In Sickness & In Health: Daily Stressors and Implications of Mild Cognitive Impairment for Care Partners

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Introduction

- Mild Cognitive Impairment
  - MCI characterized by early decline in memory and abilities to carry out a series of steps in sequence
  - Appear to be healthy and able to function normally
  - YET show signs of memory loss, confusion, apathy and have some difficulties in daily life tasks
  - Compensation strategies are used by MCI patients to carry out daily living tasks and responsibilities
  - Physicians cannot predict whether or when MCI might worsen
Introduction

Why Study Daily Stressors among Care Partners of MCI persons?

• Spouses defined as “Care Partners” are the first line of support

• Care partners give up certain pleasures, alter their daily activities and take on the other partners roles to manage MCI (Blieszner et al., 2007; 2009)

• Show noticeable burden and distress among care partners of persons with MCI (Blieszner et al., 2007; 2009)
Introduction

Why Study Daily Stressors among Care Partners of MCI persons?

• Problems appearing early in the care cycle have long-term implications for caregivers’ health and well-being and the family’s overall quality of life (Gaugler et al., 2000; 2005)

• Stressors can pile up over time and contribute to negative health outcomes (Pearlin, 1999)
Research Aims

• To document daily symptoms and behaviors of persons with MCI

• To assess how and to what extent MCI-related symptoms, care needs and other stressors influence psychological well-being of care partners and marital relationships

• To examine effects of MCI-related symptoms, care needs and other stressors on spouse care partner’s physiological indicators of health
Study Sample

➢ Inclusion Criteria

• 30 care partners of a spouse diagnosed with MCI at a memory clinic in VA
  • Dementia and potential reversible causes of memory loss and confusion (e.g. depression, nutritional deficiencies or health problems) were ruled out

• Persons with MCI with an MMSE score >23
Study Methods & Measures

- 7 consecutive daily diary interviews
  - Revised Memory and Behavior Problem Checklist (RMBPC, Teri et al., 1992)
    - Calibrated for daily reporting (Femia et al., in press; Fauth et al., in press)
    - Items form 6 behavioral categories: ADL-related, restlessness, mood, disruptive, memory-related, and nighttime sleep disturbance
  - RMBPC collected information for four phases of the day
    - Waking - 9:00 am; 9:00 am – 4:00 pm; 4:00 pm – bedtime; Nighttime
Study Methods & Measures

• Secondary Role Strain
  • How did you spend your day today? Did you…..
    – Go to work
    – Spent time exercising
    – Cutback on work
    – Spent less time with people compared to usual
    – Etc.

• In-depth assessment of Non-Caregiving Stressors
  • Arguments; Avoided Arguments; Stressors with other family members, etc.
Study Measures

• Daily Psychological Distress
  • Negative & Positive Affect

• Daily Marital Interaction
  • Occurrence of Pleasant and Unpleasant Couple Interactions

• 4 days of Saliva Collection
  • 5 times each day (wake up, 30 mins after waking, lunch, evening and before bed)
  • Salivary Cortisol (HPA Axis)
  • Salivary Alpha-Amylase (SAM Axis)
Primary Stressors

Percentage of Study Days

- ADL
- Restlessness
- Mood Disturbances
- Disruptive Behavior
- Memory Problems

Waking Up
- ADL
- Restlessness
- Mood Disturbances
- Disruptive Behavior
- Memory Problems

During Day
- ADL
- Restlessness
- Mood Disturbances
- Disruptive Behavior
- Memory Problems

In Evening
- ADL
- Restlessness
- Mood Disturbances
- Disruptive Behavior
- Memory Problems
Secondary Role Strain

Percentage of Study Days

- Work
- Leisure
- Run errands
- Housework
- Exercise
- Spent time with friends or family
- Go to religious services
### RQ 1: Psychological Affect

<table>
<thead>
<tr>
<th></th>
<th>Positive Affect</th>
<th>Negative Affect</th>
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<tbody>
<tr>
<td><strong>Primary Stressors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADL Related Problems in Evening</td>
<td>-9.61 **</td>
<td>5.59 **</td>
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<tr>
<td>Restlessness in Evening</td>
<td>-6.17 **</td>
<td>Ns</td>
</tr>
<tr>
<td>Disruptive Behavior in Evening</td>
<td>6.93 *</td>
<td>Ns</td>
</tr>
<tr>
<td><strong>Secondary Stressors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary Role Strains</td>
<td>Ns</td>
<td>-0.58 **</td>
</tr>
<tr>
<td>Any cutback of work/task</td>
<td>-4.38 **</td>
<td>1.44 *</td>
</tr>
<tr>
<td>Any non-caregiving stressor</td>
<td>Ns</td>
<td>1.88 **</td>
</tr>
</tbody>
</table>

Analyses controlled for background characteristics
RQ 2: Marital Interactions

<table>
<thead>
<tr>
<th>Primary Stressors</th>
<th>Unpleasant Marital Interaction</th>
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<tbody>
<tr>
<td>Restlessness during the day</td>
<td>0.81 **</td>
</tr>
<tr>
<td>Mood Disturbances during the day</td>
<td>0.51 **</td>
</tr>
<tr>
<td>Disruptive Behavior during the day</td>
<td>0.75 *</td>
</tr>
<tr>
<td>ADL Related Problems in evening</td>
<td>0.64 **</td>
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</tbody>
</table>

Analyses controlled for secondary stressors and background characteristics
RQ 3: Biomarkers

- Daily curves for Cortisol and AA were estimated using SEM, and the calculated factor scores were used as dependent variable for analyses.

- On days memory-related problems were reported, significantly higher levels of cortisol and AA were found.
Salivary Cortisol Among Care Partners Reporting Memory Related Problems

- No Memory-Related Problems Reported (Cortisol)
- Memory Related Problems Among MCI Persons Reported (Cortisol)
Salivary Alpha-Amylase Among Care Partners Reporting Memory Related Problems

![Graph showing salivary alpha-amylase levels at different times of day for individuals with and without memory-related problems.]

- **30 Mins after Waking**
  - No Memory-Related Problems Reported (sAA)
  - Memory Related Problems Among MCI Persons Reported (sAA)

- **Lunch**
  - No Memory-Related Problems Reported (sAA)
  - Memory Related Problems Among MCI Persons Reported (sAA)

- **Evening**
  - No Memory-Related Problems Reported (sAA)
  - Memory Related Problems Among MCI Persons Reported (sAA)

- **Before Bed**
  - No Memory-Related Problems Reported (sAA)
  - Memory Related Problems Among MCI Persons Reported (sAA)
Discussion

• Support for care partners is needed even at the early stages of impaired cognitive functioning

• Elevated levels of cortisol and AA signal high levels of stress, and chronic activation of the HPA and SAM axis could be a precursor of worsening health for Care Partner

• Guidance and support related to effective techniques for mitigating the harmful effects of stress are warranted