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### **Assessing Italian Dentists' Knowledge of Developmental Enamel Defects**

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**Objectives** Developmental Defects of Enamel (DDEs) are a heterogeneous set of structural abnormalities of varying severity that can occur during the formation and mineralization of dental enamel, influenced by genetic, environmental, and systemic factors. DDEs pose challenges to dental practitioners due to their impact on aesthetics and oral health. Accurate diagnosis and appropriate management are essential for optimal patient care. To assess Italian dentists' knowledge and diagnostic skills regarding DDEs and to evaluate the factors influencing diagnostic accuracy a cross-sectional study was performed.

**Methods** A nationwide survey was planned based on a questionnaire including 27 closed-ended questions, with four clinical pictures, Molar Incisor Hypomineralization (MIH), Amelogenesis Imperfecta (AI), Dental Fluorosis (DF) and an initial caries lesion (ICL). Data were collected from January 2022 to December 2022. Discrete variables were expressed as absolute and relative frequencies (%). A multivariate analysis was performed to assess whether socio-demographic variables were correlated with the answers' truthfulness.

**Results** 5017 questionnaires were included and analyzed. Although 90.19% of the sample stated that they had received information on DDEs, a significant proportion failed to identify DDEs accurately. High share of the sample did not recognize MIH (36.36%), AI (48.34%), DF (71.50%) and ICL (46.62%). Only 57.07% correctly classified enamel hypomineralization as a qualitative defect, and even fewer, 54.45%, classified enamel hypoplasia as a quantitative defect. Demographic characteristics and training on DDEs influenced diagnostic accuracy. According to the logistic regressions, female dentists, dentists who treat mainly children and received information about DDEs, were more likely to recognize the four clinical pictures ( $p < 0.01$ ).

**Conclusions** Italian dentists have varying levels of knowledge and diagnostic skills regarding DDEs, indicating a need for enhanced education and training. Continuous education and standardized diagnostic criteria are essential to address the challenges posed by DDEs in dental practice and improve patient care.