Factors Associated with Quality of Life in Caregivers of Elderly Patients with MS

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Background
- Multiple Sclerosis (MS) is a progressive neurological disease that affects approximately 400,000 people in the United States and is typically diagnosed in early adulthood.
- Nearly all patients are initially diagnosed with a relapsing-remitting form of MS.
- The disease course is frequently characterized by periods of relapse followed by remission and neurologic deficits accumulate over time, contributing to the progressive disability.
- Disability can include loss of mobility and cognitive dysfunction. With increased disability, the person’s ability to perform activities of daily living decreases and dependence upon the assistance of others increases.
- Assistance, even in the form of intermittent or regular caregiving, is generally performed by informal caregivers who are family members or friends.

Objectives
- The aim is to determine the degree to which patient and caregiver factors are associated with mental and physical QOL, for those caring for an elderly MS patient.

Methods
- Descriptive study with 200 persons aged 60+ and their caregivers recruited from 4 MS Centers in Long Island, NY.
- Three cross-sectional, paper-based questionnaires were administered to persons with MS on demographics, coping, quality of life, disability and mood.
- Caregivers completed one paper-based survey on demographics, caregiver burden, quality of life and cognition of the person with MS.
- Multivariate linear regression analyses examined the relationship between patient and caregiver clinical and demographic factors with caregiver physical and mental QOL.

Measures

For Persons With MS
- Cognitive impairment - Symbol Digit Modalities Test (SDMT) and MS Neuropsychological Questionnaire (MSNQ).
- Quality of life - MS Quality of Life Scale (MSQL).
- Depression – Beck’s Depression Inventory (BDI).

For Caregivers
- Perceptions of Cognitive Impairment in person with MS – MSNQ.
- Depression – BDI.
- SF – 12.
- Zarit Burden Interview.

Demographics of Persons with MS

<table>
<thead>
<tr>
<th>Disease Course</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Relapsing remitting MS</td>
<td>37%</td>
</tr>
<tr>
<td>Secondary progressive MS</td>
<td>43%</td>
</tr>
<tr>
<td>Primary Progressive</td>
<td>14%</td>
</tr>
<tr>
<td>Relapsing progressive</td>
<td>2%</td>
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</tbody>
</table>

Who are Caregivers?
Average age – 61.3 (Range: 19-86; SD: 13.7)

- Lives with patient: 80%
- Spouse of patient: 60%
- Paid employee: 17%
- Child of patient: 9%

Regression: Impact on Physical QOL
- Data were analyzed from 110 patient-caregiver dyads surveyed August 2010–July 2011.
- Caregiver physical QOL was negatively associated with caregiver arthritis (β = -0.10, p = 0.05), diabetes (β = -0.29, p = 0.03), and caregiver annual income of $90-120K (β = -0.17, p = 0.01).
- Estimated impact on Physical QOL (95% CI)
  - Caregiver takes medication for arthritis: -0.10 [14.0, -0.12], p = 0.01
  - Caregiver takes medication for diabetes: -0.29 [-10.0, -1.45], p = 0.03
  - Caregiver takes medication for high cholesterol: -0.33 [-7.83, -0.83], p = 0.05
  - Caregiver annual income of $90-120K: -0.17 [-12.0, -0.35], p = 0.01

Conclusions
- Caregivers of elderly patients with MS have decreased physical QOL that is associated with co-morbidities of the caregiver and lower financial income.
- Caregiver education and patient age affect the caregivers mental QOL, suggesting diminished overall emotional functioning possibly due to duration of time as caregiver.
- Lower levels depression in the patient was associated better caregiver mental QOL.
- These findings will support understanding of factors associated with caregiving for older MS patients.

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