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## NYUCD study links tooth decay and gum infections to ethnicity and country of origin

*Rates of tooth decay and periodontal disease can be linked to ethnicity and country of origin even among immigrants who have lived for many years in the United States*

A New York University College of Dentistry research team has found that immigrants' ethnicity and country of origin predispose them to caries (tooth decay) and periodontal (gum) disease.

The team leader, Dr. Gustavo D. Cruz, an Associate Professor of Epidemiology & Health Promotion and Director of Global Oral Public Health at NYU, undertook the largest-ever study on the oral health of immigrants to the United States, analyzing caries and periodontal disease rates in over 1,500 Chinese, Haitian, Indian, West Indian, and Puerto Rican, Dominican, and Central and South American immigrants of Hispanic origin living in New York City.

Dr. Cruz, who presented his findings today at the annual scientific meeting of the International Association for Dental Research (IADR) in New Orleans, said the study revealed significant differences among the ethnic groups. Puerto Ricans, Haitians, and Indians, for example, were more likely to suffer from periodontal disease, while Hispanics were more likely to have dental caries.

"These differences," Dr. Cruz said, "are deeply rooted in an immigrant's country of origin, where early cultural influences can set the stage for oral health problems later in life.



Dr. Gustavo D. Cruz IADR 2007 presentation poster.

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"For example, some ethnic groups may be more prone to tooth decay partly because their traditional foods are high in refined carbohydrates, while other groups may be less susceptible to decay because refined carbohydrates are almost absent from their diet.

"Other factors include oral health practices and environmental influences, as in the case of developing countries that don't have a fluoridated water supply to provide protection against tooth decay. Heredity can play a role, as well. Some ethnic groups may be more susceptible to decay-causing oral bacteria."

Dr. Cruz found that rates of tooth decay and periodontal disease can be linked to ethnicity and country of origin even among immigrants who have lived for many years in the United States and have increased income and education levels.

Ethnicity is also a significant factor among those whose oral health is already at risk because they smoke or suffer from systemic health conditions, such as diabetes, that are known to contribute to oral infections.

"My future research will aim to identify which specific factors are behind individual ethnic differences," said Dr. Cruz, "so that preventive measures can be developed, such as diagnostic tests that pinpoint the presence of harmful oral bacteria that may be more common in certain ethnic groups."

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Dr. Cruz's research was funded by a grant from the National Institute of Dental and Craniofacial Research, part of the National Institutes of Health. His coinvestigators were Dr. Yu Chen, an Assistant Professor of Environmental Medicine at NYU School of Medicine; Dr. Christian R. Salazar, a student in Epidemiology at NYU College of Dentistry; and Dr. Racquel Z. LeGeros, Professor and Associate Chair of Biomaterials and Biomimetics and Linkow Professor of Implant Dentistry at NYU College of Dentistry.

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