Audit of soap usage by a primary care team

Alan Stone

Much discussion has taken place in the medical press recently about the role of handwashing in preventing the transmission of infection in hospital settings. Transmission of infection is also recognised in the primary care setting. Semmelweis showed 150 years ago that if doctors performing necropsies washed their hands before delivering babies a reduction in mortality from 22% to 3% due to streptococcal puerperal sepsis could be achieved. Many studies since have confirmed that doctors washing their hands between patients can reduce the rates of healthcare acquired infection. It has become widely accepted that nurses perform better than doctors at this simple measure to prevent cross infection. I was unable to find references to any attempt to quantify this and decided to perform an audit of the consumption of handwash soap from soap dispensers that were situated next to the sinks of members of the primary care team.

Participants, methods, and results

When we moved into a new primary care surgery identical liquid soap dispensers were permanently installed next to the sinks of all the members of the team, two nurses and three doctors. Each member of the team had his or her own sink, situated in the consulting rooms. Third parties such as locums or visitors used these sinks infrequently. The soap dispensers were all filled to the same level on the same day at the start of the study. During the course of the next year I recorded the volume of refills of each soap dispenser. All but one member of the team were blind to the study. At the end of the one year study period I recorded the level in each dispenser and calculated the amount of soap consumed. I measured the average volume of soap dispensed per actuation of the pump. The number of surgery consultations for each member of the team was available from computer records. A simple calculation provided the ratio of patients seen to actuations of the soap dispenser—namely, handwashes.

In this study in a primary care setting, nursing staff showed greater attention to personal hygiene than doctors (table). On the basis of my calculation of the ratio of handwashes to patients seen, the best performing nurse was twice as conscientious as the best performing doctor (1:1.9 v 1:4.8).

9 Schwartz AV, Hillier TA, Sellmeyer DE, Resnick HE, Ensrud KE. Older women with diabetes have a higher risk of falls. Diabetes Care 2002;25:1769-54.
Soap usage among staff in a primary care setting

<table>
<thead>
<tr>
<th>Name</th>
<th>Amount of soap used (ml)</th>
<th>No of actuations (=handwashes)</th>
<th>No of patients seen</th>
<th>Ratio of handwashes to patients seen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr A</td>
<td>1050</td>
<td>577</td>
<td>208</td>
<td>1:3.5</td>
</tr>
<tr>
<td>Dr B</td>
<td>700</td>
<td>385</td>
<td>184</td>
<td>1:4.8</td>
</tr>
<tr>
<td>Dr C</td>
<td>210</td>
<td>115</td>
<td>2330</td>
<td>1:20.3</td>
</tr>
<tr>
<td>Nurse D</td>
<td>2100</td>
<td>1150</td>
<td>3715</td>
<td>1:2.7</td>
</tr>
<tr>
<td>Nurse E</td>
<td>2450</td>
<td>1340</td>
<td>2620</td>
<td>1:1.9</td>
</tr>
</tbody>
</table>

1 actuation=1.82 ml.

Comment

Nurses are more conscientious handwashers than doctors. Primary care teams in the United Kingdom are often small but usually share a similar mix of doctors and nurses. These results will not necessarily reflect handwashing practices in all teams but form a basis on which others may conduct similar audits. Nurses in this primary care team have shown greater attention to personal hygiene than doctors. The nurses have traditionally had a more “hands on” role, which may mean potential bias. Some members of the team may have been particularly thorough with hand washing and used more than one actuation per hand wash. These results would support the best performing nurse washing the hands at least twice as often (or twice as thoroughly) as the best performing doctor. At the Christmas party, guess who will be serving the cake....

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Drug point

Possible interaction between warfarin and cranberry juice

Rafe Suvarna, Munir Pirmohamed, Leigh Henderson

After a chest infection (treated with cefalexin), a man in his 70s had a poor appetite for two weeks and ate next to nothing, taking only cranberry juice as well as his regular drugs (digoxin, phenytoin, and warfarin). Six weeks after starting cranberry juice he had been admitted to hospital with an INR (international normalised ratio) > 5.0. Before, his control of INR had been stable. He died of a gastrointestinal and pericardial haemorrhage. He had not taken any over-the-counter preparations or herbal medicines, and he had been taking his drugs correctly.

The Committee on Safety of Medicines has received seven other reports through the yellow card reporting scheme about a possible interaction between warfarin and cranberry juice leading to changes in INR or bleeding. In four cases, the increase in INR or bleeding after patients had drunk cranberry juice was less dramatic. In two cases, INR was generally unstable, and in another case INR decreased. Limited information is available about whether patients complied with their treatment in these cases.

Cranberry juice (Vaccinium macrocarpon) is popular and is also used to prevent cystitis. Interaction with warfarin is biologically plausible because cranberry juice contains antioxidants, including flavonoids, which are known to inhibit cytochrome P450 enzymes, and warfarin is predominantly metabolised by P450 CYP2C9. The constituents of different brands of cranberry juice may vary, and this might affect their potential for interacting with drugs. Whether the constituents of cranberry juice inhibit CYP2C9 and therefore the metabolism of warfarin or interact in another way needs further investigation. Until then, patients taking warfarin would be prudent to limit their intake of this drink.

Funding: None.
Competing interests: None declared.


1 actuation=1.82 ml.

(accepted 13 November 2003)