

Education to reduce the number of care home residents attending the Emergency department with acute kidney injury

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Introduction

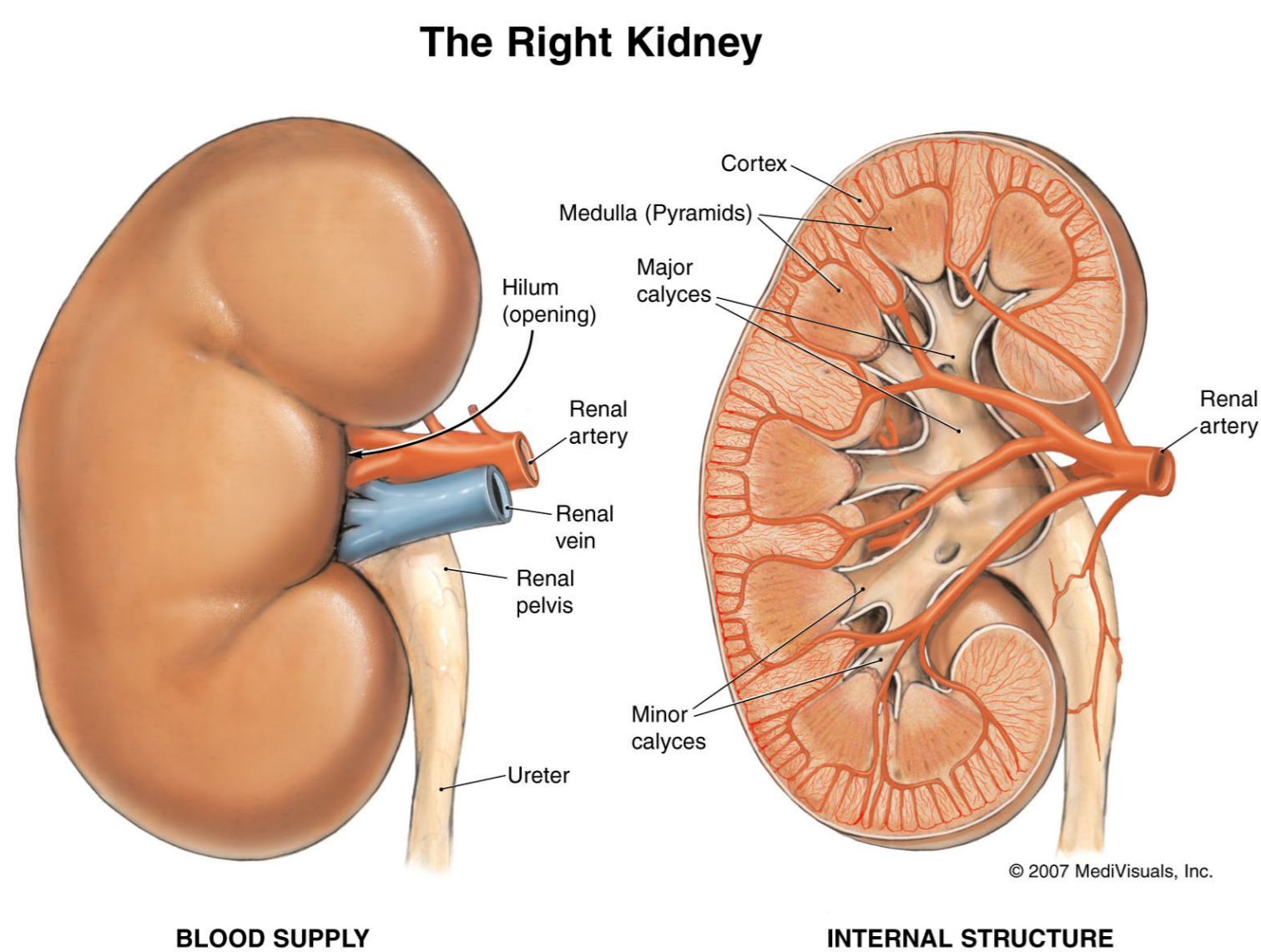
Acute kidney injury (AKI) is rapid decline in renal function leading to the retention of waste products such as creatinine and blood urea nitrogen. It is thought that AKI is linked to 100,000 deaths in hospital patients in the UK each year and that approximately 30-40% of these could be prevented with right care and treatment.¹ AKI is associated with a 4-6 fold increase in mortality.² AKI is also linked to an increase in length of stay in hospital.³

Common risk factors for AKI include:

- Chronic kidney disease
- Nephrotoxic drugs (see box)
- Age- the risk increases with age
- Diabetes
- Heart failure
- Liver disease
- History of acute kidney injury
- Severe infection
- Hypotension

Drugs associated with AKI include:

- Diuretics eg. furosemide
- NSAIDs eg. ibuprofen
- ACE inhibitors eg. ramipril
- Aminoglycosides eg. gentamicin
- Metformin
- ARBs eg. losartan



Up to 20% of all patients admitted to hospital from nursing and residential homes are diagnosed with AKI. Given that this patient group often have known and multiple risk factors, it is important that care home staff are knowledgeable about the condition. This would enable staff to be aware of those residents at risk of AKI, identify initial signs of AKI and to take steps to prevent AKI developing.

Aim

To develop an educational intervention to improve awareness of AKI among care home staff and to reduce the number of elderly patients who develop AKI in care home settings.



Method

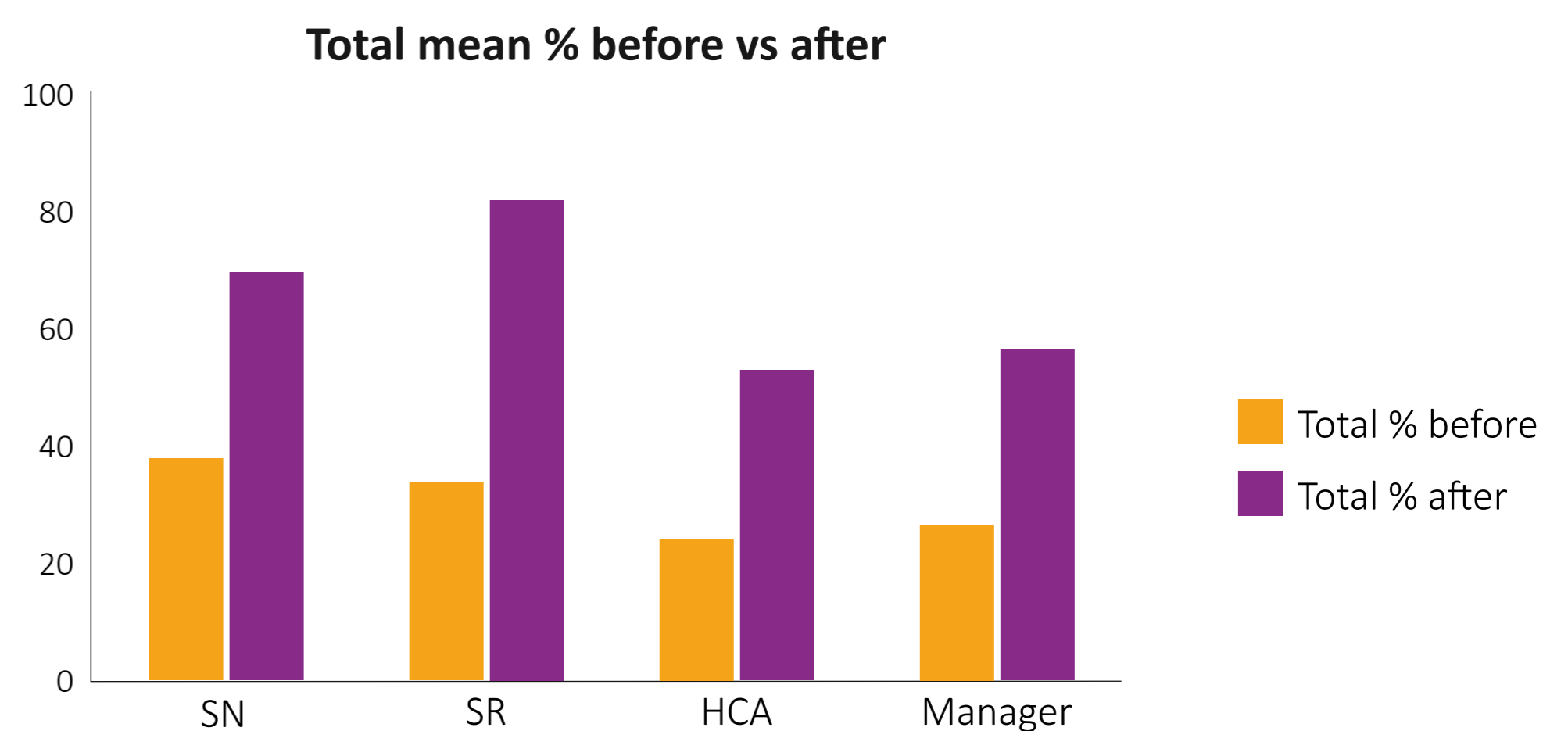
An educational workshop consisting of a presentation and case study discussion was developed and delivered as part of the Northern Trust Nursing home outreach project from February to July 2016. A questionnaire was also developed and administered before and after the workshop to assess baseline knowledge of AKI and the impact of the education among four groups of staff working within care homes- Staff nurses (SN) nursing sisters (SR), healthcare assistants (HCAs) and care home managers.

Data was collected on the number of attendances/admissions to hospital diagnosed with an AKI from homes that received the education for a period of three months before the educational session and three months after to observe if there was a reduction in the number of nursing home residents diagnosed in hospital with AKI.

Results

The results show a significant increase ($p < 0.00001$) in mean knowledge inclusive of all staff groups from 34.24% before to 66.55% after the educational (Figure 1).

Figure 1. The percentage increase in the mean questionnaire scores for the four different staff groups before and after the educational intervention.



Early results in the number of care home residents diagnosed with AKI from homes which received the education look promising with a reduction observed in the 5 homes for which data is available.

Discussion

The results show an increase in knowledge in all staff groups with the nursing sisters and staff nurses having the most knowledge of AKI. This is largely expected as these staff groups will hold a qualification in nursing whereas the managers and HCAs may not. They show that the workshop was pitched at appropriate level for both registered nurses and non-registered staff.

The averages for the post workshop questionnaire could be improved and indicates a need for further training. It is hoped to produce a poster on AKI for all care homes in the Northern and Western Trust as a learning aid. The initial data on prevalence of AKI in hospital attendances/admissions has shown a decrease though these need to be validated with more homes over a longer period of time.

References

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3. Bedford M, Stevens P, Wheeler T, Farmer C; What is the real impact of acute kidney injury? BMC Nephrology 2014 vol. 15 pg 95