

Helmet and mouthguard usage in pediatric dental patients

Olivia Zeitner, DDS

Objective:

To assess factors associated with helmet and mouthguard usage in pediatric dental patients attending the University of Iowa College of Dentistry and Pediatric Dental Clinics.

Methods:

Data were collected through a retrospective chart audit of Axium electronic health records from 2017 to 2021. Inclusion criteria were new patients aged between 5 to 16 years old (an oldest child/per household) in the D3 Pediatric Clinic. Patients' gender, age, insurance type, presence of ADHD, history of dental trauma, and use of helmet and mouthguard were obtained. Evaluation of potential factors related to use of helmet and mouthguard were performed using univariate and bivariate analyses ($\alpha=0.05$).

Results:

A total of 1,047 subjects met the inclusion criteria. The mean age of participants was 10.6 ± 3.1 years, and 50.1% were females. Of the study population, 32.2% reported helmet usage, 11.8% reported mouthguard usage, and 4.6% used both helmet and mouthguards. Males were more likely than females to wear a mouthguard (18.3% vs. 5.2%; $p < 0.001$) or both mouthguard and helmet (6.9% vs. 2.3%; $p < 0.001$). The mean\median age of subjects who wore a helmet were significantly younger than those who didn't wear a helmet (9.5 ± 3.1 \9.0 vs. 11.1 ± 3.0 \12 years; $p < 0.001$). Subjects who had private insurance were more likely to wear a helmet than those who had no insurance or who had Medicaid (47.9% vs. 29.4% or 27.7%; $p < 0.001$), while subjects who had ADHD were less likely to wear a helmet than those without ADHD (25.6% vs. 34.1%; $p = 0.023$). The data also revealed that subjects who used a mouthguard were more likely to use a helmet than those who didn't use a mouthguard (44.4% vs. 27.2%; $p < 0.001$).

Conclusion:

Helmets and mouthguards are underutilized in the pediatric population. The association between utilization and insurance type suggests that there may be financial barriers contributing to this problem.