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Timing of eruption of the first primary tooth in preterm and full-term delivered infants

Ivana Savić Pavičin (1), Jelena Dumančić (1), Tomislav Badel (2), Marin Vodanović (1)

1 – Department of Dental Anthropology, School of Dental Medicine, University of Zagreb Croatia
2 – Department of Removable Prosthodontics, School of Dental Medicine, University of Zagreb, Croatia

savic@sfzg.hr

Despite extensive research on tooth eruption, understanding this complex biological process remains unclear. Variation in the timing of eruption for primary teeth is under strong genetic control, but there is also a significant contribution from external factors. The aim of this study was to evaluate the influence of preterm birth, birth weight and length, and feeding practices during the first six months of life on the timing of eruption of the first primary tooth. Data on pregnancy duration, birth weight and length, feeding practice, time of eruption and first erupted primary tooth were collected by electronic questionnaires. The study included 409 parents and 592 children of both genders. The sample was divided into two groups according to pregnancy duration (<38 weeks and ≥38 weeks), three groups according to feeding practice (exclusively breastfed, exclusively bottle fed, and a combination of breast feeding and bottle feeding), three groups by birth length (<50, 50-53, >53 cm), and four groups by birth weight (<1500, 1500-2500, 2501-3500,>3500 g). Data were analyzed considering chronological and corrected age – which is the gestational age plus the infant's chronological age at the month of eruption of the first primary tooth. The mean time of first primary tooth eruption was 7.55 ± 2.67 months when chronological age was considered. The first erupted tooth in most cases was a lower incisor (82.33%). There was a statistically significant difference in the timing of first tooth eruption between preterm and full-term groups when chronological age was considered (P<0.005). However, no difference was found when age was corrected. The age of eruption of the first tooth differed significantly when feeding, weight, and length groups (P<0. 05) were taken into account. Age calculation rather than retarded dental development may explain the later eruption of the first primary tooth in low weight, bottle fed, preterm infants.

Keywords: teeth; eruption; birth; preterm; age