



Faculty of Medicine

# Rational psychotropic use in older patients on polypharmacy in real clinical practice

**Prof Matej Stuhec PhD PharmD**

**Professor (Associate), Faculty of Medicine, University of Maribor, Slovenia**  
**Professor (Associate) of Clinical Pharmacy, University of Ljubljana, Slovenia**  
**Psychiatric clinical pharmacist consultant in Ormoz Psychiatric Hospital, Slovenia**  
**Prague ESCP 2022**



About the author

## Conflict of interest

- The author has received grants and/or support for travel, congress expenses, and has been invited to lectures by different pharmaceutical companies (Novartis, Lundbeck, Angelini, Gedeon Richter, Lek, Stada, Pfizer, Pliva, Mylan).
- The author has no personal affiliations, financial relationship, or any commercial interest to disclose relative to this lecture.

3

## Outline

**01****Introduction****02**Evidence vs. "real  
clinical practice"**03**Strategies for  
rational  
psychotropics use**04**Summary and  
recommendations

4

## Disease Burden – Mental Disorders

- **Mental and neurological disorders among older adults account for 6.6% of the total disability for this age group.**
- The most common mental and neurological disorders in this age group are dementia (5%), depression (7%) and anxiety disorders (3.8%).
- **Approximately 15% of adults aged 60 and over suffer from a mental disorder.**
- **Depression will be a major cause of disability worldwide.**
- Within both hospital and community settings, **medications remain the primary treatment for mental disorders.**

WHO data: <https://www.who.int/news-room/fact-sheets/detail/mental-health-of-older-adults>

Murray CJ, Vos T, Lozano R, Flaxman AD, Michaud C, et al. Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990-2010: a systematic analysis for the global burden of disease study 2010. The Lancet. 2012;380:2197-223. & GBD 2015 Disease and Injury Incidence and Prevalence Collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 310 diseases and injuries, 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015. Lancet. 2016 Oct 8;388(10053):1545-1602.

## Consequences of irrational polypharmacy

- **Nearly 50% of older adults take one or more medications that are not medically necessary.**
- Four out of 5 people aged 75 and over years are taking medications, 36% receive 4 or more medications at the same time.
- **Excessive polypharmacy (ie, the use of 10 or more medications) was also associated with death (aOR 1.96 [1.42-2.71]).**
- **Excessive polypharmacy results in a higher risk of PIM administration. About 50% of the community-dwelling patients with Alzheimer's disease received PIMs. Polypharmacy may be related to functional decline.**
- **These patients are excluded from treatment guidelines and well-designed RCTs and meta-analyses (NNT value?).**

1. Maher RL, Hanlon J, Hajjar ER. Clinical consequences of polypharmacy in elderly. Expert Opin Drug Saf. 2014;13:57-65

2. Quality and Outcomes framework 2012 (accessed on 10.1.2018) 354 [http://www.nhs.uk/medicines/about-us/publications/Documents/QOF\\_2012-13.pdf](http://www.nhs.uk/medicines/about-us/publications/Documents/QOF_2012-13.pdf)

3. J Am Pharm Assoc. (2003). 2017 Nov-Dec;57(6):729-738.e10.

4. Montastruc F, et al. Potentially inappropriate medication use among patients with Alzheimer disease in the REAL.FR cohort: be aware of atropinic and benzodiazepine drugs! Eur J Clin Pharmacol. 2013 Aug;69(8):1589-97.

# Types of polypharmacy in psychopharmacology - Definitions

- **Same-Class Polypharmacy** (use of more than one medication from the same class, e.g. use of two selective serotonin reuptake inhibitors in a case of depression).
- **Multi-Class Polypharmacy** (use of full therapeutic doses of more than one medication from different classes for the same symptom cluster, e.g. use of valproate along with an atypical antipsychotic, such as olanzapine, for treatment of mania).
- **Adjunctive Polypharmacy** (use of one medication to treat the side-effects of another medication from a different class, e.g. using trazodone for insomnia caused by bupropion).
- **Augmentation Polypharmacy** (use of one medication at a lower than normal dose along with another medication from a different class in full therapeutic dose for the same symptom cluster).

Polypharmacy In Psychiatry: A Review. Mens Sana Monogr. 2013 Jan-Dec; 11(1): 82–99.

## Real “challenges” in daily practice - comorbidities

	MEDICATIONS	DOSING	
1	FLURAZEPAM 30 MG	1x1	Only 25% and 10% of patients initiating SGA are screened for glucose and lipid abnormalities ...
2	ZOLPIDEM 10 mg	1x1	
3	SIMVASTATIN 20 MG	1x1	
4	TRAZODONE 150 MG	1x1/3	Patients with schizophrenia (n=65,169) had statistically significantly higher all-cause mortality rate than control participants (risk ratio=2,4; P < 0.0001).
5	ESOMEPRAZOLE 20 MG	2x1	
6	DULOXETINE 60 MG	1x1	
7	QUETIAPINE 100 MG	3x1	<b>JOSEPH 91 YEARS</b> <b>Nursing home</b> <ul style="list-style-type: none"> <li>• MANY PROBLEMS</li> <li>• NO INDICATIONS</li> </ul>
8	TRAMADOL and PARACETAMOL 37,5 MG/325 MG	1x1	
9	TIZANIDINE 4 MG	2x1	
10	CIPROFLOXACIN 500 MG	1x1	

J.F. Farley, R.A. Hansen, K.S. Yu-Isenberg, M.L. Maciejewski. Antipsychotic adherence and its correlation to health outcomes for chronic comorbid conditions. *Prim Care Companion CNS Disord* 2012; **14**(3):PCC.11m01324. doi:10.4088/PCC.11m01324 & I. Bitter, P. Czobor, A. Borsi, et al. Mortality and the relationship of somatic comorbidities to mortality in schizophrenia. A nationwide matched-cohort study. *Eur Psychiatry* 2017; **45**: 97-103.

# Outline

## 01

Introduction

## 02

**Evidence vs.  
“real clinical  
practice”**

## 03

Strategies for  
rational  
psychotropics use

## 04

Summary and  
recommendations

9

## Evidence vs. “real clinical practice” – antipsychotics and antidepressants

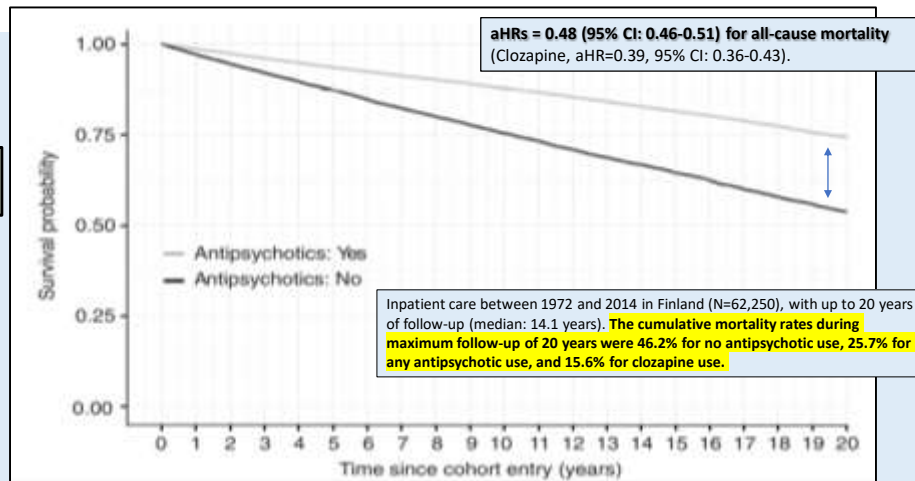
Study and authors	N, Patients	Subject of study Study arms, comparators, Placebo	Results	Adverse events/ discontinuations due to adverse events
Pairwise Meta-Analysis Krause et al. 2018	18 RCTs 1225 participants Minimum age 46-65, mean age 57-73	Efficacy and safety of antipsychotics in older adults  The primary outcome was the overall symptoms. Comparators: (medication/placebo; medication/medication)	In terms of overall symptoms: 1) <b>Olanzapine/haloperidol (N = 2, SMD 0.47, CI 0.10–0.84).</b>  2) Paliperidone/Placebo (N = 1, SMD –0.32, CI –0.71–0.08).  <b>In terms of negative symptoms, olanzapine/haloperidol (N = 2, SMD 0.50, CI 0.02–0.99).</b>	Risperidone and haloperidol produced more prolactin increase than olanzapine, and olanzapine was associated with less use of antiparkinson medication than haloperidol
Pairwise Meta-Analysis Tham et al. 2018	12 RCTs 599 patients (duloxetine/placebo) 887 patients (SSRIs/placebo) Minimum age 46-65, mean age 57-73	Rates of remission, response, and treatment and emergent adverse events  Comparators: (medication/placebo)	<b>SSRI/placebo placebo in achieving remission (OR: 0.79, 95% CI: 0.61-1.03) or response (N=3, OR=0.86, 95% CI: 0.51-1.10.</b> Maintenance treatment with SSRIs/placebo in preventing relapse (OR: 0.22, 95% CI: 0.13-0.36; NNT=5, 95% CI: 3-6; two trials).  <b>Duloxetine/placebo in achieving remission (OR: 1.78, 95% CI: 1.20-2.65; NNT=9, 95% CI: 6-20; N=3) and response (OR: 1.83, 95% CI: 1.96-4.08; N=2) in recurrent major depression after 8 weeks.</b>	Discontinuation due to treatment emergent adverse events:  10% to 19% in the SSRI groups and 1% to 10% in the placebo groups (acute treatment).  4% to 14% for SSRI treatment and 0% to 13% for the placebo (maintenance treatment)

Table 1 Major meta-analyses on antidepressants and antipsychotics efficacy and tolerability in elderly patients

Stuhec M., Stoppe G. (2021) Psychopharmacotherapy in Aged Patients. In: Riederer P., Laux G., Nagatsu T., Le W., Riederer C. (eds) NeuroPsychopharmacotherapy. Springer, Cham.

## All-cause mortality in patients using any antipsychotic versus those who used none in the prevalent cohort

CONTINUATION!!!



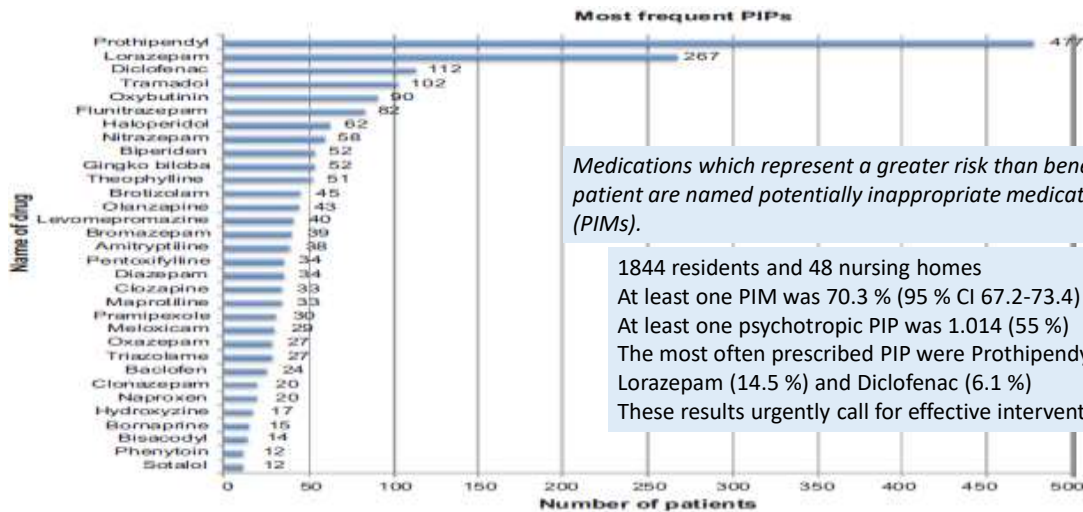
Taipale H et al. 20-year follow-up study of physical morbidity and mortality in relationship to antipsychotic treatment in a nationwide cohort of 62,250 patients with schizophrenia (FIN20). World Psychiatry. 2020 Feb;19(1):61-68.

## Evidence vs. “real clinical practice”

- Up to 1/3 patients visiting outpatient psychiatry departments have been found to be on three or more psychotropic drugs.
- Patients with SCH and depression are treated „more than 6-10 weeks“.
- In a Belgian study, with a sample of 1226 long-term care facility residents with a mean age of 83.9 years (SD=8.5), the mean number of medications per person was **9.0 (SD 3.6, range 0-23, median 9.0)**. Benzodiazepines were used by 54% and antipsychotics by 33% of all residents (n=1730). The prevalence of psychotropics in Belgian nursing homes was exceedingly high (81%), with excessive duplicate use.

Janssens B, Petrovic M, Jacquet W. Medication Use and Its Potential Impact on the Oral Health Status of LTCF Residents in Flanders (Belgium). J Am Med Dir Assoc. 2017 Sep 1;18(9):809.e1-809.e8.  
Andrew MK, Purcell CA, Marshall EG. Polypharmacy and use of potentially inappropriate medications in long-term care facilities: does coordinated primary care make a difference? Int J Pharm Pract. 2017 Sep 27.  
Park HY et al. The Association between Polypharmacy and Dementia: A Nested Case-Control Study Based on a 12-Year Longitudinal Cohort Database in South Korea. PLoS One. 2017 Jan 5;12(1):e0169463.

## Evidence vs. “real clinical practice”



Medications which represent a greater risk than benefit to a patient are named potentially inappropriate medications (PIMs).

1844 residents and 48 nursing homes

At least one PIM was 70.3 % (95 % CI 67.2-73.4)

At least one psychotropic PIP was 1.014 (55 %)

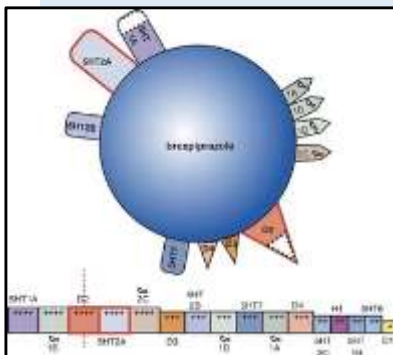
The most often prescribed PIP were Prothipendyl (25.9 %), Lorazepam (14.5 %) and Diclofenac (6.1 %)

These results urgently call for effective interventions.

\*Mann E, Haastert B, Böhmendorfer B et al. Prevalence and associations of potentially inappropriate prescriptions in Austrian nursing home residents: secondary analysis of a cross-sectional study. Wien Klin Wochenschr 2013; 125 (7-8): 180-188.

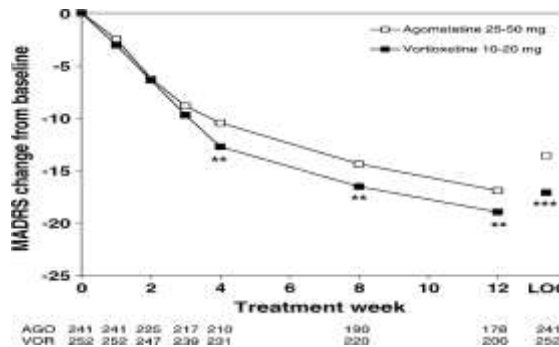
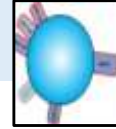
## Multireceptor psychotropics for rational medication use

- Vortioxetine?
- Brexpiprazole?
- Cariprazine?





## Vortioxetine/Agomelatine = 502 patients (1:1) – older adults



Treatment-emergent adverse events (TEAEs) with an incidence of ≥5% in either treatment group in the 12-week treatment period (all patients treated set)

Patient term	Vortioxetine 10-20 mg, n (%)	Agomelatine 25-50 mg, n (%)
Patient with TEAEs	17 (8.3)	17 (10.5)
Nausea	4 (6.3)	2 (9.0)
Headache	3 (3.5)	2 (11.5)
Dizziness	3 (7.1)	2 (11.8)
Insomnia	3 (4.8)	3 (7.6)

Figure 3

Estimated change in Montgomery-Åsberg Depression Rating Scale (MADRS) total scores from baseline to week 12 (FAS and MMRM by visit) and LOCF (FAS and ANCOVA) at week 12. FAS, full-analysis set; LOCF, last observation carried forward; MMRM, mixed model repeated measures. Patient numbers at each visit are shown below the x-axis for each treatment group. \*\* $p < 0.01$ ; \*\*\* $p < 0.001$  versus agomelatine. The primary endpoint is at week 8 (FAS and MMRM)

Eligible patients were aged  $\geq 18$  and  $\leq 75$  years

Montgomery SA, Nielsen RZ, Poulsen LH, Högström L. A randomised, double-blind study in adults with major depressive disorder with an inadequate response to a single course of selective serotonin reuptake inhibitor or serotonin-noradrenaline reuptake inhibitor treatment switched to vortioxetine or agomelatine. *Hum Psychopharmacol*. 2014 Sep;29(5):470-82.

## Cariprazine/Risperidone = 125 patients (2:1) – older adults ( $\geq 65$ years) – 48-week-open label

**Methods:** 27 were in the elderly age group ( $\geq 65$  years) of whom 17 received cariprazine (1.5-9mg/day) and 10 risperidone (2-12 mg; 8 patients completed in both groups).

All patients in the elderly population had previously taken antipsychotic medication (app. 35-40 years of SCH).

Prolactin levels increased with risperidone treatment from 23.614 to 62.486 ng/ml, while on the cariprazine group the prolactin levels decreased from 19.325 to 5.429 ng/ml.

Table 6

Overall summary of treatment-emergent adverse events (Safety Analysis Population).

	Elderly	
	Cariprazine (N = 17) n (%)	Risperidone (N = 10) n (%)
Treatment Period and Follow-up Period		
Patients with at least one TEAE	16 (94.1)	10 (100.0)
Patients with at least one NEAE	10 (58.8)	5 (50.0)
Patients with at least one ADR	11 (64.7)	9 (90.0)
Patients with at least one SAE	4 (23.5)	1 (10.0)
Patients who Died	0 (0.0)	0 (0.0)
Patients leading to discontinuation due to TEAEs	7 (41.2)	1 (10.0)

n, Number of patients in Safety Analysis Population; n, Number of patients within each category.

TEAE, Treatment-emergent Adverse Event; NEAE, Newly Emergent Adverse Event; ADR, Adverse Drug Reaction; SAE, Serious Adverse Event.

Patients who were  $\geq 65$  years at inclusion were defined as Elderly.

Szatmári B, Barabássy Á, Harsányi J, Laszlovsky I, Sebe B, Gál M, Shiragami K, Németh G. Cariprazine Safety in Adolescents and the Elderly: Analyses of Clinical Study Data. *Front Psychiatry*. 2020 Mar 3;11:61. doi: 10.3389/fpsy.2020.00061. ClinicalTrials.gov. NCT01625897, study A002-A7



# Outline

01

Introduction

02

Evidence vs. “real clinical practice”

03

**Strategies for rational psychotropics use**

04

Summary and recommendations

17

## Dealing with **RATIONAL STRATEGIES**

- *Education, guidelines, and algorithms are effective ways to avoid irrational polypharmacy.*
- *A rational prescribing strategy can lead to a decrease in adverse drug reactions and improve patient outcomes.*
- *Collaborative care including clinical pharmacist in primary care settings and hospitals as a team member (CP).*

1. Thompson A, Sullivan SA, Barley M, Strange SO, Moore L, Rogers P, Sipos A, Harrison G The DEBIT trial: an intervention to reduce antipsychotic polypharmacy prescribing in adult psychiatry wards - a cluster randomized controlled trial. *Psychol Med.* 2008 May; 38(5):705-15.  
 2. McCue RE, Waheed R, Urcuyo L. Polypharmacy in patients with schizophrenia. *J Clin Psychiatry.* 2003 Sep; 64(9):984-9.  
 3. Stuhlec, M., et al. Impact of clinical pharmacist's interventions on pharmacotherapy management in elderly patients on polypharmacy with mental health problems including quality of life: A prospective non-randomized study. *Scientific reports Rep 9,* 16856 (2019). Available: <https://www.nature.com/articles/s41598-019-53057-w/tables/2>

# Potentially inappropriate medications in the elderly – PRISCUS and Beers

Antidepressants	Avoided	Suggested
<b>PRISCUS LIST</b>	<b>MAO inhibitor</b> tranylcypromine, and <b>TCA</b> s including amitriptyline, doxepine, imipramine, clomipramine, maprotiline	Trazodone, other SSRIs (e.g. escitalopram, sertraline), and mirtazapine
<b>2019 American Geriatrics Society Beers Criteria for Potentially Inappropriate Medication Use in Older Adults</b>	<i>High Evidence, Strong recommendations</i> <b>Amitriptyline</b> , amoxapine, clomipramine, desipramine, doxepin >6 mg/d, imipramine, nortriptyline, <b>paroxetine</b> , protriptyline, trimipramine	NA

Holt S, Schmiedl S, Thürmann PA. Potentially inappropriate medications in the elderly: the PRISCUS list. Dtsch Arztebl Int. 2010 Aug;107(31-32):543-51

By the 2019 American Geriatrics Society Beers Criteria® Update Expert Panel. American Geriatrics Society 2019 Updated AGS Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults. J Am Geriatr Soc. 2019 Apr;67(4):674-694.

## Potentially inappropriate medications in the elderly – BEERS CRITERIA

Table 3. 2019 American Geriatrics Society Beers Criteria® for Potentially Clinically Important Drug-Drug Interactions That Should Be Avoided in Older Adults

Input Drug and Class	Interacting Drug and Class	Risk Manifests	Recommendation	Quality of Evidence	Strength of Recommendation
RAAS inhibitor (ACEIs, ARBs, statins) or potassium-sparing diuretics (amilofide, spironolactone)	Another RAAS inhibitor (ACEIs, ARBs, statins)	Increased risk of hyperkalemia	Avoid routine use in those with chronic kidney disease stage 3a or higher	Moderate	Strong
Opoids	Benzodiazepines	Increased risk of overdose	Avoid	Moderate	Strong
Opoids	Gabapentin, pregabalin	Increased risk of serious sedation-related adverse events, including respiratory depression and death	Avoid, except when when transitioning from opioid therapy to gabapentin or pregabalin, or when using gabapentinoids to reduce opioid dose, although caution should be used in all circumstances.	Moderate	Strong
Anticholinergics	Anticholinergics	Increased risk of cognitive decline	Avoid; minimize number of anticholinergic drugs (Table 7)	Moderate	Strong
Antidepressants (TCAs, SSRIs, and SNRIs)	Any combination of three or more of these CYP2D6-active drugs*	Increased risk of falls (all) and of fracture (benzodiazepines and nonbenzodiazepine, benzodiazepine receptor agonist hypnotics)	Avoid total of three or more CYP2D6-active drugs; minimize number of CYP2D6-active drugs	Combination including benzodiazepines and nonbenzodiazepine, benzodiazepine receptor agonist hypnotics or opiate high	Strong
Antipsychotics	NSAIDs	Increased risk of peptic ulcer disease or gastrointestinal bleeding	Avoid; if not possible, provide gastrointestinal protection	Moderate	Strong
Benzodiazepines and nonbenzodiazepine, benzodiazepine receptor agonist hypnotics (ie, "Z-drugs")	ACEIs	Increased risk of lithium toxicity	Avoid; monitor lithium concentrations	Moderate	Strong
Opoids	Lithium	Increased risk of lithium toxicity	Avoid; monitor lithium concentrations	Moderate	Strong
Corticosteroids, oral or parenteral	ACEIs	Increased risk of lithium toxicity	Avoid; monitor lithium concentrations	Moderate	Strong
Lithium	ACEIs	Increased risk of lithium toxicity	Avoid; monitor lithium concentrations	Moderate	Strong
Antipsychotics, first (conventional) and second (atypical) generation	ACEIs	Increased risk of lithium toxicity	Avoid; monitor lithium concentrations	Moderate	Strong

By the 2019 American Geriatrics Society Beers Criteria® Update Expert Panel. American Geriatrics Society 2019 Updated AGS Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults. J Am Geriatr Soc. 2019 Apr;67(4):674-694.

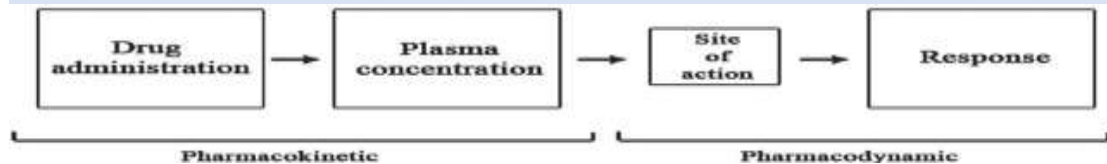
# Pharmacokinetic and pharmacodynamic parameters – important for deprescribing

- Definition: „One drug affects the summary **absorption, distribution, metabolism, or excretion of another.**“ Elderly and problems with absorption and excretion.
- Definition: „One drug affects the summary **effect of another drug.**“

## A) Pharmacological receptors

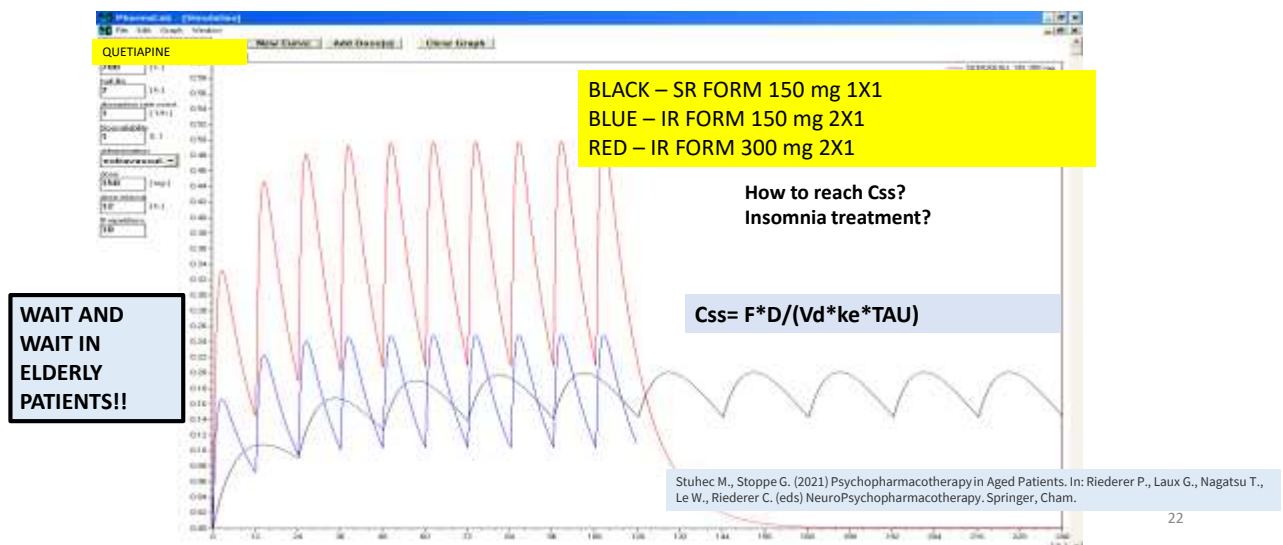
- Agonists including partial agonist (binding to one of the receptor's secondary sites; e.g. aripiprazole; receptor sensitivity ↑ for BDZs in elderly). **AVOID SIMILAR COMBINATIONS**
- Antagonist (effect is opposite to that of the main drug; metoclopramide and haloperidol and antipsychotic polypharmacy; important for elderly patients; „go slow“).

## B) Signal transduction mechanisms



Hamidi M, et al. A pharmacokinetic overview of nanotechnology-based drug delivery systems: an ADME-oriented approach. Crit Rev Ther Drug Carrier Syst. 2013;30(5):435-67.  
 Goodman and Gilman's Manual of Pharmacology and Therapeutics. (11th edition, 2008).

# Clinical pharmacokinetics in elderly patients



## Pharmacodynamic considerations in reducing polypharmacy

Situation	Important	Mechanism
1. Trazodone dose adjustment and SSRI discontinuation	↑↑ dose (e.g. 150-300 mg daily)	↑↑ dose = additional SERT activity
2. Quetiapine (e.g. 25 mg) discontinuation	↑↑ adverse events Valeriana officinalis (OTC medication) Sedative antidepressant (e.g. trazodone, mirtazapine)	adverse events (e.g. H1, 5HT-2C, alpha1 blocking)
3. Pregabalin initiation and benzodiazepine (BDZ) discontinuation	No DDIs, multiple indications BDZs discontinuation	α2δ subunit modifiers that affect GABA
4. TCA small dose + SSRI	TCA + SSRI discontinuation and trazodone initiation	Different mechanisms
5. Antipsychotic polypharmacy (APP)	Clozapine initiation before APP	Different mechanisms
6. Treatment of mild to moderate vascular dementia and Alzheimer's	Drug discontinuation in severe dementia Drug discontinuation in case of ineffective treatment	↑↑ restlessness (e.g. agonist at the dopamine D2 receptor)

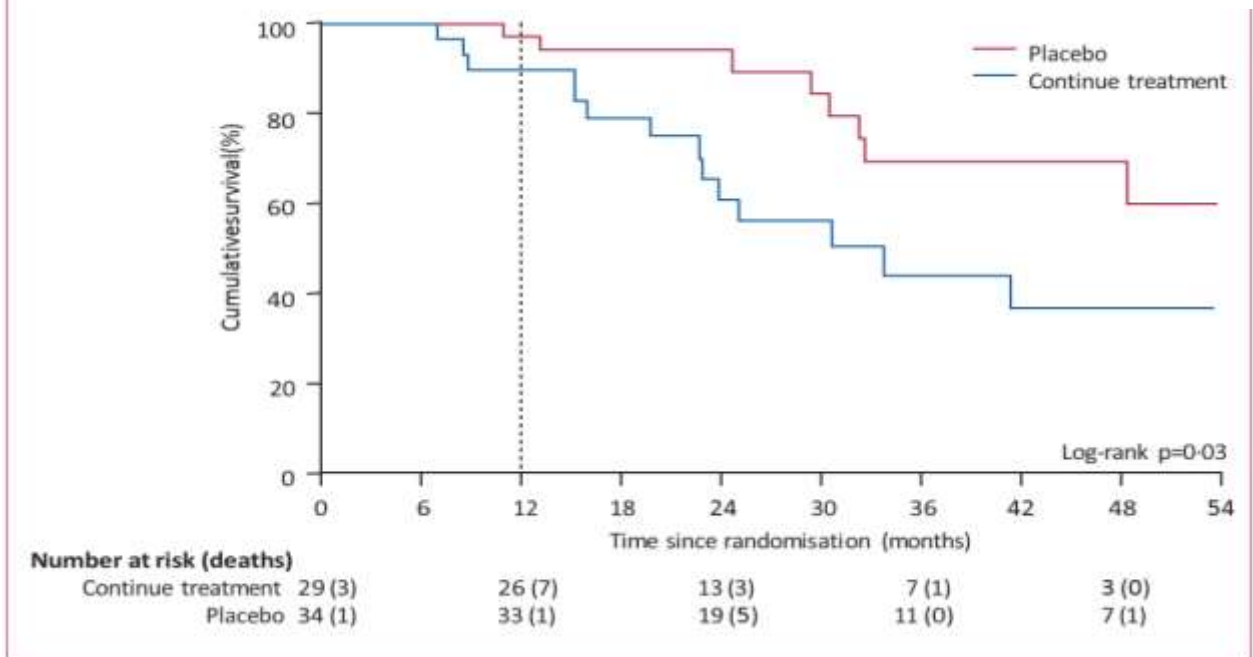
Stuhec M., Stoppe G. (2021) Psychopharmacotherapy in Aged Patients. In: Riederer P., Laux G., Nagatsu T., Le W., Riederer C. (eds) NeuroPsychopharmacotherapy. Springer, Cham.

## Pharmacokinetic considerations in reducing polypharmacy

Situation	Important	Suggested
1. Drug absorption	Quetiapine SR, Haloperidol, L-DOPA	Wait until response (e.g. zolpidem) ...
2. Drug Metabolism	Avoid drugs with many potential DDIs	Avoid carbamazepine, paroxetine, TCAs
3. Drug elimination	Calculate Glomerular filtration (GF)	< 30 mL/min (important point)
4. ↓ GF (< 30 mL/min)	Dose adjustment Duloxetine AVOID	Antidepressants: Trazodone, sertraline Antipsychotics: Zuclopenthixol, quetiapine, aripiprazole, ziprasidone
5. ↑ 3x Liver enzymes	Avoid duloxetine, sertraline, quetiapine, trazodone, agomelatine, zuclopenthixol, clozapine	Antidepressants: Paroxetine, Escitalopram 5 mg /D Antipsychotics: Sulpiride, paliperidone

Stuhec M., Stoppe G. (2021) Psychopharmacotherapy in Aged Patients. In: Riederer P., Laux G., Nagatsu T., Le W., Riederer C. (eds) NeuroPsychopharmacotherapy. Springer, Cham.

24-month survival 46%vs 71%; 36-month survival 30%vs 59%.



placebo-controlled trial. Lancet Neurol. 2009 Feb;8(2):151-7. doi: 10.1016/S1474-4422(08)70295-3. Epub 2009 Jan 8.

## Important drug discontinuation in older patients – reducing irrational polypharmacy

- **Anticholinergics** (e.g. biperiden, amitriptyline, ranitidine, APP?) **AVOID**
- **Memantine combination therapy? YES/NO**
- **Antihypertensive medication discontinuation in some cases** (e.g. quetiapine initiation; up/down regulation)
- **Metoclopramide** (D2 antagonist, 5-HT3 receptor antagonist/5-HT4 receptor agonist) **AVOID**
- **BZDs discontinuation** (go slow) **AVOID**
- **Antipsychotics in dementia** (discontinuation)

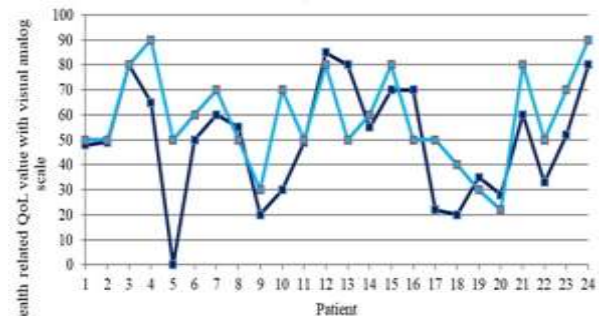
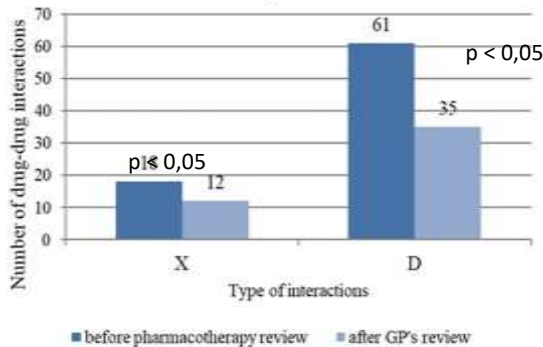
Moriarty F, Bennett K, Cahir C, Fahey T. Characterizing Potentially Inappropriate Prescribing of Proton Pump Inhibitors in Older People in Primary Care in Ireland from 1997 to 2012. J Am Geriatr Soc. 2016 Dec;64(12):e291-e296.

Dementia: supporting people with dementia and their carers in health and social care (2006 updated 2016) NICE guideline CG42

Beovic B, Plesnicar BK, Potocan M et al. Antibiotic Prescribing in Psychiatric Hospitals and Interactions between Antibiotics and Psychotropic Drugs: A Prospective Observational Study. Infect Control Hosp Epidemiol. 2016 Feb;37(2):233-5.

# Collaboration with clinical pharmacist in elderly patients with mental health problems

**COLLABORATIVE  
CARE: CLINICAL  
PHARMACIST**



At the end of the study period, the total number of type X and D pDDIs had decreased significantly by 33.3% and 42.6% respectively ( $p = 0.004$ ).

24 patients were included (mean age = 80.6, SD = 6.8). **The mean number of medications per patient before the medical review was 12.2 (SD = 3.1) and decreased to 10.3 (SD = 3.0) at the end of the study period ( $p < 0.05$ ), EQ-5D questionnaire**

Stuhec, M., et al. Impact of clinical pharmacist's interventions on pharmacotherapy management in elderly patients on polypharmacy with mental health problems including quality of life: A prospective non-randomized study. Scientific reports Rep 9, 16856 (2019). Available: <https://www.nature.com/articles/s41598-019-53057-w/tables/2>

## Collaboration with clinical pharmacist in elderly patients with mental health problems – Deprescribing in real clinical practice

- The total number of DRPs was 165, of which 8% (N = 165) were expressed and the other were identified as potential.
- With the intervention the CP managed to reduce the number of risk factors by 16 (29.1%, N = 55).
- In 13 patients, benzodiazepines were taken for several years despite their association with ADPs, especially.
- Only 3/18 patients had an indication for receiving antipsychotics (schizophrenia and delusional disorders).

	N of cases before review	Final N of cases	Criteria
nitrazepam	4	2	P
methylphenidate	3	2	P
thiopentone	1	1	P
solifenacin	1	1	P + B
clonidine	1	1	P + B
doxazosin	1	1	P + B
lorazepam	3	3	P + B
clonidine	3	3	P + B
alprazolam	3	3	P + B
fluoxetine	4	0	B
zileuton	1	1	B
sparteine lactate > 25 mg daily	1	0	B
risperidone	1	1	B
clonidine	1	1	B
haloperidol	1	1	B
mirtazapine	1	1	B
Total	32	22	

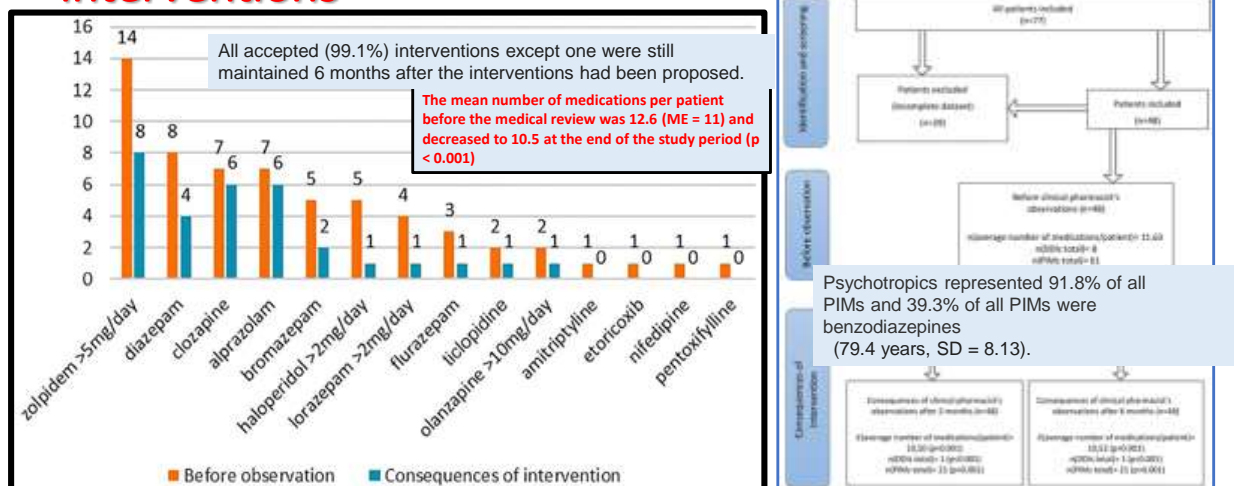
**Table 1.** Potentially inappropriate medications in the elderly pre- and post-intervention. P = Priscus list, B = Beers criteria, P + B – on both lists.

Intervention	Number of cases	Number of accepted interventions
Drug discontinuation	30	11
Medication initiation	15	3
Drug adjustment*	9	4
Treatment monitoring	7	1
Total	61	19

**Table 2.** Different intervention types, number of cases and number of accepted interventions within study. \*Lowering dose, elevation of the dose, drug administration, dose frequency.

Stuhec, M., et al. Impact of clinical pharmacist's interventions on pharmacotherapy management in elderly patients on polypharmacy with mental health problems including quality of life: A prospective non-randomized study. Scientific reports Rep 9, 16856 (2019). Available: <https://www.nature.com/articles/s41598-019-53057-w/tables/2>

# Collaboration with clinical pharmacist in elderly patients with mental health problems – long-term interventions



Stuhec M, Lah L. Clinical pharmacist interventions in elderly patients with mental disorders in primary care focused on psychotropics: a retrospective pre-post observational study. *Ther Adv Psychopharmacol.* 2021;11:20451253211011007. Published 2021 Apr 22. doi:10.1177/20451253211011007

# Collaboration with clinical pharmacist in elderly patients with mental health problems – long-term interventions

**Table 1.** Comparison of treatment guidelines adherence in patient groups before and after the medical review.

Patients group	Depression	Anxiety	Insomnia	Dementia	Schizophrenia
No of diagnosis	30	26	24	19	38
No of proposed interventions	19	11	12	3	15
No of accepted interventions	11	5	4	3	9
Treatment guidelines adherence (before) % patients	33.3% (n = 10)	61.5% (n = 16)	29.2% (n = 7)	89.4% (n = 17)	71.1% (n = 27)
Treatment guidelines adherence (after) % patients	73.3% (n = 22)	80.8% (n = 21)	54.2% (n = 13)	100.0% (n = 19)	89.5% (n = 34)
Difference	+40.0% (p < 0.05)	+19.3% (p < 0.05)	+25.0% (p < 0.05)	+11.6% (p = 0.157)	+18.4% (p < 0.05)

Stuhec M, Lah L. Clinical pharmacist interventions in elderly patients with mental disorders in primary care focused on psychotropics: a retrospective pre-post observational study. *Ther Adv Psychopharmacol.* 2021;11:20451253211011007. Published 2021 Apr 22. doi:10.1177/20451253211011007



## Antipsychotic treatment in elderly patients on polypharmacy with schizophrenia

### REVIEW



### Antipsychotic treatment in elderly patients on polypharmacy with schizophrenia

Matty Stuhec<sup>1,2</sup>

#### Purpose of review

Elderly patients with schizophrenia (SCH) are treated with antipsychotics and are often on different medications, including polypharmacy (five or more medications). Evidence-based guidelines and randomized controlled trials do not include patients on polypharmacy, something that represents a 'gap' between evidence-based recommendations and clinical prescribing patterns. In this context, narrative reviews are needed to help clinicians in daily practice.

#### Recent findings

Antipsychotic treatment efficacies in meta-analyses are similar in the elderly with SCH compared with the general population (median effect size). Long-term cohort studies show that antipsychotic treatment reduces overall mortality, hospitalizations, and cardiovascular death. These studies are limited because polypharmacy was not studied. The prevalence of antipsychotic use as potentially inappropriate medications was very high in nursing homes (22%). The prevalence of antipsychotic polypharmacy was 40%. Different strategies to manage these problems are available, including collaboration with clinical pharmacists, leading to reduced polypharmacy and better adherence to treatment guidelines.

#### Summary

Elderly patients with SCH on polypharmacy are less frequently studied, although they represent many patients with SCH. Different potentially inappropriate medications list and collaboration with clinical pharmacists represent effective strategies for medication optimization. More studies are needed on this topic (e.g., prospective randomized studies).

#### Keywords

antipsychotics, elderly patients, polypharmacy, schizophrenia

Stuhec M. Antipsychotic treatment in elderly patients on polypharmacy with schizophrenia [published online ahead of print, 2022 Jul 6]. *Curr Opin Psychiatry*. 2022;10.1097/YCO.0000000000000808. doi:10.1097/YCO.0000000000000808

## "Mental healthcare-A handbook for pharmacists" by [International Pharmaceutical Federation \(FIP\)](#)

- Available: <https://lnkd.in/eKhdtvVA>



## Outline

01

Introduction

02

Evidence vs.  
„real clinical  
practice“

03

Strategies for  
rational  
psychotropics  
use

04

Summary and  
recommendations

33

## Summary and recommendations

- **Most older patients are excluded from treatment guidelines** and well-designed RCTs and meta-analyses.
- **“Less-is-more approach”** is often the best way to reduce irrational polypharmacy in older adults.
- **Medication discontinuation** should be applied, **where applicable** (first discontinue medications with high NNT and low NNH values).
- **Education, guidelines and algorithms are effective** ways to avoid irrational polypharmacy.
- **A collaborative care approach is supported by evidence-based medicine**, suggesting that this is one of the most powerful approaches.

34



Email: [matejstuhec@gmail.com](mailto:matejstuhec@gmail.com)  
[matej.stuhec@um.si](mailto:matej.stuhec@um.si)

Thank You very much for  
Your attention.

