FOCUSED QUESTION
What are the effects of an educational fatigue management group when compared to a general stroke education group on decreasing post-stroke fatigue and depression and improving health-related quality of life for adults post-stroke?


CLINICAL BOTTOM LINE:
This was a randomized controlled trial that examined the effects of fatigue management psychoeducational sessions with general stroke psychoeducation for 16 adults, 3–18 months post-stroke. Participants of both the Fatigue Management Group (FMG) and the General Stroke Education (GSE) group reported a significant decrease in fatigue ($p < 0.05$), an increase in health-related quality of life, and a decrease of depression immediately post-intervention and 3 months post-intervention. Participants of the FMG, on average, reported lower scores in fatigue; however, the difference in fatigue levels between groups was not statistically significant ($p > 0.05$). Because participants in the FMG reported significantly decreased fatigue following intervention, results of this study support that FMG is a practical method of reducing fatigue following a stroke and that a full trial of this FMG intervention is justified. Limitations of this study were a small sample size and that some content was duplicated in the control group, thus increasing the change for lower effects on outcome measures.

RESEARCH OBJECTIVE(S)
List study objectives.

- Examine the benefits of Fatigue Management Group (FMG) intervention compared to a General Stroke Education (GSE) condition.
- Investigate the longer term benefits of the FMG intervention over the GSE control condition after 3 months.

DESIGN TYPE AND LEVEL OF EVIDENCE:
Randomized Controlled Trial; Level 1
Limitations (appropriateness of study design):
Was the study design type appropriate for the knowledge level about this topic? Circle yes or no, and if no, explain.

YES/NO

SAMPLE SELECTION
How were subjects selected to participate? Please describe.

Potential participants were patients of a hospital stroke clinic and/or known to the local Stroke Foundation and identified by a hospital nurse and/or a New Zealand Stroke Foundation field officer. After being identified, the researcher called each potential participant to explain the study, and if potential participants were interested, informed consent was obtained at an initial interview. Participants were subsequently randomly assigned to either the FMG or GSE group.

Inclusion Criteria
Inclusion criteria consisted of individuals who had experienced a stroke in the previous 3 to 18 months and were experiencing fatigue [Fatigue Stroke Severity (FSS) >3.9].

Exclusion Criteria
Individuals were excluded from the study if they scored <23 on the Mini Mental State Examination (MMSE), had impairments preventing their participation in the study, had behavior that would interfere with the study (e.g., agitation), were non-fluent in English, were medically unstable, had difficulty traveling to sessions (which would intensify fatigue), and/or had a co-existing condition that would interfere with the study (e.g., neglect, dementia).

SAMPLE CHARACTERISTICS
N= 16 participants

<table>
<thead>
<tr>
<th>% Dropouts</th>
<th>16%</th>
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<tbody>
<tr>
<td>#/ (%) Male</td>
<td>FMG = 66.67%</td>
</tr>
<tr>
<td></td>
<td>GSE = 57.14%</td>
</tr>
<tr>
<td>#/ (%) Female</td>
<td>FMG = 33.33%</td>
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<tr>
<td></td>
<td>GSE = 42.86%</td>
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Ethnicity: Caucasian

Disease/disability diagnosis: Stroke

Check appropriate group:

<20/study group  20–50/study group  51–100/study group  101–149/study group  150–200/study group

INTERVENTION(S) AND CONTROL GROUPS
Add groups if necessary
Group 1
**Brief Description**  The Fatigue Management Group (FMG) [experimental group; \( n = 9 \)] was composed of six psychoeducation sessions focused on improving fatigue symptoms. Each session last 1 hour and occurred once per week for 6 weeks. Session topics included an overview and an introduction to fatigue, fatigue management, sleep/relaxation, exercise and nutrition, mood, and strategies to use. Participants received handouts for each session. Between sessions, participants were required to complete homework and keep a fatigue diary to track their fatigue and activities. During sessions, participants brainstormed and discussed any problems they were having in relation to their fatigue and shared experiences.

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<tr>
<th>Setting</th>
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<tbody>
<tr>
<td>Who Delivered?</td>
<td>NR</td>
</tr>
<tr>
<td>Frequency?</td>
<td>Sessions took place once per week for 6 weeks</td>
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<tr>
<td>Duration?</td>
<td>Sessions lasted 1 hour</td>
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**Group 2**

**Brief Description**  General Stroke Education (GSE) group [control group; \( n = 7 \)] also received six hourly sessions total that did not emphasize fatigue management. Session topics included an overview and an introduction of strokes, the brain, exercise, stress/relaxation, nutrition, and strategies for the future. Some information overlapped with the experimental group. The participants also received handouts and followed a similar discussion-based educational pedagogy.

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**Intervention Biases:** *Circle yes or no and explain, if needed.*

**Contamination**  YES/NO  Some educational content and materials were provided to both the experimental and control groups.

**Co-intervention**  YES/NO  Although some information regarding post-stroke fatigue was available to participants prior to this study, none of the participants had received any interventions for post-stroke fatigue or depression prior to the beginning of this study.

**Timing**  YES/NO
Site

<table>
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<th>YES/NO</th>
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Use of different therapists to provide intervention

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MEASURES AND OUTCOMES

Complete for each relevant measure when answering the evidence-based question:

Name of measure, what outcome was measured, whether the measure is reliable and valid (as reported in article – yes/no/NR [not reported]), and how frequently the measure was used.

Fatigue Severity Scale (FSS) was used to measure fatigue amongst participants. Reliability and validity are not reported in the article. Participants completed the FSS at baseline, immediately following the intervention, and at 3 months post intervention.

Visual Analogue Scale for Fatigue (VAS-F) was used to measure participants’ fatigue and vigor subjectively. Reliability and validity are not reported in the article. Participants completed the VAS-F at baseline, immediately following the intervention, and at 3 months post intervention.

Checklist of Individual Strength (CIS) was used to measure the severity of fatigue and how fatigue influences behavior. Reliability and validity are not reported in the article. Participants completed the CIS at baseline, immediately following the intervention, and at 3 months post intervention.

Short Form-36 (SF-36) was used to measure health-related quality of life. The authors report the SF-36 has been shown to have good reliability and validity for a New Zealand population. Participants completed the SF-36 at baseline, immediately following the intervention, and at 3 months post intervention.

Hospital Anxiety and Depression Scale (HADS) was used to measure anxiety and depression. Reliability and validity are not reported in the article. Participants completed the HADS at baseline, immediately following the intervention, and at 3 months post intervention.
Name of measure, what outcome was measured, whether the measure is reliable and valid (as reported in article – yes/no/NR [not reported]), and how frequently the measure was used.

Modified Rankin Scale (MRS) was used to measure disability and dependence. Reliability and validity are not reported in the article. Participants completed the MRS at baseline, immediately following the intervention, and at 3 months post intervention.

Name of measure, what outcome was measured, whether the measure is reliable and valid (as reported in article – yes/no/NR [not reported]), and how frequently the measure was used.

Barthel Index (BI) was used to measure mobility and independence in activities of daily living. Reliability and validity are not reported in the article. Participants completed the BI at baseline, immediately following the intervention, and at 3 months post intervention.

Measurement Biases
Were the evaluators blind to treatment status? *Circle yes or no, and if no, explain.*

Yes/No: NR

Recall or memory bias. *Circle yes or no, and if yes, explain.*

Yes/No: NR

Others (list and explain):

NA

RESULTS
List results of outcomes relevant to answering the focused question
Include statistical significance where appropriate (*p* < 0.05)
Include effect size if reported

- Participants in both the FMG and GES reported significantly decreased fatigue (*p* < 0.05) from baseline to posttest.
- Participants in both the FMG and GES maintained their decreased fatigue 3 months post intervention.
- Participants in the FMG reported less fatigue via the FSS than participants in the GSE, though the difference between groups was not significant (*p* > 0.05).
- Participants in the FMG and GES reported scores indicating an increase in health-related quality of life and social functioning, though the increase was not significant (*p* > 0.05).
- Participants in the FMG and GES reported scores indicating a decrease in depression via the HADS, though the decrease was not significant (*p* > 0.05). Differences in scores between groups were not significant (*p* > 0.05).

Was this study adequately powered (large enough to show a difference)? *Circle yes or no, and if no, explain.*
No power analysis was completed prior to the study. The sample size was small.

Were appropriate analytic methods used? Circle yes or no, and if no, explain.

Were statistics appropriately reported (in written or table format)? Circle yes or no, and if no, explain.

CONCLUSIONS
State the authors’ conclusions that are applicable to answering the evidence-based question.

- The FMG is a practical format for decreasing the fatigue individuals experience following a stroke.
- This pilot study justifies a full trial of the FMG intervention to explore the benefits of the program and the effects on post-stroke fatigue, depression, and health-related quality of life.

This work is based on the evidence-based literature review completed by Nicole Gronhovd, MOTS, and Jan Stube, PhD, OTR/L, Faculty Advisor, University of North Dakota.


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