

# Morbidity in Finnish caregivers – a register-based study

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# Material

## Caregivers

### Register of the Tax Administration

- all individuals in Finland, who received caregiver's allowance in 2012
- = high-intensity caregivers

n=42 256

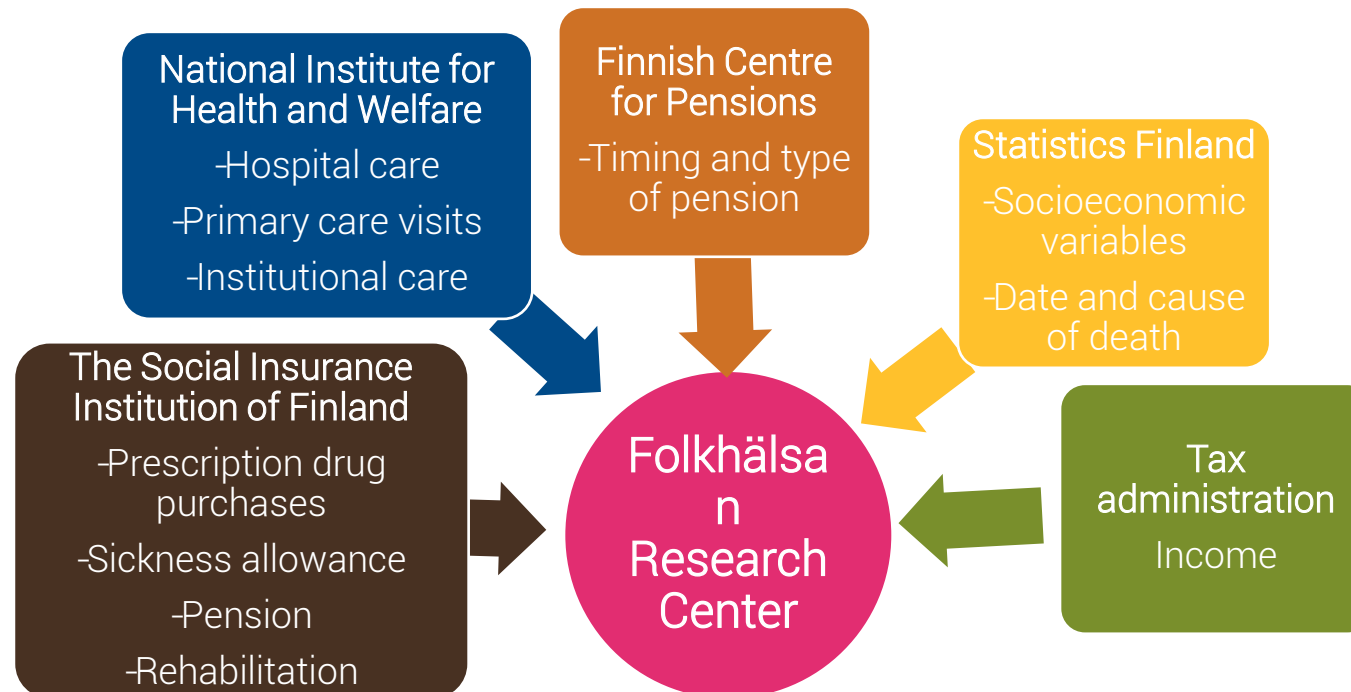
- 71% women
- Mean age 67 years
- 2/3 were 60+ years

## Controls

### Population Register Centre

- 2 matching controls per caregiver
- Matched according to sex, year of birth, municipality of residence
- Those in institutional care excluded

n=83 618

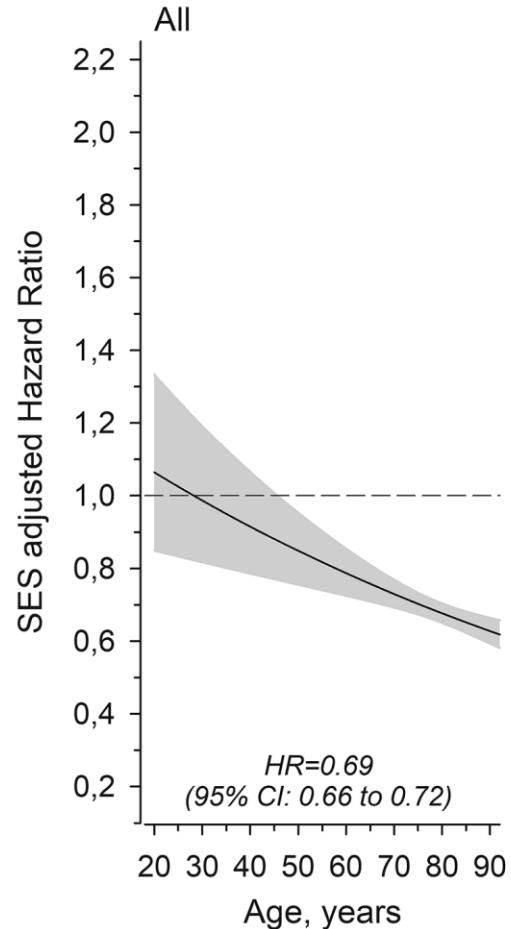


Information on years 2012-2017  
- Linked using personal identification code

# Already published in this project

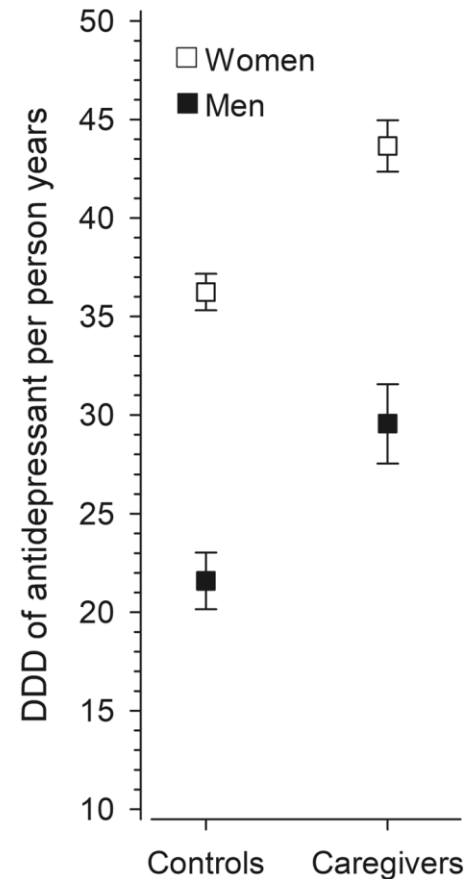
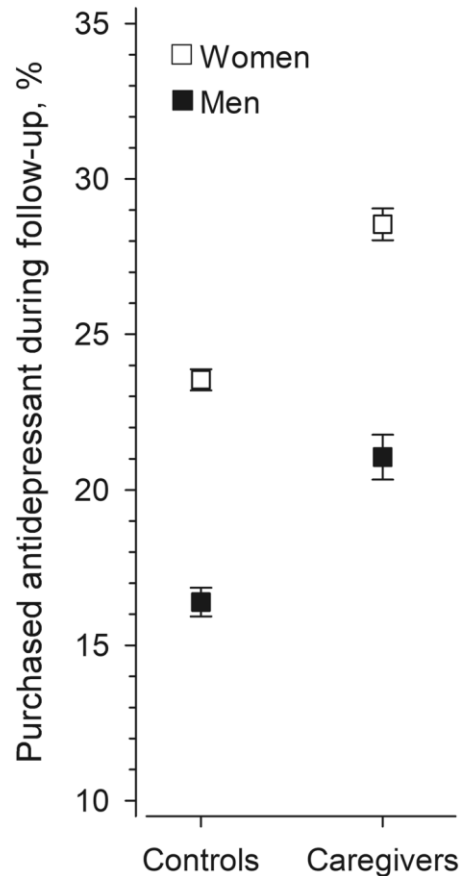
- Mikkola *et al.* Age-dependency in mortality of family caregivers: a nationwide register-based study. *Aging Clin Exp Res* 33, 1971–1980 (2021). <https://doi.org/10.1007/s40520-020-01728-4>
- Mikkola *et al.* Use of antidepressants among Finnish family caregivers: a nationwide register-based study. *Soc Psychiatry Psychiatr Epidemiol* 56, 2209–2216 (2021). <https://doi.org/10.1007/s00127-021-02049-1>
- Mikkola *et al.* Work incapacity among family caregivers: a record linkage study. *J Epidemiol Community Health* 2022;76:580-585. <http://dx.doi.org/10.1136/jech-2021-217901>

# Mortality according to age



- Risk of death was lower in caregivers than controls older than 50 years, difference largest among the oldest
- Likely to reflect the selection of the healthier individuals into the caregiver role

# Antidepressant use



- More caregivers than controls used antidepressants during the 6-year follow-up
- Also the total number of doses used per year was higher in caregivers than controls

# Analysis on sickness absence and disability pension days 2012-2017

n=42 256



Those available for the job markets:

- Between 18 and 65 years of age
- Not retired 1.1.2012

n=16 982

n=83 618



Those available for the job markets:

- Between 18 and 65 years of age
- Not retired 1.1.2012

n=35 371

# Work incapacity in caregivers available to the job market

**Table 2** SADP days in caregivers and controls including the whole sample (all) and only those with a record of occupation

	Control Mean annual days (95% CI)	Caregiver Mean annual days (95% CI)	IRR* (95% CI)
All subjects			
Sickness absence	12.0 (11.7 to 12.3)	14.8 (14.3 to 15.3)	1.18 (1.13 to 1.23)
Disability pension	6.6 (6.2 to 6.9)	8.4 (7.8 to 9.0)	1.13 (1.03 to 1.24)
SADP	18.5 (18.0 to 19.0)	23.2 (22.3 to 24.1)	1.16 (1.10 to 1.22)

# Differences in work incapacity totally due to mental disorders

Diagnostic category	Control Mean annual days (95% CI)	Caregiver Mean annual days (95% CI)	IRR* (95% CI)
F30–F39 Mood disorders	2.8 (2.6 to 3.0)	5.3 (4.8 to 5.8)	1.68 (1.48 to 1.90)
F32–F34 Depressive disorders	2.5 (2.3 to 2.7)	5.0 (4.5 to 5.4)	1.76 (1.55 to 2.00)
F40–F48 Neurotic, stress-related and somatoform disorders	0.6 (0.5 to 0.7)	1.3 (1.1 to 1.4)	2.08 (1.76 to 2.46)

- No differences in work incapacity due to other reasons (cancer, cardiovascular, musculoskeletal disorders etc.)



# Benzodiazepines and related drugs (BZDRD) use

- BZDRD are commonly used for anxiety and insomnia
- BZDRD have several adverse effects, such as cognitive decline, falls, dependency, especially in older adults

	Women			Men		
	Controls N=59 141	Caregivers N=29 846	p	Controls N=24 477	Caregivers N=12 410	p
<b>All BZDRD</b>						
Users per 100 person-years, (95%)	15.2 (15.0-15.5)	17.2 (16.8-17.6)	<0.001	11.8 (11.4-15.2)	14.6 (14.0-15.2)	<0.001
Long-term users, per 100 person-years	4.3 (4.2-4.5)	5.0 (4.8-5.3)	0.001	3.8 (3.5-4.0)	5.3 (4.9-5.6)	<0.001
DDDs per person-year, mean (SEM)	25.15 (0.43)	27.70 (0.59)	0.005	22.56 (0.61)	29.95 (1.03)	<0.001

→ caregivers use more hypnotic BZDRD, especially older caregivers  
 → does use compromise the caregiver's capability to care?, availability of other safer therapies?

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