Intended and unintended effects of Z-drug use for sleep disturbance in people with dementia – ‘Z-drug Evaluation in Dementia’ (ZED)

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Study Ongoing

Administrative details

EU PAS number

EUPAS18006

Study ID

18007

DARWIN EU® study

No

Study countries

United Kingdom

Study description

Sleep disturbance is common in dementia, and can severely affect patient and carer quality of life. Z-drugs (zolpidem, zaleplon and zopiclone) are sedating hypnotics that are used for insomnia in older people and in people with dementia. Current guidance suggests Z-drugs or short acting benzodiazepines (BZD) can relive sleep disturbance and can provide respite for carers. Nevertheless there are concerns about tolerance, addiction and the safety of Z-drugs, with adverse effects including increases in falls and fracture risk, impaired daytime cognition, and higher risks of infections. Other sedating neuroleptics are known to increase stroke risk and mortality, with mediating pathways including dehydration and over-sedation and it is important to confirm whether Z-drugs confer similar risks.Our aim is to understand the benefits and harms of using Z-drugs for people with dementia who have trouble sleeping. Using data from the Clinical Practice Research Datalink we will look at whether people with dementia who take Z-drugs fall more often, have more infections or are taken to hospital more often among other health outcomes. We will compare Z-drugs to other sleep drugs prescribed to people with dementia, and to people who do not use any sleep medication at all.

Study status

Ongoing

Research institutions and networks

Institutions

University of East Anglia

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Institution

Contact details

Study institution contact

George Savva G.Savva@uea.ac.uk

Study contact

G.Savva@uea.ac.uk

Primary lead investigator

George Savva

Primary lead investigator

Study timelines

Date when funding contract was signed

Actual: 23/02/2016

Study start date

Actual: 01/06/2016

Data analysis start date

Planned: 01/06/2017

Date of final study report

Planned: 01/12/2017

Sources of funding

- Other

More details on funding

National Institute for Health Research, University of East Anglia

Study protocol

CPRD ISAC_ZED_R1_180117.pdf (521.67 KB)

Regulatory

Was the study required by a regulatory body?

No

Is the study required by a Risk Management Plan (RMP)?

Not applicable

Methodological aspects

Study type

Study type list

Study type:

Non-interventional study

Scope of the study:

Assessment of risk minimisation measure implementation or effectiveness

Disease epidemiology

Drug utilisation

Effectiveness study (incl. comparative)

Main study objective:

Using existing data we will look at whether Z-drugs improve sleep, whether they improve quality of life for people with dementia and their carers and how they affect memory and thinking during the day or other behavioural problems.

Study Design

Non-interventional study design

Cohort

Case-control

Cross-sectional

Study drug and medical condition

Anatomical Therapeutic Chemical (ATC) code

(N05CF) Benzodiazepine related drugs

Benzodiazepine related drugs

Medical condition to be studied

Dementia

Insomnia

Population studied

Age groups

- Adults (65 to < 75 years)
- Adults (75 to < 85 years)
- Adults (85 years and over)

Estimated number of subjects

21.000

Study design details

Outcomes

Incident (a) fracture (any location) (b) hip fracture (c) forearm fracture. Hip fracture recording in CPRD has been well validated (PPV of 91%).Incident fall. GP records of falls may under-represent all falls that occur in the older population, but more accurately represent ‘injurious falls requiring medical attention’. Mortality.Infection. Respiratory tract infection has been validated in CPRD (PPV of 97%).

Data analysis plan

We will use the Cox proportional hazard model to estimate the effect of covariates on time to first prescription of each class sleep medication since dementia diagnosis. Sleep medication will be treated as a time-varying variable. Then we will use the multinomial regression model to estimate the effect on treatment choice conditional on the sleep disturbances, after controlling for potential confounders, allowing non-linear effects and interaction between confounding variables and time-varying ones.

Data management

ENCePP Seal

The use of the ENCePP Seal has been discontinued since February 2025. The ENCePP Seal fields are retained in the display mode for transparency but are no longer maintained.

Data sources

Data source(s)

Clinical Practice Research Datalink

Data sources (types)

Electronic healthcare records (EHR)

Use of a Common Data Model (CDM)

CDM mapping

No

Data quality specifications

Check conformance

Unknown

Check completeness

Unknown

Check stability

Unknown

Check logical consistency

Unknown

Data characterisation

Data characterisation conducted

No