

**DETERMINING THE ASSOCIATION BETWEEN
PERIODONTAL DISEASE AND BAD BREATH AND
COMPARISON OF AN ORGANOLEPTIC ASSESSMENT AND
VOLATILE SULFUR COMPOUND DETECTOR.**



by

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Aim: Oral malodour also synonymously referred to as halitosis is a social and psychological problem, most of the time attributed to poor oral health, especially periodontal health. There has been a conflicting and divergent opinion regarding the role of periodontal disease in causation of oral malodour. Opinion for periodontal disease being the cause of oral malodour has been contradicted by few studies which have envisaged no such role in oral malodour. Hence a study was undertaken to assess the role of periodontal health and correlate with oral malodour and examine the issue afresh.

Materials and Methods: 240 subjects (60- normal healthy subjects without any evidence of periodontal disease and 180 patients with gingivitis and periodontitis) were evaluated for periodontal and oral malodour parameters. Periodontal parameters included PI, GI, mSBI, calculus component of OHI(S), PD, CAL and oral malodour was assessed by organoleptic scores, Halimeter[®] readings and Tongue Coating Index (TCI).

Results: The prevalence of halitosis was 80% when assessed organoleptically and 74.6% when assessed with Halimeter[®] in subjects with varying degrees of periodontal disease. Males exhibited more halitosis than females but this difference was not statistically significant. A few subjects with normal periodontal health also had halitosis (20%) while a negligible number of patients (6.6%) with periodontitis did not have halitosis. The presence of halitosis in normal subjects, however their number being small, indicates factors other than periodontal health mainly the role of tongue coating. All the clinical parameters were significantly associated with the oral malodour ($p < 0.001$). The amount of tongue coating and bleeding on probing played

the most important role in increasing VSCs concentration followed by periodontal status, plaque indices and calculus component. Reliability between Halimeter[®] and organoleptic measurements also showed good agreement (0.772) between the two methods. Most of the subjects in the diseased groups had an organoleptic score > 3 and a Halimeter[®] value > 110ppb.

Conclusion: There was a high prevalence of halitosis in the present study population. It is observed that oral malodour was primarily associated with tongue coating, bleeding on probing followed by periodontal parameters including plaque scores, calculus, probing depth and CAL. All the clinical parameters were significantly related to oral malodour in this study and the results indicate that determining VSCs levels with Halimeter[®] is an useful means of diagnosing halitosis objectively.

Key words: Oral malodour, Halimeter[®], Organoleptic assessment, Tongue coating.