

# Cognitive function, caregiver stress and cortisol: Mechanisms and implications for prevention of adverse health consequences in spouse dementia caregivers.

<https://neurodegenerationresearch.eu/survey/cognitive-function-caregiver-stress-and-cortisol-mechanisms-and-implications-for-prevention-of-adverse-health-consequences-in-spouse-dementia-caregivers/>

## Principal Investigators

Professor Brian Lawlor

## Institution

St James's Hospital

## Contact information of lead PI

### Country

Ireland

## Title of project or programme

Cognitive function, caregiver stress and cortisol: Mechanisms and implications for prevention of adverse health consequences in spouse dementia caregivers.

## Source of funding information

Health Research Board

## Total sum awarded (Euro)

€ 297,655

## Start date of award

04/02/2013

## Total duration of award in years

3.5

## The project/programme is most relevant to:

Alzheimer's disease & other dementias

## Keywords

Research Abstract

Background: The increased incidence of dementia with advancing age together with demographic ageing give rise to an exponential increase in the need for dementia care. Much of this care is provided by informal caregivers frequently spouses who are usually aged over 60. Informal caregiving represents an invaluable resource and while stated policy nationally is to continue care for the person with dementia in the community for as long as possible, such a policy is only feasible where the determinants of health and wellbeing of caregivers is understood and optimised. There is considerable evidence that dementia caregiving leads to a number of negative health outcomes including anxiety, depression, physical illness, hospital admissions and even premature death. Caring for a progressively dementing spouse is a prototypic chronic stressor. Chronic psychosocial stress has been implicated in age-related cognitive decline. Elevated cortisol levels indicate stress and may be a risk factor for cognitive decline. Despite an extensive literature on the effects of age, chronic stress, anxiety and depression on cognitive function research examining cognitive function in caregivers and in particular caregivers of people with dementia, is sparse. Cognitive impairment may compromise the ability of the caregivers to provide care not only for the care recipients but also for themselves. A number of potentially interacting negative feedback loops can exacerbate the situation (e.g. poor health behaviours, poor medication adherence, poor diet, weight gain, reduced physical activity, increased social isolation, reduced dyadic interaction, depressed mood, reduced ability to cope, greater perceived stress) and impact further on the psychological, physical and cognitive health of both the care recipient and the caregiver. Aims: The main aim of this study is to clarify the relationship between cognitive function and the stress associated with caring for a spouse with dementia. Dementia caregivers may be a population at risk for cognitive impairment and possibly dementia. Ireland's heavy reliance on informal caregiving in dementia will only remain feasible if the determinants of the health of caregivers are understood and optimised. The ultimate goal of this study is to inform policy, future research and the development of targeted interventions in order to improve caregiver health and make care in the community a viable option, not only for the individual with dementia, but also for their caregiver. Methods: We will test the following hypotheses and predict 1. Higher caregiver stress, as measured by caregiver burden, or psychological distress will be associated with poorer scores on measures of global cognitive function, executive function language, processing speed, eye-hand co-ordination but not on memory measures. 2. Increased caregiver stress as measured by caregiver burden or psychological distress will independently predict decreased scores on measures of global cognitive function, executive function and processing speed at follow-up. 3. Salivary cortisol levels, reflecting HPA axis function in caregivers will mediate any relationships found between measures of cognitive function and caregiver stress. A comprehensive assessment protocol designed to collect information on cognitive, psychological, social, behavioural, demographic, physical, and health variables in the caregiver, together with information on the care recipient will be administered at baseline. A reduced battery will be administered at 12-month follow-up. In addition, APOE genotype will be determined from saliva samples collected at baseline and salivary cortisol levels will be assessed from multiple samples collected at baseline and at 12-month-follow up. Multivariable linear regression will be conducted to evaluate the relationship between cortisol metrics, measures of caregiver stress, and cognitive global and domain scores.

## **Lay Summary**

**Further information available at:**

**Types:**

Investments > €500k

**Member States:**

Ireland

**Diseases:**

Alzheimer's disease & other dementias

**Years:**

2016

**Database Categories:**

N/A

**Database Tags:**

N/A