

ANTIBIOTIC RESISTANT *STAPHYLOCOCCUS AUREUS* IN DENTAL AND NON-DENTAL INDIVIDUALS

Acosta-Gio AE, Cruz-Sanchez A, Sabas-Mendieta C, Vazquez-Mayoral E
National University of Mexico Dental School, Mexico City. MEXICO

Background: Worldwide, antibiotic resistant staphylococci, including methicillin resistant *Staphylococcus aureus* (MRSA) are becoming a public health concern both in healthcare settings and in the community. In Mexico all available antimicrobials are sold without the need for a prescription. This indiscriminate use and abuse may lead to widespread antibiotic resistance.

Objective: To compare *S. aureus* nasal carrier prevalence among convenience samples of dental and non-dental individuals.

Methods: A case-finding bacteriological survey was conducted. Swab samples were collected from the anterior nares from 60 postgraduate dental students, 40 dental patients in our dental school's waiting room, and 60 non-dental students in the campus. The samples were seeded on a chromogenic agar reported to have 95% sensitivity and 99% specificity in the identification of *S. aureus* (TA-670 Chromagar Microbiology. Paris, France), addition of a proprietary antibiotic formulation (SU-625 Chromagar Microbiology) selects for antibiotic resistance. After incubation for 72 h at 37°C, the plates were examined under a 10X magnification for the presence of characteristic mauve colonies.

Results: Of 160 individuals sampled 97 (61%) carried *S. aureus*. Carrier prevalence among dental students (68%) was significantly higher ($\chi^2=6.64$, $P<0.01$) than that observed among non-dental students (45%). The prevalence among patients (73%) was significantly higher than in dental ($\chi^2=4.16$, $P<0.05$) and non-dental students ($\chi^2=11.07$, $P<0.001$).

Conclusions: These results demonstrate that of all individuals sampled an important proportion carry *S. aureus* with antibiotic resistance traits. Without appropriate infection control measures, the high *S. aureus* prevalence observed poses an increased transmission risk for both dental clinicians and their patients. Work is underway to determine the prevalence of the MRSA genotype, among all isolates, using the primers for the *nucA* and *mecA* genes in a multiplex PCR.