Implementation of a Telephone-Delivered Education Program to Address Fatigue in Multiple Sclerosis

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**Background**

- Fatigue is the most common symptom reported by individuals with Multiple Sclerosis (MS).
- Negatively impacts quality of life and contributes to a significant amount of lifetime healthcare costs.
- Pharmacotherapies is the treatment of choice but evidence of their effectiveness is underwhelming and they are costly.
- There are no FDA approved medications to treat MS fatigue.
- Studies have reported that education-based programs show promise in minimizing the effects of MS fatigue and improving self-efficacy.
- There are no formal education-based programs offered at the target institution.

**Purpose**

- The purpose of this study is to adapt and implement a telephone-delivered education-based program that provide individuals with MS the knowledge needed to reduce the impact of fatigue and improve self-efficacy.

**Aims**

- **Aim 1:** Adapt and implement a telephone-delivered education program for fatigue in MS.
- **Aim 2:** Reduce the impact of fatigue among MS patients through a telephone-delivered education program over an 8-week period.
- **Aim 3:** Improve patient self-efficacy regarding management of fatigue in MS through implementing a telephone-delivered education program over an 8-week period.

**Intervention**

- **Aim 1:** Modeled after Ehde et al. (2015) who conducted a RCT comparing eight weekly individual telephone-delivered self-management intervention (T-SM) vs. eight week individual telephone-delivered MS education intervention (T-ED).
- **Goal:** To reduce impact of MS fatigue and improve self-efficacy.
- Total of 8 weekly individuals educational sessions conducted for participant via telephone.
- Each week focused on core topics:
  - Week 1: Introduction and overview
  - Week 2: Fatigue
  - Week 3: Sleep
  - Week 4: Mood
  - Week 5: Pain
  - Week 6: Nutrition and Activity
  - Week 7: Communication
  - Week 8: Social Support
- Validated tools used to assess education program before and after completion.

**Methods**

- **Design:** Pre/Post Intervention
- **Setting:** Outpatient Multiple Sclerosis clinic
- **Sample size:** N=17
- **Participants:** Age 18-76 with known MS fatigue
- **Exclusion Criteria:**
  - Currently enrolled in a study for fatigue.
  - Individuals who do not have access to a working telephone.
  - Individuals without MS-related fatigue.
- **Measure:**
  - **Aim 1:** Raw data scores comparing if sessions were/were not attended by each participant
  - **Aim 2:** Comparison of median pre/post MFIS scores (Likert scale)
  - **Aim 3:** Comparison of median in pre/post scores based on UW Self-efficacy scale (Likert scale)
  - **Aim 2 and 3** were assessed using Wilcoxon Signed Rank Test

**Results**

**Table 1.** Results of Wilcoxon Signed Rank Models Assessing the Change in Median Scores for MFIS and SES in Individuals with MS Fatigue and Adherence to Intervention

<table>
<thead>
<tr>
<th></th>
<th>Pre-test (N=17)</th>
<th>Post-test (N=17)</th>
<th>p-value</th>
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<tbody>
<tr>
<td><strong>Fatigue Impact (MFIS)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>42.6 (9.1)</td>
<td>45.6 (11.45)</td>
<td>.02</td>
</tr>
<tr>
<td><strong>Self-Efficacy (SES)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median (IQR)</td>
<td>12 (3)</td>
<td>9 (7)</td>
<td>.507</td>
</tr>
</tbody>
</table>

**Figure 1.** Descriptive Statistics of MFIS and SES scores

**Figure 2.** Median change in score pre/post intervention for MFIS and SES

**Table 2.** Outcome Variables

<table>
<thead>
<tr>
<th>Score</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>MFIS</td>
<td>N/A 100 N/A</td>
</tr>
<tr>
<td>SES</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Conclusion**

- Fatigue greatly affects QOL for individuals with MS.
- Education-based intervention have positive impact on reducing impact of fatigue and improving self-efficacy.
- Real-world application of an education-based intervention delivered via telephone was successfully implemented in an outpatient MS center and resulted in a statistically significant improvement (increase) in self-efficacy. Though there was a reduction in impact of fatigue score this was not proven to be statistically significant but may hold clinical significance.