Community Pharmacy Audit on Hydration Messages to Prevent Acute Kidney Injury

This audit has been developed with input from

CPPE
PSNC
PharmOutcomes
NHS England
Think Kidneys

To support the contribution made by community pharmacy teams in reducing avoidable harm associated with Acute Kidney Injury
Community Pharmacy Audit on Hydration Messages to Prevent Acute Kidney Injury

Introduction

The national NHS ‘Think Kidneys’ programme aims to reduce avoidable harm associated with Acute Kidney Injury (AKI). 2 out of 3 cases of AKI start in the community and it is estimated that 1 in 5 emergency hospital admissions may be associated with AKI\(^2\). Older people (over 65) are at increased risk of AKI, as are those taking certain medicines such as NSAIDS. https://www.thinkkidneys.nhs.uk/

Dehydration caused by sustained vomiting, diarrhoea, fever or simply low fluid intake, can trigger AKI. Older people are especially prone to dehydration. A pathfinder site for AKI prevention has reported a possible association between a recent urinary tract infection (UTI) and subsequent hospital admission\(^2\). Anyone with a UTI should be given advice on maintaining fluid intake\(^3\), but this may be critical for older people to maintain kidney health. Community pharmacists will dispense prescriptions for patients prescribed antibiotics for UTI. They also see people wanting advice about urinary symptoms who may not visit their GP. Antibiotics prescribing guidance for UTI includes 3 antibiotics not widely used for other infections\(^4\), so patients prescribed these antibiotics or seeking advice about urinary symptoms are the target group for hydration messages in this audit.

Hydration messages

- **Studies** have tried to establish the recommended amount that adults should drink, but since this varies depending on individual factors, such as age, climate and physical activity, no one specific amount is recommended for everyone. Elderly people may limit their fluid intake because of incontinence problems, poor mobility and access to fluids, or not feeling thirsty. The basic message for the audit is to *drink plenty of water to avoid dehydration and help clear bacteria from the urinary tract*\(^3\). However, a patient-centred approach is essential, framing this to the patients’ needs and preferences\(^5\) eg asking about their concerns and fluid intake. See the audit Quick Guide (p4).

- **A few patients with certain medical conditions** such as heart failure may be specifically advised to restrict their fluid intake; they should not exceed the maximum advised amount without specialist input.

Medicines and dehydration

In Scotland there is on-going work on ‘Sick day rules’. All patients prescribed certain medicines are advised to stop them temporarily if suffering acute illness which may result in dehydration. The medicines included are ACE inhibitors, A2RAs, NSAIDs, diuretics and metformin. Blanket use of ‘Sick day rules’ was not supported in England in July 2015, but in November 2015 *Think Kidneys* recommended that health professionals offer fluid and medicines management advice to individuals at higher risk of AKI\(^6\). The data collection for this audit includes use of these medicines to help identify patients who may be at particular risk if they become dehydrated.

CPPE acute kidney injury

A Centre for Pharmacy Postgraduate Education distance learning program on AKI was launched in October 2015 with more information on the issues summarised here. The programme aims to increase knowledge of AKI and help pharmacy teams use this knowledge to benefit patients at risk of developing AKI\(^7\). Community pharmacy staff are invited to make a pledge to help prevent AKI and the pledge can be met by completing this audit.
Audit time frame

Under the NHS regulations, community pharmacies are expected to complete two clinical audits per year which should take up to 5 days work in total. This includes developing the audit, data collection, analysing the data and suggesting improvements.

- To collect a useful sample for this audit it is suggested that data is collected over approximately 2 weeks and includes a minimum of 15 patients.

Audit sample

All patients who present prescriptions for: Trimethoprim Nitrofurantoin Pivmecillinam

AND

All patients who request advice about urinary symptoms

You will need to print at least 15 copies of the data collection form (p5) or you can enter data directly onto PharmOutcomes. Submitting data via PharmOutcomes will help document the national contribution made by community pharmacy in this important area. The system is available to all community pharmacies https://pharmoutcomes.org

Audit standards

1) Advice for patients prescribed antibiotics for UTI
All patients (or patients’ representatives) prescribed Trimethoprim, Nitrofurantoin or Pivmecillinam for UTI are given verbal and/or written advice on preventing dehydration.

2) Advice for patients with urinary symptoms
All patients requesting advice about urinary symptoms are given verbal and/or written advice on preventing dehydration.

References

2. Salford CCG. Personal communication to G Flavell 2015
**QUICK GUIDE**

*What's the point?* To make sure people in the two groups below are given information to help them avoid dehydration. Community pharmacies will either be reinforcing hydration messages given by other health professionals or making sure these important messages are not missed or forgotten. By doing this pharmacy teams can help prevent Acute Kidney Injury (AKI).

<table>
<thead>
<tr>
<th>Prescription Medicine</th>
<th>Over The Counter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trimethoprim</td>
<td>Request for advice/products to treat urinary tract symptoms eg cystitis</td>
</tr>
<tr>
<td>Nitrofurantoin</td>
<td></td>
</tr>
<tr>
<td>Pivmecillinam</td>
<td></td>
</tr>
</tbody>
</table>

*Why these patients?* Patients with a UTI are relatively easy to identify in pharmacies, either from prescriptions or requests for OTC advice. Hydration messages are important for anyone with a urinary tract infection and hospital admission for AKI may be associated with a recent urinary tract infection. We need consistent provision of hydration messages to these patients. Building from this work, we hope to be able to improve hydration advice for other key patient groups, such as elderly people and those with diabetes (See CPPE Acute Kidney Injury Distance Learning Programme).

*Can I use this audit to meet contractual requirements for clinical audit?* Yes and collecting data on the PharmOutcomes system will help document the national contribution made by community pharmacy in this important area.

**Hydration messages**

- **Drink plenty of water to avoid dehydration and help clear bacteria from the urinary tract**
- **Drink plenty of fluids such as water, diluted squash or diluted fruit juice. These are much more effective than large amounts of tea or coffee. Fizzy drinks may contain more sugar than you need and may be harder to take in large amounts**
- **If you're finding it difficult to keep water down because you're vomiting, try drinking small amounts more frequently**
- **Studies have tried to establish a recommended daily fluid intake, but it can vary depending on the individual and factors such as age, climate and physical activity. Passing clear (near colourless) urine (wee) is a good sign that you're well hydrated**
- **If you have been told by your doctor to restrict your fluid intake, can you manage to drink about the maximum they advise?**

Any queries? Contact carina.livingstone@nhs.net 07909 000283
DATA COLLECTION FORM (complete 1 per patient)

Pharmacy Post Code: ___________________________ Date: ___________________________

Patient Sex: Male ☐ Female ☐

Tick one box

Patient Age: Under 18 ☐ 18-64 ☐ 65-79 ☐ 80 or over ☐

Tick one box Care/Nursing Home Resident: Yes ☐ No ☐

UTI Prescription

Antibiotic prescribed

Tick one only:

Trimethoprim 200mg bd [ ]
Trimethoprim other dose [ ]
Nitrofurantoin 100mg bd [ ]
Nitrofurantoin 50mg qds [ ]
Nitrofurantoin other dose [ ]
Pivmecillinam any dose [ ]

Duration of treatment?

Tick one only:

3 days [ ]
7 days [ ]
More than 7 days [ ]
Other [ ]

OTA Urinary symptoms advice

PHARMACY ADVICE

Tick all that apply:

Referred to GP [ ]
Medicine sale [ ]
No hydration advice provided [ ]
Verbal hydration advice provided [ ]
Written hydration advice provided [ ]
Patient on fluid restricted diet [ ]

Other prescribed medication?

Not known [ ]

If known, tick all that apply:

ACE inhibitor [ ]
A2RA [ ]
NSAID [ ]
Diuretic [ ]
Metformin [ ]
None of the medicines listed above [ ]

Comments/other information:

Patient on fluid restricted diet [ ]
Patient reported hydration advice [ ] provided by other health professional [ ]
Audit results and actions

Dates of audit

Total number of days

Total number of patients in audit

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>A</td>
<td>Number of patients with UTI prescription</td>
</tr>
<tr>
<td>B</td>
<td>Number of patients with UTI prescription given verbal and/or written advice on preventing dehydration</td>
</tr>
<tr>
<td>C</td>
<td>Number of patients requesting advice about urinary symptoms</td>
</tr>
<tr>
<td>D</td>
<td>Number of patients requesting advice about urinary symptoms given verbal and/or written advice on preventing dehydration</td>
</tr>
</tbody>
</table>

Patients at increased risk from dehydration

<p>| | |</p>
<table>
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<tbody>
<tr>
<td></td>
<td>Total number of patients taking any of the medicines listed under other prescribed medication?</td>
</tr>
<tr>
<td></td>
<td>Total number of patients aged 65 or over?</td>
</tr>
</tbody>
</table>

Were the audit standards met?

1) Advice for patients prescribed antibiotics for UTI (standard 100%)
   All patients (or patients’ representatives) prescribed Trimethoprim, Nitrofurantoin or Pivmecillinam for UTI are given verbal and/or written advice on preventing dehydration.

\[
\frac{B}{A} \times 100 = \]

2) Advice for patients with urinary symptoms (standard 100%)
   All patients requesting advice about urinary symptoms are given verbal and/or written advice on preventing dehydration.

\[
\frac{D}{C} \times 100 = \]

Audit actions

Is there more you could do, particularly for high risk patients, to warn about the dangers of dehydration? How could you access people who didn’t get advice or don’t come to the pharmacy eg care home residents, housebound patients?

Record your audit actions here:

1.

2.

3.