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INTRO

- Just give context for the gap you're filling
- You're not going to get yelled at if you don't cite the 5 papers from 1937 that defined this construct. They'll download your paper if they want that.
- Additional info

METHODS

1. N = ###,
2. Collected this
3. Tested with X statistical test
4. Additional info
5. Additional info

RESULTS

- Graph or table with essential results only.
- All the other correlations in the ammo bar.
- Additional info
- Additional info

DISCUSSION

- "If this result actually generalized and I didn't have to humbly disclaim the possibility of a thousand confounds and limitations, it would imply that...."
- Additional info

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AMMO BAR

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- Extra Correlation tables
- Extra Figures
- Extra nuance that you're worried about leaving out.
- **Keep it messy!** This section is just for you.
- Additional info

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Medication management strategies for doctors may not help to achieve meaningful outcomes in patients with polypharmacy.

What doctors can do against inappropriate prescribing and drug overuse in polypharmacy – a rapid review of clinical trials

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Background

Multimorbid patients with polypharmacy are at risk for inappropriate prescribing and harmful medication overuse.

Objective

To identify from randomized controlled trials strategies for the management of polypharmacy that practicing physicians can employ to achieve meaningful endpoints in multimorbid patients.

Methods

An a priori protocol of a sensitive search strategy for interventional trials indexed in MEDLINE and CENTRAL from 2014 to 2018, including related primary sources, was submitted to internal peer review. Studies qualified for eligibility according to prespecified inclusion criteria. The authors independently screened the results, extracted data and assessed the risk of bias using Cochrane methodology. Reporting followed the PRISMA guidelines. Certainty of evidence was appraised using the GRADE approach.

Results

Of a total of 4381 hits, 10 RCT met the inclusion criteria (Figure 1). A majority of prespecified PICO criteria were represented (Table 1). Overall risk of bias was judged as very serious (Figure 2). Incomplete reporting for a priori declared outcomes was detected in 6/10 studies (Table 2). Results from 3 RCT (1.324 patients) with high risk of bias on the effects on falls in older patients are unclear (OR 0.99, 95% CI 0.7-1.41). In 1 RCT with high risk of bias, patients (n = 732) experienced a lower rate of adverse drug events (ARR 9.7%, 95% CI 13.4-3.6). 5/7 outcomes did not allow for metaanalysis. Certainty of the effect estimates was very low for all outcomes (Table 3).

Conclusions

Despite the growing challenges of care for patients with polypharmacy and multimorbidity, evidence from clinical trials that address critical outcomes is limited. It is unclear whether the identified interventions that can be by individual physicians to reduce drug overuse and inappropriate prescribing in multimorbid patients, such as protocols for medication review or educational interventions, resulted in clinical improvements.

Table 1: Inclusion Criteria

Population	
- Represented, not represented in studies	
- Patients with polypharmacy	
- Patients with multiple chronic diseases	
- Elderly patients (>65 years)	
- Patients with inappropriate prescribing	
Interventions	
- Assessment/Medication reconciliation	
- Medication therapy management	
- Dispensing	
- Lists/tools for potentially inappropriate medications	
- Electronic drug management tools	
- Drug education	
- Peer review	
- Medical education	
Control	
- Standards of care	
Outcomes	
- Hospitalizations	
- Falls	
- Adverse drug events	
- Health-related quality of life	
- Potentially inappropriate medications	
- Drug overuse	
- Drug underuse	
Settings	
- Primary care	
- Hospitals	
- Admission	
- Outpatient clinics	
- Internal medicine wards	
- Nursing homes	

Figure 1: PRISMA flow chart

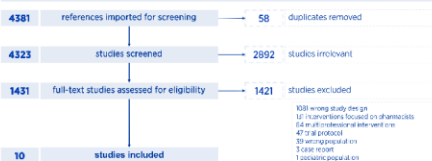


Figure 2: Risk of bias analysis



Table 2: Characteristics of included studies (including outcome reporting bias matrix)

Study	Type	Intervention	Outcomes = fully reported = completely reported = not managed and reported						
			Hospitalizations	Falls	ADRs	ICOL	DR	Overuse	Underuse
Boyle, 2007	RCT, N=402 elderly patients visiting the ED because of a fall (Netherlands)	Discontinuation or dose reduction of fall-risk-increasing drugs (FRID)	✓	✓	✓	✓	✓	✓	✓
Collins, 2007	RCT, N=146 hospital doctors (France)	Short e-learning course, doctor training tool (SCRP1) including a specific module for prescribing in older patients	✓	✓	✓	✓	✓	✓	✓
Dalmeir, 2004	RCT, N=146 frail elderly inpatients (Belgium)	Review of medications, list according to explicit criteria (STOPP criteria)	✓	✓	✓	✓	✓	✓	✓
Fiege, 2014	Cluster RCT, N=446 patients with long-term antidepressant use from 48 family practices (Netherlands)	Antidepressant cessation advice in case of inappropriate long-term use in primary care	✓	✓	✓	✓	✓	✓	✓
Friesenmaier, 2004	RCT, N=356 elderly residents at a chronic care geriatric facility prescribed with at least one medication (Israel)	Review of medications, list according to explicit criteria (STOPP/START criteria)	✓	✓	✓	✓	✓	✓	✓
Gilgagher, 2011	RCT, N=387 elderly hospitalized patients (Ireland)	Review of medications, list according to explicit criteria (STOPP/START criteria)	✓	✓	✓	✓	✓	✓	✓
Garcia-Gutierrez, 2014	Cluster RCT, N=1018 nursing home residents (Spain)	10 hours educational program on drug use, followed by on-demand support by phone	✓	✓	✓	✓	✓	✓	✓
O'Connor, 2008	Cluster RCT, N=789 healthy elderly patients admitted to the ED (Ireland)	Single time point presentation to physicians of potentially inappropriate medications according to START/STOPP criteria	✓	✓	✓	✓	✓	✓	✓
Schäfer, 2018	Cluster RCT, N=404 elderly multimorbid patients from 15 primary care practices (Germany)	3 individual narrative doctor-patient dialogues (30 minutes each) over 12-month period	✓	✓	✓	✓	✓	✓	✓
Wentling, 2016	RCT, N=409 patients from two geriatric clinics (Germany)	Review of medications, list according to explicit criteria (PORTA list)	✓	✓	✓	✓	✓	✓	✓

Table 3: Summary of Findings

Outcome	Relative effect (95% CI)	Anticipated absolute effects (95% CI)			Certainty (GRADE)
Nº of participants (studies)		Control	Intervention	Difference	
Hospitalizations					
MI of participants: 1524 (4 RCTs) 1524	-	-	-	not pooled	⊕⊕⊕⊕ VERY LOW
Falls					
MI of participants: 2049 (3 RCTs) 1524	OR 0.99 (0.70 to 1.40)	23.1%	22.9% (15.4 to 29.8)	0.2% fewer (5.7 fewer to 6.7 more)	⊕⊕⊕⊕ VERY LOW
Adverse drug events					
MI of participants: 732 (1 RCT) 1524	OR 0.48 (0.31 to 0.79)	21.0%	11.3% (7.6 to 17.3)	9.7% fewer (15.4 fewer to 3.6 fewer)	⊕⊕⊕⊕ VERY LOW
Health-related quality of life					
MI of participants: 1055 (3 RCTs) 1524	-	-	-	not pooled	⊕⊕⊕⊕ VERY LOW
Potentially inappropriate medications					
MI of participants: 2417 (5 RCTs) 1524	-	-	-	not pooled	⊕⊕⊕⊕ VERY LOW
Drug overuse					
MI of participants: 1935 (1 RCT) 1524	-	-	-	not pooled	⊕⊕⊕⊕ VERY LOW
Drug underuse					
MI of participants: 1008 (4 RCTs) 1524	-	-	-	not pooled	⊕⊕⊕⊕ VERY LOW

References

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Example by Dr. Thomas Gamstätter

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