Age and Ageing

Title Page

Title: The importance of detecting and managing comorbidities in people with dementia?

Authors:

Chris Fox, Clinical Senior Lecturer, Norwich Medical School, University of East Anglia, Norwich, UK

Toby Smith, Lecturer, Faculty of Medicine and Health Sciences, University of East Anglia, Norwich, UK

Ian Maidment, Senior Lecturer, Pharmacy, School of Life and Health Sciences, Medicines and Devices in Ageing Cluster Lead, Aston Research Centre for Healthy Ageing,(ARCHA), Aston University, Birmingham, UK

Jennifer Hebding, Medical Student, Norwich Medical School, University of East Anglia, Norwich, UK

Tairo Madzima, Medical Student, Norwich Medical School, University of East Anglia, Norwich, UK

Francine Cheater, Professor of Public Health and Implementation Science, Faculty of Medicine and Health Sciences, University of East Anglia, Norwich, UK

Jane Cross, Senior Lecturer, Faculty of Medicine and Health Sciences, University of East Anglia, Norwich, UK

Fiona Poland, Professor of Social Research Methodology, Faculty of Medicine and Health Sciences, University of East Anglia, Norwich, UK

Jacqueline White, Senior Lecturer, Department of Psychological Health and Wellbeing, Faculty of Health and Social Care, University of Hull, Hull, UK.

John Young, Honorary Consultant Geriatrician, Bradford Teaching Hospitals NHS Foundation Trust Head, Academic Unit of Elderly Care and Rehabilitation, University of Leeds.

Corresponding Author: Dr Chris Fox, Norwich Medical School, University of East Anglia, Norwich Research Park, Norwich, NR4 7TJ. Email: chris.fox@uea.ac.uk; Telephone: 01603 593583; Fax: 01603 593166

Keywords: Cognitive impairment; diseases; multiple pathologies; elderly

Declarations of Interest: None to declare.

Ethical Considerations: No ethical approvals were required for this study design.

Conflicts of Interest: The authors have no conflicts of interests to declare in relation to this paper.

Commentary

Dementia is a debilitating condition characterised by global loss of cognitive and intellectual functioning, which gradually interferes with social and occupational performance. It is a common worldwide condition with a significant impact on society. There are currently 36 million people worldwide with Alzheimer′s disease (AD) and other dementias [1]. This is expected to more than double by 2030 (65 million) and reach about 115 million in 2050 unless a major breakthrough is made. The worldwide societal costs were estimated at US$ 604 billion in 2010 and rising [2].

To date research on the specific physical health care needs of people with dementia has been neglected. Yet, physical comorbidities are reported as common in people with dementia [3] and have been shown to lead to increased disability and reduced quality of life for the affected person and their carer [4].

Dementia is most frequently associated with older people who often present with other medical conditions, known as co-morbidities. Such co-morbidities include diabetes, chronic obstructive pulmonary disorder, musculoskeletal disorders and chronic cardiac failure and are common, 61% of people with dementia are estimated to have three or more comorbid diagnoses [5]. Musculoskeletal, genitourinary, and ear, nose, and throat disorders have been reported as highly prevalent, affecting nearly half of people with dementia [6]. Physical comorbidities are often treatable and some may be reversible. Epilepsy, delirium, falls, oral disease, malnutrition, frailty, incontinence, sleep disorders and visual dysfunction are found to occur more frequently in dementia sufferers and untreated can lead to more severe health problems, pain and distress as well as worsening the symptoms of dementia itself [6]. As the severity of the dementia increases, so does the rate of comorbid conditions such as genitourinary disorders [6]. Pneumonia, urinary tract infection and congestive cardiac failure accounted for two-thirds of preventable admissions in dementia with dehydration and duodenal ulcer the next most important [7]. Healthcare costs for treating these problems are high, estimated at being 34% more costly than in age-matched, non-dementia cases [8]. The annual admission rate is double that of patients without dementia [7].

In the UK, NICE guidelines for the treatment of dementia assert that the promotion and maintenance of independence and everyday functioning is a key treatment for those diagnosed with dementia [9]. At the core of this should be a comprehensive assessment of needs, difficulties, and possible co-morbid symptoms. Timely identification of physical symptoms in those with dementia has been linked to decreased risk of hospitalisation [10], reduced healthcare costs [11], and the maintenance of physical comfort and quality of life [12,13].

In addition the diagnosis and management of co-morbid conditions is recognised as being poor, as dementia dominates clinical encounters and shifts attention away from the co-morbidity [14] which can lead to increased morbidity and mortality [15,16]. Unplanned acute emergency medical admissions occur in 18% of people with dementia with a 1.66 unadjusted risk of mortality at six months [17,18]. Co-morbidity, and poor control of co-morbid conditions, results in an increased burden on the care-giver [10,19,20]. These factors combine to significantly increase health and social care costs [21]. People with dementia and comorbidities are more likely to be hospitalised, have longer admissions, and incur higher expenditures for their comorbidities than people without dementia [8,22-24]. Many of these admissions are preventable [25]. However, in practice, persons with dementia are subject to an increased risk of serious delays in the recognition of new or exacerbating symptoms. In a study of nursing home residents with dementia, 48% of residents with acute infections had received no physical assessment [26]. This may in part be down to atypical symptoms, or communication problems on the part of the sufferer, but is also potentially related to a lack of adequate preparation for nurses in this role.

The management of people with dementia is also more complicated with multiple medications and over and under-treatment of conditions [27] with a result that the physical and psychological well-being of this group of people may be reduced. Furthermore the management of co-morbidities can place a significant burden placed on health and social care agencies. Improving the characterisation of relevant comorbidity and the medication used to treat the co-morbidity in people with dementia could

improve the prevention and treatment of complications in a population that sometimes struggle to communicate their needs [28].

Early recognition and treatment of new problems, and exacerbations of existing conditions has been identified as a potential strategy for decreasing the severity, preventing hospitalisation and maintaining both physical comfort and quality of life [12]. There has been limited previous study to determine what the co-morbidity profile of this group of people is. It is therefore assumed that co-morbidities people with dementia present with, share those of the age-matched population. However, this is unclear and has not been previously documented. This is a factor that is recognised as important in order to improve the accuracy of care planning [29]. Given documented difficulties in people with dementia accessing healthcare resources and communicating medical complaints, a greater awareness of all the physical and mental health needs of this group of people is important for health and social care providers to maximise patient wellbeing.

Declaration of Sources of Funding: none

Declaration of Conflicts of Interest: none

References

1. Prince M, Bryce R, Albanese E et al. The global prevalence of dementia: a systematic review and metaanalysis. Alzheimers Dement 2013; 9: 63–75.

2. Wimo A, Jonsson L, Bond J, Prince M, Winblad B. The worldwide economic impact of dementia 2010. Alzheimers Dement 2013; 9: 1–11.

3. Schubert CC, Boustani M, Callahan CM et al. Comorbidity profile of dementia patients in primary care: are they sicker? J Am Geriatr Soc 2006; 54:104-9.

4. Martín-García S, Rodríguez-Blázquez C, Martínez-López I, Martínez-Martín P, Forjaz MJ. Comorbidity, health status, and quality of life in institutionalized older people with and without dementia. Int Psychogeriatr 2013; 25: 1077-84.

5. Fillit HM. The pharmacoeconomics of Alzheimer's disease. Am J Manag Care 2000; 6: S1139–44, 45–48.

6. Doraiswamy PM, Leon J, Cummings JL, Marin D, Neumann PJ. Prevalence and impact of medical comorbidity in Alzheimer's disease. J Gerontol Med Sci 2002; 87: M173–M77.

7. Phelan EA, Borson S, Grothaus L, Balch S, Larson EB. Association of incident dementia with hospitalizations. JAMA 2012; 307: 165-72.

8. Zhao Y, Kuo TC, Weir S, Kramer MS, Ash AS. Healthcare costs and utilization for Medicare beneficiaries with Alzheimer's. BMC Health Serv Res 2008; 8:108.

9. National Institute for Health and Clinical Excellence (2006) Dementia: supporting people with dementia and their carers in helath and social care (CG42), London: NICE. Accessed on 12th April 2014; Available at: http://www.nice.org.uk/aboutnice/qof/PrimaryCareQOFIndicatorAdvisoryCommittee.jsp?domedia=1&mid=E1A02C2F-A1D0-E9B7-27EB72A272803EE3

10. Intrator O, Mor V, Zinn J. Nursing homes characteristics and potentially preventable hospitalisation of long-stay residents. J Am Geriatr Soc 2004; 52: 1730-1736.

11. Carter MW, Porell FW. Variations in hospitalisation rates among nursing home residents: The role of facility and market attributes. Gerontology 2003; 43:175-91.

12. Barry CR, Brown K, Esker D, Denning MD, Kruse RL, Binder EF. Nursing assessment of iII nursing home residents. J Gerontol Nurs 2002; 28: 4-7.

13. Lyketsos CG. Prevention of unnecessary hospitalization for patients with dementia: the role of ambulatory care. JAMA 2012; 307: 197–8.

14. Thorpe CT, Thorpe JM, Kind AJH, Bartels CM, Everett CM, and Smith MA. Receipt of monitoring of diabetes mellitus in older adults with comorbid dementia. J Am Geriat Soc 2012; 60: 644–51.

15. Ham R, Sloane PD, Warshaw G, et al. Primary Care Geriatrics: A Case-Based Approach. 5. St Louis, MO: Mosby Inc; 2006.

16. Marengoni A, Rizzuto D, Wang HX, Winblad B, Fratiglioni L. Patterns of chronic multimorbidity in the elderly population. J Am Geriatr Soc 2009; 57: 225–30.

17. Sampson EL, Blanchard MR, Jones L, Tookman A, King M. Dementia in the acute hospital: prospective cohort study of prevalence and mortality. Br J Psychiatry 2009; 195: 61–6.

18. Sampson EL, Leurent B, Blanchard MR, Jones L, King M. Survival of people with dementia after unplanned acute hospital admission: a prospective cohort study. Int J Geriatr Psychiatry 2012; 28: 1015-22..

19. Pinquart M, Sorensen S. Correlates of physical health of informal caregivers: a met-analysis. J Gerontol B Psychol Sci Soc Sci 2007; 62: P126–37.

20. Schulz R, Sherwood PR. Physical and mental health effects of family caregiving. Am J Nurs 2008; 108(9 Suppl): 23–27.

21. Kings Fund. Long-term conditions and mental health - The cost of co-morbidities 2012. Accessed on 12th April 2014. Available at: http://www.kingsfund.org.uk/projects/mental-health-and-long-term-conditions-cost-co-morbidity

22. Bynum JP, Rabins PV, Weller W, Niefeld M, Anderson GF, Wu AW. The relationship between a dementia diagnosis, chronic illness, Medicare expenditures, and hospital use. J Am Geriatr Soc 2004; 52: 187–94.

23. Hill JW, Futterman R, Duttagupta S, Mastey V, Lloyd JR, Fillit H. Alzheimer's disease and related dementias increase costs of comorbidities in managed Medicare. Neurology 2002; 58: 62–70.

24. Sloan FA, Talyor DH. Effect of Alzheimer disease on the cost of treating other diseases. Alzheimer Dis Assoc Disord 2002; 16: 137-43.

25. CMS, Roadmap for Quality Measurement. 2008. Accessed on 12th April 2014. https://www.cms.gov/QualityInitiativesGenInfo/downloads/QualityMeasurementRoadmap_OEA1-16_508.pdf

26. Kovach CR, Logan BR, Simpson MR, Reynolds S. Factors associated with time to identify physical problems of nursing home residents with dementia. Am J Alzheimers Dis Other Demen, 2010, 25, 317-323.

27. Ravona-Springer R, Davidson M. Considerations in psychotropic treatments in dementia - can polypharmacy be avoided? Int J Neuropsychopharmacol 2013:1-11.

28. Bauer K, Schwarzkopf L, Graessel E, Holle R. A claims data-based comparison of comorbidity in individuals with and without dementia. BMC Geriatrics 2014; 14:10.

29. Zekry D, Herrmann FR, Graf CE et al High levels of comorbidity and disability cancel out the dementia effect in predictions of long-term mortality after discharge in the very old. Dement Geriatr Cogn Disord 2011; 32: 103-10.