Summary of: Halitosis: a new definition and classification

M. Aydin*¹ and C. N. Harvey-Woodworth²

FULL PAPER DETAILS

¹Private practice, Turkey; ²Private practice, London

*Correspondence to: Dr Murat Aydin

Email: aydinmur@gmail.com

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Background There is no universally accepted, precise definition, nor standardisation in terminology and classification of halitosis. **Objective** To propose a new definition, free from subjective descriptions (faecal, fish odour, etc), one-time sulphide detector readings and organoleptic estimation of odour levels, and excludes temporary exogenous odours (for example, from dietary sources). Some terms previously used in the literature are revised. **Results** A new aetiological classification is proposed, dividing pathologic halitosis into Type 1 (oral), Type 2 (airway), Type 3 (gastroesophageal), Type 4 (blood-borne) and Type 5 (subjective). In reality, any halitosis complaint is potentially the sum of these types in any combination, superimposed on the Type 0 (physiologic odour) present in health. **Conclusion** This system allows for multiple diagnoses in the same patient, reflecting the multifactorial nature of the complaint. It represents the most accurate model to understand halitosis and forms an efficient and logical basis for clinical management of the complaint.

EDITOR'S SUMMARY

I am often struck by the fact that when we makes comparisons between oral health-care and other aspects of life we chose to reference mechanical elements. So, for example, we compare a regular check-up at the dentist with an MOT assessment for a car, or when we think of the ethos behind continuing professional development and revalidation we ask if we would be happy being flown in an airplane by a pilot that wasn't fully up-to-date; and so forth. Yet on a daily basis we deal not with mechanics but with biology.

The relevance to this paper is that, call it what you will, bad breath, oral malodour or halitosis, the issue is a matter of physiology and its detection in the first instance is to do with the smell as sensed by another human being. How to mechanistically quantify that? The authors of this paper have attempted to go back to basics and ask how we can effectively measure bad breath and how we might be able to classify it differently in order to more appropriately and efficiently diagnose the aetiology and thereby provide advice and treatment.

Not surprisingly it has proved to be a tricky project and, as with so much research, it has posed as many questions for future investigation as it has

answered. But it also provides a valuable stimulus for us to rethink the way in which we regard and treat this particular aspect of oral care. In many ways it may seem like a marginal concern in everyday practice and yet in terms of those who suffer from halitosis, or in a number of cases those who think they suffer from it, the concern consumes a disproportionate chunk of their waking hours.

The authors are proposing a new classification for halitosis based on either extrinsic and/or intrinsic factors any of which may also be mapped onto psychological contributions. The effectiveness of this proposal will need to be tested but the riders which are added include that each category is subject to 'interpersonal variation and may fluctuate even within hours in the same individual'. This really goes to the heart of the 'biological' difficulties as it emphasises the literal and metaphorical transient nature of the problem. Added to which, one person's perception of bad breath may not be that of another individual; we are then on to variations in the sense of smell and its subsequent interpretation.

Often portrayed in literature and the performing arts as a humorous affliction, for those conscious sufferers it is no such laughing matter and yet there is a whole

raft of human behaviour which has built up around it and has doubtless been present since the earliest dawn of mankind. For something so universally present it is surprising that we are apparently no further forward. Perhaps this paper will provide a new beginning.

The full paper can be accessed from the *BDJ* website (www.bdj.co.uk), under 'Research' in the table of contents for Volume 217 issue 1.

Stephen Hancocks
Editor-in-Chief

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IN BRIEF

- Suggests previous halitosis classification systems omit some aetiologies, and their diagnoses hinged on single occasion halitometric and organoleptic findings, which are unreliable.
- Proposes halitosis diagnosis should focus more on the declarations of the patient and his/her social environment.
- Suggests the new classification completely covers all possible aetiologies of halitosis.

COMMENTARY

The symptom of bad breath is common, in some instances is helpful to clinicians in the diagnosis of oral or other disease, and can be distressing to patients. There is thus a need to enhance understanding of the cause, treatment and prevention of oral malodour. The paper of Drs Aydin and Harvey-Woodworth provides a detailed review of the difficulties in the terminology and aetiological classification of oral malodour (halitosis). Specifically the authors have revealed the challenges of being able to separate the different potential causes of oral malodour from one another, to objectively measure the quality of breathe and hence provide information relevant to clinicians and researchers. In addition they explore the appropriateness of terminology that allows clinicians to provide helpful and non-pejorative information to patients and attending clinicians.

Based upon their critique of the literature the authors suggest a new classification for the cause of oral malodour that identifies that an objectively detected odour from the mouth (regardless of where it is originating) is expected (Type 1 Halitosis). In addition individuals may have a breath smell as a consequence of disease of the mouth, airway, gastrointestinal tract or be the result of blood-borne passage from other sites (eg kidneys, liver). This classification brings together current knowledge and would form the basis for future research or cause and therapy as well as ensure that a clinician considers all the major causes in the differential diagnosis of oral malodour. However, in the proposed Type 5 halitosis (subjective halitosis) the authors include patients with a history of known disease and/or drug therapy

that may adversely affect the perception of smell and/or taste (neurogenic causes) with those that do not (psychologic causes). This lumping together of two causes within Type 5 may not be appropriate as it perhaps does not allow targeted research or clinical care.

The authors highlight the sometimes confusing terminology that is often applied to halitosis, particularly that associated with psychologically-associated symptoms. They advocate that self-halitosis should be a separate diagnosis, however, in clinical practice there is often some cross over with psychosomatic halitosis and halitophobia. There may also be a need to define a disorder of persistent fear of halitosis – this might explain why a small group of patients complain of having bad breath as a consequence of persistent reminders by family members and others.

The paper reveals that there is much to do to determine the causes of oral malodour. Realistic systems of classification and terminology are central to future research and therapy of this symptom as without these research and therapy cannot be appropriately targeted. The authors should thus be encouraged to validate their suggested classification via appropriate studies.

Stephen Porter, Institute Director
and Professor of Oral Medicine
Stefano Fedele, Senior Lecturer
in Oral Medicine
UCL Eastman Dental Institute
London, UK

AUTHOR QUESTIONS AND ANSWERS**1. Why did you undertake this research?**

Previous halitosis definitions are based upon a single occasion halitometer reading or organoleptic assessment by specialists. However, halitosis is fluctuant, and breath odors change from one moment to the next. Organoleptic assessment is a subjective measure that varies according to many factors, leading to both interpersonal variation and intrapersonal variation from one occasion to the next. Also, there are different organoleptic assessment protocols that influence the readings. Analogy can be made with blood pressure measurement, wherein any single occasion measurement is unreliable compared to ambulatory monitoring.

Furthermore, previous classifications do not accurately reflect the pathophysiologic reality of halitosis. A new definition of halitosis that is less focussed on such unreliable measures was constructed. Instead, the most important aspect of halitosis diagnosis are reliable reports from the patient's family and close friends. An improved aetiological classification is created for better understanding of underlying mechanisms and will also constitute a protocol for clinical examination of halitosis patients.

2. What would you like to do next in this area to follow on from this work?

We are currently working on:

- A new diagnostic protocol that is less dependent on halitometer readings and organoleptic assessments
- A new gas-measurement protocol that can completely separate mouth and breath gases
- A new project to detect gases other than sulphides.

Also, an accompanying publication detailing management protocols utilising this system.