Handwashing and infection

I am constantly telling my non-medical friends that the simple procedure of washing your hands can drastically reduce the chances of infection of all types – colds, flu and enteric viruses. Very few people really believe me and continue to take all manner of over-the-counter supplements that are supposed to boost the immune system and then complain when they get sick. Now a paper in *The Lancet* shows that handwashing does indeed play a major role in preventing diarrhoea and acute lower respiratory tract infections in children.

Every year more than 3.5 million children less than 5 years old die from diarrhoea and acute lower respiratory tract infections, mainly in lower income groups in the developing world. Several studies have shown that regular handwashing with soap reduces the incidence of diarrhoea in children younger than 5 in communities with a high incidence of diarrhoea. However, Stephen Luby and his colleagues point out that there are no reports of the effect of handwashing on acute respiratory tract infections in places where pneumonia is a leading cause of death. The authors point out that the beneficial effects of handwashing have been shown in several studies in the developed world. In Canada, there was a reported 14% reduction in upper respiratory tract infection and in Australia a 12% reduction in the same infections in children aged 24 months or less.

This study was carried out in Karachi, where more than 4 million people live in squatter settlements where they do not legally own the land and where there is poor municipal infrastructure. The authors cite a study in this community that concluded that 41% of deaths in children aged less than 5 years were due to diarrhoea and 15% to acute respiratory tract infection. The group undertook the Karachi Soap Health Study as a randomised controlled trial to measure the broad health benefits that could result from improvements in handwashing and bathing with soap in an area where communicable diseases are leading causes of childhood morbidity and mortality.

They chose adjoining squatter settlements in Karachi and randomly assigned 25 neighbourhoods to handwashing promotion, with 11 neighbourhoods (306 households) as controls. In the neighbourhoods where handwashing was promoted, 300 households each were given antibacterial soap containing 1.2% triclocarban and plain soap. Fieldworkers visited each household every week for 1 year to encourage the householders to use soap and also to record all incidences of illness and the symptoms of those illnesses. The team were looking specifically at diarrhoea, impetigo and acute respiratory tract infections. Pneumonia was defined using a WHO clinical case definition.

They found that children younger than 5 in households that received plain soap and where handwashing was promoted had a 50% lower incidence of pneumonia than controls. Children younger than 15 in households with plain soap had a 53% lower incidence of diarrhoea and a 34% lower incidence of impetigo. Notably, the incidence of disease did not differ significantly between households given plain soap compared with those given antibacterial soap.
The simple conclusion from this study was that handwashing, with plain or antibacterial soap, prevents the two clinical syndromes that cause the greatest number of childhood deaths globally – diarrhoea and acute respiratory tract infection. They also found that handwashing and daily bathing prevents impetigo.

I was particularly interested to see that antibacterial soap is no more effective than plain soap. Such simple measures with such excellent results.


**Type 2 diabetics: are they getting adequate care in general practice?**

As someone with a very strong family history of type 2 diabetes (in two first-degree fit, normal-weight relatives) I am always interested to see the latest research on the management of the disorder. There have been many publications from the UK in the past few years as a result of the UK Prospective Diabetes Study (UKPDS) that provide good evidence that tight glycaemic control is associated with a reduction of microvascular complications in patients with type 2 diabetes. The same study also highlighted the importance of good blood pressure control to help to reduce these complications and also showed that good glycaemic control and blood pressure control are cost effective. However, as Julia Hippisley-Cox and Mike Pringle point out in their paper in *The Lancet*, there is still a continuing belief in the existence of ‘mild diabetes’ – which they describe as a group of people with diabetes who are believed to be at low risk of complications and for whom active therapeutic management is thought to be neither indicated nor cost effective. Most studies of patients with diabetes have focused on patients on medication or on those attending secondary care, leaving very little data from primary care on the proportion of patients with diabetes who are managed on diet only.

As the authors point out, there is a tradition of treating a substantial number of people with type 2 diabetes without medication. The pre-UKPDS approach was a step-ladder from diet to monotherapy to combined therapy, including the addition of insulin, or more recently, the glitazones. The authors undertook a large population-based study to establish the proportion of patients with type 2 diabetes treated by diet only, variations in use of medication, and to determine the level of complications and the quality of care these patients receive compared with those on hypoglycaemic medication.

They carried out a cross-sectional study of 7 870 patients with type 2 diabetes from a population of 253 618 patients from 42 general practices in the UK, looking at the process of care and diabetes-related complications.

They found that 31.3% of all patients with type 2 diabetes were being managed with diet only (1% of the total population). Patients treated with diet only were far less likely to have HbA1c measurements, blood pressure measurements, cholesterol measurements, smoking advice, microalbuminuria testing or screening for foot pulses. A total of 38.4% of patients with type 2 diabetes on medication have an HbA1c greater than 7.5% compared with 17.3% of those treated with diet only. However, in spite of lower blood glucose levels, compared with those on medication, patients treated by diet only are more likely to have raised blood pressure and less likely to be on antihypertensive medication and they are 45% more likely to have raised cholesterol and less likely to be prescribed lipid-lowering medication. These data suggest that, although fewer of those treated by diet alone have diabetes-related complications compared with those on medication (80%), the rate of these complications is still much higher than that for the population without diabetes.

I found it very interesting that, although those treated with diet alone had lower blood glucose levels, they still had higher levels of diabetic complications such as raised blood pressure and cholesterol. As the authors point out, this is almost certainly as a result of less intensive intervention by their GPs. Is this truly because they are seen less (the authors contention) or is it simply because they are a different patient group who generally feel better and so consult less frequently, in spite of their increased incidence of complications? Raised blood pressure and cholesterol are silent conditions – until the complications of these conditions strike. Why are these patients still treated with diet only? They are presumably managing to control their blood glucose adequately by taking care of their eating habits (not a common situation in diabetics generally) and so have never been put on medication by their doctors. But why then, knowing that diabetics in general have a higher risk of certain conditions than the general population, are they still not called back regularly anyway? General practice in Britain, although very busy, allows ample opportunity for regular screening of patients. In this case, if for nothing else, I would want to know that my patient was still compliant with his or her diet. As the authors point out, there is still great scope for improved management in general practice, particularly as they found a four-fold difference in management approaches among the practices they studied. I also suspect that we still don’t know enough about this complex condition and that further studies will continue to reveal new and interesting approaches to management. In the meantime, I continue to hope that my dedication to exercise and weight control will prevent me succumbing to the family genes!


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