

Can xylitol help tame superbugs?

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Published: October 8, 2016

Thirteen years ago I wrote an article that was published in Medical Hypotheses about how we can tame bacteria. Last week I got this video from a friend in Australia that shows how this is happening.

http://commonsensemedicine.org/wp-content/uploads/2016/10/Channel9News_Comp.compressed.mp4 My article was based on the ideas of Nathan Sharon whose research was on how bacteria attach to us in order to infect us. If there is no attachment the germs are easily washed away and there is no infection. What the germs hold on to, he found, are sugar molecules and complexes on our cell surfaces. Xylitol is a five carbon molecule and is flexible, unlike our six carbon sugars that are fixed in their shape so that the bacteria can count on them to be there. My point was that xylitol can fit into lots of the bacterial hands that are conformed to fit these other sugars. In medicine this is called competitive inhibition, and it works. In this case it works to decrease the ability of many bacteria, even some superbugs, to hold on to us and infect us.

Xylitol, by itself, doesn't kill these bacteria, it just makes them go away. In one case, the only one I could find that looked at xylitol in this way, Luc Trahan, a researcher at Laval in Quebec, put xylitol in with some bacteria—*Streptococcus mutans*—that live on our teeth and make acids from the sugars in our diets that eats through the enamel of our teeth to cause tooth decay. What he found was that when they got used to the xylitol these bacteria stopped making the acid. The message here was essentially to shape up or ship out and these bacteria did both.

The work in Australia suggests it may work on other bacteria, even superbugs.