with resistance bands
Spirituality | aquatic exercise in warm water therapy pool
Sleep | stretch, aerobic exercise, strength with dumbbells
Review of Exercise Plans | stretch, aerobic exercise, strength with resistance bands

Comparison of Pre-Intervention and Post-Intervention Outcomes Measures for Women with Cancer (n=139)

<table>
<thead>
<tr>
<th>Outcome Variables</th>
<th>Mean Outcome</th>
<th>Pre-Intervention</th>
<th>Post-Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatigue</td>
<td>3.5</td>
<td>3.2</td>
<td>3.0</td>
</tr>
<tr>
<td>Pain</td>
<td>2.5</td>
<td>2.3</td>
<td>2.2</td>
</tr>
<tr>
<td>Depression</td>
<td>3.8</td>
<td>3.5</td>
<td>3.3</td>
</tr>
<tr>
<td>Sleep Disturbance</td>
<td>3.0</td>
<td>2.5</td>
<td>2.2</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>3.0</td>
<td>2.5</td>
<td>2.2</td>
</tr>
</tbody>
</table>

A subgroup analysis revealed that the impact of the intervention varied according to treatment status. Specifically, perceptions of fatigue decreased significantly for women on treatment as compared to women who had completed treatment.

Women on active treatment reported significantly higher levels of fatigue at the start of the intervention than did the women who had completed treatment (6.4 vs. 5.0, p < .00001).

Sample Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Education Topic</th>
<th>Exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Welcome, Exercise Information</td>
<td>stretch, aerobic exercise, strength with resistance bands</td>
</tr>
<tr>
<td>2</td>
<td>Benefits of Exercise</td>
<td>stretch, aerobic exercise, strength with resistance bands</td>
</tr>
<tr>
<td>3</td>
<td>Lymphedema</td>
<td>aerobic exercise followed by Yoga</td>
</tr>
<tr>
<td>4</td>
<td>Nutrition</td>
<td>aquatic exercise in warm water therapy pool</td>
</tr>
<tr>
<td>5</td>
<td>Menopause</td>
<td>stretch, aerobic exercise, strength with dumbbells</td>
</tr>
<tr>
<td>6</td>
<td>Nutrition</td>
<td>stretch, aerobic exercise, strength with dumbbells</td>
</tr>
<tr>
<td>7</td>
<td>Healing Arts</td>
<td>aerobic exercise followed by BODYFLOW™</td>
</tr>
<tr>
<td>8</td>
<td>Communication and Coping</td>
<td>aerobic exercise followed by Pilates</td>
</tr>
<tr>
<td>9</td>
<td>Stress Management</td>
<td>stretch, aerobic exercise, strength with resistance bands</td>
</tr>
<tr>
<td>10</td>
<td>Spirituality</td>
<td>aquatic exercise in warm water therapy pool</td>
</tr>
<tr>
<td>11</td>
<td>Sleep</td>
<td>stretch, aerobic exercise, strength with dumbbells</td>
</tr>
<tr>
<td>12</td>
<td>Review of Exercise Plans</td>
<td>stretch, aerobic exercise, strength with resistance bands</td>
</tr>
</tbody>
</table>

METHODS
• Women with any type of cancer were eligible to enroll regardless of whether or not they were on active cancer treatment. Women were not eligible to enroll if they had any contraindication to exercise.
• The team was led by a physical therapist and included medical and radiation oncologists, general surgeons, nurses and cancer survivors, who developed the structure, content and format of this 12-week community-based intervention.
• Supervised exercise sessions were held twice weekly and education sessions once per week in groups of 15.

PURPOSE
• Cancer treatment related fatigue is the most commonly reported side effect of cancer treatment.
• Exercise is an important component of managing cancer treatment related fatigue.
• We evaluated the effectiveness of a 12-week evidence-based exercise and education intervention on outcomes of fatigue, pain, depression, sleep disturbance and quality of life for women with cancer.

Participants reported their pre- and post-intervention perceptions of fatigue, pain, depression, sleep disturbance and quality of life on a 0 - 10 point Likert scale (0 = none, 10 = worst).
• The intervention was offered at no cost to the participants in a community medically-based wellness center.

A subgroup analysis revealed that the impact of the intervention varied according to treatment status. Specifically, perceptions of fatigue decreased significantly for women on treatment as compared to women who had completed treatment.
• Women on active treatment reported significantly higher levels of fatigue at the start of the intervention than did the women who had completed treatment (6.4 vs. 5.0, p < .00001).