

Don't discount WaSH: on the link between sanitation and stunting

The recent article "[Can sanitation reduce stunting?](#)" (*The Hindu*, February 15) brought forth an important and interesting debate on sanitation that has been attracting considerable traction among health, nutrition and social researchers and policymakers around the world, more so in the lower and middle income (LAMI) countries. The article touched upon many dimensions and possible reasons to explain why Water, Sanitation and Hygiene (WaSH) trials in countries like Kenya and Bangladesh ended, disappointingly, with no palpable reduction in stunting among children.

Problem of open defecation

While these countries are dramatically different from India, and open defecation remains a persistent problem despite sustained and concerted efforts under the Swachh Bharat Abhiyan (SBA) campaign over the last few years, the very fact that over half (about 52%) of rural India still defecates in the open is still a reason why it may be too early to quash or discount SBA. The campaign is beyond mere construction of toilets. The importance it accords to cleanliness, hygiene and sanitation can go a long way in India's fight against not only stunting (low height for age) but also many other forms of malnutrition.

Link between sanitation, stunting questioned

Stunting is driven by multiple factors, one of which is inflammation. Inflammation is a normal biological response of body tissues to stimuli such as disease-causing bacteria (pathogens), but ironically repeated exposure to high doses of bacteria that are not linked with diseases or diarrhoea also cause inflammation. Children living in environments where hygiene is poor and open defecation is common are regularly exposed to high doses of bacteria that will not cause diarrhoea or frank gastrointestinal infections, but certainly stimulate low-grade chronic inflammation, as observed in one of our studies wherein 2- to 5-year-old children had higher total bacterial count and inflammatory markers compared to those reported from other countries. Inflammation down regulates growth factors, and thus impairs normal growth in children. Mothers with inflammation in the gestation tissues had smaller babies in our study.

When the effect of poor sanitation is obviously passing on from one generation to the other, it might take at least a generation to adopt WaSH interventions before their outcomes can be seen. Therefore, short-term trials like the ones in Kenya and Bangladesh are bound to show little or no effect. In addition, in India, where the baseline, unlike in those countries, is so large (over 50% of open defecation against 1% in Bangladesh) even small improvements can demonstrate significant and palpable changes. For that matter, the difference in prevalence of open defecation in urban (7%) and rural (52%) India is large and the figures of stunting are much lower in urban children than among their rural counterparts. This difference may not necessarily establish the cause-and-effect relationship but it certainly indicates that toilets and sanitation are important factors associated with stunting.

The Bangladesh way

It is indeed true that mere building of toilets cannot prompt people to use them as there are a lot of social, cultural and behavioural aspects attached to it. What we need to learn from Bangladesh is how [they have managed to bring down open defecation](#) to less than 1% by 2016, from a whopping 42%, in a little over a decade. Bangladesh's sanitation victory definitely did not come easy. A huge chunk of public and charity money was spent on building toilets, and campaign volunteers slogged to change public attitudes and habits. Children were used literally as whistle-

blowers and agents of change while door-to-door campaigns were carried out. It was done in a dogged campaign in mission mode supported by 25% of the country's overall development budget. Given its vastness, diversity and varied views, India may take time to change, but let us not think all is pointless with WaSH, and nothing is working.

R. Hemalatha is Director, National Institute of Nutrition, Hyderabad

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