

## Is it a vaccine? Is it a drug? No, it's SuperAmma!



A “do-it-yourself vaccine” is how one public–private partnership describes it. “A cornerstone of public health” that can impede the two biggest killers of children worldwide is another description. What is this wondrous new concept? When will it be available? How much will it cost? And which of the big donors will provide it? Thankfully, none of these perennial obstacles to the advancement of global health is a concern in this instance, for this wondrous concept is the simple act of handwashing with soap.

Several studies in *The Lancet* and *The Lancet Infectious Diseases* have proven the benefits of handwashing with soap on child health. A randomised trial by Stephen Luby and colleagues showed that handwashing with plain soap halved the incidence of both pneumonia and diarrhoea in children; a meta-analysis by Lorna Fewtrell and colleagues consolidated the effect on diarrhoea. Handwashing works by interrupting the transmission of pathogens that use people’s hands as vectors, and fecal matter is the source of the pathogens that cause killer diarrhoeal diseases. Handwashing after every encounter with fecal matter—after defecation or after cleaning a child—is thus an essential habit to get into. But in homes with no bathrooms and in communities where open defecation in the surrounding fields is the norm, how could that habit be instilled?

A cluster-randomised trial in this month’s issue harnesses a novel intervention based on emotional drivers of behaviour to try to increase handwashing with soap among householders in a group of villages in Andhra Pradesh, India. At baseline, very few households had a toilet—open defecation being the accepted practice—but nearly all had ready access to piped water. Although soap was present in all households, its use for handwashing at key events (ie, after defecating, before food handling, or after cleaning a child) was extremely rare. Drawing on the emotional drivers disgust, nurture, affiliation, and status, the multicomponent intervention comprised community-based and school-based events including an animated film about a savvy rural mother (“SuperAmma”) who teaches her beloved son hand hygiene as part of good manners; comedy plays about SuperAmma and a disgusting uncle; public support by community leaders; and posters and stickers for householders who formally pledged to practise handwashing with soap at key events.

6 weeks later, villages in the intervention group had significantly increased the proportion of key events at which handwashing with soap was observed to 19%. There was a further increase to 31% after 6 months, which was maintained at 12 months. Figures for the control villages remained very low, at 4% and 6%, respectively. These increases are statistically significant, but would they be sufficient to reduce infection? Elli Leontsini and Peter Winch in their linked Comment are unsure, and suggest that creation of an enabling environment (eg, more hand basins in convenient positions) might also be necessary to further improve handwashing compliance. Nevertheless, the findings show that creative interventions based on drivers of behaviour change can be satisfyingly effective and potentially scalable.

The concept of widening the scope of interventions is also the subject of a Comment from Neil Pearce and colleagues. These authors contend that WHO’s current non-communicable disease (NCD) strategy is not comprehensive enough. It is not sufficient, Pearce and colleagues state, to call for countries to lower mortality from the “big four” (cardiovascular disease, diabetes, cancer, and chronic respiratory disease) by means of reducing alcohol and salt consumption, increasing physical activity, and reducing smoking. We need to address the “causes of the causes”, and not just of the big four—disorders such as neurological and mental health disorders, musculoskeletal disease, and hearing and vision loss account for a greater proportion of disability-adjusted life-years lost. The structural determinants include infections and environmental factors such as urban design, poverty, air pollution, and climate change. It’s time to take a “more complex, multisectoral, and development-oriented approach”.

Taking up this challenge elsewhere in the issue, Peter Sly and colleagues highlight a new collaborative network to address environmental risks to children, and Meaghann Weaver and colleagues propose the application of health behaviour theory to paediatric oncology, particularly retinoblastoma, in resource-limited settings. Superpowers might be beyond the average global health researcher’s reach, but we could all benefit from adding a little lateral thinking to our skill set.

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For the [trial](#) by Luby and colleagues see [Articles Lancet](#) 2005; **366**: 225–33

For the [meta-analysis](#) by Fewtrell and colleagues see [Articles Lancet Infect Dis](#) 2005; **5**: 42–52