Patient safety and hydration in the care of older people

Julie Burns sets out the causes of dehydration in older people and how nurses can manage patients’ fluid intake and thereby improve care outcomes.

Abstract

Ensuring patients are adequately hydrated is a fundamental part of nursing care, however, it is clear from the literature that dehydration remains a significant problem in the NHS with implications for patient safety. The development of dehydration is often multifactorial and older age is an independent risk factor for the condition. However, the media often blame nursing staff for simply not giving patients enough to drink. This article discusses the scale of the problem in acute care settings and aims to raise awareness of the importance of hydration management and accurate documentation in nursing practice. It suggests that intentional hourly rounding may provide an opportunity for nurses to ensure older patients are prompted or assisted to take a drink.

Keywords

acute hospitals, dehydration, documentation, duty of care, hydration, older people

DEHYDRATION IS a significant problem in acute hospitals. Research has shown that many patients are, or are nearly, dehydrated on admission. This status can be exacerbated by a period of acute illness. Rowat et al’s (2012) nurse-led study aimed to determine the hydration status of 2,591 stroke patients. The results show that 36% of patients were dehydrated within one day of admission, rising to 62% being dehydrated at some point during their stay.

Older age is an independent risk factor for dehydration. The results of the Hydration and Outcome in Older Patients study (El-Sharkawy et al 2015) are consistent with these findings and show that, of 200 patients studied, 37% were dehydrated on admission, and 62% of those were still dehydrated when they were reviewed after 48 hours. Both studies show that dehydration resulted in poorer patient outcomes.

Hydration is a fundamental aspect of health care, but it is not always given the priority it deserves. Dehydration can have devastating consequences for patients. The National Confidential Enquiry into Patient Outcome and Death (NCEPOD) (2009) found that dehydration/hypovolaemia/volume depletion was the commonest cause of acute kidney injury (AKI) in acute settings, either as a sole diagnosis or secondary to other conditions such as sepsis. AKI is a serious condition, characterised by sudden and recent reduction in kidney function. The true extent of patient harm attributable to dehydration is unknown because its prevalence in the UK has not been widely studied (Lecko 2013). It is recognised that dehydration is associated with, for example (Lecko and Best 2013):

- Development of pressure ulcers.
- Falls.
- Urinary tract infections.

Signs of severe dehydration, which can result in a medical emergency, include (NHS Choices 2015):
- Lethargy.
- Confusion.
- Oliguria.
- Weak/rapid pulse.
- Reduced consciousness.

The Francis (2013) report highlights failings in nursing care at Mid Staffordshire NHS Foundation Trust that resulted in significant patient harm, including poor hydration care. Patients at the hospital and their families reported that water was left out of reach, and some patients were given no help to drink.

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(Francis 2013). The report resulted in public loss of confidence in the provision of essential care by the NHS (Sawbridge and Hewison 2011).

Poor standards of hydration management in the NHS remain a problem. The Care Quality Commission (CQC) (2013) found that some patients were not receiving the help they needed to drink and staff were not always recording oral intake accurately. Of the 50 NHS trusts in England inspected by the CQC, only 34 met the required standard for records.

Emotive and harrowing stories of patients in NHS hospitals being deprived of water and receiving poor care are common in UK media reports, such as Sky News (2013), Disley (2014), and Flanagan and Donnelly (2014). These reports refer to the NCEPOD (2009) report on the care of patients with AKI. The report does not suggest that the deaths highlighted in the report were due to the failure of staff to give patients enough to drink, as some media headlines imply, but it does state that patients had received suboptimal care and that hydration required improvement.

Under the Nursing and Midwifery Council (NMC) (2015) code of conduct, nurses must ensure effective delivery of the fundamentals of care, including hydration. This includes making sure that patients have adequate access to hydration and helping those who cannot drink unaided. In practice, it is often up to unregistered healthcare assistants (HCAs) to ensure patients receive adequate hydration (Campbell 2011, Jefferies et al 2011, Potterton and Thatcher 2012), although nurses are accountable for their decisions to delegate such duties to HCAs (NMC 2015).

Causes of dehydration

Dehydration occurs when more fluid is lost than is taken in, which results in an imbalance of minerals that affect how the body functions (NHS Choices 2015).

The causes of dehydration can be multifactorial, but include cardiac and renal disease, diabetes and sepsis (Capezuti et al 2008). In hospital patients, dehydration is often caused by acute illness, dementia and delirium (Royal College of Nursing (RCN) and National Patient Safety Agency (NPSA) 2007).

Risk can also be increased by commonly prescribed medicines, such as angiotensin-converting enzyme inhibitors, diuretics, laxatives, non-steroidal anti-inflammatory drugs and some psychotropic medications (Heath and Sturdy 2009, NCEPOD 2009). Fluid loss can also occur as a result of diarrhoea, vomiting and sweating (National Institute for Health and Care Excellence (NICE) 2013).

The ageing process can increase the risk of dehydration because it leads to reduced renal efficiency, reduced sensitivity to anti-diuretic hormone and impaired water conservation (Capezuti et al 2008). Older people are more likely to be concerned about incontinence and the need for assistance with elimination, and so may be reluctant to drink (Campbell 2011). Older people may also have reduced muscle mass, physical and cognitive disabilities, and polypharmacy, all of which can increase the risk of dehydration (Hooper et al 2014).

However, despite intrinsic factors predisposing older people to higher risk of dehydration, nurses should recognise the importance of their care on patients’ hydration status (Wilson and Best 2011).

Over the years, a number of initiatives to improve hydration management, such as use of ‘red jugs’ and protected mealtimes (NPSA 2007, Wilson 2014), have been introduced, but have not led to sustainable improvement. This begs the question why ensuring patients are given enough to drink can be so problematic.

For many people, the thirst response diminishes with age (Campbell 2014). Encouraging or assisting older people to drink adequate volumes of fluid to maintain health can require a great deal of time and patience by healthcare staff. This apparently simple task comprises carrying out a full assessment of an individual’s cognitive and physical ability; formulating an individual care plan; ensuring that the patient is safely and correctly positioned to drink, which can require two members of staff; and spending time at the bedside encouraging and assisting the patient (Campbell 2011, Carter 2015).

Ensuring hydration in some patients, such as those with stroke, dementia or Parkinson’s disease, requires significantly more time, and patients who depend on staff are at increased risk of dehydration (Watkins 2012).

Managing dehydration

Identifying patients at risk

The Malnutrition Universal Screening Tool (British Association for Parenteral and Enteral Nutrition 2011) can highlight patients at nutritional risk, but not those at risk of dehydration. It has been suggested that hydration should be considered independently of nutrition and that separate guidance should be published (Wilson 2014).

With no validated tool available to detect patients at risk of dehydration, assessing the hydration status of patients can be difficult in clinical practice. Nurses often rely on monitoring for signs of dehydration, which can include thirst, dry mucosa and reduced skin turgor (Lewis 2014), but many
of these signs are non-specific and attributable to other causes.

No single clinical sign of dehydration is reliably sensitive (Academy of Medical Royal Colleges 2011) so nurses would be more prudent to focus their efforts on prevention strategies and ensuring that systems are in place to identify when patients take too little fluid to maintain health, which could lead to an earlier detection of those at risk (British Nutrition Foundation 2014).

**Monitoring fluid intake** Daily fluid requirements vary according to factors such as medical condition, age, gender, body mass, levels of physical activity and environment (Benelam and Wyness 2010). In older people, daily fluid intake should be no less than 1,600mL (RCN and NPSA 2007).

Fluid monitoring can assist in the formulation of treatment plans, although fluid balance charts are not always completed in clinical practice (Whyte 2014) and medical staff often disregard them because their data can be inaccurate (McGloin 2015). Accurate recording of fluid intake can serve as an indicator of hydration status and alert staff to patients at risk of potentially life-threatening complications of dehydration.

Maintaining accurate fluid balance charts is essential to patient safety (Leck 2007, Lewis 2014), and can affect patient morbidity and mortality (Leach 2010). Initial renal dysfunction in patients may go unnoticed because it can take days before it is detected in biochemical analysis or on clinical examination (NCEPOD 2009). Accurate fluid balance charts may prevent delay in medical review, unexpected patient deterioration, incorrect prescribing of intravenous fluids, prolonged hospital stays, morbidity and even mortality (Royal Cornwall Hospitals NHS Trust 2015).

NICE (2013) guidance recommends that patients at risk of AKI are monitored to detect the early stages of the condition, which include reductions of urine output, and presence of blood and protein in urine. Nurses can monitor urine output and carry out urinalysis. Blood in the urine can occur as a result of inflammation in the glomerulus of the kidney and protein in the urine can indicate kidney damage, since protein is a relatively large molecule that cannot usually pass into urine (NICE 2013). Blood tests are the gold standard for the detection of dehydration, although abnormal electrolytes become apparent only after patients are dehydrated, by which time they are already at risk of associated complications and structural damage to their kidneys may have already occurred (NCEPOD 2009).

**Intentional rounding** Intentional hourly rounding allows staff to engage in regular, meaningful interactions with patients, and so can promote patient hydration and use of fluid balance charts (Hutchings et al 2012, McGloin 2015). Intentional rounding consists of a series of prompts, which are often referred to as the 4Ps: positioning, personal needs, pain and placement. Many hospitals have introduced care or proactive rounding as part of initiatives to improve patient outcomes, such as Harm Free Care (National Nursing Research Unit 2012).

Most evidence for the effectiveness of intentional rounding comes from research conducted by the Studer Group (2007) in the US. Reported benefits of hourly rounding included a 40-50% reduction in patient call lights, a 33% reduction in patient falls, a 56% reduction in hospital-acquired pressure ulcers and a 71% increase in patient satisfaction (Studer Group 2007). Although there is no research to show that intentional rounding improves hydration management, it gives nursing staff opportunities to ensure patients are prompted or assisted to take a drink and so may be an effective way to promote adequate hydration in older people, who often prefer to drink little and often (Campbell 2011).

**Conclusion**

Dehydration is a major patient safety issue in acute hospitals and so hydration management should be a priority in nursing care. Nurses must ensure that patients’ fluid intake is monitored and documented accurately. Robust documentation can also help to prove nurses are complying with NMC requirements to provide good hydration care and can reassure relatives that their loved ones are receiving the best possible care. It is also important that nurses are aware of the signs and complications of dehydration to prevent avoidable patient harm. Lives may be saved when patient hydration is given the priority it deserves.

**Implications for practice**

- Dehydration is a significant patient safety issue in NHS and other care settings
- The Nursing and Midwifery Council requires nurses to ensure effective delivery of hydration, a fundamental of care
- Intentional hourly rounding gives nurses opportunities to ensure patients are prompted or assisted to take a drink
- Maintaining accurate fluid balance charts is essential to patient safety

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**Conflict of interest**

None declared
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