

Change in psychotropic drug use in Norwegian nursing homes between 2004 and 2011

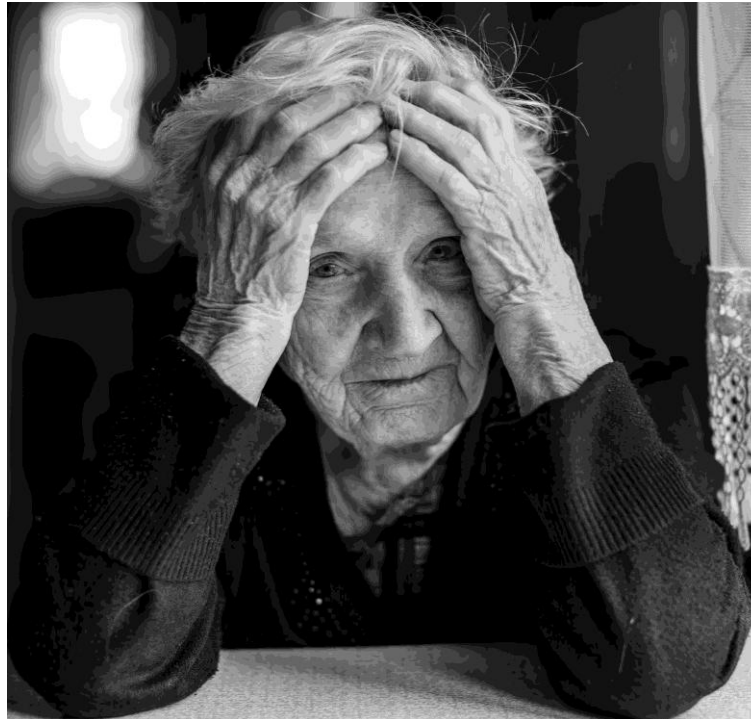
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CONFLICT OF INTEREST DISCLOSURE

I have no potential conflict of interest to report.

Change in psychotropic drug use in Norwegian nursing homes between 2004 and 2011



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Aldring og helse
Nasjonal kompetansetjeneste

Background

- Since 2004 warnings by (inter) national drug agencies
- 52%-75% of NH patients with dementia use at least one type of PDs
- One previous Norwegian study (Ruths, 2013)
 - secondary data analysis of 6 cross-sectional studies, 1997 -2009

Research question

- Has there been a change in the use of psychotropic drugs in Norwegian nursing homes between 2004 and 2011?
- Did the predictors of use of specific psychotropic drug groups change?

Method

Cross-sectional observational study of two Norwegian nursing home samples

Participants

- **2004:** 26 nursing homes from 18 municipalities (N=1163)
- **2011:** 64 nursing homes from 55 municipalities (N=1858)

Measures

- Clinical Dementia Rating Scale (**CDR**)
- Neuropsychiatric Inventory (**NPI**)
- Physical Self-Maintenance scale (**PSMS**)
- Psychotropic drugs: **antipsychotics, antidepressants, anxiolytics, sedatives, anti-dementia drugs**

Data analysis

- For each outcome, a multivariate model containing fixed effects for dummy identifying two samples, 6 predictors (apathy, agitation, psychosis, affective sub-syndrome, CDR, PSMS) and interaction terms between the dummy and each predictor was fitted.
- Akaike's Information Criterion was applied to reduce the multivariate models.
- The reduced multivariate models were adjusted for confounders.

Logistic regression model for hierarchical data with random effects for nursing home

Drugs used	S1 (%)	S2 (%)	OR/RR (95% CI)	p-value
Antipsychotics	24	17	0.63 (0.49;0.82)	<0.001
Antidepressants	38	36	0.94 (0.76;1.17)	0.582
Anxiolytics	24	22	0.93 (0.69;1.25)	0.645
Sedatives	29	30	1.06 (0.81;1.36)	0.707
Anti-dementia drugs	11	15	1.24 (0.84;1.82)	0.281
Psychotropic drugs	27	31	0.97 (0.86;1.08)	0.547

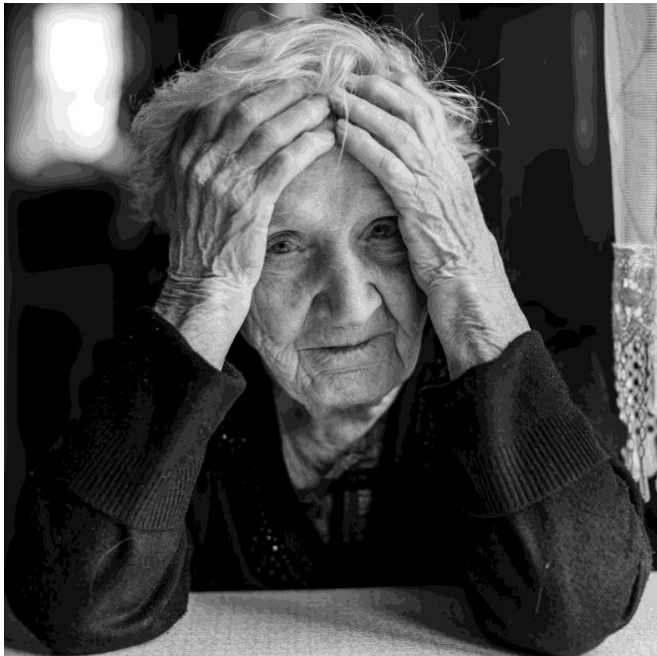
Multivariate models reduced by AIC (adjusted for confounders)

Predictors	Antipsychotics
	OR (95% CI)
Time 2004 –	1
Ref 2011	0.66 (0.50; 0.88)*
Apathy	1.01 (0.98; 1.04)
Agitation	1.00 (0.99; 1.02)
Psychosis	1.06 (1.04; 1.08)**
Affective	1.04 (1.02; 1.06)**
CDR	1.04 (1.01; 1.08)*
PSMS	
Interactions	Coefficient (SE)
Code x Apathy	
Code x CDR	
Code x PSMS	-0.043 (0.020)*

Predictors	Anti-depressants	Anxiolytics	Anti-dementia drugs	Sedatives	Total number psychotropic drugs
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	RR (95% CI)
Time 2004 – ref 2011	1 0.95 (0.76; 1.18)	1 0.91 (0.67; 1.23)	1 0.65 (0.31; 1.33)	1 1.10 (0.86; 1.43)	1 0.98 (0.89; 1.07)
Apathy	1.02 (0.99; 1.04)	0.98 (0.96; 1.01)	1.41 (0.95; 2.10)	0.98 (0.95; 1.01)	1.00 (0.99; 1.01)
Agitation	0.99 (0.98; 1.01)	1.02 (1.01; 1.03)	1.01 (0.99; 1.03)	1.01 (0.99; 1.02)	1.01 (1.00; 1.01)*
Psychosis	0.99 (0.97; 1.01)	0.99 (0.98; 1.02)	1.03 (1.01; 1.05)*	0.98 (0.96; 1.00)	1.01 (1.00; 1.01)*
Affective	1.09 (1.07; 1.11)**	1.08 (1.06; 1.10)**	1.02 (0.99; 1.04)	1.06 (1.04; 1.08)**	1.04 (1.03; 1.05)**
CDR	0.99 (0.98; 1.02)	0.99 (0.96; 1.01)		0.93 (0.91; 0.95)**	0.998 (0.99; 1.01)
PSMS	0.98 (0.97; 1.00)	0.98 (0.96; 1.00)	0.84 (0.82; 0.87)	1.00 (0.98; 1.02)	0.98 (0.97; 0.99)**

Discussion

- Treatment recommendations against use of antipsychotic drugs
 - Previous studies reported that the reduction of antipsychotic drug use might have been counterbalanced.
 - No information about the use of non-pharmacological treatments
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- + Studies adjusted for disease severity and neuropsychiatric symptoms
 - + Wide variety of nursing homes from different regions and municipalities
 - Higher proportion of withdrawals of residents in 2010/2011



- Decrease in the prescription of antipsychotic drugs and no increase of any other psychotropic drug.
- The widespread use of psychotropic medications highlights the importance of first trialing non-pharmacological treatment approaches.