



XYLITOL SINUS STUDIES

*Xylitol and Upper Respiratory Health:
Studies You Should Know*

Inflammation & Airway Study

Xylitol Nasal Irrigation: A Possible Alternative Strategy for the Management of Chronic Rhinosinusitis

Nsouli, T. M.; Nsouli, S. T.; Diliberto, N. Z.; Davis, C. M.; Bellanti, J. A. ORAL ABSTRACT #46, Monday, November 9, 2015



Overview:

In a 2015 presentation, Dr. Talal Nsouli of Georgetown University shared his findings of a study he conducted looking at the effects of irrigating the sinuses with a xylitol saline as compared to a normal saline. Chronic rhinosinusitis affects an estimated 14% of the U.S. population with a significant decrease in quality of life. Unfortunately, it is also a condition that is hard to treat.

Results:

Dr. Nsouli found that a xylitol saline reduced participants' SNOT-20 score (a questionnaire which helps determine the severity of a person's chronic rhinosinusitis) by 25%, demonstrating an increase in their quality of life. Additionally, the study showed that a saline with xylitol increased participants' peak airflow by 36% when compared to saline alone. In fact, in both results, over time, saline alone worsened the participants' condition and airflow.

Why is this important?

Inflammation in the sinuses is a leading cause of congestion. This study demonstrates that **a combination of xylitol and saline reduces sinus tissue volume and opens up the airway**, helping people to breathe better and easier.

Bacterial Adhesion Study

Antiadhesive effects of xylitol on otopathogenic bacteria - Tero Kontiokaria, Matti Uharia and Markku Koskela - Journal of Antimicrobial Chemotherapy (1998) 41, 563–565

Overview:

In a 1998 study, researchers decided to test how xylitol affected the bacterium *Streptococcus Pneumoniae*. Previous studies found that xylitol inhibited oral bacteria from adhering to tissue. In this study, researchers, "hypothesized that xylitol may also affect the adhesion of [other bacteria], and [they] tested this hypothesis in vitro."

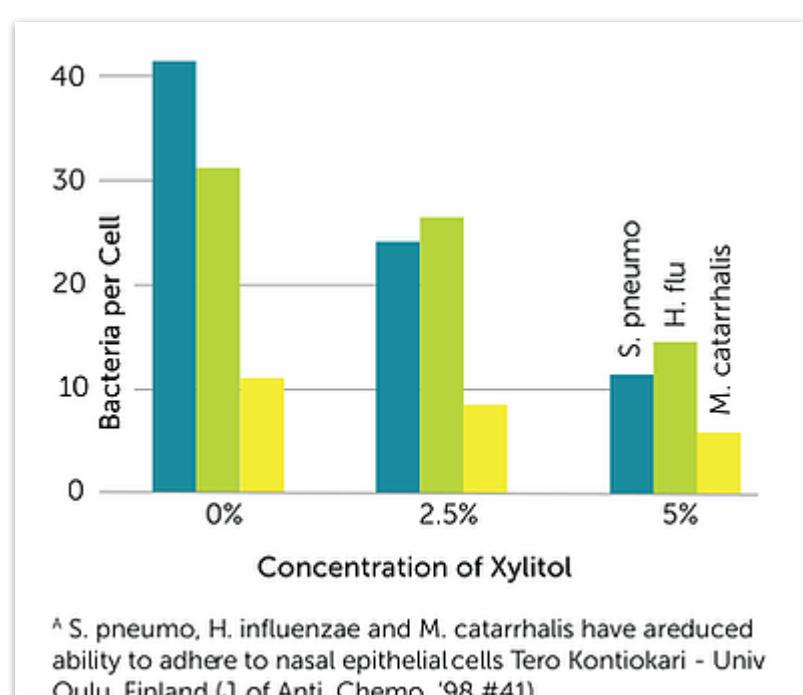
Results:

On average, *s. pneumoniae* had a stable adhesion of 41 bacteria per cell. When the cell and bacteria were exposed to xylitol, adherence reduced to 13 bacteria per cell, a decrease of over 68%.

Why is this important?

In order to thrive and grow, bacteria stick to cells and go through a process called quorum sensing where they come together to create a colony. If an agent, like **xylitol**, can inhibit bacteria from sticking to cells, then the bacteria cannot thrive and will be washed out of the body.

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Opens the Airway Study

Improved Nasal Volume Utilizing Hyperosmotic Saline Xylitol Mixture (Effective Alternative or Adjunct to Decongestants and Antihistamines)
 Steven R. Olmos, DDS, DABCP, DABCDMSM, DABDSM, DAIPM, FAAOP, FAACP, FICCMO, FADI, FIAO
 Orthodontic Practice, Vol 10, No. 2, pp. 47-52

Overview:

An obstructed airway can lead to headaches, sleep apnea, and TMD. One of the greatest causes of airway obstruction is soft tissue hypertrophy or inflammation. In a study, Dr. Steven R. Olmos looked to reduce inflammation in the nose by using a saline and xylitol solution.

Results:

Using the saline and xylitol solution effectively reduced soft tissue hypertrophy (inflammation) and rehydrated the tissue. Researchers noted, "The health benefits of increased nasal volume and flow improve sleep breathing disorders, respiratory disease. Increase in nasal breathing results in uprighting head posture results in a reduction of chronic facial pain, headaches, and jaw locking."

Why is this important?

This study demonstrates that a **xylitol and saline nasal spray has many benefits by helping to open up the airway**. The nasal spray is also **safe to use by all ages**, has no rebound like decongestants and antihistamines, and is **cost-effective**.

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Rhinitis Medicamentosa Study

Xylitol treats nasal mucosa in rhinitis medicamentosa: an experimental rat model study
 Behram Cam · Murat Sari · Ahmet Midi · Ozgül Gergin
 Springer Nature, August 29, 2019; online

Overview:

When people overuse certain nasal decongestants, they may suffer from rhinitis medicamentosa, or inflammation caused by the medication. In a study, researchers compared the nasal steroid mometasone and a xylitol saline solution to see what healing effects they have.

Results:

The study showed that both had great effect on improving the condition, but more importantly, it demonstrated that a natural saline solution with xylitol is just as effective as a common medicated steroid spray.

Why is this important?

People often turn to medication to treat conditions because there is a perceived idea that medications work best. However, **this study shows that a natural xylitol-saline is just as effective as the medicated spray**.

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