

How Do Community-dwelling Persons With Alzheimer's Disease Fall? Falls In The FINALEX Study

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CONFLICT OF INTEREST DISCLOSURE

I have no potential conflict of interest to report

Falls and dementia

- 60 % of people with dementia fall annually
- Few studies have investigated falls among participants with dementia

Aim and introduction

- To investigate how community-dwelling persons with Alzheimer's disease (AD) fall
 - When? Why? How? Consequences?
- FINALEX study was 1-year RCT exercise intervention study among AD patients
 - Home-based/group-based exercise (N=129) 2x/wk
 - Controls: normal community care (N=65)

Methods

- Participants in the FINALEX study:
 - Alzheimer Disease
 - An ability to walk independently with/without mobility aid
 - Sign of frailty:
 - ≥ 1 fall / previous 12 months OR
 - unintentional weight loss OR
 - slow gait speed

Methods

- Participants' (N=194) falls were followed up for one year by diaries kept by their spouses.
- Groups formed for participants with 0 (N=103), 1 (N=34) and ≥ 2 (N=57) falls
- We investigated various features and risk factors behind the falls.

Results: Falls: when, why, consequences

- Altogether 355 falls:
- Half of them at midday, rest equally during morning, evening, and night time
- The most common reasons for falls were stumbling (N=61), dizziness (N=37), and weakness of legs (N=18)
- In most cases, the spouses were unable to state the reason for falling
- Of 355 falls, 123 led to injuries, 50 to emergency department visits, and 13 to fractures

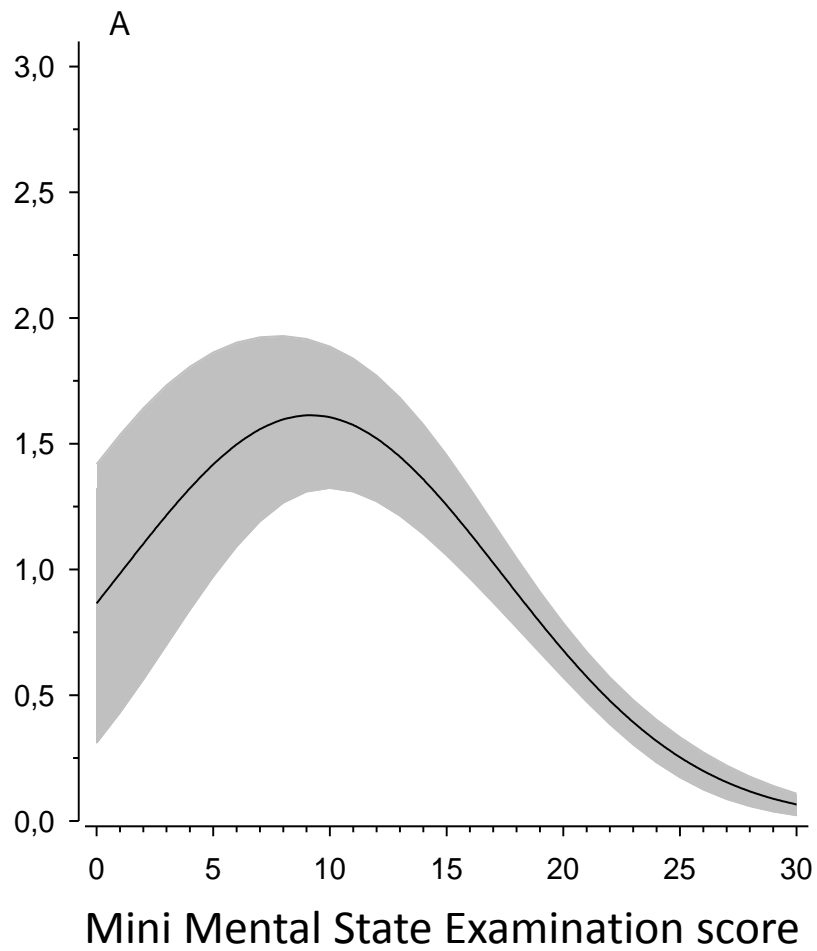
Results: Associated baseline risk factors for falls

	0 falls N=103	1 fall N=34	≥2 falls N=57	P for linearity*
Age, mean (SD)	77 (5)	78 (6)	80 (4)	0.003
MNA, mean (SD)	23 (2)	23 (1)	22 (3)	0.037
Blood pressure, systolic	153 (24)	154 (28)	143 (27)	0.016
CDR, n (%)				<0.001
0.5-1	44 (43)	12 (35)	10 (18)	
2	47 (46)	17 (50)	31 (54)	
3	12 (12)	5 (15)	16 (28)	
FIM total, mean (SD)	92.6 (17.3)	92.0 (14.0)	77.2 (18.6)	<0.001
SPPB total, mean (SD)	10.2 (2.1)	9.7 (1.8)	8.7 (2.4)	<0.001
Vision problem, n (%)	6 (6)	2 (6)	9 (16)	0.042
Fall history, n (%)	32 (31)	38 (24)	35 (61)	<0.001
SD = standard deviation; MNA = Mini Nutritional Assessment; CDR = Clinical Dementia Rating scale; FIM = Functional Independence Measure; SPPB = Short Physical Performance Battery				

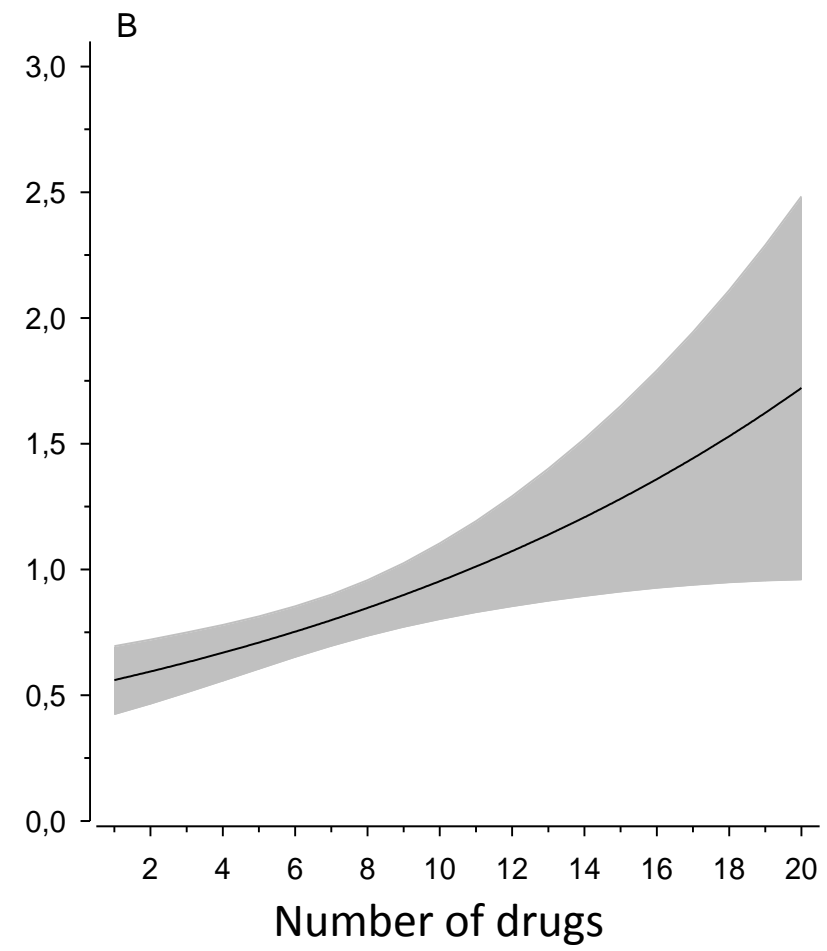
No significant difference: Intervention, gender, education, BMI, Diastolic blood pressure, Charlson comorbidity index

Results: MMSE / polypharmacy vs. falls

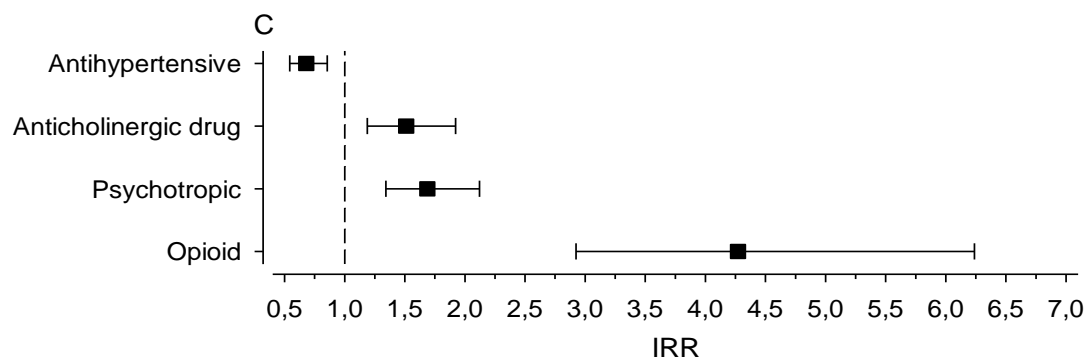
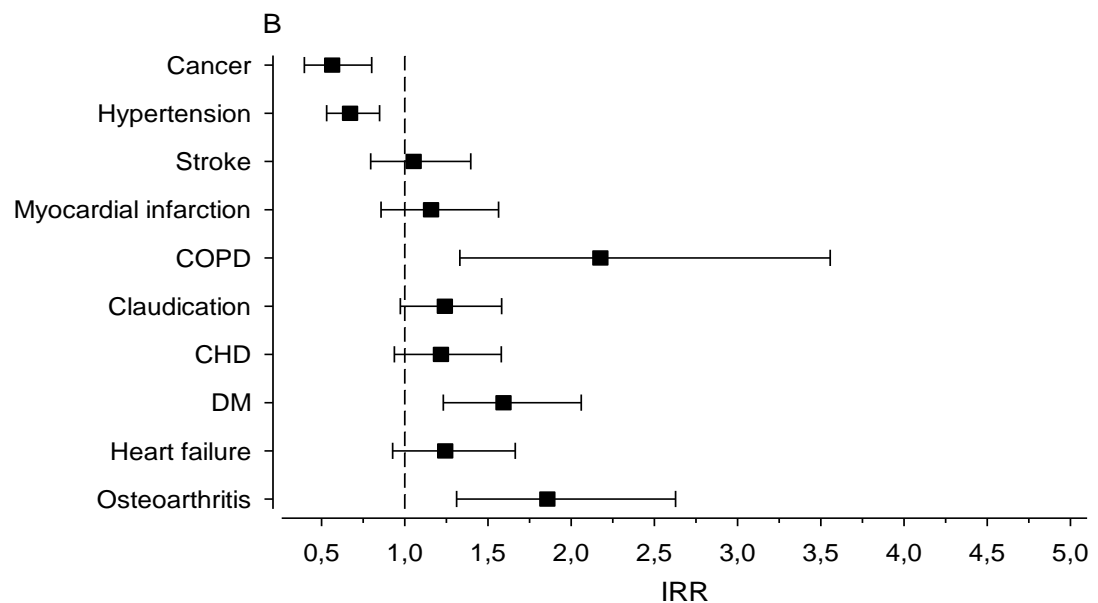
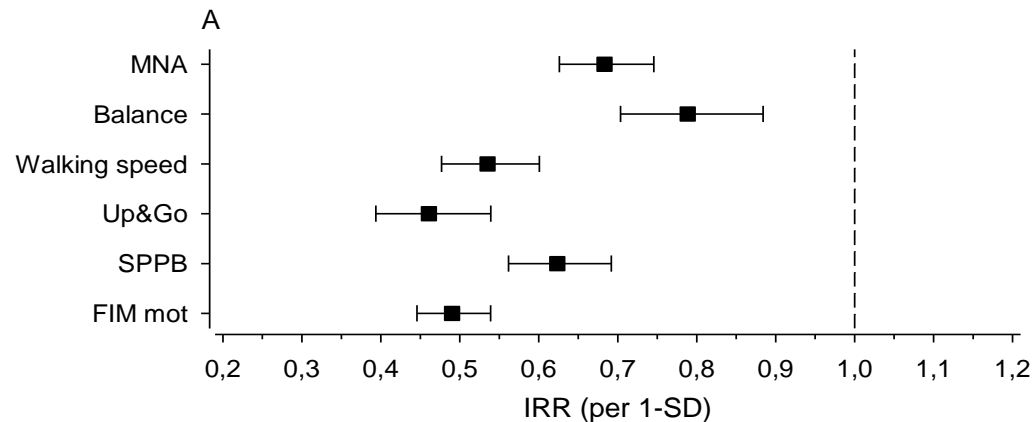
Incidence of falls per person years



Incidence of falls per person years



Falls: Protective and risk factors for falls



Strenghts

- Participants had confirmed diagnosis of Alzheimer's Disease
- Diary is the best method to accurately record falls
- Prospective and detailed follow-up

Limitations

- The participants were motivated caucasians living at home with their spouses - generalization?
- The number of participants was small
- Intervention reduced the number of falls
 - the number of falls is underestimate of real life
 - modifying falls also?

Conclusions

- Alzheimer's Disease patients have increased fall risk
- Polypharmacy, anticholinergic drugs, psychotropics, and opioids increase the fall risk – confounding by indication?
- Individuals with MMSE ~10 are at greatest risk
- COPD, diabetes, osteoarthritis increase fall risk
- Good physical functioning protects against falls
- In this study hypertension and antihypertensive medication were protective factors –mechanism?

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Thank you! Merci!