

## **A Retrospective Assessment of Craniofacial and Dental Conditions Observed in the Dental Clinic: What is Happening and Recommendations for Improvement**

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**Objective:** Over 700 genetic syndromes present with craniofacial and/or dental anomalies, and dental providers must be trained to diagnose and treat patients with these conditions. Currently, limited resources exist for identifying and referring for proper diagnosis. The primary objective of this study is to determine where patients with craniofacial conditions are being identified and if referrals are being made when necessary.

**Experimental Methods:** A retrospective chart review from January 2011 to April 30, 2023 were pulled meeting the following inclusion criteria of a positive medical history form or clinical note containing a keyword (Syndrome, Gene/geneticist, congenital, intellectual disability, gene, genetic, tooth agenesis, hypodontia, oligodontia, amelogenesis, dentinogenesis, imperfecta, ectodermal dysplasia, primary failure of eruption (PFE), or cleidocranial dysplasia (CCD)). Data extracted from the chart included patient age, date of positive finding, dental clinic treating patient, dental findings, medical history, and documentation of referral or follow-up. A convenience sample of 2500 patient charts was identified, and data was analyzed using analysis of variance (ANOVA), with p-values less than 0.05 considered significant.

**Results:** 74.8% of patients were examined by a predoctoral student and 25.2% were examined by a postdoctoral resident or faculty member. A significant difference in confirmation of medical diagnosis by clinic type was found ( $p < 0.0001$ ), with Pediatrics (8.5%), UTDentists (46%) and Prosthodontics (50%) having the lowest number of unconfirmed medical diagnoses. A significant difference of dental findings that may precipitate a dental genetics referral based on clinic type was found ( $p < 0.0001$ ), with Pediatrics (23.7%), Orthodontics (10.9%), and Oral Surgery (5.9%) clinic charts having the highest incidence.

**Conclusions:** The findings from this study show that oral health providers in both predoctoral and postdoctoral/faculty clinics treat patients with craniofacial conditions. Based on our findings, it is recommended for oral healthcare providers to be educated in identifying and diagnosing craniofacial conditions.

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