REVIEW

2013: that was the year that was

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Abstract

In caring for older people, geriatricians have always adopted a multi-domain approach, and this article reflects on the diverse aspects covered by journals in general medicine, geriatric medicine and gerontology in 2013. Topics were selected that represented developing or controversial areas that are important to care of increasingly frail older people. These include the increasing use of single physical performance measures in assessment, optimal body mass index, assessment of frailty and sarcopenia, dementia, diabetes treatment goals, end-of-life care, management of complexity and design of health and social services to meet complexity. The increasingly important role of patient and carer engagement in management of disease and syndromes is highlighted. In particular, two eloquent articles from prominent physicians who have been experiencing the ageing process and demands of being a dementia carer provide a timely reminder of what the reality is in grappling with the inexorable decline that occurs with ageing, and caregiving as the central core to what medicine is all about. Looking towards the future, the potential of robotic technology, modifying the physical and social living environment in improving quality of care and quality of life is described.

Keywords: frailty, geriatric syndrome, caregiving, ageing, 2013

Introduction

In their encounter with older patients in whatever settings, geriatricians adopt a broad perspective covering not just organ systems, but functional, psychological, social and nutritional domains. This approach extends upstream to preventive aspects, and downstream towards management of inevitable decline towards end of life. Of particular interest is the perspective from doctors who are experiencing these changes in themselves or their loved ones. Articles in geriatric and general medical journals published during 2013 have been selected to reflect these areas.

Physical performance and anthropometric measures in the prevention and prediction of adverse outcomes

There are increasing numbers of papers focusing on gait speed, in addition to grip strength, as a core physical performance measure as part of geriatric assessment that is able to predict subsequent mobility limitation, cognitive function and survival [1, 2]. It is likely that both are markers of multiple system decline and either may be included in quick screening for the detection of frailty in the primary care setting. Another topic of debate relates to optimum weight and fat mass. In the past decades, studies have suggested that among older people, being overweight may be protective, and a meta-analysis and systematic review consisting of 2.88 million individuals and 270,000 deaths reinforced this view, in that overweight was associated with significant lower all-cause mortality [3]. However, obesity impacts on mobility especially with the coexistence of sarcopenia [4].

Commonly encountered chronic disease and syndromes: the geriatrician’s perspective

Comprehensive geriatric assessment has long been regarded as the cornerstone of geriatric medicine. In the past year, the topics of frailty and sarcopenia continue to dominate the literature, although the concepts are still not widely understood and there is no consensus regarding screening tools. The concepts underlying frailty as a representation of accumulating underlying deficits and impairment of homoeostasis have
been summarised by Clegg et al. [5], and the classification of frailty as a syndrome that requires clinical assessment and intervention, as for other ‘syndromes’ was emphasised by Morley et al. [6]. However, while there is agreement of the usefulness of defining frailty in clinical settings as well as on its main dimensions, there is no consensus regarding the operative definition and clinical assessment tool. Various methods have been examined in the identification of frailty in the primary care setting, including a comparison of the accuracy of five instruments [7], a simple assessment such as the time-up-and-go test [8], as well as a frailty index based on routine care data of general practitioners [9]. From a pragmatic point of view, the instrument used would need to fit in with the healthcare system of different countries, and it may be that a single physical performance measure such as gait speed or time-up-and-go test may represent the 1st step in an algorithm to detect frailty in the primary care setting. A physical component of frailty, sarcopenia, has also been the topic of much research. A parallel has been drawn with osteoporosis, in terms of definition, consequences and intervention in preserving muscle mass and function [10].

Various aspects of cognitive decline and Alzheimer’s disease continue to be an active area of research. Of concern is data from the USA showing that the age-adjusted death rates between 2001 and 2010 from Alzheimer’s disease increased 39%, while other chronic diseases such as diabetes, cancer, heart disease and stroke all showed declining trends [11]. Studies have described mid-life leisure activities and cardiovascular fitness [12], hypertension and high mean corpuscular volume, Helicobacter pylori infection [13] as pre-disposing factors. Although there appear to be a consensus that early detection before the onset of symptoms using techniques such as positron emission tomography scan detection of amyloid deposits may allow more effective treatment [14], cost–benefit considerations are controversial [15] and such studies need to be conducted before its use in routine screening. Furthermore, there are regulatory obstacles in development of drugs that may modulate the disease process in the early stages since current Food and Drug Administration regulations requiring that there should be evidence of improvement in cognitive function may be difficult to apply to the pre-symptomatic stage [16].

Useful review articles summarising preventative strategies for falls in community and hospital settings provide a reference to guide policies. Multi-component exercise programmes including muscle strengthening and balance training in groups or home-based, and multi-factorial interventions requiring multi-disciplinary teams were effective in fall prevention in community-dwelling adults. Vitamin D was only protective among those who had low blood levels [17]. While multi-component intervention in hospital settings has been shown to reduce falls, a useful review examined the harms and benefits, as well as factors associated with successful implementation. The latter includes leadership support, ownership of initiative among front-line staff including programme design, multi-disciplinary teams, pilot testing of interventions and mindset change [18]. Attention to these aspects would be important in promoting falls prevention in hospitals.

Diabetes mellitus is common among older people and is closely associated with geriatric syndromes, so that assessment and management of these syndromes should form part of the management of older people with diabetes. Exclusion of older adults from ongoing clinical trials about diabetes necessitates an individualised approach with the emphasis on the patient rather than HbA1C [19]. Geriatricians often manage end-of-life situations, whether from cancer or other end-stage chronic diseases. This topic has featured prominently in general medical journals. The New England Journal of Medicine featured an article on implementing a death with dignity programme at a Comprehensive Cancer Centre [20]. The construct of dignity includes both cultural and family dimensions, so that the approach to end-of-life care would need to be culture sensitive [21]. Many surveys showed a preference for dying at home as part of end-of-life care. An interesting examination of 10 years trend in the place of death in the USA showed that the proportion dying at acute hospitals is decreasing, while the use of hospice services increased at time of death, seemingly supporting the wishes of members of the public as indicated by surveys and the development of community support services. However, there was an increased use of intensive care units in the last 30 days and healthcare transitions at the end of life [22]. In view of the development of palliative care to cover earlier stages of the end-of-life period, the sustainability of specialist palliative care doctors being responsible for all end-of-life care is unlikely to be tenable, and a model of generalist plus specialist palliative care would be a more sustainable model [23].

Management of complexity: organisation and individual perspectives

Older people are at an increased risk of hospital admissions, and measures targeting the hospital community interface with a view to reducing readmissions continues to be explored. Transitional care programme as an example for enhanced discharge planning using telephone support was evaluated in a randomised controlled trial, using stress, healthcare utilisation, readmissions and mortality as outcome indicators. The only benefit was that intervention patients were more likely to keep their scheduled doctor follow-up appointments by 30 days post-discharge, while many problems did not emerge until after discharge [24].

An attempt to quantify complexity was made using the Geriatric Complexity of care Scale, a comorbidity index of medical, geriatric and psychosocial conditions that addresses disease severity and intensity of ambulatory care for older adults with chronic conditions [25]. The score predicts healthcare utilisation, polypharmacy and various quality indicators. This score was proposed to be useful particularly for reimbursement of care purposes but may be useful outside the USA healthcare system as an indicator of resource need for quality care for those with complex needs. Another approach is the development of case management models. A systematic review and meta-analysis of 11 trials of case
management compared with usual care for older people failed to show benefit using hospital readmissions as the outcome [26]. On the other hand for depression, a model consisting of a care manager working with primary care physicians following algorithms based care offering psychotherapy, antidepressant dose adjustment and adverse effect monitoring, symptom monitoring, adherence to treatment was able to reduce mortality risk compared with usual care and similar to those without depression [27]. A peer support group programme was shown to have potential for reducing depression and improving quality of life for low-income adults with physical health conditions [28]. It has been proposed that the addition of health services within adult day care centres (which predominantly serves social needs) may offset utilisation of healthcare services [29]. It is important to identify components of community team care that makes the care model effective. An interesting study examining the ‘black box’ of clinical collaboration in integrated care models for frail elderly patients concluded that geriatricians collaborated well with case managers and primary care physicians and provides the key to fostering good collaboration between the other disciplines [30]. This finding will not be surprising given the key role of geriatricians in leading multi-disciplinary teams in patient care, and highlights the important role for geriatricians in providing community care.

A number of articles reflected on the needs to engage patients and their carers in management, by raising health literacy and self-efficacy. The American Geriatric Society advocates education programmes to engage patients, healthcare professionals and family caregivers in discussions about safety and appropriateness of medical tests, medications, procedures, risks and benefits, based on evidence [31]. In the USA, the Chronic Disease Self Management Program has been widely disseminated in the past few years, the emphasis being on raising self-efficacy and goal setting [32]. Two prominent doctors provide their views on ageing and the interface between illness (as patients experience it) and disease (as physicians diagnose, treat and understand it), based on their personal experiences. Dr William Hazard at 75 years describes his programme of ‘personal preventive gerontology’ in the face of the increasing risk of death and declining margin of benefit of such a programme as a corollary to the cardinal principle of geriatrics: ‘real geriatrics’. With this background, he describes the exciting challenge of continual learning and the acceptance of decline with grace, humility and gratitude, culminating in death with dignity under care provided by a geriatrician [33]. Dr Kleinman describes how >10 years of caring for his wife with early-onset Alzheimer’s disease was transformative on a professional as well as a personal level. The patient’s illness experience had become separated from disease and treated objectively by physicians, and a gap exists between what mattered to physicians (in emotional, moral and cognitive terms) and what mattered to him as a carer and his wife as a patient. He reflected that ultimately medicine is about doing good for others and doing good in the world, but keeping care giving central to healthcare faced many obstacles in the form of bureaucratic rules, audits and time constraints [34].

### Impact of physical and social environments

How the physical and social environments may interact with ageing people such that modifications may optimise function are topics receiving increasing interest. A commonly held opinion that healthcare staff shortage resulting in adverse care outcomes has been supported by a systematic review in the USA showing a causal relationship between higher nurse staffing levels and decreased inpatient mortality [35]. In response the field of gerototechnology has been developing rapidly, especially in the field of robot technology. Japan is one of the leaders in this field with nurse assistive robot as well as social companion robots. It is possible that faced with chronic staff shortage partly as a result of the ‘unattractive’ nature of personal care as a career, using such robots may be an answer in improving quality of care. One must not assume that such strategies are necessarily ‘de-humanising’, since a recent published randomised controlled trial actually showed that certain companion robots have beneficial psychosocial effects [36]. Further work on developing prototypes meeting specific needs in the long-term care setting that is guided by those who provide care, particularly for those with dementia, followed by randomised controlled trials, may well be the way forward to the chronic problem of care staff shortage. The outdoor built environment impacts neighbourhood based physical activity for those with mobility disabilities, and barriers and facilitators need to be identified [37]. Neighbourhood social cohesion and social capital are also important factors in well-being of older people [38].

### Key points

- Topics receiving much attention in gerontological and geriatrics research for 2013 reflect the multi-domain approach adopted by geriatricians. Major areas are listed below.
- Assessment of frailty and sarcopenia, dementia, diabetes treatments goals, end of life care, design of health and social services to meet complexity of care.
- Importance of patient and carer engagement in management of diseases and syndromes.
- The role of robotic technology in improving quality of life, by modifying the physical and social environment.

### Conflicts of interest

None declared.

### References


37. Rosenberg DE, Huang DL, Simonovich SD, Belza B. Outdoor built environment barriers and facilitators to activity


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