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Effects of NPs on Dental Caries Variables in Snus Users

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Objectives Today, there are several different types of smokeless nicotine-containing products, such as nicotine pouches (NPs) available on the market. These products share the same use and systemic nicotine exposure as snus. While previous studies have not demonstrated any negative effects of traditional snus usage in relation to dental caries, little is known about the effects caused by the usage of NPs. The objective of this study was to compare the impact on dental plaque acidogenicity and number of cariogenic microorganisms in dental plaque and saliva after the use of regular snus and after 4 weeks of substitution of snus with NPs.

Methods The present study was an open-label, two-armed, randomized, longitudinal study. Daily snus users were required to completely substitute their snus use with ZYN (either Dry or Moist) NPs. A total of 23 subjects were randomized to use ZYN Dry, while 22 subjects were randomized to ZYN Moist. The subjects visited the clinic after 4 weeks of regular snus use and then after 4 weeks of using ZYN. Data regarding plaque acidogenicity were collected at different tooth surfaces before and after a mouthrinse with 10% sucrose and followed for 60 min. Saliva and plaque samples were collected to count the number of *Streptococcus mutans* (*S. mutans*) and *lactobacilli*.

Results There were no significant differences in dental plaque acidogenicity parameters between visits for either the ZYN Dry group or the ZYN Moist group when compared to the regular snus period for any of the tooth surfaces. Additionally, there were no significant changes in the percentages of *S. mutans* or *lactobacilli* in dental plaque or saliva between the two visits for either the ZYN Dry or ZYN Moist groups.

Conclusions NPs seem to have the same effect on plaque acidogenicity and number of cariogenic microorganisms in dental plaque and saliva as traditional snus.