Efficacy of a New Multi-Modal Fatigue Management (MMF) Programme for Breast Cancer Survivors

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15 May 2019
Among the breast cancer survivors who referred to Occupational Therapy for out-patient follow up, almost all of them reported cancer-related fatigue (CRF) which affect all aspects of quality of life (QOL).[1]
Hence, a multi-modal program focusing on fatigue management for breast cancer survivors was developed in Occupational Therapy Department in Prince of Wales Hospital in 2018.

As cancer-related fatigue (CRF) is a multidimensional problem, NCCN recommends a variety of approaches to manage it.\[3\]

- Energy conservation \[4\]
- Energy Banking\[5\]
- Psychoeducation
- Lifestyle modification
- Attention-restoring Activity
- Active engagement
- Behavioural activation
- Physical Activity \[6,7\]
OBJECTIVE

To evaluate the efficacy of the multimodal fatigue (MMF) management for breast cancer survivors.
Breast cancer survivors with current follow up on lymphoedema management were recruited.

**Inclusion criteria**

- Breast cancer survivors >18 years old;
- Diagnosis of stage 0–IIIA breast carcinoma;
- Fatigue reported;
- Diagnosed with lymphoma for < 2 years

**Exclusion criteria**

- Metastases;
- Under going radiotherapy;
- Ongoing physiotherapy or other therapy or transfusions,
- Serious comorbidity causing chronic fatigue;
- Psychiatric illness requiring secondary care intervention;
- Impaired limbs dysfunction
Study Procedure

Subjects (N=48)

Control group (n=24)
Lost to follow-up (n=2)
Discontinue intervention
Analyzed (n=22)
1. General strategies for cancer fatigue management
2. Home based ROM activities

Random allocation

Intervention group (n=24)
Lost to follow-up (n=4)
Discontinue intervention
Analyzed (n=20)
1. Multi-modal management for cancer fatigue management
2. Health Qigong
### Program Structure

<table>
<thead>
<tr>
<th>Session</th>
<th>6 Regular + 1 Follow Up session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Nature</td>
<td>Closed group</td>
</tr>
<tr>
<td>Duration</td>
<td>1.5 hour</td>
</tr>
<tr>
<td>Target participant</td>
<td>6-8 participants</td>
</tr>
<tr>
<td></td>
<td>Recent breast cancer survivors</td>
</tr>
<tr>
<td></td>
<td>with fatigue reported</td>
</tr>
<tr>
<td>Aim</td>
<td>To enhance the cancer related</td>
</tr>
<tr>
<td></td>
<td>fatigue management skills and</td>
</tr>
<tr>
<td></td>
<td>improve participants’ quality</td>
</tr>
<tr>
<td></td>
<td>of life with multimodal treatment</td>
</tr>
<tr>
<td></td>
<td>approach.</td>
</tr>
</tbody>
</table>
Program Content

A. Active Engagement
B. Body-Mind Therapy
C. Lifeskills Education
A. Active Engagement

- Engaging into new activity

- Lipstick DIY
- Painting Secret Garden
- New Year Craft Making
- Beads Threading
Program Content

B. Body-Mind Therapy

Health Qigong Ba Duan Jin

Relaxation Techniques
**Program Content**

C. **Lifeskills Education**

- Energy conservation
- Promote healthy lifestyle and lifestyle modification

**Action Plan**

**Energy Conservation**

**Energy Banking**

- 節省體力 六必法(6P)
  - 必須降低生活預算(PRIORITY)
  - 必須確保自己有充足睡眠(PART)
  - 必須接受健康檢查(ANSWERS)
  - 必須調整飲食結構(PATH)
  - 必須學習用意志力來堅持(SHARPNESS)
  - 必須保持正面的態度(POSITIVE ATTITUDE)

**Activity Rescheduling**

**Self Monitoring**

| 目標一 | 完成 | 進度
|-------|------|------
| 具體做什麼？ | | |
| 何時做？ | | |
| 每星期做多少次 | | |
| 實際信心 (0-10) | | |
| 檢討目標的時間 | | |
**Outcome Measure**

1. **Fatigue Status**
   - Visual Analog Fatigue Scale (VAS)
   - Functional Assessment of Chronic Illness Therapy - Fatigue (FACIT-F)

2. **Function & QOL**
   - Functional Assessment of Cancer Therapy - Breast (FACT-B) and Global (FACT-G)

3. **Physical & Feedback**
   - Range of Movement (ROM)
   - Satisfaction Questionnaire

Timeline:
- **Baseline**
- **Post treatment**
- **Follow up**
  - Initial
  - Post Treatment Week 6
  - Post Treatment 2 months/Week 14
RESULTS
No significant change between control and intervention group.

<table>
<thead>
<tr>
<th></th>
<th>Control group N=22</th>
<th>Treatment group N=20</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer breast Left</td>
<td>8</td>
<td>10</td>
<td>0.896</td>
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<tr>
<td>Cancer breast Right</td>
<td>14</td>
<td>10</td>
<td>0.764</td>
</tr>
<tr>
<td>Post MRM (Mean months)</td>
<td>6.6</td>
<td>4.18</td>
<td>0.795</td>
</tr>
<tr>
<td></td>
<td>4.1</td>
<td>5.72</td>
<td>0.596</td>
</tr>
<tr>
<td>Role</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working</td>
<td>8</td>
<td>4</td>
<td>0.056</td>
</tr>
<tr>
<td>Housewife</td>
<td>14</td>
<td>16</td>
<td>0.083</td>
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</table>
Clients in MMF group showed significant improvement in fatigue status in VAFS (p<0.05*).

It was well maintained even during post 2 months follow up.

*Remarks: The higher the score, the more level of fatigue reported.
Clients in MMF group showed significant improvement in fatigue status in FACIT (p<0.05*).
Effect well maintained even during post 2 months follow up.

### FACIT

<table>
<thead>
<tr>
<th></th>
<th>Initial</th>
<th>Week 6</th>
<th>Week 14</th>
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</thead>
<tbody>
<tr>
<td><strong>Treatment group</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mean</td>
<td>36.8±7.8</td>
<td>40.8±5.4</td>
<td>38.7±7.7</td>
</tr>
<tr>
<td>Percentage change</td>
<td>11%</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>T-test</td>
<td>0.026*</td>
<td>0.432</td>
<td></td>
</tr>
</tbody>
</table>

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Control group</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mean</td>
<td>35.0±6.9</td>
<td>37.0±9.0</td>
<td>36.2±8.4</td>
</tr>
<tr>
<td>Percentage change</td>
<td>6%</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>T-test</td>
<td>0.101</td>
<td>0.172</td>
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</table>

*Remarks: The higher the score, the less level of fatigue reported.*
Intervention group demonstrated positive outcomes in social well being of FACT-G ($p<0.05^*$).

Effectiveness was maintained during post 2 months follow up in intervention group.

*Remarks:* The higher the score, the better the QOL
- Intervention group demonstrated positive outcomes in breast cancer specific QOL items at post treatment analysis (p<0.05*).
- Effectiveness was maintained during post 2 months follow up in intervention group.

*Remarks: The higher the score, the better the QOL.
Intervention group demonstrated better improvement and maintenance on shoulder ROM. No significant changes over control group.
The new multi-modal fatigue management group was effective in fatigue management for breast cancer survivors.
thank you
**FACIT-Fatigue**

- 13 items includes concerns or problems associated with cancer-related fatigue.
- Rated on a 5-point scale indicating how true each statement was for the respondent during the last week.
- 0=not at all; 4=very much.
- So yields a total fatigue score with the lower the total score, the less of fatigue report.
**Outcome Measures - Function and QOL**

**Functional Assessment of Cancer Therapy - Breast (FACT-B)**

- Functional Assessment of Cancer Therapy—Breast questionnaire (FACT-B, version 3 was developed from the FACT-G, a disease-specific Quality-of-life measure used in cancer research.
- 4 subscales measuring different domains

- **Physical well-being**
- **Social well-being**
- **Emotional well-being**
- **Functional well-being**

9 questions specific to breast cancer