

## HALITOSIS: DEVELOPMENT AND EVALUATION OF AN ASSESSMENT PROTOCOL

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**INTRODUCTION:** Halitosis, defined as an unpleasant breath odour, has become a health concern among the general public. However, dental practitioners lack high evidence-support protocols to manage this condition.

**OBJECTIVES:** To develop and evaluate a protocol, for outpatient dentistry, that allows the diagnosis and treatment of patients complaining of halitosis.

**METHODS:** A protocol was created based on the literature and was used throughout a three-year clinical study comprising 714 patients. It was carried out at a novel bad breath consultation in Portugal. This protocol consisted of a detailed questionnaire, clinical and psychological examination, evaluation by a confidant, organoleptic assessment, mouth air examination with a chromatograph (*Oralchroma*®), and others. Treatment differed depending on aetiological diagnosis assumption and multidisciplinary approach was performed whenever needed. After the initial visit, each patient was scheduled for follow-up sessions: day 15, and months 1, 3 and 6.

**RESULTS:** The majority of patients had an adequate oral hygiene (76% with O'Leary IP<20% and 69% with Löe & Silness GI≤1). A considerable impact on quality of life was assessed (average OHIP-14 of 17.5). Oral and extra-oral causes were found for 60.2% and 16.9% of cases, respectively. Pseudo-halitosis patients (20.4%), mostly women (68%), significantly referred ( $p<0.05$ ) higher prevalence of gastrointestinal symptoms, dysgeusia and anxiety, and lower salivation secretion rate. Adequate treatment response was obtained in 87.8% and 96.6% of cases, at month 3 and 6 respectively. Eight of a total of 15 halitophobic patients (2.1% of 714 patients) responded to treatment. Confidant evaluation significantly correlated ( $p<0.01$ ) with other parameters ( $r=0,56$  and  $r=0,49$  with organoleptic scores and VSCs, respectively).

**CONCLUSIONS:** The proposed protocol was found to successfully improve clinical, self-perceptive and psychosocial halitosis-related parameters. Cooperation from someone close to the patient (*confidant*), regular psychosocial assessment and accountability when multidisciplinary approach occurs (both by the dentist) are key factors.