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Towards an understanding of why undergraduate teaching about delirium does not guarantee gold-standard practice—results from a UK national survey

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Abstract

Background—delirium is common and serious, yet frequently missed by medical staff. It is known that delirium is widely taught and examined in UK medical schools; however, what is taught, and how such teaching is delivered, remains unknown. The primary aim of this study was to determine the content of UK undergraduate medical education about delirium and establish how it is delivered. A secondary aim was to highlight and share examples of gold-standard teaching on delirium.

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Conflicts of interest

None declared.

Ethical approval

This study was subject to Newcastle University's Preliminary Ethical Assessment, and it was deemed not to require further evaluation by an ethics committee.

Methods—all UK undergraduate medical schools were invited to complete a survey. Schools were asked to describe how delirium was taught and to provide delirium-related learning outcomes. Learning outcomes were mapped to the three overarching themes outlined in Tomorrow's Doctors (knowledge, skills and attitudes).

Results—24/31 schools (77%) provided responses. In line with previous work, delirium was widely taught and examined. 18/24 schools reported at least one learning outcome that mapped to the knowledge domain, 19/24 for the skills domain and 2/24 for the attitudes domain. 4/24 evaluated the impact of sessions and 3/24 involved patients and the public in teaching. 13/24 schools were confident that exposure to delirium was guaranteed. Innovative teaching methods were reported by a number of schools; weblinks to examples are provided.

Discussion—there was widespread failure to address attitudes on delirium within teaching, to evaluate the impact of sessions, to involve patients and the public in teaching and to guarantee exposure to delirium. Future teaching interventions should be directed at attitudinal outcomes, using a synthesis of clinical experience with multidisciplinary interaction and supportive technologies.

Keywords

delirium; undergraduate; geriatric medicine; education; teaching; older people

Introduction

Delirium occurs in 11–30% of hospitalised older patients [1] and is associated with increased mortality [2] and rates of institutionalisation [3]. Despite its high prevalence and serious nature, health-care staff frequently fail to recognise delirium [4], resulting in additional treatment costs and prolonged hospital admissions [5]. Junior doctors have been shown to lack basic knowledge about the diagnosis and management of delirium [6]. Subsequently, a UK survey of undergraduate teaching in ageing and geriatric medicine reported delirium to be widely taught and subject to formal assessment in medical schools [7]. However, this survey did not consider the detail of what was taught, or importantly how such teaching was delivered.

Against this background, the purpose of our study was to describe in greater detail the content of UK undergraduate medical education about delirium and how such teaching is delivered. We also aimed to highlight examples of gold-standard teaching about delirium that could be shared.

Methods

An electronic survey was developed to contain a mix of open and closed questions about teaching on delirium. Schools were asked to provide their learning outcomes that related to delirium. The survey was piloted with senior medical educators at three UK medical schools with modifications made thereafter. The British Geriatrics Society (BGS), the European Delirium Association and the Royal College of Psychiatrists endorsed the final survey. It can be viewed at: https://www.surveymonkey.com/s/Delirium_Medical_School_Survey.

The deans of all UK undergraduate medical schools were approached by letter and email (31 at the time). They were asked to identify a respondent within their institution with an overview of how teaching on delirium was delivered. Where direct approaches did not yield a response, members of the BGS Education and Training Committee, comprising representatives with links to all schools, were asked to respond. A weblink to access the survey was sent to the nominated respondents. Data collection took place over a 6-month period (October 2013–March 2014) with email reminders at 2 and 4 months.

Learning outcomes provided by responding schools were mapped to the three overarching themes outlined in Tomorrow's Doctors, the UK generic curriculum for undergraduate teaching [8]. These headings consider the doctor as scholar (knowledge), practitioner (skills) and professional (attitudes).

Results

Response rate and respondents

One medical school declined to participate, two provided only minimal data and four did not respond. Therefore, responses from 24/31 (77%) of UK medical schools were analysed. Twelve respondents were geriatricians (six academic/six clinical); eight respondents were psychiatrists (two academic/six clinical). The remaining four respondents included three course directors and one academic neurologist.

Is delirium taught and examined?

Delirium was taught in all responding schools and examined in 23/24. 21/24 provided further details regarding the learning outcomes related to delirium. When outcomes were mapped to the three domains defined in Tomorrow's Doctors, it was evident that only two schools covered all three domains. 18/24 reported at least one outcome that mapped to the knowledge domain, 19/24 for the skills domain and 2/24 for the attitudes domain.

What teaching methods are employed?

Schools used a variety of teaching methods; the most common being clinical placements (22/24), lectures (20/24) and seminars (16/24). Other methods included e-learning (9/24), inter-professional learning (6/24) and role play/simulation (5/24). Seventeen schools provided examples of innovative teaching on delirium (Table 1; weblinks for specific examples in Table 2).

Who delivers teaching on delirium?

Geriatricians (22/24) and old-age psychiatrists (21/24) most frequently delivered teaching. Other groups included nursing staff (9/24), general practitioners (8/24) and other physicians (6/24). All schools reported multi-professional involvement.

Is the impact of delirium teaching evaluated?

Only 4/24 schools described evaluation of teaching; all did so via student feedback.

Patient/public involvement

3/24 schools reported patient/relative involvement in designing or delivering teaching about delirium. Two schools described teaching that either consisted of patient videos or involvement of carers in seminar delivery.

Are students guaranteed to interact with patients with delirium in the clinical environment before graduation?

13/24 schools were confident that this exposure was guaranteed; 6/24 responded that this was not and 5/24 were unsure.

Discussion

This study provides the first detailed analysis of undergraduate teaching on delirium in the United Kingdom. We found that delirium is widely taught and examined, and that a number of schools are employing teaching methods that they regard as innovative. Crucially, there is evidence of failure to address attitudes on delirium within teaching, to evaluate the impact of sessions and to involve patients and the public.

The strengths of this study are that it involved all UK schools to provide a national picture and used the statutory training framework, Tomorrow's Doctors [8], to organise analysis. Numerous measures were employed to maximise participation including piloting of the survey for usability, the endorsement of specialty societies and an iterative approach to recruitment, with multiple email reminders. The participation rate (77%) was high for this type of national survey [7,9]. The main weakness is in the response bias introduced with incomplete responses from some schools. The integrated nature of some curricula and the rapid evolution of teaching material mean that the structure of the survey may have made it more difficult for some schools to provide coherent responses.

In line with existing evidence [7], we found that delirium was widely taught and examined. Analysis of learning outcomes showed that the majority focused on knowledge and skills development, with only two schools addressing attitudes. These mirror the findings of a previous survey describing UK undergraduate teaching on dementia [9]. A recent systematic review of the published literature on educational interventions to improve delirium recognition highlighted that improving knowledge and skills alone was ineffective [10]. In a clinical study exploring the learning needs of health professionals caring for confused, older patients, a variety of negative attitudes were identified [11]. It was suggested that some doctors perceived delirium as unchallenging and not their responsibility, and that this 'lack of ownership' can pervade throughout the ward team. Delirium can be a frightening experience for a patient; their response to fear may be interpreted by ward staff as 'challenging behaviour' which may exacerbate 'lack of ownership'. Teaching should therefore seek to challenge negative attitudes, promote ownership and highlight the emotional impact of delirium. Learning outcomes specifically addressing attitudes can, however, be challenging to assess [12].

Teaching on delirium could be developed by ensuring that students' experiences are concordant with the context in which they will ultimately encounter delirium. Schools

should aim to move away from disease-based knowledge acquisition towards work-based, multidisciplinary, patient-centred learning [11]. This may be achieved by promoting inter-professional education, which has been shown to improve patient outcomes in delirium care [13]. Nursing staff and health-care assistants spend greater periods of time with hospitalised in-patients than medical staff and their insight is frequently critical to delirium recognition [14]; encouragingly, their involvement in teaching was reported in around one-third of schools. Secondly, it was evident from our survey that there was minimal involvement of patients or carers with teaching about delirium. *Tomorrow's Doctors* [8] speaks of the need to foster a culture of patient and public involvement, and there is evidence that doing so provides benefits for learners, increasing the likelihood of attitudinal change [15].

While clinical placements were widely used to teach delirium, it is important to highlight that simply being placed on a ward where patients may have delirium does not guarantee that learners will observe diagnosis [4], or gold-standard treatment, of the condition. An additional problem with clinical placements is the 'chance' element. Medical schools can schedule an appointment with a patient with dementia or diabetes, but it is difficult to ensure that delirium, which is by its nature evanescent, will be encountered at a given time and place. This may explain why some schools felt unable to guarantee exposure. Simulation-based learning, as reported by some schools, can provide the opportunity of practiced experience in a controlled, reproducible fashion which can then be reflected upon at leisure [16]. Simulated interactions with a delirious patient using professional actors have been shown to improve student knowledge on delirium [17], and computer-assisted learning may also have a role [18].

The reported use of innovative teaching methods, such as e-learning and role play/simulation, may be indicative of the importance some schools place upon delirium, since development of these is resource intensive and costly. Interestingly, there was considerable variation in what respondents described as innovative. Several schools reported the use of e-learning but did not cite this when asked to provide examples of innovative teaching. This may represent differences between medical schools, or between individual respondents, in their attitudes to e-learning—some are likely to be early adopters, where e-learning now represents routine practice, while others are just starting to engage with such technologies.

Conclusions

This study reinforced previous findings that delirium is widely taught and assessed in UK medical schools but, through more detailed questioning, provided possible insights as to why this does not translate into widespread gold-standard practice among doctors. Firstly, schools tend to focus upon knowledge- and skill-related outcomes, with very limited attention paid to attitudes. Secondly, schools are unable to guarantee exposure to delirium. Thirdly, only some schools have harnessed the potential of innovations in structured teaching to underpin clinical experience and to guarantee exposure to experiences that might trigger attitudinal transformation.

These findings suggest that important progress is being made. They also suggest that future interventions should be directed at attitudes, using a synthesis of clinical experience with

multidisciplinary interaction and supportive technologies such as simulation and e-learning. The future agenda for teachers and educational researchers is clear.

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Key points

- There was widespread failure to address attitudes on delirium within teaching.
- There was failure to involve patients and the public in teaching and to guarantee exposure to delirium.
- Future teaching interventions should be directed at attitudinal outcomes with multidisciplinary input and supportive technology.

Table 1

Examples of innovative teaching on delirium volunteered by survey respondents

Response	Category
Use of a delirium 'virtual case'	e-learning
Formative online MCQ. Planned subscription to online modules	e-learning (proposed)
e-Learning package. Small-group ward-based multidisciplinary case-based discussions	e-learning; inter-professional learning; case based
Link on blackboard to the BGS online learning	e-learning
Nurse specialist session on 'This is me' for patients with dementia admitted to ward with delirium	Inter-professional learning
Multidisciplinary led small-group discussions	Inter-professional learning
Attachment of students to geriatrician and psychogeriatrician-led older person service [but not possible for all students due to staffing and student rotation-related constraints]	Inter-disciplinary learning
Joint teaching between geriatrician and psychiatrist to highlight different perspectives. Simulation training using professional actors	Inter-disciplinary learning; simulation
Use of 'SimMan' teaching	Simulation
Video-based assessment of teaching delirium assessment	Video based
Teaching confusion assessment method using patient videos	Video based
Use of a 'trigger presentation' case to highlight importance of the topic	Case based
Small-group tutorials with case vignettes	Case based
Case presentation on delirium for case illustrated learning	Case based
Use of scenario-based learning to illustrate diagnosis and management of delirium	Case based
Encouraged to find a patient with delirium to clerk and review regularly	Case based
Small group tutorials, lectures and bed-side teaching	'Traditional' methods

Table 2

Exemplar innovative teaching resources on delirium that are accessible online

Resource	Source	Weblink
e-Learning repository	British Geriatrics Society	http://www.bgs.org.uk/index.php/elearning
Patient experience of delirium: video	European Delirium Association	http://www.europeandeliriumassociation.com/news/patient-experience-of-delirium-teaching-video/
Geriatric medicine computer-aided learning packages	University of Nottingham	http://www.nottingham.ac.uk/medicine/study/learningresources/geriatricmedicine.aspx
Delirium simulation teaching	Newcastle University	http://ageing.oxfordjournals.org/content/early/2013/12/18/ageing.aft200.short?rss=1