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Review: what should we be teaching medical students about dementia?

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Abstract

Background: Doctors working in the majority of medical subspecialties provide care for patients with dementia, but there is current international concern that many do not have adequate knowledge or skills to deliver appropriate care for these patients in hospital or community settings. The aim of this review is to draw together recommendations for medical education on dementia, and empirical research on teaching interventions concerning dementia in order to assess the current provision of training using the UK model as an example. Methods: Database and manual searches to identify relevant articles for a narrative review. Results: UK national guidelines recommend that dementia-specific education should be available to trainees in the undergraduate and postgraduate environment. A sample of undergraduate curricula shows considerable variation in the delivery of teaching about dementia. “Non-specialist” postgraduate curricula make reference to care of patients with confusion, but do not always include learning outcomes specific to cognitive impairment or dementia. Teaching interventions trialled in the postgraduate environment provide encouraging qualitative feedback from participants, but do not consistently demonstrate improvement in participants’ knowledge, skills or attitudes. Conclusion: There is a pressing need to improve undergraduate medical education on dementia in order to help future doctors obtain the ability to provide competent care for patients. There is scope for ongoing research to refine existing curricula covering dementia and to build an evidence-base for successful dementia-specific teaching interventions.

Running head: Dementia and medical education

Key words: education, training
Introduction

The provision of competent care for patients with dementia remains a challenge for medical professionals internationally, both in hospital and in the community (Doyle 2009; Pachana 2010). There is current concern in the UK and elsewhere that “non-specialist” medical professionals (those working in subspecialties other than those specifically dedicated to dementia care) may not possess the knowledge, attitudes or skills to provide adequate care for patients with dementia (Department of Health, 2009; Rampitage et al., 2009; Tsolaki et al., 2010). Doctors themselves appear to recognise this - a survey of more than 500 hospital and community physicians in the US identified better understanding of dementia as the most commonly identified learning need in geriatric medicine (Robinson et al., 2001) whilst surveys of GPs working in the UK, Ireland and Australia have highlighted a number of unmet learning needs with regard to dementia (Turner et al., 2004; Cahill, et al. 2008; Beer et al., 2009). The changing epidemiology of the ageing population means that the majority of doctors, in a range of “non-specialist” roles, are likely to spend more time caring for patients with dementia (Alzheimer’s Disease International, 2009). It is thus crucial that a robust foundation for education on dementia must be established for medical students within the undergraduate curriculum before being carried through and translated into competent care in the postgraduate training environment. Moreover, it is essential that early clinical experience is complemented by clear learning outcomes relevant to the knowledge, skills and attitudes needed to care for patients with dementia.

The variation in learning outcomes and the curricular models currently used by medical schools means that teaching on geriatrics, and specifically on dementia, is delivered
very differently throughout the UK (Gordon et al., 2010) and throughout Europe (Tsolaki et al., 2010; Hasselbalch et al., 2007). A recent survey of UK medical schools showed that education about dementia varied greatly in terms of time dedicated to teaching, and which medical professionals were involved in delivering teaching (Tullo et al., 2010a). Clearly medical schools should retain some freedom in how they deliver teaching, but the existing lack of consistency risks the student experience of undergraduate teaching on dementia remaining patchy and disjointed. All graduating medical students in the UK and other developed countries with an ageing population are likely to encounter patients with dementia on a regular basis. In the UK “old-age psychiatry” is the field considered responsible for “specialist” care of patients with dementia, although elsewhere this role may be fulfilled by other medical professionals such as neurologists or geriatricians (Hasselbalch et al., 2007). However, professionals in the more general subspecialties of medicine, surgery and general practice should also be capable of caring for patients with dementia, thus postgraduate curricula used by doctors in these non-specialist roles must refer specifically to dementia as an important condition to understand. It is unclear whether the current non-specialist curricula contain sufficient guidance to help medical professionals to acquire the ability to care for patients with dementia that has hitherto been identified as lacking.

The purpose of this review is to draw together existing recommendations for UK undergraduate and postgraduate medical education on dementia, examine the international evidence base for successful teaching interventions on dementia, and suggest future directions for improving undergraduate education on dementia as a foundation for improving care for people with dementia in the UK and elsewhere.
Methods
A literature search of databases (PubMed, ERIC, EMBASE) was conducted using the MeSH terms Education, Medical and Dementia or the closest possible set of terms within each database to identify relevant articles. Further relevant papers were obtained by manual searches, internet searches and from the references contained in studies from the database searches. Abstracts were reviewed to select the papers with the most relevant content for this narrative review.

Results
Current UK national recommendations
The 2009 Department of Health Report Living Well with Dementia made a number of recommendations for improving the education for medical professionals looking after patients with dementia and their carers (DOH, 2009). These are based on the identification of a lack of skills amongst non-specialists, particularly in the general hospital environment, in conjunction with the high proportion of inpatients that have some degree of cognitive impairment. The document refers specifically to both undergraduate education and continuing professional development, suggesting that dementia-specific modules should be available throughout training for all doctors working with patients with dementia. Although not specifically citing medical education, the 2007 document Dementia: A NICE-SCIE guideline on supporting people with dementia and their carers in health and social care similarly recommends ongoing targeted multidisciplinary education for all healthcare professional to reinforce effective care for patients with dementia including appropriate communication skills (National Collaborating Council for Mental Health, 2007). In terms of educational research, the 2009 Department of Health document Report from the Ministerial Summit on Dementia Research identified inadequate education for non-specialist healthcare professionals as a research barrier and proposed that research culture should move forward
from the current focus on dementia diagnosis to include better care of patients in the hospital and care-home environment (DOH and The Medical Research Council, 2009). More explicitly, the Nuffield Council on Bioethics (2009) highlighted the need for better access to dementia-specific education for those caring for patients with dementia, and for further research into the most effective teaching methods.

With regard to the practicalities of delivering education on dementia, none of the three policy documents listed above commented on what proportion of undergraduate or postgraduate teaching time should be devoted to education on dementia, which methods of teaching were preferable, or details of who should deliver the teaching to trainees. However, one important theme emerging from NICE-SCIE and the *Report from the Ministerial Summit* was the potential benefit of involving patients and carers in research and teaching. NICE-SCIE highlighted qualitative evidence that involving informal carers in professional education can contribute to successful staff training on dementia, although currently there is no evidence as to the effect of involving patients with dementia in teaching for professionals.

**Review of UK undergraduate curricula**

Although there is no nationally mandated undergraduate curriculum concerning geriatric medicine in the UK, a number of international organisations have produced curricula that make specific recommendations for undergraduate learning outcomes on dementia (*Table 1*). Although the majority of UK medical schools appear to devote some time to dementia-specific teaching (Tullo et al., 2010b), it remains unclear how locally set content and learning outcomes relate to these national and international curricula.
Moreover, there is variation in who delivers teaching on dementia in the UK - this seems to be largely carried out by clinicians specialising in geriatrics, old age psychiatry and neurology, with some medical schools also involving allied health professionals such as pharmacists and specialist nurses. It remains unclear how effective each of these professional groups are in terms of delivering teaching to students.

The literature review also identified other topics pertinent to the care of patients with dementia that may be appropriate to include in an undergraduate medical curriculum. Given that care of patients living with dementia raises an abundance of ethical issues (Nuffield Council, 2009), curricula outlining medical ethics and law are highly relevant (Stirrat et al., 2010). Any undergraduate teaching programme aiming to equip students to competently care for patients with dementia cannot afford to omit teaching on issues such as assessment of capacity, best-interest decision-making and end of life care. Although clinicians are likely to be able to make a substantive contribution to medical ethics teaching and the application to care of patients with dementia, it may be that other educators such as lawyers and ethicists also need to be involved to achieve breadth of understanding. Additionally, recent scholarship on dementia has highlighted other important holistic concepts that should be considered for inclusion in curricular outcomes on dementia; examples include alternative models of dementia care, and the importance of personhood, quality of life and communication with patients with dementia (Kitwood and Bredin, 1992; Murray and Boyd 2009; Young and Manthorpe 2009).

**Review of UK postgraduate curricula**
The current UK Foundation Programme curriculum (UKFPC, 2010), covering the first 2 years of postgraduate training, does not specifically highlight dementia as a concept, but does include a number of essential competencies that may be relevant to care of patients with dementia including knowledge of the assessment and management of patients with acute and chronic “confusion”, and the ability to identify vulnerable adults. However, specific conditions such as dementia and delirium are not included. Sections of the UKFPC concentrating on ethics and law also have particular relevance to dementia; foundation trainees are expected to understand the underlying principles of mental capacity law, and to be able to discuss the implications of a “living will” or advance directive.

As expected, the curricula guiding core medical training (CMT) and acute care common stem (ACCS) trainees in the UK (usually years 3 and 4 of postgraduate training in internal medicine and emergency care) makes detailed reference to more advanced skills required to care for patients with “cognitive impairment”, and specifically with dementia (Joint Royal Colleges Postgraduate Training Board, 2009). CMT and ACCS trainees are required to be able to assess patients with progressive memory loss in order to initiate appropriate investigation of suspected dementia and draw together a differential diagnosis. Moreover, the curriculum demands that trainees should be able to recognise situations in which a formal assessment of capacity may need to be made, respond sensitively to patients with cognitive impairment and their carers, and to involve multi-disciplinary team members in the care of patients with dementia.

The extensive curriculum for general practice trainees (usually in years 3-5 of postgraduate training) also makes specific reference to dementia (Royal College of General
Practitioners, 2007). GP trainees are expected to acquire knowledge of the assessment and management of patients with dementia in the community, and to be able to advise on access local integrated mental health services in order to support patients and their carers.

Surprisingly, the Core Surgical Training Syllabus used by surgical trainees (postgraduate years 3-4) makes no specific reference to cognitive impairment or dementia (Intercollegiate Surgical Curriculum Programme, 2010a), although the Professional Skills and Leadership Syllabus highlights generic communication skills and ability to recognise incapacity that are clearly relevant to care of patients with dementia (ISCP, 2010b).

The delivery of teaching on dementia – existing interventions for medical students

Although there is evidence that undergraduate teaching interventions in geriatrics in general can improve the knowledge, skills and attitudes of medical students (Tullo et al., 2010), few of these interventions include specific learning outcomes relevant to dementia. A study by Goldstein et al. (1999) evaluating the effect of a 1-week course on dementia for US undergraduates did report greater self-confidence in some aspects of dementia care amongst intervention participants as compared with control, however intervention participants were self-selected and practice outcomes were self-reported, limiting the significance of the findings.

A greater number of dementia-specific postgraduate teaching interventions have been evaluated internationally, most frequently in primary care (Byszewski et al., 2003; Chodosh et al. 2006; Cook et al., 2004; Dalsgaard et al., 2007; Downs et al., 2006; Gifford et al., 1999; Robinson et al., 2010; Pond et al., 1994; Waldorff et al., 2003) However, there
exists significant heterogeneity in methodology with regards to both trial design and the
outcome measures selected to evaluate the effect of each intervention, limiting the
potential to draw meaningful conclusions. Studies evaluating change in participant
knowledge or attitudes have not demonstrated a significant improvement following
dementia-specific teaching interventions (Byszewski et al., 2003; Chodosh et al., 2006)
although other studies have suggested that education may be effective in increasing
dementia detection rates or adherence to clinical guidelines (Downs et al., 2006; Gifford et
al., 1999). Encouragingly, there is qualitative evidence that dementia-specific education has
been positively received by participants who have reported high levels of satisfaction
(Byszewski et al., 2003; Dalsgaard et al., 2007; Robinson et al., 2010; Waldorff et al., 2003).
However, participant satisfaction does not guarantee meaningful changes in clinical practice
that will go on to benefit patients. In contrast to teaching on delirium that can infer direct
clinical benefit (Teodorczuk et al., 2010), there is a lack of evidence that this is the case with
teaching on dementia. Whilst attempts have been made to detect changes in the clinical
practice of old-age psychiatry trainees and consultants following a dementia-specific
teaching intervention (Robinson et al., 2010), changes in subsequent behaviour were self-
reported thus limiting the objectivity of the findings.

Discussion

This review has presented evidence suggesting that there is a pressing need for an
improvement in undergraduate medical education about dementia in order for students to
provide competent care for patients with dementia once they graduate. Although UK
medical schools do appear to include dementia within their curricula, the amount of
teaching time devoted to dementia remains highly variable, and the methods of teaching
delivery and the impact on students remain largely unknown. Although medical education on dementia needs to be improved, it remains largely unclear what and how we should be teaching our medical students about dementia. There is scope for a more detailed survey and evaluation of current medical education on dementia in the UK, and elsewhere, in order to identify both examples of good practice and areas for improvement. There is currently no recommended undergraduate curriculum specifically for dementia, although this analysis of international undergraduate geriatrics curricula has highlighted a sample of relevant learning outcomes in knowledge, clinical skills and ethical practice pertaining to the care of patients with dementia. Whilst medical schools should retain some flexibility to deliver teaching as they see fit, the development of a recommended curriculum on dementia, based on the input of a range of stakeholders (for example people with dementia, carers, medical students and teachers) would help medical schools to determine whether their own curricula includes adequate education about dementia.

The transition of students from the undergraduate stages to the clinical environment necessitates continuity in terms of topics chosen for ongoing clinical education. Competent care of patients with dementia should remain an educational priority for non-specialist trainees, with undergraduate learning outcomes mapped to and extended by curricula in the early years of professional practice. In later stages of clinical training in the UK, for example CMT, ACCS, GP and surgery, care of patients with dementia should remain a part of all subspecialty curricula rather than only the remit of “specialists”. Given the demographics of surgical inpatients, it is proposed that the UK surgical curriculum should be modified to specifically refer to care of patients with cognitive impairment, including dementia from the earliest stages of training.
UK policy relating to education of medical professionals about dementia appears pragmatic, but in general is not evidence-based. There are currently few research studies to demonstrate that dementia-specific teaching improves the knowledge, skills or attitudes of participants, or improves care for patients, although a brief analysis of a small number of interventions in the postgraduate environment has shown promise in terms of achieving participant satisfaction and improving adherence to clinical guidelines on dementia. Although a systematic review of teaching interventions on dementia in primary care has recently been published (Perry et al., 2011), a further systematic review of interventions in other clinical environments may help to identify successful teaching models.

Despite the inherent difficulties in evaluating the impact of educational interventions, it is to be expected that improving medical education on dementia will ultimately result in benefit to patients and there is a need for further research into the most effective, evidence-based ways of delivering teaching. Using a modified Kirkpatrick hierarchy of outcomes (Hammick et al., 2011), the impact of dementia-specific teaching on student knowledge, skills and attitudes could be measured through formative and summative undergraduate assessment, for example MCQs on dementia or case-based discussions involving example patients with dementia. Evaluating impact on clinical outcomes is likely to be more difficult, but could begin with the assessment of the clinical skills of students in the OSCE environment, including asking simulated patients for their evaluation of student performance.
To conclude, this review has argued for the need to improve medical education about dementia in the UK and elsewhere by gathering together existing curricula and recommendations for dementia-specific teaching, and highlighting the current paucity of the evidence base for effective teaching interventions. A number of recommendations for curriculum development and future directions for evaluating dementia-specific teaching interventions have been made (summarised in table 2) with a view to improving care for people with dementia.
Conflict of interest declaration
None

Description of authors’ roles
E. Tullo collated and reviewed policy documents, curricula and educational interventions on dementia. E. Tullo and L. Allan drafted and refined the review.

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