THE EFFECTS OF SEDENTARY ACTIVITY ON PARKINSON’S DISEASE
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Introduction
There are approximately 2 million people living with Parkinson’s disease (PD) in the United States. The most common symptoms of this disease are tremor, rigidity, slowness of movement, loss of balance, and difficulty speaking. Living with a degenerative disease that effects a person’s movement, like PD, can lead to an increase in sedentary behavior. Thus, the goal of this study was to measure how sedentary behavior is related to quality of life in persons with PD. This study has provided baseline data that will aid in developing new treatment strategies to increase physical activity and quality of life in persons with PD.

Objectives

Objective
➢ The objective of this pilot study is to examine the effects of sedentary behavior on the quality of life of people with Parkinson’s Disease.

Hypothesis
➢ We hypothesize that persons with Parkinson’s Disease that have lower sedentary behavior rates will have a better quality of life.

Methodology

Design
➢ Mini-Mental State Examination (SMMSE)
➢ Parkinson’s Disease Questionnaire (PDQ-39)
➢ Mobility
➢ Activities of daily living (ADL)
➢ Emotion
➢ Stigma
➢ Social
➢ Cognitive
➢ Communication
➢ Discomfort
➢ Lower scores better
➢ ActiGraph GT3X+ and activPAL monitors
   ➢ 1 week
   ➢ Not at night or in water
   ➢ log
➢ After 1 week
➢ International Physical Activity Questionnaire
➢ Sedentary Behavior Questionnaire

Participants

<table>
<thead>
<tr>
<th>Participants</th>
<th>PD Participants (n=8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>73.9 (6.3)</td>
</tr>
<tr>
<td>Height (inches)</td>
<td>66.4 (3.3)</td>
</tr>
<tr>
<td>Weight (pounds)</td>
<td>199.3 (22.4)</td>
</tr>
<tr>
<td>Gender (% female)</td>
<td>75%</td>
</tr>
<tr>
<td>BMI</td>
<td>25.5 (2.9)</td>
</tr>
<tr>
<td>Race (Caucasian)</td>
<td>100%</td>
</tr>
<tr>
<td>Employment (Retired)</td>
<td>100%</td>
</tr>
<tr>
<td>Marital Status (Married, Widowed, Divorced)</td>
<td>62.5%, 25%, 12.5%</td>
</tr>
<tr>
<td>Education Level (College Graduate, Post-Graduate)</td>
<td>62.5%, 37.5%</td>
</tr>
</tbody>
</table>

*Values are mean (SD) unless noted otherwise

Results

A Total Score

B Mobility

C Activities of Daily Living

D Stigma

E Cognitive

F PDQ-39 Scores

<table>
<thead>
<tr>
<th>Participant Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility</td>
</tr>
<tr>
<td>ADL</td>
</tr>
<tr>
<td>Emotion</td>
</tr>
<tr>
<td>Social</td>
</tr>
<tr>
<td>Cognitive</td>
</tr>
<tr>
<td>Communication</td>
</tr>
<tr>
<td>Discomfort</td>
</tr>
</tbody>
</table>

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Figures and Tables
➢ A shows the relation between average sedentary mins/day and the total scores earned on the PDQ-39. The total score on the PDQ-39 increased as the sedentary mins/day increased.
➢ B shows the relation between average sedentary mins/day and PDQ-39 mobility scores. The PDQ-39 mobility score increased as the sedentary mins/day increased.
➢ C shows the relation between average sedentary mins/day and PDQ-39 ADL scores. The PDQ-39 ADL scores increased as the sedentary mins/day increased.
➢ D shows the relation between average sedentary mins/day and PDQ-39 stigma scores. The PDQ-39 stigma scores increased as the sedentary mins/day increased.
➢ E shows the relation between average sedentary mins/day and PDQ-39 cognitive scores. The PDQ-39 cognitive scores increased as the sedentary mins/day increased.
➢ F shows the means and standard deviations for the scores of the PDQ-39. Beside this chart is a photo of how the activPAL monitor was worn.

Conclusion
There were relationships between a number of different areas of the PDQ-39 and average sedentary mins/day. These groups were the total PDQ-39 score, mobility, ADL, stigma, and cognitive. Average sedentary activity and the listed areas of the PDQ-39 had an increasing linear relationship. This means that the quality of life of persons with Parkinson’s Disease has a possibility of increasing if these individuals would decrease their sedentary time and be more active.