AN INTERVENTION TO REDUCE DELIRIUM IN CARE HOMES

The Stop delirium! project used interactive teaching methods to help staff recognise and take action to prevent delirium. Imogen Featherstone, Ann Hopton and Najma Siddiqi examine the effectiveness of the training

Summary
This article describes delirium and explains why its prevention is important. An enhanced educational package that was developed with care home staff to prevent delirium is outlined. The challenges and successes of the project are highlighted. Case studies and resources to enable healthcare workers to learn about delirium and take action to prevent it are provided.

Keywords
Care homes, delirium, educational interventions

Delirium is a physical illness that is distressing for people experiencing it and their relatives (Breitbart et al 2002). Older people are vulnerable to delirium, particularly when they are ill. A key feature of delirium is a sudden change in people’s awareness and attention over a few hours or days. They become unusually agitated or sleepy and withdrawn. Their thinking may become disorganised with delusions and hallucinations. Speech becomes rambling and they may be unable to follow a conversation. Sudden changes in sleeping pattern and nocturnal confusion are common (American Psychiatric Association 1994).

Older people who become delirious often have several underlying risk factors. A stressor event then triggers an episode of delirium. Risk factors include dementia, physical frailty, severe illness, hearing or visual impairment and taking multiple medications. Common triggers are infection, medications, pain, constipation, dehydration and environmental factors such as moving rooms. For a person who is usually fit, a major trigger needs to occur for delirium to develop, but for a person who already has several risk factors, a minor trigger can result in delirium (Young and Inouye 2007).

Delirium, dementia and depression
Healthcare workers may often describe people as ‘confused’ older patients or residents and delirium is frequently mistaken as dementia. The sudden onset of delirium distinguishes it from dementia and depression, which have a long, slow onset over several weeks or months (Table 1, page 18). People with dementia are at greater risk of developing delirium because they are less able to ask for help with basic needs, less able to communicate that they are in pain or feeling unwell, and less able to orientate themselves in an unfamiliar environment. It is important to recognise that delirium can be superimposed on dementia (Fick et al 2005, Givens et al 2009).

When a person is depressed, withdrawal and sleepiness caused by delirium may be overlooked (O’Keeffe and Lavan 1999, British Geriatrics Society and Royal College of Physicians 2006). Helplessness
and self-neglect associated with depression mean that the person is less likely to attend to basic needs such as adequate hydration, nutrition and cleanliness. Distinguishing between delirium, dementia and depression is important because delirium can be prevented. When it does develop it needs to be recognised so that the underlying causes can be investigated and treated.


Older residents of nursing and residential homes are vulnerable to many of the risk factors for delirium. Studies estimate that rates of delirium in long-term care settings are between 6 per cent and 60 per cent; the higher rate presumably reflecting a more unwell population of residents in some long-term care settings compared with others (Siddiqi et al 2008).

Distinguishing between delirium, dementia and depression is important because delirium can be prevented

Concerns have been raised about the quality of care provided for older people in long-term care (Black and Bowman 1997, House of Lords and House of Commons Joint Committee on Human Rights 2007). Training in delirium prevention can have a positive effect on quality of care.

Stop delirium! project

The aim of the Stop delirium! project was to design an enhanced educational package to improve delirium care for older people in care homes. Evidence for interventions to change practice recommends using a variety of interactive teaching methods; to have individuals to ‘champion’ the change; to encourage staff to take ownership of the project; and to identify barriers to change in a particular setting and tailor solutions to address them (Colon-Emeric et al 2007, Baker et al 2010). All of these strategies were used in the project.

A full-time delirium practitioner worked with staff in care homes in Leeds over a ten-month period. In larger homes, only selected care units took part in the project. In all, nine units from six care homes were involved. Two practitioners were employed because the first left on maternity leave. The first practitioner was a qualified clinical psychologist, the second was a general nurse with experience in nursing patients with acute and chronic conditions. Both had knowledge and experience of working with people with delirium. The role of the practitioner was to deliver interactive education sessions and facilitate working groups of staff at each home.

| Table 1 | Differences between delirium, dementia and depression |
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| Delirium | Dementia | Depression |
| Onset | Sudden: hours or days. | Gradual over months or years. | Gradual over weeks or months or after an event. |
| Alertness/attention | Fluctuates: sleepy or agitated, unable to concentrate. | Generally stable. | Generally stable, some difficulty concentrating. |
| Sleep | Sudden change in sleeping pattern, unusual confusion at night. | Can be disturbed with habitual night-time wandering. | Early morning waking. |
| Thinking | Disorganised, rambling. | Specific difficulty with short-term memory. | Preoccupied with negative thoughts, hopelessness, helplessness and self-depreciation. |

(Stop delirium! 2007)
Interviews with staff at the beginning of the project identified a range of knowledge. Trained and untrained staff found it difficult to differentiate between different types of confusion. Qualified nursing staff commonly identified infection as a risk factor for increased confusion but expressed a lower level of awareness of other risk factors and triggers.

The delirium practitioner held education sessions for trained nurses and care assistants at the care homes. The sessions focused on the recognition of delirium, highlighted the causes and risk factors and provided teaching on appropriate care for prevention and management. ‘How would you feel?’ cards were used to create empathy for residents and develop insight into the experience of delirium (Box 1).

Case studies were used to help staff relate the delirium education to their everyday practice. In the case of ‘What’s wrong with Alfred?’ (case study 1, Box 2, page 20), signs of delirium are: a sudden change; increased sleepiness and confusion; difficulty concentrating; and hallucinations. Risk factors include his urinary catheter, a noisy environment and multiple medications. Possible causes of Alfred’s delirium are urine or kidney infection, medication, back pain and constipation. The staff could check his temperature and urine, and refer him to the GP for a medication review. His distress could be managed by staff introducing themselves and explaining what they plan to do before each interaction and offering him his medication in a quiet environment. Using daily events of dressing and mealtimes as time cues and ensuring clocks and calendars are visible can help orientation.

The use of case studies encouraged care staff to consider why a change in the resident’s behaviour had occurred, to differentiate between dementia and delirium and to identify specific triggers or symptoms that could be assessed and managed.

**Common triggers for delirium are infection, medications, pain, constipation, dehydration and environmental factors**

**Working groups** Staff working groups were set up in each care home to champion good delirium care. These groups put theory into practice by identifying barriers to good delirium care in their particular care home and developing solutions.

Working group members identified risk factors and triggers for delirium and worked with the delirium practitioner to develop care pathways. Research and learning activities were incorporated in the process of developing the pathways. This increased staff’s knowledge and empowered them to put it into practice. For example, the dehydration pathway was developed by four care assistants. They researched the signs and symptoms of dehydration: headache, lethargy, low urine output and dark coloured urine. They monitored their own fluid intake for a day and observed the colour of their urine and how they felt.

The care assistants were aware of fluid charts but misjudged the capacity of the drinking cups so the charts were inaccurate. To improve their accuracy they measured the amount of fluid in each type of cup and redesigned the fluid charts to include the information. Although they knew the importance of encouraging residents to drink, they did not know the appropriate daily fluid intake, so they researched the daily fluid requirement by body weight and incorporated the information into the care pathway. Care pathways for the other triggers of delirium were developed interactively and included signs and symptoms and actions to be taken.

Communicating concerns about delirium between shifts to medical staff and residents’ friends and relatives was a key issue in the care homes, particularly as the levels of confusion experienced in delirium fluctuate at different times of day. To improve reporting, the working groups devised a delirium checklist. Descriptions of symptoms were included as well as formal nursing observations, for example: items included under temperature were ‘hot and sweaty’ and ‘cold and clammy’. This enabled care assistants to take an active role in completing the checklist. After a review by community matrons and GPs, the checklist was implemented in several units. Posters and information leaflets were also designed to inform residents, relatives and friends.
**Box 2 Case studies as learning activities**

Learning objectives for the case studies are to:

- Identify common causes of and risk factors for delirium.
- Distinguish between delirium, depression and dementia.
- Understand what steps to take to manage and prevent delirium.

**1. What's wrong with Alfred?**

Alfred has lived in your home for the past 18 months. Over the past few days you have noticed that he seems more sleepy and confused than usual, seeming not to know where he is at times and struggling to concentrate. At night he has been talking about cats coming and sitting on his bed. Alfred has been rubbing his lower back a lot recently and his legs appear to be swollen. He has a catheter and his urine output has been less over the past couple of days.

Alfred takes several medications which he has been on for some time. He is given these in the evening, usually in the main lounge which is often noisy with other residents shouting out, the television on and sometimes the staff have a radio on too.

Although he is a quiet, friendly man, he recently started refusing his medication in the evening, shouting at staff and spitting out his tablets.

- What are the signs that Alfred might have delirium?
- What are the risk factors for delirium?
- What could you do to manage the delirium?

**2. Lorna is not her usual self**

Lorna has been a resident at your home for five years. Although she appeared withdrawn when she first moved into the home, over the years she seems to have enjoyed living there and has made some good friends.

Over the past few months Lorna has become increasingly withdrawn and no longer engages in conversation. She does not sleep well and has become increasingly forgetful. Her appetite has reduced and she needs several prompts to wash and dress. One of her friends died earlier in the year and another has moved away. Her favourite member of staff has gone on maternity leave.

- Is Lorna depressed or delirious?
- What are the risk factors for Lorna to develop delirium?
- What could you do to help Lorna?
- What should you do to prevent delirium?

**3. George is behaving oddly**

George was diagnosed with Alzheimer's disease two years ago. He is usually talkative and often talks about his work as an electrician in the 1960s. He frequently asks where he is and has been wandering at night. This has been going on for several months. In the past few days he has been incontinent of urine which is unusual for him and has been shouting out at night.

One of his visitors mentions that George thinks the staff are trying to poison him.

- What are the signs that George's Alzheimer's disease is worsening?
- What are the suggestions that he might be delirious?
- What might be the cause of the delirium?
- What could you do to help George?

**Challenges and successes** Managers' support of the project affected how successful it was. In some homes managers were enthusiastic and supportive, in others they were much less involved. Poor management and communication in some homes created barriers to organising sessions and implementing practice changes. Some staff had concerns about increased workload and others felt that they did not have the power to effect change.

The delirium practitioner worked to resolve these challenges or reduce their effect. The methods that worked well in putting the educational package into practice included:

- The practitioner facilitated the training and working groups with small groups of staff.
- Flexibility in the length and timing of the sessions reduced the effect on staffing levels during shifts.

All the materials developed were presented in an attractive and user-friendly format. Each unit that took part in the project was provided with a ‘delirium box’ containing the educational materials and the resources produced by the working groups.

**Understanding and knowledge** Interviews and questionnaires were used to assess changes in staff knowledge, confidence and practice before and after the delirium education package. Evidence of improvement was found in all of these areas.

Detailed results are being prepared for publication elsewhere.

Overall, 91 per cent of staff received the training. The response to the training was positive. In a feedback questionnaire, 99.7 per cent thought it was relevant to their work and 97 per cent said it was time well spent.
The training and working groups included qualified nurses and care assistants.
Interactive teaching methods engaged the staff.
Staff pride and ownership of the tools and materials produced in the working groups made them more powerful in practice.
Staff opted to share materials and solutions across all six homes, which developed into a valuable shared learning resource.

The delirium practitioner was able to develop the delirium checklist and care pathways with the working groups but was unable to support them in implementing them fully before the project ended. In some homes, managers were active in supporting the continuation of delirium education by introducing it across the home, using the expertise of the staff involved in the project.

In one home, the manager incorporated learning from the project into plans for refurbishment work so that residents could orientate themselves more easily in the environment. In other homes, further support may be needed to sustain education in the longer term.

Conclusion
Delirium is a distressing condition that can be prevented by targeting its risk factors. It is important that healthcare workers, nursing and support staff understand how to prevent, recognise and manage delirium. The Stop delirium! project aimed to educate care home staff about delirium and empower them to take action to prevent it. It is unlikely that a dedicated delirium practitioner post would receive funding. However, the approach and educational resources that were developed could be used by care home staff, trainers, community matrons and practice nurses to increase understanding and help to prevent and manage delirium.

Find out more
Test your own knowledge of delirium by reading the case studies and completing the learning activities in Box 2. All educational materials used in the project can be downloaded for your use at: http://tiny.cc/vdtzl (Last accessed: March 29 2010.)

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