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REVISTAS GERIÁTRICAS

BMC Geriatrics

The impact of interventions on management of frailty in hospitalized frail older adults: a systematic review and meta-analysis

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Abstract

Background

One of the most challenging issues for the elderly population is the clinical state of frailty. Frailty is defined as a cumulative decline across psychological, physical, and social functioning. Hospitalization is one of the most stressful events for older people who are becoming frail. The aim of the present study was to determine the effectiveness of interventions focused on management of frailty in hospitalized frail older adults.

Methods

A systematic review and meta-analysis of research was conducted using the Medline, Embase, Cochrane, ProQuest, CINAHL, SCOPUS and Web of Science electronic databases for papers published between 2000 and 2019. Randomized controlled studies were included that were aimed at the management of frailty in hospitalized older adults. The outcomes which were examined included frailty; physical, psychological, and social domains; length of stay in hospital; re-hospitalization; mortality; patient satisfaction; and the need for post discharge placement.

Results

After screening 7976 records and 243 full-text articles, seven studies (3 interventions) were included, involving 1009 hospitalized older patients. The quality of these studies was fair to poor and the risk of publication bias in the studies was low. Meta-analysis of the studies showed statistically significant differences between the intervention and control groups for the management of frailty in hospitalized older adults (ES = 0.35; 95% CI: 0. 067–0.632; z = 2.43; P < 0.015). However, none of the included studies evaluated social status, only a few of the studies evaluated other secondary outcomes. The analysis also showed that a Comprehensive Geriatric Assessment unit intervention was effective in addressing physical and psychological frailty, re-hospitalization, mortality, and patient satisfaction.

Conclusions

Interventions for hospitalized frail older adults are effective in management of frailty. Multidimensional interventions conducted by a multidisciplinary specialist team in geriatric settings are likely to be effective in the care of hospitalized frail elderly. Due to the low number of RCTs carried out in a hospital setting and the low quality of existing studies, there is a need for new RCTs to be carried out to generate a protocol appropriate for frail older people.

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Drugs and Aging

Use and Deprescribing of Potentially Inappropriate Medications in Frail Nursing Home Residents

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Abstract

Background

The STOPPFrail criteria were developed to assist physicians in deprescribing medications among frail patients approaching end of life. We aimed to measure the prevalence of potentially inappropriate medications (PIMs) and to describe changes over time, using STOPPFrail, in frail nursing home residents (NHRs) with limited life expectancy included in a medication review trial.

Methods

We conducted a post-hoc analysis of the COME-ON study, a cluster-controlled trial that evaluated the effect of a complex intervention on appropriateness of prescribing in Belgian nursing homes. We identified NHRs eligible for the application of STOPPFrail based on functional status, comorbidities, level of care and survival. PIM use was measured at baseline and at 8 months. Changes over time were compared in the control group (CG) and intervention group (IG).

Results

At baseline, 308 NHRs met the STOPPFrail eligibility criteria, of whom 196 (64.1%) had one or more PIM. At 8 months, among the 218 NHRs who were alive, there was an absolute reduction in the prevalence of PIMs of 9.1% in the CG ($p < 0.05$) and 10.2% in the IG ($p < 0.05$). We found large reductions for some medications (e.g. proton pump inhibitors) but no reduction for others (e.g. calcium). The percentage of NHRs with one or more PIM discontinued without a new PIM initiated was higher in the IG than the CG but the difference was not significant (35.1% vs 23.6%, $p = 0.127$).

Conclusion

Among frail NHRs with poor survival prognosis, a significant and encouraging decrease in PIM prevalence over time was observed, probably facilitated by medication reviews. The overall prevalence of PIMs remained high, however.

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Safety and Effectiveness of Biologic Disease-Modifying Antirheumatic Drugs in Older Patients with Rheumatoid Arthritis: A Prospective Cohort Study

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Abstract

Background and Objective

The number of older patients with rheumatoid arthritis is increasing, but data on drug effectiveness and safety in these patients are scarce. This study assessed the effectiveness and safety of biologic disease-modifying antirheumatic drugs in older patients with rheumatoid arthritis.

Methods

This prospective cohort study was based on data recorded in the Rheumatic Diseases Portuguese Register (Reuma.pt). Treatment persistence, European League Against Rheumatism response at 6 and 12 months, and adverse events were compared between adult (age < 65 years), old (age 65–74 years), and very old (age ≥ 75 years) patients.

Results

In total, 2401 patients were included, of which 379 were old and 83 were very old. Older patients had higher disease activity at baseline (Disease Activity Score 28: 5.5 in adults, 5.7 in old patients, and 6 in very old patients; p = 0.02) and more comorbidities, with patients aged 65–74 years beginning biologic disease-modifying antirheumatic drugs later in the course of rheumatoid arthritis. Treatment persistence was similar in the three patient groups (p = 0.07). The European League Against Rheumatism response rates were comparable in the three groups at 6 months (81.6% of adults, 75.2% of old patients, and 81.8% of very old patients; p = 0.19), and inferior in old patients at 12 months. The proportion of patients who experienced adverse events was also similar in the three groups (21% of adults, 22.5% of old patients, and 22.9% of very old patients; p = 0.76), but the rate of serious adverse events was higher in old patients (1.94/100 patient-years) and very old patients (4.29/100 patient-years) compared with 1.03/100 patient-years in adult patients with rheumatoid arthritis (p < 0.05).

Conclusions

Adults, old patients, and very old patients with rheumatoid arthritis benefit similarly from biologic disease-modifying antirheumatic drug treatments, although older patients have more active disease at baseline and more comorbidities. However, it is necessary to consider the risk of serious adverse events in older patients when prescribing a biologic.

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European Geriatric Medicine

Polypharmacy, benzodiazepines, and antidepressants, but not antipsychotics, are associated with increased falls risk in UK care home residents: a prospective multi-centre study

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Abstract

Purpose

Falls and polypharmacy are both common in care home residents. Deprescribing of medications in residents with increased falls risk is encouraged. Psychotropic medications are known to increase falls risk in older adults. These drugs are often used in care home residents for depression, anxiety, and behavioural and psychological symptoms of dementia. However, a few studies have explored the link between polypharmacy, psychotropic medications, and falls risk in care home residents.

Methods

This was a prospective cohort study of residents from 84 UK care homes. Data were collected from residents' care records and medication administration records. Age, diagnoses, gender, number of medications, and number of psychotropic medications were collected at baseline and residents were monitored over three months for occurrence of falls. Logistic regression models were used to assess the effect of multiple medications and psychotropic medication on falls whilst adjusting for confounders.

Results

Of the 1655 participants, mean age 85 (SD 8.9) years, 67.9% female, 519 (31%) fell in 3 months. Both the total number of regular drugs prescribed and taking ≥ 1 regular psychotropic medication were independent risk factors for falling (adjusted odds ratio (OR) 1.06 (95% CI 1.03–1.09, $p < 0.01$) and 1.39 (95% CI 1.10–1.76, $p < 0.01$), respectively). The risk of falls was higher in those taking antidepressants ($p < 0.01$) and benzodiazepines ($p < 0.01$) but not antipsychotics ($p > 0.05$).

Conclusion

In UK care homes, number of medications and psychotropic medications (particularly antidepressants and benzodiazepines) predicted falls. This information can be used to inform prescribing and deprescribing decisions.

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Revista Española de Geriatría y Gerontología

Impact of antithrombotic treatment and geriatric syndromes in octogenarians with atrial fibrillation and ischaemic heart disease. Atrial Fibrillation and Ischemic Heart Disease in the Elderly

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Background and objectives

The prevalence of atrial fibrillation (AF) and ischaemic heart disease (IHC) increases with age. They coexist in up to 20% of octogenarian patients, a situation that poses a therapeutic challenge. Trials that have addressed this scenario, which included a low percentage of octogenarians, showed that double therapy (single antiplatelet + anticoagulation) compared to triple therapy (double antiplatelet + anticoagulation) was associated with less bleeding events, especially with direct oral anticoagulants. These studies did not have sufficient power to detect differences in ischaemic events. On the other hand, prevalent characteristics in the elderly, such as geriatric syndromes, were not assessed in these studies, and are not usually evaluated in clinical practice. Accordingly, their prognostic impact remains unknown in this clinical context.

Methods

Observational, prospective, and multicentre study that will include patients ≥ 80 years with AF and IHC in Spain. Baseline characteristics and geriatric syndromes will be assessed, as well as the choice of antithrombotic treatment. The primary endpoint is cardiovascular and overall mortality at one and three years follow-up.

Results

This study will assess both characteristics and prognosis of octogenarian patients with AF and IHC in Spain, the factors involved in the choice of antithrombotic treatment, and the incidence of ischaemic and haemorrhagic events during the short- and long-term follow-up.

Conclusion

This study will contribute to improve the knowledge in terms of safety and efficacy of the different therapeutic options in older patients with AF and IHC, as well as their prognostic impact.

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Prevalence of prescription of anticholinergic/sedative burden drugs among older people with dementia living in nursing homes

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Abstract

Background and objective

Dementia is one of the most frequent diseases in the elderly, being its prevalence of up to 64% in institutionalized people. In this population, in addition to antidementia drugs, it is common to prescribe drugs with anticholinergic/sedative burden that, due to their adverse effects, could worsen their functionality and cognitive status.

The objective is to estimate the prevalence of the use of drugs with anticholinergic/ sedative burden in institutionalized older adults with dementia and to assess the associated factors.

Materials and methods

A cross-sectional study developed in older with dementia living in nursing homes. The prevalence of prescription of anticholinergic/sedative drugs was estimated according to the Drug Burden Index (DBI). A comparative analysis of the DBI score was performed between different types of dementia as well as among various factors and according to the anticholinergic/sedative risk, establishing as a cut-off point of DBI≥1 (high anticholinergic/sedative risk).

Results

178 residents were included. 83.7% had some drug with anticholinergic/sedative burden according to DBI. 50% had a DBI≥1 score. Residents with vascular dementia had a mean DBI of 1.34 (SD 0.84), a significantly higher score than residents with Alzheimer's disease (0.41, 95% CI 0.04-0.78).). Likewise, a higher DBI was associated with more polypharmacy (3.36; 95% CI 2.64-4.08), more falls, hospital admissions and emergency room visits *(P*<.05).

Conclusions

Polypharmacy and prescription of anticholinergic/sedative drugs is frequent among institutionalized older adults with dementia, finding an association between DBI, falls and hospital admissions or emergency department visits. Therefore, it is necessary to propose interdisciplinary pharmacotherapeutic optimization strategies

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International Journal of Geriatric Psychiatry

Comparative risk of adverse outcomes associated with nonselective and selective antimuscarinic medications in older adults with dementia and overactive bladder

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Abstract

Objective

The differential muscarinic receptor selectivity could cause selective antimuscarinics to offer advantages over nonselective agents with respect to adverse effects. The objective was to examine the comparative risk of falls/fractures and all-cause hospitalizations among older adults with dementia and overactive bladder (OAB) using nonselective and selective antimuscarinics

Methods/Design

A retrospective cohort study design was conducted among older patients with dementia and OAB using incident antimuscarinics. The primary exposure was classified as nonselective (oxybutynin, tolterodine, trospium, and fesoterodine) and selective (solifenacin and darifenacin). Cox proportional-hazards regression using inverse probability of treatment weighting (IPTW) evaluated the risk of falls/fractures and all-cause hospitalizations within 6 months of nonselective and selective antimuscarinic use.

Results

The study cohort consisted of 13,896 (76.9%) nonselective and 4,179 (23.1%) selective antimuscarinic incident users. The unadjusted falls/fractures rate was 27.14% (3,772) for nonselective and 24.55% (1,026) for selective users (p-value< 0.01). The unadjusted all-cause hospitalizations rate was 24.14% (3,354) for nonselective and 21.58% (902) for selective users (p-value <0.01). The IPTW models did not find a significant difference in the risk of falls/fractures (Hazard Ratio [HR] 1.03; 95% Confidence Interval [CI] 0.99–1.07) and risk of all-cause hospitalizations (HR 1.04; 95% CI 0.99–1.08) between nonselective and selective antimuscarinics. Several sensitivity analyses corroborated the main findings.

Conclusions

The study did not find a differential risk of falls/fractures and all-cause hospitalizations in older adults with dementia and OAB using nonselective and selective antimuscarinics. More research is needed to understand the role of pharmacodynamics and pharmacokinetics in the safety profile of antimuscarinics in dementia.

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British Journal of Clinical Pharmacology

Potentially inappropriate medication use and related hospital admissions in aged care residents: The impact of dementia

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Abstract

Aims

To determine the prevalence of potentially inappropriate medication (PIM) use at hospital admission and discharge, and the contribution to hospital admission among residential aged care facility residents with and without dementia.

Methods

We conducted a secondary analysis using data from a multihospital prospective cohort study involving consecutively admitted older adults, aged 75 years or older, who were taking 5 or more medications prior to hospital admission and discharged to a residential aged care facility in South Australia. PIM use was identified using the 2015 Screening Tool for Older Persons' Prescription and 2019 Beers criteria. An expert panel of clinicians with geriatric medicine expertise evaluated the contribution of PIM to hospital admission.

Results

In total, 181 participants were included, the median age was 87.5 years and 54.7% were female. Ninety-one (50.3%) had a diagnosis of dementia. Participants with dementia had fewer PIMs, according to at least 1 of the 2 screening criteria, than those without dementia, at admission (dementia: 76 [83.5%] vs no dementia: 84 [93.3%], P = .04) and discharge (78 [85.7%] vs 83 [92.2%], P = .16). PIM use was causal or contributory to the admission in 28.1% of study participants (n = 45) who were taking at least 1 PIM at admission.

Conclusions

Over 80% of acutely admitted older adults took PIMs at hospital admission and discharge and for over a quarter of these people the admissions were attributable to PIM use. Hospitalisation presents an opportunity for comprehensive medication reviews, and targeted interventions that enhance such a process could reduce PIM use and related harm.

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European Journal of Hospital Pharmacy

Development and validation of a ready-to-use score to prioritise medication reconciliation at patient admission in an orthopaedic and trauma department.

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Abstract

Objective

Medication reconciliation (MR) is recognised as an important tool in preventing medication errors such as unintentional discrepancies (UDs). The aim of this study was to identify independent predictive factors of UDs during MR at patient admission to an orthopaedic and trauma department. The secondary objective was to build and validate a ready-to-use score to prioritise patients.

Method

A retrospective study was performed on 3.5 years of pharmacist-led MR in the orthopaedic and trauma department of a large university teaching hospital. Independent predictors of UD were identified by multivariable logistic regression. A priority score to identify patients at risk of at least one UD was constructed from the odds ratios of the risk factors, and validated in a separate cohort. Performance was assessed with sensitivity, specificity, C-statistic and Hosmer-Lemeshow goodness-of-fit.

Results

In total, 888 patients were included and 387 UDs were identified, mainly drug omissions (65.1%). Five independent predictors of UD were identified: age >75 years (OR 2.05, 95% CI 1.41 to 3.00; p<0.001), admission during school holidays (OR 1.69, 95% CI 1.17 to 2.44; p=0.005), female gender (OR 2.20, 95% CI 1.53 to 3.16; p<0.001), emergency hospitalisation (OR 2.05, 95% CI 1.45 to 2.92; p<0.001), and ≥5 medications on the best possible medication history (BPMH) (OR 3.29, 95% CI 2.20 to 4.94; p<0.001). Based on these predictors, a priority score ranging from 0 to 10 was built and internally and externally validated (C statistic 0.72, 95% CI 0.67 to 0.76).

Conclusions

This study confirms the high prevalence of UD in patients admitted to orthopaedic and trauma surgery departments. Five independent predictive factors of UD during MR were identified (female gender, emergency hospitalisation, hospitalisation during school holidays, age ≥75 years, and ≥5 medicines on the BPMH). The developed risk score will help to prioritise MR among patients at risk of medication error and is ready-to-use in other orthopaedic and trauma departments.

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Pharmacoepidemiology and Drug Safety

Impact of a nationwide prospective drug utilization review program to improve prescribing safety of potentially inappropriate medications in older adults: An interrupted time series with segmented regression analysis

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Abstract

Purpose

A nationwide prospective drug utilization review (DUR) for potentially inappropriate medications (PIMs) in older adults was implemented in October 2015 in South Korea. We aimed to evaluate the effects of the DUR on reducing PIMs, in comparison with the PIMs defined using the Beers criteria that were not included in the DUR.

Methods

We divided the study period into a pre- and post-DUR period. The monthly percentage of patients or prescriptions with at least one PIM in the DUR or defined by the Beers criteria was calculated using national health insurance data. We evaluated the effect of the DUR on the prevalence of PIM use in older adults using an interrupted time series with segmented regression analysis.

Results

The prevalence of older adults prescribed PIMs in the DUR decreased by 0.49% (95% confidence interval (CI) [−0.60, −0.37]) based on patient-based measures and, by 0.41% (95% CI [−0.58, −0.23]) based on prescription-based measure, immediately after DUR implementation. However, there were no statistically significant changes in trend. Further, the prevalence of PIMs based on the Beers criteria had no statistically significant changes in terms of either level or trend. After 12 months of DUR, there was a reduction of 11.5% (95% CI [2.6 20.4]) relative to the PIMs in Beers.

Conclusions

The implementation of a nationwide prospective DUR lowered the prescription of PIMs for older adults. On the other hand, PIMs that were not included were unchanged. Thus, it is worth considering expanding the DUR list to improve prescribing safety.

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New England Journal of Medicine

Once-Weekly Insulin for Type 2 Diabetes without Previous Insulin Treatment

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Abstract

BACKGROUND

It is thought that a reduction in the frequency of basal insulin injections might facilitate treatment acceptance and adherence among patients with type 2 diabetes. Insulin icodec is a basal insulin analogue designed for once-weekly administration that is in development for the treatment of diabetes.

METHODS

We conducted a 26-week, randomized, double-blind, double-dummy, phase 2 trial to investigate the efficacy and safety of once-weekly insulin icodec as compared with once-daily insulin glargine U100 in patients who had not previously received long-term insulin treatment and whose type 2 diabetes was inadequately controlled (glycated hemoglobin level, 7.0 to 9.5%) while taking metformin with or without a dipeptidyl peptidase 4 inhibitor. The primary end point was the change in glycated hemoglobin level from baseline to week 26. Safety end points, including episodes of hypoglycemia and insulin-related adverse events, were also evaluated.

RESULTS

A total of 247 participants were randomly assigned (1:1) to receive icodec or glargine. Baseline characteristics were similar in the two groups; the mean baseline glycated hemoglobin level was 8.09% in the icodec group and 7.96% in the glargine group. The estimated mean change from baseline in the glycated hemoglobin level was −1.33 percentage points in the icodec group and −1.15 percentage points in the glargine group, to estimated means of 6.69% and 6.87%, respectively, at week 26; the estimated between-group difference in the change from baseline was −0.18 percentage points (95% CI, –0.38 to 0.02, P=0.08). The observed rates of hypoglycemia with severity of level 2 (blood glucose level, <54 mg per deciliter) or level 3 (severe cognitive impairment) were low (icodec group, 0.53 events per patient-year; glargine group, 0.46 events per patient-year; estimated rate ratio, 1.09; 95% CI, 0.45 to 2.65). There was no between-group difference in insulin-related key adverse events, and rates of hypersensitivity and injection-site reactions were low. Most adverse events were mild, and no serious events were deemed to be related to the trial medications.

CONCLUSIONS

Once-weekly treatment with insulin icodec had glucose-lowering efficacy and a safety profile similar to those of once-daily insulin glargine U100 in patients with type 2 diabetes.

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