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Deprescribing sedative hypnotics among older patients in Swiss primary care

Submission date
23/12/2022

Recruitment status
No longer recruiting

Registration date
13/04/2023

Overall study status
Completed

Last Edited
24/05/2024

Condition category
Other

[X] Prospectively registered
[X] Protocol
[_] Statistical analysis plan
[_] Results
[_] Individual participant data
[_] Record updated in last year

Plain English summary of protocol

Background and study aims
Benzodiazepines and other sedative-hypnotics (BSHs) are potentially inappropriate and harmful medications for older people due to adverse drug events such as falls, fractures, delirium, hospitalizations and death. Paradoxically, BSH prescription rates are constantly high among older patients (65 years and older) and increase with higher age and other illnesses. However, deprescribing BSHs is challenging for various reasons. Physicians and patients may benefit from a supportive tool to facilitate the deprescribing of BSHs during consultations. This study aims to investigate the effectiveness of an educative BSH deprescribing intervention among GPs.

Who can participate?
General practitioners (GPs) in the German-speaking parts of Switzerland and their elderly patients (65 years and older), taking BSHs for at least 2 weeks and willing to discuss their sleep and sleep behavior with their GP.

What does the study involve?
GPs are allocated to one of two groups. One group receives a 1-hour online training on how to use the patient support tool for consultations with patients taking BSH. The second group receives a 1-hour online course about the epidemiology of BSH use and the need for more in-depth data collection, i.e. to collect more data about BSH prescriptions and adverse events due to BSH use (thus encouraging “usual care” by the control group participants).

What are the possible benefits and risks of participating?
All GPs receive online training about the epidemiology and risks of BSH use, which information can be helpful for the usual care. GPs in the intervention group learn how to use the patient support tool for deprescribing BSHs with patients taking BSH. The expected benefit is a lower number and/or a lower dosage of BSHs in the intervention group and, therefore, a lower number of adverse drug events related to BSHs. By taking part in this study, there are no risks of physical injury or harm.

Where is the study run from?
Institute of Primary Care, University Hospital Zurich, University of Zurich (Switzerland)

When is the study starting and how long is it expected to run for?
April 2020 to December 2025

Who is funding the study?
Velux Foundation (Switzerland)

Who is the main contact?
Prof. Dr. med. Stefan Neuner-Jehle, stefan.neuner-jehle@usz.ch

Contact information

Type(s)
Principal investigator

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Additional identifiers

Study information

Scientific Title
The impact of a deprescribing tool on sedative hypnotics use among older patients: a cluster-randomized controlled trial in Swiss primary care (the HYPE trial)

Acronym
HYPE

Study objectives
It is hypothesized that a benzodiazepine and other sedative-hypnotics (BSHs) deprescribing guidance for healthcare providers and patients is efficient, safe, feasible, and acceptable.

Ethics approval required
Ethics approval required

Ethics approval(s)

Approved 04/04/2023, Kantonale Ethikkommission Zürich (Stampfenbachstrasse 121, Zurich, 8090 , Switzerland; +41 (0)43 259 79 70; admin.kek@kek.zh.ch), ref: 2023-00054

Primary study design
Interventional

Study design
Prospective two-arm double-blinded cluster-randomized controlled trial

Study type(s)
Other

Health condition(s) or problem(s) studied
BSHs use among older patients

Interventions
Cluster randomization
GPs who return the signed consent form will be randomized as clusters (more precisely: as cluster-defining units) to avoid contamination among their patients, and in batches to avoid delays for already included GPs due to slow recruitment. Batchwise covariate-constrained randomization of the GPs will take place whenever the required number of participants for an even number of training sessions has been reached. The additional allocation constraint, that all GPs of the same (group) practice be allocated to the same study group (thus forming “superclusters” of clusters), will help prevent contamination between GPs. Randomization will be done by an independent third party at the Institute of Primary Care, Zurich, with the help of a computerized randomization calculator. A list of the intervention group participants and the control group participants will be stored and created at the institute. GPs will remain blinded with regard to their allocation.

Patient allocation
All patients will be allocated to their recruiting GP’s study group without further randomization and will be part of her/his cluster. The resulting cluster effect at the GPs level is statistically corrected during data analysis. All patients are blinded to their cluster's assignment to the intervention or control group.

The intervention is a 1-hour online training on how to use the two-part patient support tool (including decision-making guidance, a tapering schedule and non-pharmaceutical alternative treatments for insomnia) for GPs. Additionally, the intervention group GPs (including their medical practice assistants [MPAs]) will attend a 30-minute online instruction on data acquisition (study measurements).

The control group GPs will participate in a 1-hour online training course about epidemiological issues of BSHs and the need for more data about BSH prescriptions and adverse events related to BSH use (thus encouraging “usual care” by the control group participants). Additionally, the control group GPs (including their MPAs) will attend an identical 30-minute online instruction on data acquisition (study measurements), like the GPs in the intervention group (except for measurements specific to the intervention).

Intervention Type
Behavioural

Primary outcome(s)

Current primary outcome measure as of 24/05/2024:
The percentage of patients who changed their BSH use (i.e., stopped, reduced, or switched to a non-BSH insomnia treatment) since their initial consultation (T0), measured at T1 (i.e., 6 months ± 3 weeks after T0). Definitions:
1. BSH: Drugs listed in the Anatomical Therapeutic Chemical (ATC) Classification System under code N05CD or code N05CF
2. Stopped: No consumption of any drug covered by codes N05CD or N05CF
3. Reduced: Reduction by at least 50% of the start dosage
4. Switched: Replacement of the previous BSH drug by a sleeping drug other than a BSH (as defined above) or by a non-pharmacological treatment for insomnia
5. T0: Immediately after the initial consultation, defined as the first consultation with a decision and plan of how to continue or discontinue the medication (intervention group) or how to go on with the care for the patient (control group). Possible preliminary consultations (e.g., to discuss study participation or to obtain informed consent) are disregarded.
At T0, the GP or the MPA reports the patient's BSH use – one of the inclusion criteria – on the Case Report Form (CRF). The BSH change will be reported on CRFs by the GP or the MPA at T1. T0 is set individually for each patient and relates to the time point after the initial consultation; the consecutive time points vary between patients accordingly.

Previous primary outcome measure:
The percentage of patients who changed their BSH use (i.e., stopped, reduced, or switched to a non-BSH insomnia treatment) since their initial consultation (T0), measured at T1 (i.e., 6 months after T0). Definitions:
1. BSH: Drugs listed in the Anatomical Therapeutic Chemical (ATC) Classification System under code N05CD or code N05CF
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3. Reduced: Reduction by at least 50% of the start dosage
4. Switched: Replacement of the previous BSH drug by a sleeping drug other than a BSH (as defined above) or by a non-pharmacological treatment for insomnia
5. T0: Immediately after the initial consultation, defined as the first consultation with a decision and plan of how to continue or discontinue the medication (intervention group) or how to go on with the care for the patient (control group). Possible preliminary consultations (e.g., to discuss study participation or to obtain informed consent) are disregarded.
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Key secondary outcome(s)

Current secondary outcome measure as of 24/05/2024:
1. The percentage of patients willing to change their BSH use (i.e., stop, reduce or switch to a non-BSH insomnia treatment) at the end of the initial consultation T0.
2. The percentage of patients who do not accept the BSH deprescribing suggestion at the end of the initial consultation (T0).
3. Cumulative incidence between T0 and T1 of the following clinical events including utilization of healthcare:
3.1. Falls:
3.1.1. No Injury
3.1.2. Fracture, leading to
3.1.2.1. Ambulatory care (GP visit, emergency department (ED) visit)

3.1.2.2. Hospital stay
3.1.3. Other injury (excluding fractures), leading to
3.1.3.1. No utilization of healthcare
3.1.3.2. Ambulatory care (GP visit, ED visit)
3.1.3.3. Hospital stay
3.2. Other events:
3.2.1. Injury (not resulting from a fall):
3.2.1.1. No utilization of healthcare
3.2.1.2. Ambulatory care (GP visit, ED visit)
3.2.1.3. Hospital stay
3.2.2. Episode of anxiety (as perceived by the patient):
3.2.2.1. No utilization of healthcare
3.2.2.2. Ambulatory care (GP visit, ED visit)
3.2.2.3. Hospital stay
3.2.3. Episode of depression (as perceived by the patient):
3.2.3.1. No utilization of healthcare
3.2.3.2. Ambulatory care (GP visit, ED visit)
3.2.3.3. Hospital stay
3.2.4. Episode of confusion (as perceived by the patient):
3.2.4.1. No utilization of healthcare
3.2.4.2. Ambulatory care (GP visit, ED visit)
3.2.4.3. Hospital stay
3.2.5. Hospital stay not due to injury, fracture, anxiety or depression
3.2.6. Death (as a safety outcome)
At each consultation between T0 and T1, the GPs or their MPAs will ask study patients about the above events and enter all reported events directly into a REDCap database at the study center via a dedicated online form. Additionally, at T1 (6 months ± 3 weeks after the initial consultation) a study nurse will contact the patients or, where applicable, their family members, by phone to collect data on events between T0 and T1.
4. Mean change in cognitive function level measured using Six Item Screener (SIS), The Trail Making Test Part A (TMT-A) between T0 and T1
5. Mean change in depressive symptoms measured using Depression in Old Age Scale (DIA-S) between T0 and T1
6. Mean change in subjective sleep quality measured using Insomnia Severity Index (ISI) between T0 and T1
7. Mean change in anxiety symptoms measured using Generalized Anxiety Disorder Scale-7 (GAD-7) between T0 and T1
8. Mean change in the quality of life (QoL) measured using European Quality of Life 5 Dimensions 5 Level Version (EQ-5D-5L) between T0 and T1
9. Attitudes, beliefs, barriers, and facilitators among GPs and patients assessed using questionnaires, telephone interviews at T2 for GPs (14 months ± 3 weeks after the initial consultation of a GP's first patient) and at T1 for patients (6 months ± 3 weeks after the patient's initial consultation)
10. Process evaluation measurements among GPs of the intervention group and their patients using questionnaires, telephone interviews at T2 for GPs (14 months ± 3 weeks after the initial consultation of a GP's first patient) at T1 for patients (6 months ± 3 weeks after the patient's initial consultation)

Previous secondary outcome measure:
1. The percentage of patients willing to change their BSH use (i.e., stop, reduce or switch to a non-BSH insomnia treatment) at the end of the initial consultation T0.
2. The percentage of patients who do not accept the BSH deprescribing suggestion at the end of

the initial consultation (T0).
3. Cumulative incidence between T0 and T1 of the following clinical events including utilization of healthcare:
3.1. Falls:
3.1.1. No Injury
3.1.2. Fracture, leading to
3.1.2.1. Ambulatory care (GP visit, emergency department (ED) visit)
3.1.2.2. Hospital stay
3.1.3. Other injury (excluding fractures), leading to
3.1.3.1. No utilization of healthcare
3.1.3.2. Ambulatory care (GP visit, ED visit)
3.1.3.3. Hospital stay
3.2. Other events:
3.2.1. Injury (not resulting from a fall):
3.2.1.1. No utilization of healthcare
3.2.1.2. Ambulatory care (GP visit, ED visit)
3.2.1.3. Hospital stay
3.2.2. Episode of anxiety (as perceived by the patient):
3.2.2.1. No utilization of healthcare
3.2.2.2. Ambulatory care (GP visit, ED visit)
3.2.2.3. Hospital stay
3.2.3. Episode of depression (as perceived by the patient):
3.2.3.1. No utilization of healthcare
3.2.3.2. Ambulatory care (GP visit, ED visit)
3.2.3.3. Hospital stay
3.2.4. Episode of confusion (as perceived by the patient):
3.2.4.1. No utilization of healthcare
3.2.4.2. Ambulatory care (GP visit, ED visit)
3.2.4.3. Hospital stay
3.2.5. Hospital stay not due to injury, fracture, anxiety or depression
3.2.6. Death (as a safety outcome)
At each consultation between T0 and T1, the GPs or their MPAs will ask study patients about the above events and enter all reported events directly into a REDCap database at the study center via a dedicated online form. Additionally, at T1 (6 months after the initial consultation) a study nurse will contact the patients or, where applicable, their family members, by phone to collect data on events between T0 and T1.
4. Mean change in cognitive function level measured using Six Item Screener (SIS), The Trail Making Test Part A (TMT-A) between T0 and T1
5. Mean change in depressive symptoms measured using Depression in Old Age Scale (DIA-S) between T0 and T1
6. Mean change in subjective sleep quality measured using Insomnia Severity Index (ISI) between T0 and T1
7. Mean change in anxiety symptoms measured using Generalized Anxiety Disorder Scale-7 (GAD-7) between T0 and T1
8. Mean change in the quality of life (QoL) measured using European Quality of Life 5 Dimensions 5 Level Version (EQ-5D-5L) between T0 and T1
9. Attitudes, beliefs, barriers, and facilitators among GPs and patients assessed using questionnaires, telephone interviews at T2 for GPs (14 months after the initial consultation of a GP's first patient) and at T1 for patients (6 months after the patient's initial consultation)
10. Process evaluation measurements among GPs of the intervention group and their patients using questionnaires, telephone interviews at T2 for GPs (14 months after the initial consultation of a GP's first patient) at T1 for patients (6 months after the patient's initial

consultation)

Completion date
31/12/2025

Eligibility

Key inclusion criteria
Patients:
1. Aged 65 years or older
2. Living at home or in a nursing home
3. Taking BSH for at least 2 weeks
4. Registred as a patient in the practice records of the recruiting GP
5. Willing to discuss their sleep and sleep behavior with their GP
6. Able to provide the relevant information required for the outcomes (e.g., rating on the quality of life scale)
7. Provided informed consent

GPs:
GPs from the German-speaking regions of Switzerland

Participant type(s)
Mixed

Healthy volunteers allowed
No

Age group
Senior

Lower age limit
65 Years

Sex
All

Key exclusion criteria
Patients:
1. Life expectancy of less than 6 months
2. Incapability of judgement according to the clinical judgement of the GP

Date of first enrolment
31/05/2023

Date of final enrolment
30/06/2025

Locations

Countries of recruitment

Switzerland

Study participating centre
Institute of Primary Care
University Hospital Zurich
University of Zurich
Pestalozzistrasse 24
Zurich
Switzerland
8091

Sponsor information

Organisation
University of Zurich

ROR
https://ror.org/02crff812

Funder(s)

Funder type
Charity

Funder Name
Velux Stiftung

Alternative Name(s)
Velux Foundation

Funding Body Type
Private sector organisation

Funding Body Subtype
Trusts, charities, foundations (both public and private)

Location
Switzerland

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated and/or analysed during the current study are/will be available upon request from Stefan Neuner-Jehle (stefan.neuner-jehle@usz.ch).

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol article		19/09/2023	21/09/2023	Yes	No