# Global distribution of malocclusion traits: A systematic review

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**Objective:** Considering that the available studies on prevalence of malocclusions are local or national-based, this study aimed to pool data to determine the distribution of malocclusion traits worldwide in mixed and permanent dentitions.

**Methods:** An electronic search was conducted using PubMed, Embase and Google Scholar search engines, to retrieve data on malocclusion prevalence for both mixed and permanent dentitions, up to December 2016.

**Results:** Out of 2,977 retrieved studies, 53 were included. In permanent dentition, the global distributions of Class I, Class II, and Class III malocclusion were 74.7% [31–97%], 19.56% [2–63%] and 5.93% [1–20%], respectively. In mixed dentition, the distributions of these malocclusions were 73% [40–96%], 23% [2–58%] and 4% [0.7–13%]. Regarding vertical malocclusions, the observed deep overbite and open bite were 21.98% and 4.93%, respectively. Posterior crossbite affected 9.39% of the sample. Africans showed the highest prevalence of Class I and open bite in permanent dentition (89% and 8%, respectively), and in mixed dentition (93% and 10%, respectively), while Caucasians showed the highest prevalence of Class II in permanent dentition (23%) and mixed dentition (26%). Class III malocclusion in mixed dentition was highly prevalent among Mongoloids.

**Conclusion:** Worldwide, in mixed and permanent dentitions, Angle Class I malocclusion is more prevalent than Class II, specifically among Africans; the least prevalent was Class III, although higher among Mongoloids in mixed dentition. In vertical dimension, open bite was highest among Mongoloids in mixed dentition. Posterior crossbite was more prevalent in permanent dentition in Europe.

**Keywords:** Prevalence. Malocclusion. Global health. Population. Permanent dentition. Mixed dentition.

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