

## **Sigma's 30th International Nursing Research Congress**

### **Problem Solving Therapy Reduces Burden in Caregivers of Family Members With a New Cognitive Diagnosis**

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#### **Purpose:**

The societal burden associated with dementia is significant now and will become even more so by mid-century. Global estimates suggest that about 24 million people currently have dementia and that number is expected to rise to nearly 82 million by the year 2040 (World Alzheimer Report, 2015). This is important since most individuals with dementia are cared for at home by a family member or friend (i.e., family dementia caregivers) and family dementia caregiving is a burdensome role with negative mental and physical health consequences (Pinquart & Sörensen, 2007; Schulz, O'Brien, Bookwala, & Fleissner, 1995).

A number of studies have evaluated various types of interventions designed to improve mental health outcomes among dementia family caregivers. Yet to date, these interventions have been only moderately effective at alleviating burden and distress (i.e., depression symptoms) in family dementia caregivers (Acton & Kang, 2001; Brodaty, Green & Koschera, 2003; Brodaty & Arasaratnam, 2012; Pinquart & Sörensen, 2003; Sörensen, Pinquart, & Duberstein, 2002). A possible reason for the limited impact may lie in the fact that interventions are often evaluated with caregivers who have already served in the caregiving role for years and who report high levels of burden. Indeed, meta-analyses of caregiver interventions show that the effectiveness of dementia caregiver interventions declines as levels of pre-intervention burden increase (Clyburn, Stones, Hadjistavropoulos, & Tuokko, 2000), particularly among spousal dementia caregivers (Pinquart et al., 2003; Schoenmakers, Buntinx, & Delepeleire, 2010). An alternative strategy would be to intervene early with family members, while their burden levels are relatively low, in order to prevent the development or worsening of burden.

In the current study, we postulated that enhanced problem-solving skills, learned early in the caregiving trajectory (when burden levels are relatively low) would result in improved subjective burden levels (i.e., whether caregiving responsibilities were perceived to be burdensome among their family caregivers), even if objective burden (actual tasks required to be performed) did not change. Since learning problem solving skills may be conceptualized as a coping resource, we hypothesized that family caregivers receiving Problem-Solving Therapy (PST) would exhibit lower mean levels of emotional distress or subjective burden than family caregivers receiving the comparison intervention (e.g., nutritional training or NT). In this presentation, self-reported effects of PST on burden levels in co-residing caregivers of persons given a recent diagnosis of MCI or early-stage dementia are presented.

#### **Methods:**

We randomly assigned 73 family caregivers of persons with a recent Alzheimer's Disease Research Center (ADRC) diagnosis of mild cognitive impairment (MCI, n = 43) or early-stage dementia (AD, n= 30) to receive problem solving therapy (PST) or nutritional training (NT, comparison intervention matched to PST for time and attention). The protocol consisted of two phases of treatment; the first phase was delivered face-to-face in the caregiver's home on six separate occasions approximately 2 weeks apart, each session lasting approximately 1.5 hours. The second phase included three telephone contacts (approximately 2 weeks apart) to reinforce principles (of PST or NT) taught during the in-home training sessions, each lasting approximately 45 minutes. Participants were asked to keep a record of PST or NT-related efforts between sessions and questions they had related to the application of PST or NT. These records were used as a basis for discussion during both phases of the intervention.

Burden levels were assessed at baseline and at 1-, 3-, 6-, and 12-months post-intervention using three measures of objective caregiver burden and two measures of subjective caregiver burden. Objective caregiver burden refers to events and activities associated with the caregiving experience (i.e., new responsibility managing medications, providing transportation) and practical consequences of cognitive deficits in the care recipient (such as the frequency of bothersome or embarrassing behaviors exhibited by the care recipient and infringement on the caregiver's time and lifestyle). Subjective caregiver burden describes perceived burden or the emotional reactions of the caregiver (such as worry, fear, frustration and emotional exhaustion) and the caregiver's reaction to frequently occurring bothersome or embarrassing behaviors exhibited by the care recipient.

### **Results:**

Results of this study suggest that the PST intervention positively impacts subjective (not objective) caregiving burden over time. Specifically, negative reactions to dementia-related behaviors among MCI caregivers in the PST-group remained relatively low and stable over time, while similar burden levels among MCI caregivers in the NT-group increased steadily over one year of follow-up. The opposite was true for early-stage dementia caregivers. Those in the PST-group showed reductions in burden levels associated with dementia-related behaviors in the care recipient over time, while similar burden levels in the early-stage dementia caregivers in the NT-group increased steadily for six months after the intervention. Compared to caregivers in the NT group, caregivers in the PST group also endorsed improved (lower) perceived burden levels up to six months after the intervention, regardless of the type of caregiver (MCI or early-stage dementia). By one-year of follow-up, perceived burden levels of MCI caregivers were almost as high as early-stage dementia caregivers in both treatment groups.

### **Conclusion:**

Results of this study suggest that, among caregivers relatively early in the dementia caregiving trajectory, PST is effective at reducing perceived burden (such as worry) and distress associated with bothersome dementia-related behaviors in the care recipient. These data contribute substantially to the dementia caregiver intervention literature since burden levels associated with dementia-related behaviors in the care recipient has the greatest impact on caregiver mental health (Chan, Kasper, Black, & Rabins, 2003; de Vugt et al., 2005; Kim, Chang, & Rose, 2011; Machnicki, Allegri, Dillon, Serrano, & Taragano, 2009; Pinquart et al., 2003; Schoenmakers et al., 2010; van der Lee, Bakker, Duivenvoorden, & Dröes, 2014).

Because of the significant role of family in providing care for people with dementia, as well as reducing the need for institutional care facilities, finding effective methods for coping with bothersome dementia-related behaviors is both a global public health and an economic priority (Alzheimer's Association, 2016). Our results are promising since they suggest that when taught early in the caregiving trajectory, interventions designed to promote adaptive problem-solving skills slow the development or worsening of subjective caregiving burden levels. Since high levels of burden are a serious consequence of dementia family caregiving, and the prevalence of dementia is projected to rise in the near future, such treatments show promise for the mental health of the World's informal caregivers, as family members provide long-term, home-based care to loved-ones with dementia.

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### **Title:**

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### **Keywords:**

Early-stage dementia caregiving, Mild cognitive impairment caregiving and Problem-solving therapy

### **References:**

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**Abstract Summary:**

We examined whether problem-solving therapy (PST) would prevent or treat burden among family caregivers of persons with a recent diagnosis of mild cognitive impairment (MCI) or early-stage dementia (AD). Relative to caregiver's receiving nutritional training (NT), PST improved caregiver's perceived burden (worry) and dementia-related behavioral burden levels, over time.

**Content Outline:**

I, Introduction

1. Family caregiver defined
2. Global prevalence of dementia
3. Family dementia caregiver demographics
4. Cost of family dementia caregiving
5. Health consequences of family dementia caregiving
6. Review of the literature: Family dementia caregiver interventions
7. Prevention science
8. Problem-solving therapy (PST) to promote adaptive coping

II. Body

1. A randomized clinical trial (RCT) of a PST-based intervention with caregivers of family members with MCI or early-stage dementia.
2. Study methods
3. Study findings
4. Sample characteristics
5. Measures of Objective caregiving burden
6. Measures of Subjective caregiving burden
7. Results of the mixed model analysis

III. Conclusion

1. Study limitations
2. Study implications

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**Author Summary:** Linda Garand is an Associate Professor of Nursing at Duquesne University. She has achieved significant national recognition for her contributions to the field of Geropsychiatric Nursing. She publishes extensively and presents her research findings at Scientific Meetings and Global Consortia. Dr. Garand will present the burden outcomes of her NIMH-funded randomized controlled trial of a preventive, problem-solving therapy (PST)-based mental health intervention with family caregivers of persons with mild cognitive impairment or early-stage dementia.

