

Patient safety and nutrition and hydration in the elderly

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The scale of the problem

The scale of avoidable harm associated with the provision of nutrition and hydration across healthcare is unknown. This is despite work by the National Patient Safety Agency and many other professional associations and lobbying groups to raise awareness among frontline healthcare staff, service providers, and policy makers of the affects and costs associated with malnutrition and dehydration.

Nutrition and hydration related patient safety issues continue to be under-reported to the National Reporting and Learning System (NRLS), and the plethora of guidance, toolkits, and campaigns have not achieved sustainable and reliable improvements in the delivery and provision of nutrition and hydration to some of the most vulnerable people in care.

Should we be concerned? Let's consider some of the facts.

A 2011 review (unpublished) of nutrition and hydration related patient safety incidents reported to the NRLS provided an opportunity to identify the specific patient safety risks associated with nutrition and hydration. The review considered all incidents reported over a one-year period (1 September 2010 to 31 August 2011) using a free text search. From the 60,397 incidents identified, all reported deaths and a sample of 50 incidents from all other reported degrees of harm were analysed. A total of 330 incidents were reviewed, of which 275 were excluded because they were not relevant to or associated with nutrition

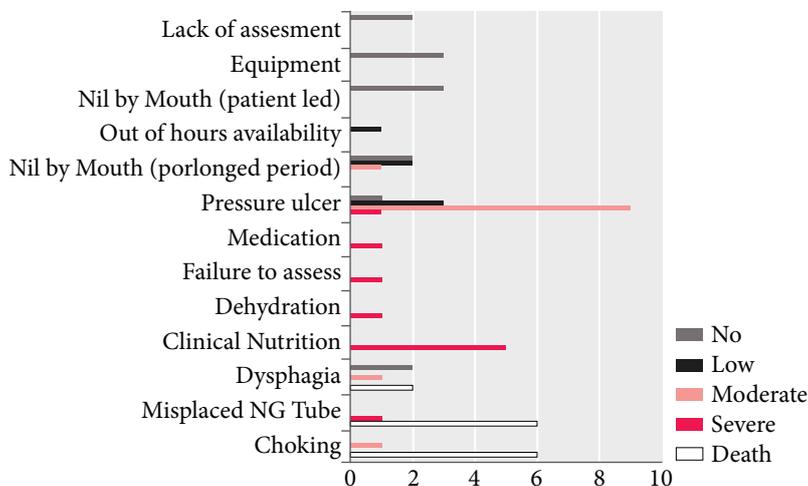


Figure 1 Themes and degree of harm associated with nutrition and hydration

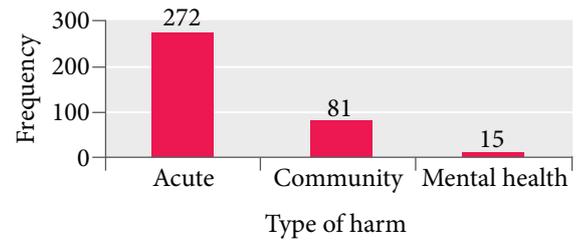


Figure 2 Care setting in which the dehydration incident was reported

and hydration. Figure 1 demonstrates themes identified among the remaining 55 cases and the associated degree of harm following the review. The review is not extensive but is consistent with previous reviews in relation to the types of incidents reported.

Hydration

A wider review of the NRLS in 2012 (in press) looked specifically at dehydration and overhydration as a patient safety issue. It considered all reported patient safety incidents from the inception of the NRLS on 1 January 2004 to 31 March 2012 (note that reporting to the NRLS began in 2001). Using the keywords 'dehydration' and 'overhydration' in the free text, a total of 7,856 incidents were identified. Because it was not possible to review all these incidents, all reported deaths (142), incidents of severe harm (257), and a sample of 50 each of moderate, low, and no harm incidents were reviewed.

From the 549 incidents reviewed, 173 were excluded because they did not meet the search criteria (eg they were not related to dehydration or overhydration) and a further eight were excluded because they were duplicated reports. The remaining 368 were identified as relevant to the search criteria and were included in the review. Although the search terms used included the term 'overhydration,' all the 368 incidents reviewed were associated with dehydration.

Due to the complexity of establishing dehydration as a cause of death, this review focused on identifying common themes in the incident reports. The first theme considered the care setting in which the incident occurred (Figure 2).

Each of the reported incidents was then analysed to identify subthemes in the free text (Figure 3).

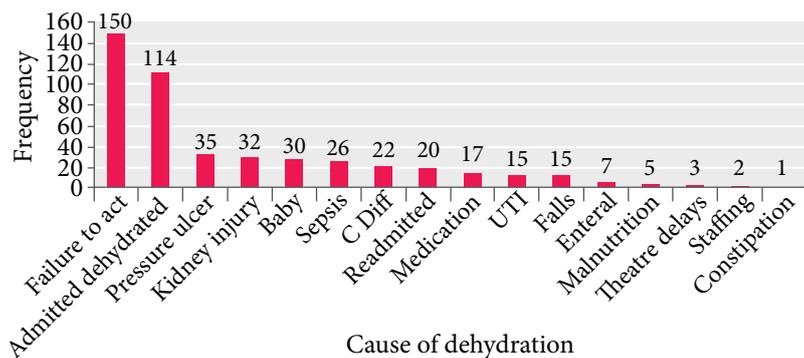


Figure 3 Subthemes identified

Malnutrition

Research undertaken by the British Association of Parenteral and Enteral Nutrition provides an overview of the prevalence of malnutrition in hospitals and care homes.¹ The survey results from 2011 highlight that, of 7,541 patients who were screened on hospital admission, 25% were found to be at risk of malnutrition (18% at high risk and 7% at medium risk). Malnutrition was common in all age groups admitted to hospital, but it was more common in older people.

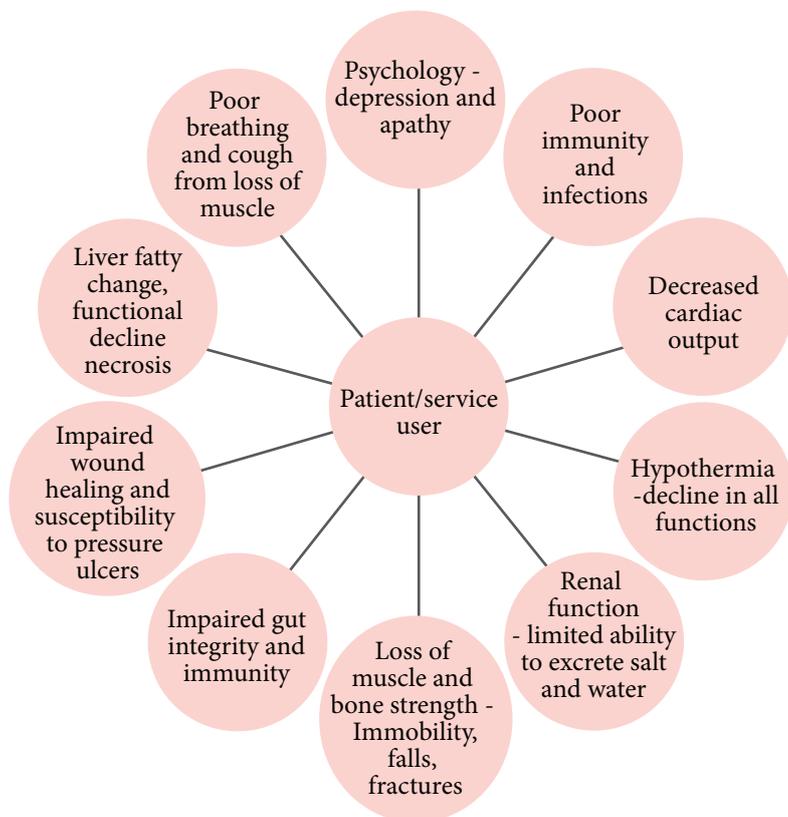


Figure 4 The consequences of malnutrition (adapted from a presentation by Dr Mike Stroud, Nutrition and Hydration Week, 2012)

The risk was:

- 22% in patients aged younger than 60 years
- 23% in those aged 60-79 years
- 33% in those aged 80 years or older.

The risk of malnutrition was 30% greater in patients aged 65 years and older than in those younger than 65 years.

The survey also considered the location from which people were admitted to hospital. The risk of malnutrition was:

- 23% in patients admitted from home
- 33% in patients admitted from another hospital
- 41% in patients admitted from a care home.

These results suggest a sizeable problem in the community.

Furthermore, of 523 residents screened within six months of entering a care home, 41% were at risk of malnutrition: 25% were at high risk and 16% were at medium risk. There was also an increased risk associated with an increase in age:

- 26% in patients aged younger than 70 years
- 41% in patients aged 70-84 years
- 52% in patients aged 85 years or older.

Again, the survey considered the location from which the person was admitted to the care home. It showed that:

- 40% of patients admitted from home were malnourished
- 40% of patients admitted from hospital were malnourished
- 44% of patients admitted from another care home were malnourished.

Of concern is that the survey results suggest the risk of malnutrition increases in the first three months of residence: of those patients admitted within one month 31% were malnourished, compared with 42% at two to six months.

The consequences of malnutrition are well documented: increased ill health, increased hospital admissions, increased risk of infection and antibiotic use, longer recovery time from surgery and illness, and increased risk of mortality (Figure 4).

Prevalence

The prevalence of dehydration in the UK has not been widely studied despite its relevance in public health. However, a 2012 report by the Hydration for Health Initiative found that existing evidence is strongly suggestive of high rates of dehydration in the elderly in hospitals and other healthcare institutions.² It highlights one study from the US which showed that dehydration is a frequent cause of hospitalisation of older adults and one of the 10 most frequent diagnoses responsible for hospitalisation. Other studies indicate that between 50% and 92% of nursing home residents have inadequate fluid intakes.²

There is also evidence that dehydration has a negative impact on the elderly population. It is associated with increased mortality rates and hospital admissions and the development of various morbidities, such as constipation, impaired cognitive function, falls, orthostatic hypotension, salivary dysfunction, poor control of hyperglycaemia in diabetes, and hyperthermia (Figure 5). The facts would suggest that malnutrition and dehydration are a significant risk to older people and that both can contribute to avoidable harm.

The final report of the Mid Staffordshire NHS Foundation Trust Public Inquiry states: 'Some patients were left with food and drink out of reach and offered inadequate or no assistance in consuming it. Even water or

the means to drink it could be hard to come by. The experiences at Stafford to which witnesses testified are by no means unique in the NHS in England, as has been shown by the Care Quality Commission dignity and nutrition reports since.'³ The report by Robert Francis QC details some shocking examples of poor nutritional care. It recommends: 'The arrangements and best practice for providing food and drink to elderly patients require constant review, monitoring and implementation'. The Francis report is helpful in putting forward some basic principles that should be considered to facilitate improvements in nutrition and hydration (see page 6).

Context in relation to patient safety

In the context of patient safety, we need to consider the systems and processes in which nutritional care and services are provided and ask ourselves whether our services are designed to meet the needs of people in our care. The recent Care Quality Commission 2012 Dignity and nutrition inspection programme for both hospitals and care homes suggests that, in some organisations, there is an urgent need for service redesign.^{4,5}

Consider the following questions:

- Do you consider a patient's nutrition and hydration as part of a ward round?
- Does your organisation have a system in place that ensures that any patient with an unsafe swallow has a nutrition and hydration plan within 24 hours of admission to hospital?
- Has your organisation ensured that all medical staff have undertaken training to interpret x rays following nasogastric tube placement?
- Does your organisation have the correct calibrated equipment for weighing people?
- Are mealtimes 'protected' for patients and service users?
- Do your ward rounds and visits occur during meal times?
- Does your board discuss nutrition regularly?
- Do your patients and service users receive the help they need to eat and drink?

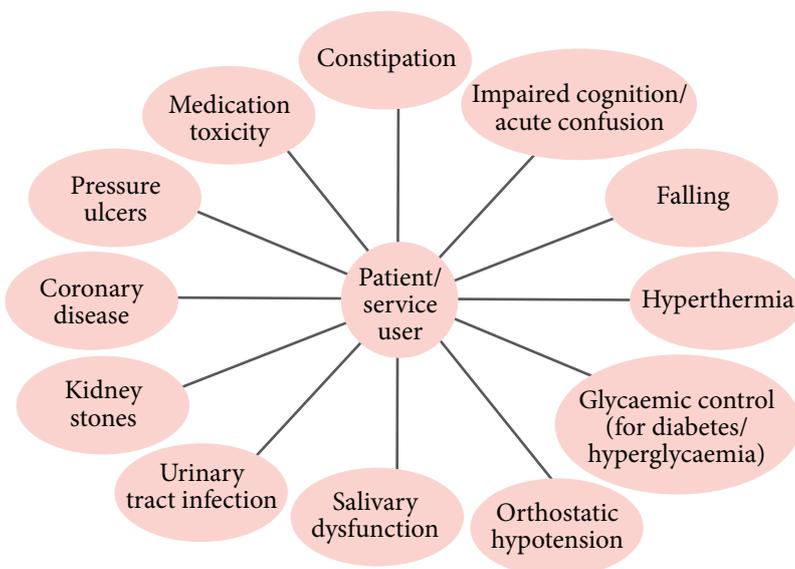


Figure 5 Health consequences of dehydration and associated morbidities (adapted from Hydration for Health Initiative)

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- Does your GP practice regularly check the weight of older people?
 - Do you inform your patients and service users of the importance of good hydration?
 - Does your organisation have a system in place to provide meals out of hours (including special requirements, such as texture-modified or gluten-free food)?
 - Do you communicate delays and cancellations in theatre and consider whether intravenous fluid may be needed?
 - Do your patients actually drink the nutritional supplements prescribed for them?
 - Is the food packaging used in your organisation fit for purpose, or is it a barrier to people eating and drinking?
 - Do you and your systems and processes support the provision of good nutritional care?

This is a challenge and encompasses the whole spectrum of care, including primary and secondary care, from patients who can eat and drink a normal diet to those that need complex nutritional support.

Conclusion

There is increasing evidence that malnutrition and dehydration contribute to avoidable harm to people in our care. The people most at risk are often the most vulnerable: the elderly, those with long-term conditions, and the acutely unwell. Too often healthcare professionals overlook this aspect of care.

Reliable and sustainable improvements in the provision of nutrition and hydration will help reduce avoidable harm and will improve patient outcomes and their experience of our healthcare services. Some of these improvements require a service redesign at a local level and others (such as solutions for naso-gastric tube placement or redesign of packaging) require innovations and technologies that need to be driven at a national level.

Box 1 Lessons from the Francis report

Food and drink that is, so far as is possible, palatable to patients must be made available and delivered to them at a time and in a form they are able to consume.

Food and drink should, where possible, be delivered to patients in containers and with utensils which enable them to feed themselves, taking account of any physical incapacity.

Time for meals should be protected in the daily schedule, but if it is necessary for therapeutic reasons to interrupt mealtimes for a patient, alternatives should be made available when it suits the catering service for them.

If at all practicable, meals should be available to patients when they want them, rather than when it suits the catering service to offer them.

It is essential that appropriate assistance is made available to patients needing it as and when necessary to consume food or drink.

No meal or drink should ever be left out of reach of patients able to feed themselves.

Where patients have not eaten or drunk what is provided at mealtimes this must be noted and the reasons established. Steps should also be taken to remedy the deficit in nutrition and hydration.

Systems, such as specially marked trays or jugs or other prompts, should be employed to remind staff of those patients who need assistance with eating and drinking.

For patients capable of eating out of bed, where possible, facilities should be made available on the ward for them to eat at tables, together with other patients if they wish to do so.

Mealtimes should be considered as an opportunity for non-intrusive forms of observation and interaction where this is desirable and appropriate.

Patients' supporters should not be prevented from joining them at mealtimes provided that this does not interfere with the preservation of appropriate levels of nutrition and hydration or with other patients on the ward, and should be encouraged to help with feeding where this is needed and they wish to provide such help.

For patients who have no willing supporters to assist, but who need help, consideration should be given to engaging volunteers who have had the appropriate level of checks for this purpose.

Feedback should be obtained preferably in real time but at least regularly from patients, supporters and volunteer helpers on the quality of food and drink and about any necessary adjustments required for individual patients.

Proper records should be kept of the food and drink supplied to and consumed by elderly patients.

References

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- 3 Robert Francis QC. *Report of the Mid Staffordshire NHS Foundation Trust public inquiry*. February 2013. Available at: www.midstaffpublicinquiry.com/report
- 4 Care Quality Commission. *Time to listen in NHS hospitals*. Dignity and nutrition inspection programme 2012. March 2013. Available at: www.cqc.org.uk/public/reports-surveys-and-reviews/themed-inspections/dignity-and-nutrition-older-people
- 5 Care Quality Commission. *Time to listen in care homes*. Dignity and nutrition inspection programme 2012. March 2013. Available at: www.cqc.org.uk/public/reports-surveys-and-reviews/themed-inspections/dignity-and-nutrition-older-people