

## Opinion Piece Articles

# Hygiene heroes: A dental health intervention for schools

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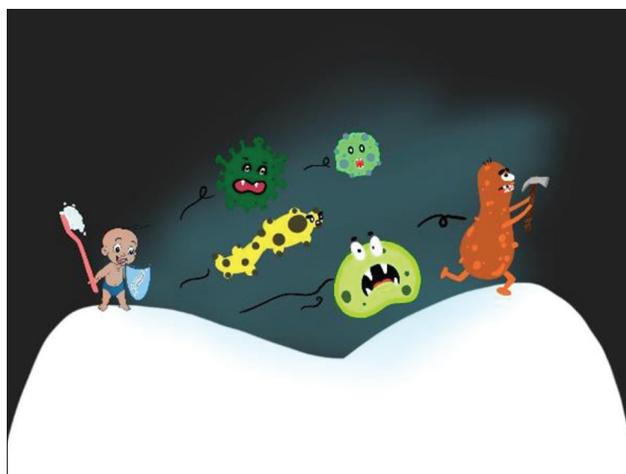
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Each year millions of children suffer from easily preventable diseases. In addition, hundreds of millions suffer long-term harm from easily preventable illnesses. Dental problems such as cavities and lost teeth are the most common form of long-term harm. This high incidence of dental problems is serious, as poor dental health can lead to more serious health problems (as well as possible damage to earnings and self-image) in adulthood. The good news is that brushing teeth twice a day with a fluoride toothpaste and limiting sugary drinks and snacks can avoid most cavities and other dental problems. Even better, most children know about the benefits of brushing teeth. At the same time, few children brush teeth carefully twice a day with a fluoride toothpaste. Moreover, much research has found that just telling people what to do only leads to small changes in behavior. Whether we want people to wash hands with soap, wear a motorcycle helmet, or brush teeth carefully, behavior change is hard.

Hygiene heroes are a health program for Indian schools. Its focus is to go beyond disseminating information to changing behavior. We start by making the curriculum engaging. For example, we wrote a story where Chhota Bheem learns about the importance of careful brushing with a fluoride toothpaste [Figure 1]. We also provide a short video to the teachers to reinforce the lessons regarding oral hygiene and healthy diet choices.



**Figure 1:** Chhota Bheem's friend Raju uses fluoride toothpaste and brush to get rid of germs. Illustration from will Chhota Bheem miss his own party? (With permission from Green-Gold Studies and Emerson College).

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Because teaching is not enough, we have students practice the new behaviors. We give each child a toothbrush and fluoridated paste for daily supervised toothbrushing. Teachers lead the class in careful toothbrushing for several weeks and are monitored and recorded everyday. Students are also sent a letter home so that parents can learn the importance of brushing teeth and adopt healthy diet choices.

We are now completing a randomized trial in 200 schools in Tamil Nadu (as of March 2020). One hundred schools received a handwashing intervention and 100 receive the dental intervention. (All curriculum materials are available at <http://hygieneheroes.berkeley.edu/curriculum.html>.)

Advanced dental students from a Chennai dental college gave a brief dental examination to a sample of students from each school. They measured if dental plaque is less common among students whose school received the dental intervention compared to the control schools and if the intervention improves dental hygiene, we hope more schools

in India will adopt our curriculum and be an agent of change through health promoting school approach.

#### **Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent.

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Nil.

#### **Conflict of interest**

There are no conflict of interest.

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