

Abstract

Background: Fatigue is one of the most prevalent and debilitating symptoms of MS. Many programs that treat MS fatigue focus on primary fatigue (related to disease process) and rarely include management for secondary fatigue (non-disease factors such as sleep problems, mental health, or muscle deconditioning). **Objectives:** Develop and evaluate a group for MS patients that targets primary and secondary factors of fatigue. **Method:** 36 MS patients completed a 7 week group for MS fatigue. Measures of MS fatigue, self-efficacy in managing fatigue, and depression were administered pre and post group. **Results:** Patients reported reduced levels of MS fatigue and depression. Overall, patients were satisfied with the group and found it helpful. **Conclusions:** Initial findings indicate favorable results but are limited due to the single group design of the study.

Multiple Sclerosis and Fatigue

Fatigue is one of the most prevalent symptoms of MS and is reported to be one of the most debilitating (Schapiro, 2014). Fatigue can negatively impact vocational, social, and personal areas of functioning. Fatigue has multifaceted origins including:

- Primary fatigue** – directly related to the disease process (neurodegeneration, acute and chronic inflammation, endocrine influences).
- Secondary fatigue** – non-disease factors that lead to fatigue (e.g., sleep problems, medication side effects, muscle deconditioning, mental health/stress).

Many programs that treat fatigue have been developed, but only briefly, if at all, touch upon factors that contribute to secondary fatigue (Asano, M., Berg, E., Johnson, K., Turpin, M., & Finlayson, M.L., 2015). Several systematic reviews suggest that fatigue treatment requires a multidimensional approach which incorporates specific fatigue management interventions (e.g., pacing, prioritizing), in addition to improving exercise, attitudes /expectations toward fatigue, psychological distress, sleep and medication management (Wendebourg MJ, Heesen C, Finlayson M, Meyer B, Pottgen J, & Kopke S., 2017; Rottoli, M., La Gioia, S., Frigeni, B., & Barcella, V., 2017).

Development of Group Content/Format

The multi-disciplinary team at the Out-Patient Treatment in MS (OPTIMUS) program in Calgary, Alberta, developed a comprehensive group for patients with MS fatigue, both primary and secondary. The disciplines involved include Occupational Therapy, Physiotherapy, Nursing, Social Work and Psychology. The intention of the program is to empower participants to manage fatigue and/or prevent fatigue from worsening. The content of the group was developed using various resources, including Fatigue: Take Control (National MS Society, 2008). The group is divided into 7 sessions that cover a variety of topics targeting both primary and secondary fatigue factors. Sessions occur weekly and are 90 minutes long. Active participation and discussion by participants in the group is encouraged. A short break is given at the half way point. During each session participants are encouraged to set a goal for the upcoming week, and to review/share homework.

Session Objectives

Each group is lead by two OPTIMUS team members. At the beginning of sessions 2-7, different strategies for coping (with anxiety, depression, anger, high expectations) are taught including:

- Breathing and imagery
- Mindfulness meditation
- Progressive muscle relaxation
- Let go of worry
- Helpful self-talk (cognitive behavioural therapy)
- Communication and boundary setting

Session 1 – What is MS Fatigue?

- National MS Society video (~25 minutes)
- Sharing personal experience
- What is MS fatigue?

Session 2 – Mood, Stress, Emotions and MS Fatigue

- What is depression?
- Depression and fatigue
- Grief versus Depression
- Psychological adjustment to MS fatigue
- Treatment for Depression

Session 3 – Pacing and Energy Conservation

- Review of MS fatigue
- What is energy conservation?
- What is pacing?
- Activity log

Session 4 – Activity Analysis and Work Accommodations

- Review of activity log
- Activity analysis
- Work accommodations and fatigue

Session 5 – Exercise and MS Fatigue

- Benefits of exercise
- Activity guidelines for adults with MS
- Types of exercises
- Special considerations
- Practice exercises

Session 6 – Diet, Sleep and Medications

- Learn how fatigue is affected by:
 - Sleep
 - Diet
 - Pain
 - Other medical conditions
 - Medications

Session 7 – Maintaining Changes

- Maintaining changes you have made
- Review/Discussion

Piloting the Group

The OPTIMUS Fatigue group has been run four times, with a total of 36 participants. Ambulatory patients enrolled in OPTIMUS were referred by members of the team and had to report some level of subjective fatigue as well as show interest in attending a group for fatigue management. Three people participated via tele-conference.

Participant Demographics	
Mean age (age range)	45 yrs (21-63)
Female	86%
Mean EDSS (range)	3 (0-7)
Type of MS	
RRMS	80%
SPMS	14%
PPMS	6%
Mean # of sessions completed (range)	5 (1-7)

Pre and Post Questionnaires

The following measures were given prior to the start of the group and at the end of the group.

- Fatigue Severity Scale (FSS)
- Modified Fatigue Impact Scale (MFIS)
- Patient Health Questionnaire (PHQ-9)
- The Multiple Sclerosis-Fatigue Self-efficacy Scale (MS-FSE) was added after the second group.
- MS Fatigue Group Patient Experience Survey was given at the completion of the group. This was developed by the Quality and Health Improvement department of Alberta Health Services.

Questionnaire Results

Results were analysed using SPSS version 18. Data was screened for outliers and appropriateness for analysis (Tabachnick & Fidell, 2013). One participant's score was identified as an outlier and excluded from analysis for FSS and MS-FSE.

Questionnaire	Pre mean (SD)	Post mean (SD)	Paired samples t-test
FSS	5.9 (.6)	5.2 (1.2)	$t(24) = 2.89, p=.008^*$
MFIS	58.5(9.7)	55.1(11.4)	$t(23) = 1.99, p=.058$
PHQ-9	13.9 (5.5)	10.8 (5.2)	$t(24) = 3.44, p=.002^*$
MS-FSE	43.9 (20.5)	48.5 (21.4)	$t(13) = -1.14, p=.267$

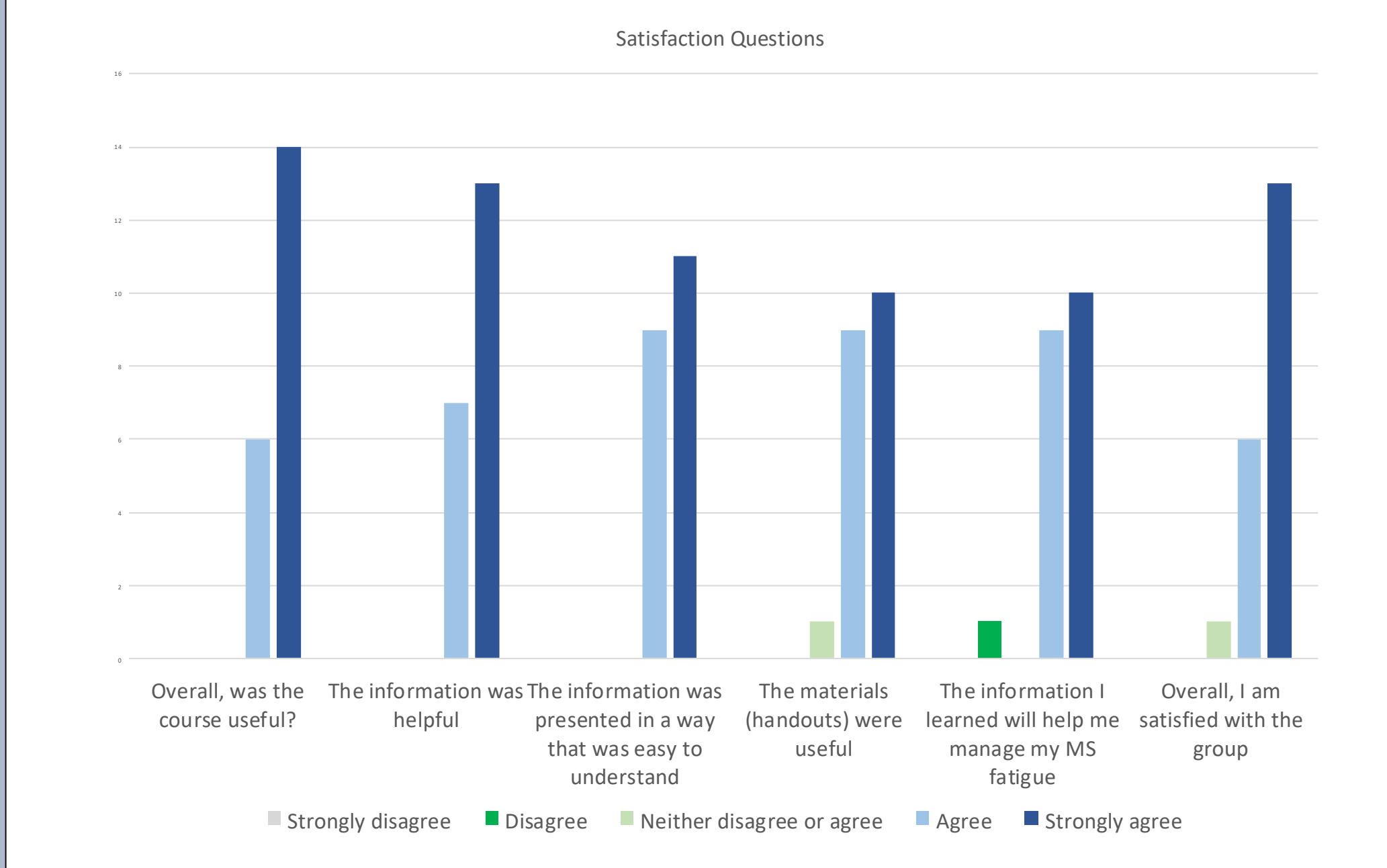
The pre and post means were analysed using paired samples t-test. Effect sizes (ES, Cohen, 1992) were classified as medium for both measures of fatigue (FSS, ES=.58; MFIS, ES=.41) and depression (PHQ-9, ES=.69) and small effects for self-efficacy (MS-FSE, ES=.31).

Satisfaction Themes

- “What did you find most helpful about the group?”
- Meeting others with similar issues
 - Learning and explanations
 - Tools and tips for coping
 - A new way of thinking

Satisfaction Results

The session topics were rated on a 4-point scale from “Not useful at all” to “Very useful”. All sessions were found either “quite useful” or “very useful” by the vast majority of participants.



The feedback from participants who completed the patient experience survey about the MS Fatigue Group was very positive showing that the group was valued and helpful. Some participants suggested that more time for discussion and learning from other group members would be beneficial. While participants were satisfied with the topics and the information provided, some additional topics were suggested, namely, information about financial assistance and strategies. Some also wished for more help with communicating with families, co-workers and friends.

Conclusions

This initial evaluation of a new multi-disciplinary intervention for MS fatigue shows promising results in terms of patient satisfaction. Significant pre-post differences were found for fatigue and depression, with medium effect sizes. The measure of self-efficacy showed small effects. In addition to larger sample sizes and longer a follow-up period, future studies should utilize a RCT design in order to empirically assess efficacy.

References

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