

SDM's Dr. Patricia Diaz Leads UB Microbiome Study: Gum disease-causing bacteria borrow growth molecules from neighbors to thrive



Patricia Diaz, DDS, PhD, Professor of Empire Innovation, Department of Oral Biology and director, UB Microbiome Center

The human body is filled with friendly bacteria. However, some of these microorganisms, such as Veillonella parvula, may be too nice. These peaceful bacteria engage in a one-sided relationship with pathogen Porphyromonas gingivalis, helping the germ multiply and cause gum disease, according to a new University at Buffalo-led study.

The research sought to understand how P. gingivalis colonizes the mouth. The pathogen is unable to produce its own growth molecules until it achieves a large population in the oral microbiome (the community of microorganisms that live on and inside the body).

The answer: It borrows growth molecules from V. parvula, a common yet harmless bacteria in the mouth whose growth is not population dependent.

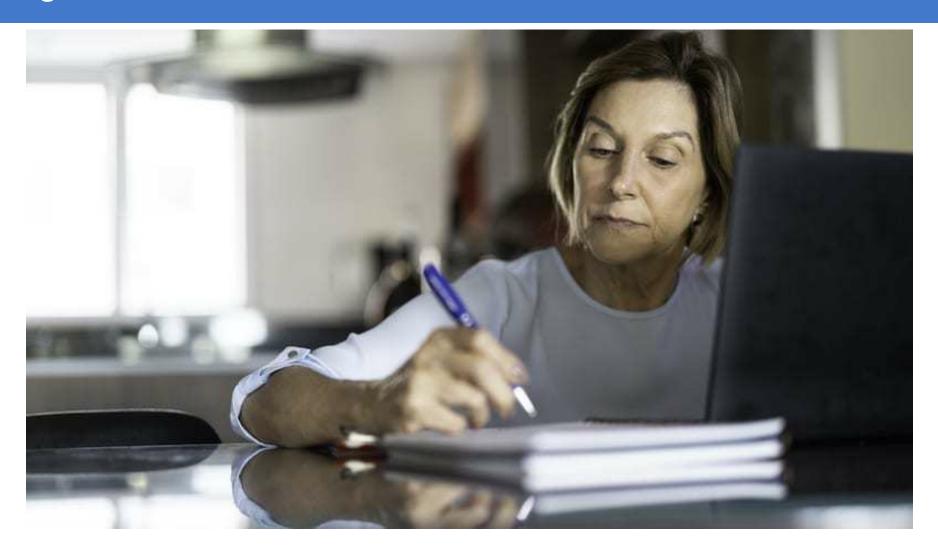
In a healthy mouth, P. gingivalis makes up a miniscule amount of the bacteria in the oral microbiome and cannot replicate. But if dental plaque is allowed to grow unchecked due to poor oral hygiene, V. parvula will multiply and eventually produce enough growth molecules to also spur the reproduction of P. gingivalis.

More than 47% of adults 30 and older have some form of periodontitis (also known as gum disease), according to the Centers for Disease Control and Prevention. Understanding the relationship between P. gingivalis and V. parvula will help researchers create targeted therapies for periodontitis, says Patricia Diaz, DDS, PhD, lead investigator on the study and Professor of Empire Innovation in the Department of Oral Biology in the UB School of Dental Medicine.

"Having worked with P. gingivalis for nearly two decades, we knew it needed a large population size to grow, but the specific processes that drive this phenomenon were not completely understood," says Diaz, also director of the UB Microbiome Center. "Successfully targeting the accessory pathogen V. parvula should prevent P. gingivalis from expanding within the oral microbial community to pathogenic levels."

Click here for full article.

SDM's Continuing Education Upcoming Events & Self Study Programs



Events

2021/05/14 Prep Designs and Lab Communication

2021/06/11 What am I Missing? The Science of Occlusal Medicine

Self Study Online

(Pub.) 05/20/20 Little Mouths are a Big Deal

(Pub.) 05/27/20 Talk to Your Patients About TMD

(Pub.) 04/29/20 Silver Diamine Fluoride

(Pub.) 06/10/20 Prescribing Controlled Substances (NYS Mandated)

(Pub.) 06/17/2020 From Risk to Results: Perio Instrumentation

*New Self-study! Vaccine and Vaccination: A Primer With A Focus On COVID-19

Click here for more CE information

If you have any news you would like to share, please contact Kelli at natale@buffalo.edu.

CONNECT WITH US

