Geriatrics Research Review™

Making Education Easy

Issue 24 - 2022

In this issue:

Abbreviations used in this issue:

CI = confidence interval; **COVID-19** = coronavirus disease 2019; **ED** = emergency department; **HR** = hazard ratio; **MACE** = major adverse cardiovascular event; **MoCA-HK** = Montreal Cognitive Assessment; **mRNA** = messenger RNA; **SARS-CoV-2** = severe acute respiratory syndrome coronavirus 2; **TAVI** = transcatheter aortic valve implantation.

Welcome to the latest issue of Geriatrics Research Review.

A retrospective case-control study from Israel reports the efficacy of a fourth Pfizer-BioNTech (BNT162b2) coronavirus disease 2019 (COVID) vaccination for older adults in the *British Medical Journal*, finding that although protection against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection waned quickly a significant protection against severe disease was conferred, justifying its use. Results from a French real-world study reported in *The Lancet Regional Health Europe* demonstrate that three doses of the Pfizer COVID vaccine elicit a durable humoral response in very elderly nursing home residents against both Delta and Omicron COVID variants but find that Omicron is less sensitive to neutralisation, indicating that as the virus continues to evolve so must our vaccination strategies. Other newly published research aims to estimate the lag time between instigation of blood pressure lowering therapy for hypotension and clinical benefit, assesses whether transcatheter aortic valve implantation (TAVI) is safe and effective in nonagenarians and evaluates the impact of social isolation and loneliness on mortality in a non-Western population. Finally, the benefits of physical movement in older adults are highlighted by a study from Hong Kong that investigates Tai Chi for improvements in cognitive functioning and a Spanish study that reports mitigation of cardiorespiratory decline in geriatric populations after a physical exercise intervention.

We hope you find these and the other selected studies interesting, and look forward to receiving any feedback you may have.

Kind Regards,

Professor Joseph Ibrahim
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Tai Chi versus conventional exercise for improving cognitive function in older adults: a pilot randomised controlled trial

Authors: Yu A et al.

Summary: In order to ascertain whether the combination of meditation plus aerobic exercise offered by Tai Chi induces a larger improvement in cognitive function and mitigation of cognitive deterioration compared to exercise alone in older adults with mild cognitive impairment the University of Hong Kong conducted a single-centre, pilot randomised controlled trial (NCT04248400). A total of 34 Chinese adults over the age of 50 years (mean age 67 years; 73.5% female) with decline in cognitive function not impacting daily functioning (defined as an age- and education-corrected Hong Kong version of the Montreal Cognitive Assessment [MoCA-HK] score ≤ the seventh percentile of the normative data) were accrued to the 24-week trial and received three weekly one-hour supervised exercise sessions comprised of 24-form Yang-style Tai Chi (n=10) or conventional stretching, muscle-strengthening and aerobic exercise (n=12). A control group received no intervention (n=12). Both exercise modalities elicited significantly greater, clinically relevant improvements in global cognitive function compared to control at both 12- and 24-weeks with the absolute magnitude of improvement higher at both time points in the Tai Chi versus exercise group but only reaching statistical superiority at 12 weeks (change in MoCA-HK at week 12, 4.9 vs 2.8 vs 0.3; at week 24, 6.9 vs 5.7 vs 0.7). Benefits in terms of cognitive flexibility were noted in Tai Chi versus exercise and in both exercise groups in physical performance, mood, quality of life and sleep compared to control.

Comment: The benefits of remaining active are well described and this study could be easily dismissed as just another example. That would be wrong. What is fascinating about this study is that it challenges us to better investigate and understand the relationship between physical exercise and cognition. Evidence is emerging that the different forms of exercise promote better cognitive function through different mechanisms. Tai Chi improves neuroplasticity due to its motor complexity and meditation aspects while conventional exercise benefits cardiovascular fitness which in turn improves cerebral blood flow. While this is fascinating at the neurocognitive and biological levels the clinical implications require more robust real-world functional outcome measures. As more information becomes available, we may enter a future where we could be tailoring and prescribing specific forms of physical activity to match an individual's neurocognitive profile.

Reference: Sci Rep 2022;12(1):8868
Abstract

Short term, relative effectiveness of four doses versus three doses of BNT162b2 vaccine in people aged 60 years and older in Israel

Authors: Gazit S et al.

Summary: This retrospective, test negative, case-control study from Israel reports that protection conferred by a second Pfizer-BioNTech mRNA vaccine (BNT162b2) booster (fourth dose) against infection by the Omicron variant (B.1.1.529) of SARS-CoV-2 is not durable but elicits a significantly superior protection against severe COVID-19 and death compared to three doses in older adults. Data on almost 100 thousand adults over the age of 60 years (n=97,499) who had received either three (71.4%) or four (28.6%) COVID-19 vaccine doses plus undergone at least one polymerase chain reaction test for SARS-CoV-2 in the ten-week period spanning January to March 2022 were extracted from the Israeli Maccabi Healthcare Services national health fund database. Within the ten-week follow-up period 0.25% of the cohort experienced a severe COVID-19 breakthrough infection requiring hospitalisation or resulting in death. Conditional logistic regression modelling analysis revealed that in comparison to a single booster vaccination (three vaccine doses in total), a second booster (fourth dose) conferred additional multiplicative protection against SARS-CoV-2 infection with an effectiveness nadir of 65.1% at three-weeks and falling to 22% at 10 weeks and elicited a 72% improved protection against severe disease or death.

Comment: This is a large study that provides reassurance about the efficacy of a fourth dose of the Pfizer-BioNTech messenger RNA (mRNA) vaccine compared with three vaccine doses. The fourth dose of the vaccine was of greatest value against severe COVID-19. It provided protection at a relatively high level (>72%) throughout the 10-week follow-up. Somewhat frustrating is the effectiveness against infection waned quickly. As the pandemic progresses, we are having to better understand the nuances in the use and value of vaccines. Simplistic explanations that the vaccine is effective or not effective are unhelpful. Whilst at the population level it would be preferable to have a vaccine that was more effective against getting an infection, the fact it protects against severe disease justifies its use. A longer follow-up period would have been preferable however, it must be weighed up with the need for empirical data to guide public health policy and practice.

Reference: BMJ 2022;377:e071113
Abstract

Immunogenicity of BNT162b2 vaccine booster against SARS-CoV-2 Delta and Omicron variants in nursing home residents: prospective observational study in older adults aged from 68 to 98 years

Authors: Alidjinou E et al.

Summary: Three doses of the Pfizer COVID mRNA vaccine elicit a durable neutralisation humoral response against the Delta COVID-19 variant but a significantly reduced humoral response against the Omicron variant according to results from a single-centre prospective observational study in French nursing home residents published in *The Lancet Regional Health Europe*. The study, funded by the French government and the Label of COVID-19 National Research Priority, was conducted at the Lille University Hospital and included a total of 106 elderly (median age 86.5 years) nursing home residents. The study cohort was predominantly female (66.9%) and comprised of both COVID-naïve and COVID-recovered individuals (44.3% and 55.6%, respectively). Three months after booster vaccination neutralising anti-Delta SARS-CoV-2 spike-specific immunoglobulin G (IgG) antibodies were detected in all individuals (up from 19% and 88% in COVID-naïve and COVID-recovered people before booster, respectively) while 84% of COVID-naïve and 95% of COVID-recovered nursing home residents had detectable neutralising anti-Omicron IgG (up from 5% and 55% pre-booster). Titres of neutralising antibodies to both SARS-CoV-2 variants were lower in COVID-naïve versus COVID-recovered individuals and the researchers reported that titres against Omicron were 35-fold lower compared to Delta (p<0.0001).

Comment: This is one of two studies featured about the Pfizer-BioNTech mRNA (BNT162b2) vaccine this month. In contrast to Gazit et al this is more specific, investigating a very high-risk subgroup of older people, that is those residing in nursing homes. It also differs in that the research or study outcome measures have to be adjusted to address the very much smaller sample size. This study evaluates the patients' immune response to a third dose of the vaccine to the Delta and Omicron variants rather than clinical outcomes of hospitalisation and death. The results are reassuring in demonstrating high neutralization titres against Delta, unfortunately the neutralizing titres to Omicron were lower with a 35-fold reduction. With forecasts that more variants or sub-variants will emerge, understanding the effectiveness of the vaccines remains a core requirement of our clinical practice.

Reference: Lancet Reg Health Eur 2022;17:100385
Abstract

Association of complex multimorbidity and long-term survival after emergency general surgery in older patients with Medicare

Authors: Ho V et al.

Summary: An analysis of data from the US Medicare Current Beneficiary Survey finds that complex multimorbidity that includes functional limitations may confer an elevated risk for post-general surgery death in older adults. The study included 1,960 adults at least 65 years old who underwent an emergency general surgery between 1992 and 2013. The cohort was stratified into three groups according to the presence/absence of chronic conditions, functional limitations and geriatric syndromes - no multimorbidity (19.5%), two concomitant domains of multimorbidity (42.3%) or all three domains of multimorbidity (38.2%). Cox proportional hazards modelling analysis adjusted for age, sex and operative treatment revealed an approximately two-fold elevated risk for death within three years of emergency general surgery (median follow-up 377 days) in patients with functional limitations in combination with one or two other comorbidities (in combination with a chronic condition, hazard ratio [HR] 1.83). The highest risk for post-surgical mortality was conferred by the combination of functional limitations with a geriatric syndrome (HR 2.91). No impact on post-surgical survival was found in patients with a chronic condition plus comorbid geriatric syndrome. The authors concluded that pre-surgical baseline functional limitations may be prognostic for survival in older adults and be included in risk stratification paradigms.

Comment: This study examines emergency general surgery in the older person addressing the impact of multimorbidity on long-term survival, defined as up to three-years post initial presentation. The study took a more novel approach by stratifying patients according to the presence of chronic conditions, functional limitations, and geriatric syndromes. Unsurprising to the geriatric medicine specialist is that the presence of functional limitations is the most important risk factor for patient survival. Understanding this aspect of a patient's profile is vital in holistic care and is often over-looked by the sub-specialists. This is another argument for involving geriatricians in peri-operative patient assessment. What was a curious finding in this study is that the presence of chronic conditions and geriatric syndromes had a mortality risk similar to those without multimorbidity. It is a somewhat counter-intuitive. Revisiting the study design reminds us about the limitations of large-scale linkage study using secondary sources of administrative data which are essentially hypothesis generating rather than hypothesis testing. The associations are not causal. The study advances our knowledge in this complex area of clinical practice and should stimulate more research with better clinical level data to investigate the different patient factors that are linked to mortality. It also requires unravelling whether different models of care, such as the timing (pre, peri, post-operative), and extent (consultation only or shared geriatric medical care) impact on outcome.

Reference: JAMA Surg 2022;157(6):499-506
Abstract

Device Assisted Therapy for Advanced Parkinson's Disease

Apomine® Solution for Infusion
apomorphine hydrochloride hemihydrate

Apomine® Intermittent
apomorphine hydrochloride hemihydrate

Access **Pfizer Connect** for patient resources and more information about Apomine® and its devices
www.pfi.sr/apomine_home

Apomine® Solution for Infusion and Apomine® Intermittent are indicated to reduce the number and severity of 'off' phases in patients with Parkinson's disease who are severely disabled by motor fluctuations refractory to conventional therapy.[1,2]

PBS Information: Authority Required (STREAMLINED). Section 100 listing for initiation and Section 85 General listing for maintenance therapy for patients with Parkinson's disease. Refer to PBS Schedule for full authority information.

Please review Full Product Information (PI) before prescribing. Full Product Information is available on request from Pfizer Australia on 1800 675 229, or by clicking **here.**

References: 1. Apomine® Intermittent Approved Product Information. **2.** Apomine® Solution for Infusion Approved Product Information.

Pfizer

Time to clinical benefit of intensive blood pressure lowering in patients 60 years and older with hypertension. A secondary analysis of randomised clinical trials

Authors: Chen T et al.

Summary: Chen et al conducted a secondary analysis of individual patient-level data from six randomised trials to estimate the time to benefit of treat-to-target intensive versus standard blood pressure lowering for prevention of cardiovascular events in older patients with hypertension. Data on 27,414 adults at least 60 years of age (mean age 70 years) with hypertension enrolled in SPRINT, ACCORD BP, Cardio-Sis, JATOS, VALISH and STEP who were treated intensively to a systolic blood pressure target of < 140 mm Hg or less intensively to standard blood pressure targets were analysed using stratified Kaplan-Meier curves, Cox proportional hazards models and Weibull survival curves to calculate time to first major adverse cardiovascular event (MACE) such as myocardial infarction, stroke or cardiovascular mortality. Overall, intensive blood pressure treatment was protective against MACE, conferring a 21% reduced risk compared to standard blood lowering treatments. The time to prevent a single MACE event with intensive blood pressure treatment in 500, 200 and 100 patients was 9.1 months, 19.1 months and 34.4 months, respectively. The authors concluded that aggressive blood pressure lowering may benefit older adults with hypertension and a life expectancy exceeding three years but was unlikely to benefit patients with a life expectancy less than one year.

Comment: Always approach studies undertaking a secondary analysis with caution. The attraction of this study is it deals with a very common clinical dilemma. The investigators followed the Preferred Reporting Items for Systematic Reviews and Meta-analyses reporting guidelines and identified 67 clinical trials for consideration. Only six studies were included in the final analyses. The take home message is relatively straightforward about intensive blood pressure treatment for patients with hypertension who have a life expectancy of greater than three years. The challenge in geriatric practice is not the 60-year-old patient but rather the 90-year-old patient with hypertension. As the authors noted, that is difficult to answer as patients older than 80 years are usually excluded or underrepresented in these types of studies.

Reference: JAMA Intern Med 2022;182(6):660-67
Abstract

Goals and outcomes of hospitalised older people: does the current hospital care match the needs of older people?

Authors: van Munster B et al.

Summary: This single-centre prospective study from the Gelre Hospital in Apeldoorn, The Netherlands utilised a semi-structured interview approach to evaluate whether the goals of hospitalised geriatric patients were met. The study cohort included 104 geriatric patients (≥ 70 years of age; mean age 79 years; 60.6% male) interviewed within 72 hours of admission, mostly (88.5%) for an acute issue, to the internal medicine, cardiology or surgery departments over a two-month period in 2017/2018 with phone follow-up within two weeks of discharge. Of the 30 predefined goals the most common goals were remaining alive, improving condition, alleviating complaints such as pain and shortness of breath and social functioning, all ranked as very important by approximately three quarters of patients. After discharge, patients reported high levels of achievement of disease-related goals including remaining alive, controlling disease and knowing what is wrong but a deficit in goals that related to enjoying life, independence, daily functioning and social functioning.

Comment: This is a small qualitative study that is interesting because of its novelty rather than its results. There were multiple methodological limitations including approximately 20% of patients lost to follow-up, a single-centre over a short period of time, with a high likelihood of being prone to social desirability bias. These reflect some of the challenges clinician-scientists face in doing any empirical research. The underlying premise is obvious yet profound, like all good ideas. That 72% of patients consider 'remaining alive' as their major goal should give us cause to stop and contemplate the fears of our patients and how we are often oblivious to these fundamental concerns. Results for achieving quality of life aspects of patient goals were underwhelming and suggest much improvement is needed to our contemporary clinical practice. This highlights the importance of post-discharge and community-based care. The study offers a view into considering fundamental questions such as what is the role and purpose of a hospital? What are patients' expectations of modern health care? Do health professionals understand their patients' perspective? How would understanding that influence patient care? It would be fascinating to compare these findings with a younger patient population.

Reference: Intern Med J 2022;52(5):770-75
Abstract

Outcomes of transcatheter aortic valve implantation in nonagenarians compared to younger than 90-year-old patients

Authors: Matta A et al.

Summary: Dr Anthony Matta and colleagues from the Toulouse University Hospital in Rangueil, France retrospectively investigated outcomes after transcatheter aortic valve implantation (TAVI) to elucidate its safety and efficacy in the very elderly. A total of 1,336 patients who underwent the procedure at their centre in the four-year period encompassing 2016 to 2020 were included in the analysis with outcomes compared between the roughly 20% of patients aged at least 90 years (n=250; mean age 91.8 years) versus younger patients (n=1,086). Nonagenarians had a significantly higher odds of major vascular complications (odds ratio 1.76) and a more than doubled risk of in-hospital mortality (5.2% vs 2%) compared to younger patients. Despite these risks the authors noted the high prevalence of procedural success for TAVI in nonagenarians.

Comment: This is a large study from France demonstrating positive outcomes for TAVI procedures in nonagenarians. Although the relative in-hospital mortality was more than double for nonagenarians compared to patients younger than 90 years old, the absolute rate was low at just 5.2%. This should be reassuring information for clinicians when advising their very old patients with symptomatic severe aortic stenosis about possible options. Interestingly, the outcomes for both age groups post hospital discharge were similar. It is worth noting these positive findings may over-estimate the benefits of TAVI as there is a selection bias in the study. Patients for TAVI were referred from a peripheral hospital and the nature of that process and possibility that those less likely to benefit were excluded. Another issue to consider is the experience of the clinical team often described in terms of the volume of procedures conducted. There is evidence suggesting a relationship between high volume centres (226-300 procedures per year) and better outcomes for TAVI. This data applies to all patients. It would be of interest to see a study examining whether this volume outcome relation differs in the very old.

Reference: Am J Med 2022;135(6):745-51
Abstract

Cannabis use, comorbidities, and prescription medication use among older adults in a large healthcare system in Los Angeles, CA 2019–2020

Authors: Javanbakht M et al.

Summary: Cannabis use is more prevalent amongst older adults prescribed medications for psychiatric, respiratory or neurologic conditions according to results from this US electronic health record analysis in *Journal of the American Geriatrics Society*. Analysis included over 40 thousand (n=42,555) adults at least 50 years of age (median age 63; 56% female) who underwent an annual physical at a Los Angeles primary care clinic between July 2019 and May 2020. Recent cannabis use was reported by 7.6% of patients, significantly higher than the proportion of patients who reported recent tobacco use (4%; $p<0.01$). A higher proportion of patients prescribed psychotropic medications, neurologic/musculoskeletal medications or muscle relaxants reported cannabis use compared to patients not prescribed those medications. The authors commented that targeted interventions to these groups to offer advice regarding interaction risks may be merited.

Comment: This is another study to remind health practitioners to always ask patients about all types of medication use. What is surprising in this study is that the prevalence of cannabis use is higher than tobacco. The concern is the potential for interaction with prescribed medication. It is important to note that recreational cannabis use in the USA has expanded to 18 states and its medicinal use is available in 36 states. There is an increasing use of cannabis in older persons especially in those 65 years and older. This will likely continue to grow as the indications for medicinal use are more likely to occur as people age. For example, cannabis is promoted for treatment of chronic pain, anxiety, and insomnia. The future of geriatric medicine practice requires a better understanding of the use of recreational and medicinal cannabis as well as more research to better elucidate the benefits and harms.

Reference: J Am Geriatr Soc 2022;70(6):1673-84
Abstract

Social isolation, loneliness, and all-cause mortality: A cohort study of 35,254 Chinese older adults

Authors: Yu B et al.

Summary: Dr Yu and Dr Chen from the Tianjin University in China collaborated with Dr Steptoe from University College London in the UK to explicate the association between loneliness and mortality in older adults in a non-Western population. Data on 35,245 adults at least 50 years old (mean age 86.6 years) were extracted from the Chinese Longitudinal Healthy Longevity Survey 1998 to 2018. At a median follow-up of almost five years (4.8 years) the death rate was 61.2%. Cox proportional hazard regression modelling revealed a 22% elevated danger of mortality in association with social isolation (HR 1.22; 95% confidence interval [CI], 1.18-1.25; $p<0.01$). Loneliness also conferred an increased risk of mortality in individuals aged 50 to less than 80 years old (HR 1.15; 95% CI, 1.05-1.26; $p<0.01$).

Comment: The impact of social isolation and loneliness are being recognised as contributors to morbidity and mortality. These associations are becoming well established however, unpacking causal relationships and the mechanism of action between these phenomena and health remain somewhat elusive. Understanding the individual psychological and sociological aspects remain very complex. Social isolation was measured using five items including marital status, living alone, less than monthly contact with family members, and non-participation in either of two social activities. Loneliness was measured on a five-point self-rating scale. This study conducted in China adds to the existing knowledge drawn from those done in Western nations. Potential for bias is present as a quarter of the study population, approximately 10,000 participants, were excluded due to missing data at baseline. The findings were consistent with other studies, demonstrating social isolation but not loneliness being associated with mortality. A common response to these findings is a call to improve social inclusion for older people. Perhaps we ought to be more circumspect as the reductionist approach required to quantify these phenomena creates a lack of nuance in our understanding. Consider for a moment if social inclusion should be measured by the number of people, the frequency of contact, or the nature and depth of contact, and whether these contacts are on a voluntary basis.

Reference: J Am Geriatr Soc 2022;70(6):1717-25
Abstract

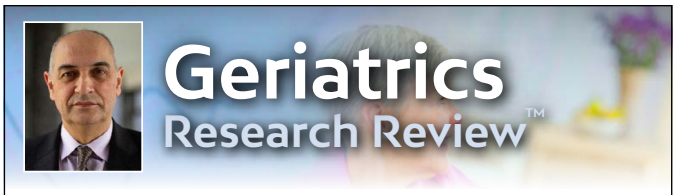
Strategies for discussing long-term prognosis when deciding on cancer screening for adults over age 75

Authors: Jindal S et al.

Summary: Jindal et al interviewed a small number of US geriatric patients (n=30; age range, 76-89 years) and primary care providers (n=45) to investigate perspectives and attitudes towards long-term cancer prognosis discussions and facilitate development of approaches to instigate the topic. Participants were accrued from community and academic practices in Boston. Attitudes towards long-term prognosis discussions in older patients spanned the spectrum from very helpful to of no value. Primary care providers reported generally feeling uncomfortable broaching the topic of prognosis with elderly patients. The strategies developed in this study require evaluation in clinical practice.

Comment: This qualitative study raises more questions than answers. The investigators are to be commended on taking up the challenge of addressing cancer screening in older age. Much more research is needed to provide both the actuarial data needed to deliver evidence-based information on the risks and benefits of screening. Also needed is research into understanding cognitive biases and decision-making in older people as well as elucidating any potential biases inherent in health care providers. Ageist attitudes, implicit resource rationing may lead to framing biases that discourage older persons from screening. Understandably, the primary care providers are uncomfortable with these conversations as there are multiple factors or comorbidities that need to be considered. Since this study was completed before the pandemic, we await with interest the follow-up studies that evaluate the use of the scripts. One also wonders about the impact of the COVID pandemic which has created a large volume of deferred care and has been confronting about the mortality of older people.

Reference: J Am Geriatr Soc 2022;70(6):1734-44
Abstract



Independent commentary by Professor Joseph Ibrahim

Joseph Ibrahim is a medical specialist in geriatrics and an academic. Joseph has over 30 years of clinical experience as a doctor in the public hospital system providing care for older people, he brings that knowledge and insights to research work. Joseph's research team focuses on reducing harm to older persons from neglect, poor care and abuse as well as seeking to improve the quality of life for older people. Joseph has also been an expert witness for criminal and coroners court cases as well as the Royal Commission into Aged Care Quality and Safety.

Reasons for repeated emergency department visits among community-dwelling older adults with dementia in Ontario, Canada

Authors: Jones A et al.

Summary: Almost one-quarter of community-dwelling older adults with dementia who were discharged home after attending an emergency department (ED) have at least three more visits within a year for heterogenous reasons, according to this Canadian population-based retrospective cohort study published by Jones et al in *Journal of the American Geriatrics Society*. The study analysed ED visits in adults at least 66 years old with dementia. In the ten-year period spanning 2010 to 2019 over 175 thousand (n=175,863) geriatric patients with dementia attended an ED in Ontario. Two-thirds (66.1%) of patients attended the ED at least one subsequent time within 12 months and 23.5% had at least three subsequent visits. The study authors found that reasons for ED attendance were generally different between visits and were more commonly due to concerns regarding a symptom rather than a cognitive or behavioural concern.

Comment: This is a timely article given the growing interest in developing ED that are older person friendly and/or having ready access to geriatric medicine specialists embedded in the service. Sadly, no-one will be surprised by the proportion of persons with dementia who have repeated visits to an ED. Almost two-thirds (66.1%) returned at least once to the ED within one year and 23.5% returned three or more times. The study was completed prior to the COVID pandemic using a decade's worth of health administrative data and applied an algorithm to identify individuals with dementia. This algorithm used diagnosis codes from hospital stays, claims data and prescription medication for cholinesterase inhibitors. These large-scale studies using secondary information from administrative databases need to be interpreted cautiously. Typically, these raise interesting ideas rather than demonstrating any causal relationship. Interestingly, only 25% of the repeat visits appeared related to the same clinical reason. The reasons for repeat visits were heterogenous with no obvious patterns. This study marks the beginning of research to better interrogate care of older people in EDs. This requires better empirical clinical data and development of conceptual frameworks that more specifically address the needs of older persons. We need to go beyond using clinical diagnoses codes to examine items such as: who initiated the visit to ED, describe the level and nature of community supports and identifying the goal of the visit to ED. Accepting the initial reason for attendance to ED often results with an incomplete understanding of the needs of the older person with dementia.

Reference: J Am Geriatr Soc 2022;70(6):1745-53
Abstract

Effectiveness of autonomous home hazard reduction on fear of falling in community-dwelling older women

Authors: Schroeder O et al.

Summary: The use of a self-implemented home hazard reduction checklist may be a cost-effective way to alleviate fall hazards in the home and mitigate the development of fear of falling in older women living in the community with positive results reported from a German single-blinded, prospective study. The study included 431 older female patients (mean age 72.5 years) and involved provision of a 54-item home hazard checklist for participants to go through and action. Almost half of the participants (43.8%) were able to reduce the number of home hazards by at least 50% using the checklist. The intervention was efficacious in reducing the fear of falling as demonstrated by a reduction in the median Falls Efficacy Scale International score from moderate to low concern (24.5 to 19.5) and an improvement from high to low concern in 70.7% of participants with a more than 25% improvement in score in 29.2% of participants.

Comment: This is a fascinating study which challenges the paternalism of health care and demonstrates the potential benefits of self-efficacy. Fear of falling and fall-related trauma are major public health issues leading to the substantial morbidity and mortality for the individual as well as consuming vast amounts of healthcare. It is also perhaps one of the greatest banes of clinical practice. It highlights that although we have the knowledge of effective interventions at a population level translating this to an individual patient is challenging. While only 60% of participants completed the checklist, of that group there were significant improvements in reducing home hazards as well as a reduction in the fear of falling. Questions about the cognitive function of the participants arise, the participants were only eligible if there was 'no known dementia'. It also piques our curiosity about what would older men do with this type of intervention. The study reminds us of the importance of partnering with patients.

Reference: J Am Geriatr Soc 2022;70(6):1754-63
Abstract

Effects of an individualised and progressive multicomponent exercise program on blood pressure, cardiorespiratory fitness, and body composition in long-term care residents: Randomised controlled trial

Authors: Arrieta H et al.

Summary: Arrieta et al provide results from an exploratory secondary analysis of a Spanish multicentre, randomised controlled trial (ACTRN12616001044415) of an exercise intervention in geriatric long-term care residents. The trial enrolled 112 independently mobile nursing home residents at least 70 years of age and assessed the benefit of a six-month mixed modality exercise intervention with previously published primary results demonstrating benefits in terms of fall mitigation as well as reduction in frailty mortality (Arrieta H et al. *J Am Geriatr Soc* 2019;67[6]:1145-51). The intervention consisted of two one-hour supervised group sessions per week with a mix of individualised and progressive strength, balance and moderately intense aerobic exercises. A control group (n=55) participated in non-exercise based low-intensity routine activities such as memory workshops, reading and singing. Secondary analysis of the 88 participants who completed follow-up revealed benefits to the exercise intervention in halting decline in cardiorespiratory fitness, finding that participants in the exercise group did not have the decreases in peak oxygen consumption and saturation and resting heart rate that the control group did. The authors concluded that individualised, moderately intense exercise programs confer a multitude of benefits to elderly long-term care residents.

Comment: This study highlights the need for health professionals to advocate for and for residents of long-term care settings to remain active. This randomised control trial demonstrates an improvement in the cardiorespiratory physiological parameters. While a positive result, the question for most older people residing in long-term care is whether this intervention has a substantive impact on their quality of life. As clinicians we should be wary of extrapolating these results to our own practice setting. A deeper understanding requires an analysis of the study participants. Those eligible to be enrolled were relatively higher functioning with personal activities of daily living, had mild cognitive impairment and had to be clinically stable. We know how many residents were deemed eligible for the study (206) however, we also need to know the size of the whole population of residents from the 10 facilities. Interestingly, about 40% of residents approached declined to participate. This raises questions about selection bias and the role of an individual's motivation with these interventions.

Reference: Geriatr Nurs 2022;45:77-84
Abstract