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Other medical conditions

75 MANAGEMENT OF HYPERTENSION IN COMMUNITY-DWELLING OLDER PEOPLE HAS IMPROVED OVER THE LAST DECADE AND IS NOT ASSOCIATED WITH INCREASE RISK OF FALLS, DIZZINESS OR SYNCOPE

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Introduction: Over the last decade it has been recognised that effective blood pressure (BP) control reduces morbidity and mortality in all ages. Nevertheless, BP management in older people is often suboptimal. Twenty-four hour ambulatory BP monitoring (ABPM) helps correctly diagnose hypertensive patients and avoids over medication, particularly among older people. Recent NICE guidelines recommend routine use of ABPM and intervention where the mean daytime BP is >135/85.
Aim: To examine how the management of hypertension in older-people has changed over the last decade and if there have been associated changes in rates of falls, dizziness or syncope.
Methods: In 2002, 122 community-dwelling people aged ≥75 years were recruited from a GP surgery in the north of England. Clinical history was recorded and consenting individuals underwent ABPM. Ten years later a further cohort of 104 individuals aged ≥75 from the same general practice underwent identical assessment.
Results: The groups were age matched [median age 79 years (IQ range 76–83)]. Significantly more participants had recognised hypertension at the 2012 assessment (58%) than in 2002 (41%), $P = 0.027$. ABPM recordings showed significantly fewer undiagnosed hypertensive individuals in 2012 (14%) that in 2002 (28%), $P < 0.001$. Significantly more hypertensive individuals were optimally treated in 2012, (44%) versus (19%), $P < 0.001$. Minimum and mean systolic BP were significantly lower in the 2012 cohort, but maximum systolic BP and diastolic BP did not differ. Use of ACE inhibitor, angiotensin receptor blockers and diuretics had significantly increased over the 10-year interval. Patient reported rates of falls, dizziness and syncope had not risen significantly. Ischaemic heart disease was significantly less common in the 2012 cohort, $P < 0.05$.
Conclusion: Hypertension in older people is better recognised and more effectively managed now than 10 years ago. This has not been associated with a significant change in rates of falls, dizziness or syncope.

76 VITAMIN D SUPPLEMENTATION TO REDUCE BLOOD PRESSURE IN OLDER PATIENTS WITH ISOLATED SYSTOLIC HYPERTENSION: A RANDOMISED CONTROLLED TRIAL

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Introduction: Observational data link low 25-hydroxyvitamin D levels to both prevalent blood pressure and incident hypertension. Although existing trial data suggest a possible antihypertensive effect of vitamin D supplementation, no trial has examined the effect of vitamin D supplementation in isolated systolic hypertension, the commonest pattern of hypertension in older people.
Methods: Parallel group, double blind, placebo controlled, randomised trial. Patients aged 70 and over with isolated systolic hypertension (supine systolic >140 mm Hg, supine diastolic <90 mm Hg) were recruited from clinics and primary care. Participants were randomised to receive either 100,000 units oral vitamin D3 or matching placebo every 3 months for a year. The primary outcome measure measured every 3 months was office blood pressure; secondary outcomes included 24-h blood pressure, arterial stiffness measured using applanation tonometry, endothelial function measured using flow-mediated dilatation of the brachial artery, cholesterol, insulin resistance, B-type natriuretic peptide levels, falls and 6-minute walk distance.
Results: A total of 159 participants were randomised, mean age 77 years. The mean baseline office systolic blood pressure was 163/78 mmHg, and mean baseline 25-hydroxyvitamin D level was 45 nmol/l; 25-hydroxyvitamin D levels rose in the treatment group compared with the placebo group (+20 nmol/l at 1 year, $P < 0.001$). No significant effect was evident on the primary outcome of change in office blood pressure (−0.7/−1.6 mmHg for vitamin D compared with placebo at 3 months; +1.1/ + 0.3 mmHg overall treatment effect). No effect was evident on any of the secondary outcomes (24-h blood pressure, arterial stiffness, endothelial function, cholesterol, glucose, walk distance). There was no excess of adverse events in the treatment group; total number of falls was non-significantly lower in the vitamin D group (36 versus 46, $P = 0.24$).
Conclusion: Vitamin D supplementation did not improve blood pressure or markers of vascular health in older patients with isolated systolic hypertension.

77 INSIGHTS INTO THE CLINICAL MANAGEMENT OF THE SYNDROME OF SUPINE HYPERTENSION–ORTHOSTATIC HYPOTENSION (SH–OH): THE IRISH LONGITUDINAL STUDY OF AGEING

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Introduction: Our previously proposed morphological classification of orthostatic hypotension (MOH) is an approach to the definition of three typical orthostatic haemodynamic patterns using non-invasive beat-to-beat monitoring. In particular, the MOH pattern of large drop/non-recovery (MOH-3) resembles the syndrome of supine hypertension–orthostatic hypotension (SH–OH), which is a treatment challenge for clinicians. The aim of this study was to characterise MOH-3 in the first wave of the Irish Longitudinal Study of Ageing, with particular attention to concurrent symptoms of orthostatic intolerance (OI), prescribed medications and association with a history of faints/blackouts.
Method: The study included all TILDA wave 1 participants who had a Finometer® active stand ($n = 5{,}068$). Characterisation variables included demographics, cardiovascular and neurological medications (WHO-ATC classification), and information on comorbidities and disability. Multivariable analyses were based on Generalised Linear Models (GLM).
Results: Of the 5,068 cases, 1,144 (23%) were classified as having an MOH-3 pattern. In the GLM to predict MOH-3 membership, statistically significant factors were: peripherally acting antiadrenergic agents (OR = 2.06, 95% CI: 1.24–3.42, $P = 0.005$), antidepressants (OR = 1.44, 95% CI: 1.08–1.93, $P = 0.013$), beta-blockers (OR = 1.34, 95% CI: 1.05–1.70, $P = 0.018$), history of hypertension (OR = 1.23, 95% CI: 1.02–1.49, $P = 0.031$), and age (OR = 1.03, 95% CI: 1.03–1.04, $P < 0.001$). MOH-3 was an independent predictor of OI after full adjustment (OR = 1.40, 95% CI: 1.22–1.61, $P < 0.001$). OI was an independent predictor of history of falls/blackouts after full adjustment (OR = 1.25, 95% CI: 1.08–1.45, $P = 0.003$).
Conclusion: Alpha-blockers, antidepressants and beta-blockers were significant contributors to an impaired orthostatic haemodynamic response, and should be used judiciously in older patients with SH-OH. Several trials (e.g. SYST-EUR, CONVINCE, VALUE) have demonstrated the benefits of treating older hypertensive patients with cardiovascular medications that were not associated with adverse outcomes in our study. Therefore, the evidence of benefit does not necessarily have to conflict with the evidence of potential harm.

78 METABOLIC HEALTH AND COGNITIVE OUTCOMES WITHIN THE BMI CATEGORIES

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Introduction: The metabolic syndrome and its individual components are known to have a negative impact on cognitive function in older persons [1]. Recently published work from the Whitehall II cohort found no difference in a cognitive score between the MH and MU obese subjects in early old age but did find a difference for the normal and overweight groups [2]. We investigated the TILDA cohort to determine the association between metabolic health and cognitive outcomes within each BMI category.
Methods: Sampling and data collection for TILDA has previously been described. Metabolically individuals were defined using cut-points adapted from the International Diabetes Federation consensus definition of the metabolic syndrome, 2006. Regression analysis was performed to compare outcomes of cognitive function. Age, gender, BMI, educational level and smoking status were identified as confounders for inclusion in the regression model.
Results: The cohort consisted of a stratified clustered sample of 8,175 individuals' representative of the community-living Irish population aged 50 years and over. The MH and MU groups had no significant differences in cognitive outcomes within the underweight, normal weight or overweight categories. For the obese group, the MH group had significantly better recall outcomes compared with their MU counterparts.
Conclusions: Our results suggest that metabolic health does not have a significant effect on baseline cognitive outcomes when analysed by BMI category, except in the obese. Longitudinal data will provide information of the cognitive trajectories of these groups.
References
1. Raffaitin C, Feart C, Le Goff M, *et al. Neurology* 2011; 76: 518–25.
2. Singh-Manoux A, Cernichoz S, Elbaz A, *et al. Neurology* 2012; 79: 755–62

79 CHARACTERISTICS OF OLDER FREQUENT ATTENDERS TO AN INNER-CITY HOSPITAL EMERGENCY DEPARTMENT

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Introduction: Previous studies of frequent attenders (FAs) to emergency departments (EDs) have examined all age-groups. However, with changing demographics older people account for increasing ED attendances. The characteristics of older FAs are poorly understood.
Methods: A retrospective study evaluating ED attendance data over a 3-year period (2009–11) to the ED of a University Teaching Hospital. FAs were defined as four or more attendances within a 12-month period. Re-attendance or return patients (for same complaint) within a 24-h period were not included. Patient demographics, presenting complaint and disposition were compared with a cohort of non-FAs. Chi-square tests and logistic regression were used to compare frequent and non-FAs.

Results: There were 137,150 ED attendances between 2009 and 2011; 21.6% were aged >65 years ($n = 29,635$). Of those eligible for the study ($n = 19,310$ with 28,602 attendances) 4.4% were FAs. FAs accounted for 16.6% of all attendances by patients over 65 years ($n = 4,744$). The mean age was 77.2 years (SD: 7.7), with no statistical difference by age. Men were more likely to be FA than women ($P = 0.003$). FAs were significantly more likely to attend with dyspnoea, chest pain and abdominal pain ($P < 0.0001$) than non-FAs. Analysis by referral source showed no significant difference.

Fewer FAs ($n = 2,415$) were admitted than non-FAs ($n = 13,234$) (51 versus 55.5%, $P < 0.0001$). Fifteen percent ($n = 709$) versus 12% ($n = 2831$) were discharged to self-care. There were similar rates of referral back to GP (12 versus 12%) or referred to OPD 7% ($n = 330$) versus 9.9% ($n = 2,355$).

Conclusions: A small amount of patients contributed disproportionally to overall ED activity in the over 65-year age group. Complaints differ from younger frequent attenders where psychosocial issues and alcohol related presentations predominate. Further prospective study to fully characterise this cohort would be important to inform interventions to reduce ED attendance in the older frequent attenders.

80 ADULTS WITH SYNCOPE: SYNCOPE IN YOUTH AS A MODERATOR FOR RECENT SYNCOPE AND HEALTH OUTCOMES IN THE IRISH LONGITUDINAL STUDY ON AGEING

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Introduction: Approximately 40% of the population will experience a faint; commonly due to vasovagal syncope (VVS). Syncope peaks between 17 and 25 and again later in life when cardiac causes are common. VVS is considered benign—a physiological response to orthostatic or psychological stress rather than a pathophysiological condition. This study examined clinical correlates of syncope and explored whether syncope in youth affects the relationship between recent syncope and current health outcomes—self-reported health (SRH), disabilities, quality-of-life (QoL), depression, anxiety, memory and fear of falling.

Methods: Data are from a population-based sample [the Irish Longitudinal Study on Ageing (TILDA)] of community-dwelling adults aged 50 and older ($n = 8,149$). Syncope was assessed with the self-reported history: 'have you ever fainted' (3.9%); number of episodes in the past year (range 1–83) and fainters were asked to recall whether they fainted in youth (22.3%). Multivariate regression models were used controlling for; sex, education, age and comorbidities.

Results: The majority of lifetime fainters were female (72.9%), did not differ in age [non-fainters (mean = 62.0) versus lifetime fainters (mean = 63.5)] and half (52.9%) had at least one comorbidity. Multivariate regression results suggested adults with recent syncope had worse depression, SRH, day-to-day memory, lower QoL, were more fearful of falling, absent minded and more limitations (IADLs and ADLs). Youth syncope was associated with worse anxiety. Finally, syncope in youth moderated the relationship between recent syncope, SRH and depression in relation to multiple syncopal episodes. Multiple fainters with no youth syncope had worse depression ($B = -6.72$, $P < 0.001$) and worse SRH ($B = 0.19$, $P = 0.001$), than multiple fainters with youth syncope.

Conclusion: Results suggest that the effects of syncope on health outcomes are detrimental and syncope in youth can have lifelong impact. When designing interventions to improve health outcomes, both syncope history and number of recent episodes should be considered.

81 CONCURRENT USE OF MEDICATION AND FOOD SUPPLEMENTS IN GENERAL POPULATION AGED 50 YEARS AND MORE IN IRELAND

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Introduction: Despite easy access to various food supplements, little is known about the prevalence of concurrent use and potential interactions with medicines in older people in Ireland.

Methods: Data were obtained from the first wave of the nationally representative The Irish Longitudinal Study on ageing (TILDA), which included 8,175 community-dwelling participants aged ≥50 who were assessed for socio-economic and health aspects of their lives. Their prescription, non-prescription medicines and other health products taken 'on a regular basis' were recorded. Concurrent medication and food supplement use was compared across gender and age groups (50–64, 65–74, ≥75 years). Prevalences including 95% confidence intervals (CI) were weighted to the population. Group differences were assessed using Pearson's Chi-square test and associations between concurrent medicine-food supplement use and covariates were assessed using logistic regression. Potential major interactions were assessed with two databases: Micromedex and Lexi-Comp.

Results: Concurrent use of food supplements and medicines was reported by 8.2% (95% CI: 7.3–9.3%) of men and 19.5% (95% CI: 18.2–21.0%) of women and was significantly higher in women in all age groups. Independent-associated factors related to concurrent use were being a women, retired, middle class, well educated, a non-smoker, having chronic disease, with polypharmacy and with medical insurance.

Potential medicine–food supplement interactions were detected in 53 instances or 4.5% (95% CI: 3.4–5.8%) of concurrent users of medicine and food supplements. Major adverse reactions involved increased risk of internal bleeding.

Conclusions: Concurrent medicine–food supplement use is prevalent, especially in the elderly where risk of adverse reaction is highest. Typical users have many factors associated with increased risk of medicine–food supplement interactions and concurrent use should be assessed and monitored regularly.

82 MORBIDITY AND MORTALITY FOLLOWING RELOCATION OF HIGHLY DEPENDENT LONG-TERM CARE RESIDENTS: A RETROSPECTIVE ANALYTICAL STUDY

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Introduction: In the 2010 census, 11.9% of the Irish population were aged over 65 and nearly 5% of this group reside in long-term care facilities (LTCFs). In the past 18 months, 1,200 LTCF beds have been closed for various reasons resulting in residents being transferred between facilities. Our aim was to examine morbidity and mortality in residents relocated between LTCFs.

Methods: We studied the outcomes for residents from two LTCFs that care for the most highly dependent residents in our region. One LTCF closed completely and the second unit partially closed. We used the residents of the second unit who did not transfer as controls. A retrospective analysis was done recording: demographic data; cumulative illness (CIRS-G), dementia (CDR), mobility and functional level. As a measure of morbidity, we examined new antidepressant and antibiotic usage. Mortality at 30 and 90 days was recorded.

Results: We studied 76 transferred residents (mean age 82.1, male 38.2%) and 62 controls (mean age 82.4, male 33.9%). Both groups were highly dependent (modified Barthel index: control group 1.7 versus transfer group 2.6). Both groups had a high 90-day mortality (18.4 versus 17.7%). However, there was an increased early mortality in the transfer group, with two-thirds of deaths in the first 30 days. There was higher prescription rate of antibiotics among the relocated residents prior to transfer (59.2 versus 27.4%, $P = 0.017$). After transfer residents had a greater number of new antidepressant prescriptions than non-movers (19.7 versus 8.1%, $P = 0.05$).

Conclusions: Our results show an increased early mortality and increased mood disturbance in highly dependent residents that transfer LTCFs. The increased antibiotic use prior to relocation could relate to increased stress before transfer as demonstrated in other studies. Proper planning and vigilance by staff is essential to minimise any distress caused to patients during relocation.

83 THE PREDICTIVE PROPERTIES OF FRAILTY-RATING SCALES IN THE ACUTE SETTING

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Introduction: Older people are at an increased risk of adverse outcomes following attendance at acute hospitals. It has been proposed that using screening tools may help identify those most at risk. The objective of this study was to compare the predictive properties of five frailty-rating scales to assess whether they play a role in risk stratification.

Methods: This was a secondary analysis of a cohort of participants aged 70 years and above attending two acute medical units in the East Midlands, UK. Five different frailty-rating scales were created and the participants were dichotomised as frail or non-frail. The predictive properties of each scale were assessed for 90-day mortality, readmissions, institutionalisation, functional decline and a composite outcome using area under a receiver operating characteristic curve (AUC).

Results: A total of 667 participants were included in this study. Frail participants according to all scales were associated with a significant increased risk in mortality [relative risk (RR) range between 1.6 and 3.1], readmission (RR range between 1.1 and 1.6), functional decline (RR range between 1.2 and 2.1) and the composite (RR range between 1.2 and 1.6). However, the predictive properties of the frailty-rating scales were poor for all outcomes assessed (AUC: 0.44–0.69).

Conclusions: The results highlight that frailty-rating scales play a limited role in risk stratifying the older population in the acute hospital setting.

84 MEDICAL AND DENTAL FACTORS INFLUENCING THE DYNAMICS OF ORAL COLONISATION WITH POTENTIAL RESPIRATORY PATHOGENS IN OLDER PATIENTS WITH LOWER LIMB FRACTURE

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Introduction: Oral colonisation with potential respiratory pathogens (OCRP) is both a risk factor and a potential target for intervention for hospital acquired pneumonia (HAP). However, little is known about colonisation dynamics nor patient factors contributing to OCRP. We investigated OCRP in patients with lower limb fracture with novel real-time PCR assays and used generalised linear modelling to investigate associated patient factors.
Methods: Tongue/throat swabs were taken at Day 0–2, 3, 5, 7 and 14 from patients admitted with lower limb fracture. Demographic data, comorbidities, drug history, recent antibiotic use, number of teeth, presence of dentures, deprivation score and functional indices were recorded. Plaque was scored at Day 0–2, 7 and 14 using the modified Quigley Hein index. Novel multiplex real-time PCR assays were used to detect *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Eschericibia coli*, *Streptococcus aureus*, MRSA, *Pseudomonas aeruginosa* and *Acinetobacter haumannii*. The relationship between OCRP and dental/demographic variables was investigated using generalised linear modelling (binomial). All analyses were undertaken in R (R: A language and environment for Statistical computing, Vienna, Austria).
Results: Samples were collected from 91 patients. Of 73 patients with positive samples, 17 had transient acquisition of a single pathogen and 56 had single ($n = 26$) or mixed pathogen colonisation ($n = 30$). *Streptococcus pneumoniae* was detected most frequently, followed by *Haemophilus influenzae*. Carriage began within 72 h of admission in the majority of cases, even with *E. coli*. *Streptococcus pneumoniae* carriage was highly significantly ($^{**}P < 0.01$) associated with being 'fit' (increased tooth number**, decreased frailty* and comorbidity*) while H. influenzae was associated with increased deprivation**, denture wearing** and frailty**. *Streptococcus aureus* was associated with recent antibiotic use**, increased comorbidity** and increased dental plaque at admission*.
Conclusions: Interventions to prevent HAP by oral disinfection should commence within 72 h of hospital admission. The hospital environment may not be the source of these organisms.

85 USING 'NUTRITIONAL NARRATIVE' AND FOCUS GROUPS TO UNDERSTAND HOW NUTRITIONAL CARE CAN BETTER PRIORITISED FOR OLDER PEOPLE IN HOSPITAL SETTINGS

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Introduction: Poor nutritional status among older people is well documented with 40% of older people reported as malnourished on hospital admission. Poor nutrition contributes to increased infection, poorer patient outcomes and death and longer hospital stays. In this study, we assessed the 'nutrition narrative' from older hospital patients together with nutrition knowledge among nursing and medical staff and students.
Methods: The study used a convenience sample of older people (30, mean age 82 years) in two large geographically separate city hospitals. Patients mentally alert and consenting, gave a recorded 'nutrition narrative' to get a sense of how they felt their nutritional needs were being met in hospital. Main themes were identified by grounded analysis framework. Focus groups were recruited from medical/nursing teachers and students to assess their working knowledge of nutrition and the nutritional needs of the older patient group.
Results: Analysis of the 'nutrition narrative' suggested several themes (i) staff should listen to patients' needs/wishes in discussion with themselves and family members (ii) staff should continue to encourage and progress a positive eating experience (iii) staff should monitor food eaten/or not eaten and increase regular monitoring of weight. The focus groups with medical and nursing students suggested a limited knowledge about nutritional care of older people and little understanding about roles or cross-talk about nutrition across the multidisciplinary groups.
Conclusions: The 'nutrition narrative' themes suggested that the nutritional experience of older people in hospital can and must be improved. Nursing and medical staff providing medical and nursing care need better basic knowledge of nutrition and nutritional assessment, an improved understanding of the roles of the various multidisciplinary staff and of hospital catering pathways. Care professionals need to prioritise patient nutrition much more highly and recognise nutritional care as integral to patient healing and recovery.