Mouthbreathing, lip seal and upper lip coverage and their relationship with gingival inflammation in 11-14 year-old schoolchildren.

Wagaiyu EG, Ashley FP.

Department of Periodontology, University of Nairobi Dental School, Kenya.

The gingival health of 201 schoolchildren aged 11-14 years was assessed at 6 sites on all the incisor and first molar teeth by recording separately the presence or absence of redness and bleeding on probing. Crowding of the incisor teeth was recorded as labio-lingual displacement and mesio-distal overlap. A 2nd examiner recorded the presence or absence of plaque at these sites and assessed mouthbreathing, lip seal and upper lip coverage of the maxillary incisors. Mouthbreathing, increased lip separation and decreased upper lip coverage at rest were all associated with higher levels of plaque and gingival inflammation. Multivariate analysis indicated that this association was statistically significant for mouthbreathing and lip coverage but increased lip separation was not independently related to plaque and gingivitis. The relationship of mouthbreathing and decreased upper lip coverage with gingivitis was most evident in the upper anterior segment and was still evident after covariate analysis to take account of variations due to gender, overcrowding and amount of plaque. However, allowance for these factors also suggested that the influence of mouthbreathing was restricted to palatal sites, whereas lip coverage influenced gingival inflammation at both palatal and labial sites.

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