

# HALITOSIS (BAD BREATH) A CLINICAL STUDY

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## ABSTRACT:

This is a prospective study done in the period between the 1<sup>st</sup> of December 2003 to 30<sup>th</sup> of November 2005, it includes 323 patient.

One hundred fifteen patients complaining of oral disorders, comprises 35.6% of all the studied patients, while 208 patient had extra oral disorder (64.4%). From those with extra oral diseases, 162 patients had otorhinolaryngological disorder comprises (78%), and the remaining 46 patients had medical disease (22%).

The commonest cause of oral disorders was periodontal disease (42 patients = 37%), the commonest cause of otolaryngological disorders was tonsillitis (39 patients =24%), while commonest medical cause of halitosis was bronchitis (11 patients =24%).

The mean age of presentation of halitosis caused by oral disease, was 46.2 year, otolaryngological diseases was 27.9 years and for medical diseases was 46.6 years. Commonly the patient with halitosis presented in the cold months (230 patients of them presented in the period between October and April =71% from all the studied patients).

**Key words :** Halitosis , Bad breath , Oral disorders

## INTRODUCTION:

Halitosis (bad breath) is estimated to affect up to 50% of the population, with varying degree of intensity and aetiology<sup>1,2,3</sup>. This can have consequences for private or professional life, reasons can imply many specialties: dentistry, otorhinolaryngology, hepatology, genetics and psychiatry<sup>4,5</sup>.

The quality and intensity of breath normally changes with age with unknown cause, the breath of infant and children is said to be sweet and pleasing which may participate in the close bonding between infant and their parents, the breath of adolescent become somewhat heavy and slightly pungent but not unpleasant.

However, in middle age the breath definitely becomes less pleasant even with fastidious habits of oral care, the breath of aged become more intense and disagreeable even with meticulous oral hygiene<sup>6</sup>.

The first classification of halitosis done by Prinz (1930)<sup>7</sup>, as follow:

- Odours arising from dental defect allowing food stagnation, from denture and excessive caries.
- Odours arising from the soft structures of oral cavity such as gingivitis, periodontal disease, Vincent's infection, ulcers and malignant disease.
- Odours arising from pharyngeal region and the nose especially pharyngitis, tonsillar infection, and adenoid, from

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- the nose like ozena and nasal tumours.
- Odours arising from digestive tract due to diseases of oesophagus, stricture and cancer causing ulceration.
- Odours arising from bronchopulmonary disease especially gangrene of the lung putrid bronchitis.
- Odours arising from metabolic disorders like DM, cirrhosis of the liver and uraemia.
- Odours arising from absorbed drugs and poisons especially the so called "lead breath".
- Odours from food, condiments and stimulant such as cooked eggs and cheese. Onion, garlic and leeks are well known for their effects. Alcohol and tobacco smoking odours may be recognized several hours after use.

Murata<sup>8</sup> et al classified halitosis into category of genuine halitosis, pseudohalitosis and halitophobia, genuine halitosis is sub-classified into psychological and pathological halitosis, pathological halitosis itself subdivided into oral and extra oral halitosis<sup>9</sup>.

Halitophobia could be a serious problem, as it sometimes associated with underlying mental condition<sup>10, 11</sup> with occasional anecdotal reports of suicide<sup>12</sup>.

While the volatile sulphur compounds (VSCs) which is the waste product of bacteria live in the oral cavity are the principle causative elements of bad breath<sup>13</sup>, these bacteria also produce other waste products and some of these have their own unpleasant odour too, a few of these element are:

- Cadaverine- the small associated with corpses.
- Putrescine- the odour of decaying meat.
- Skatole- the characteristic smell of human fecal matter.
- Isovaleric acid- the smell of sweaty feet<sup>14</sup>.

### AIM OF THE STUDY:

The aim of this study is to throw some light on a common problem which is not taken in consideration by any medical specialty other than the dentistry, for that

reason this study try to show the causes of halitosis, age of presentation, geographical distribution and its relation with changes of whether.

### PATIENTS & METHODS:

This is a prospective clinical study done in Basrah governorate in the period between the 1<sup>st</sup> of December 2001 to the 30<sup>th</sup> of November 2003.

Three hundred twenty-three patients complaining of halitosis which smelled by the examiner (objective and subjective) were collected and analyzed by otolaryngologist, dentist and physician in sequences of 162, 115 and 46 patients respectively.

All the cases of halitosis caused by foods, smoking and alcohol drinking were excluded from this study, and this is applicable for those cases which were not smelled by the examiner or bad odour smelled by the examiner but not experienced by the patients.

In all the patients history, examination and if needed, investigation were performed for establishing the diagnosis.

### RESULTS & DISCUSSION:

Table (1) shows the causes of halitosis, it is found that the majority of causes of halitosis are extra oral (208 patients (equal to 64%)), the remaining patients (115) had oral causes (36%). This results is different from many studies done in this field, all of these stated that 80-90% of the bad breath originate locally in the oral cavity<sup>(14,15,16)</sup>, but Hanker<sup>(17)</sup> et al stated that up to 90% of cases of halitosis results from gastrointestinal or otolaryngological problems.

Figure (I) shows the relationship between the causes of halitosis and the mean age of presentation. It is found that the ages of patients with halitosis that caused by ENT diseases were younger than that of oral and extra oral medical diseases 27.9 years, 46.2 years, 46.6 years respectively. This results become more clear if exclude neoplastic

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causes from ENT diseases which tend to occur in middle age and elderly (19 years). Table (II) presents the geographical distribution of patients with halitosis, it is found that the majority of patients with halitosis were from urban areas (181 patients = 56%), the remaining patients (142 patients = 44%) were rural inhabitants. Probably the majority of patients live in urban areas visits central hospital or they may take more attention to their health than rural inhabitant.

The interested finding is a nearly equal number of halitosis patient who lived in rural and urban regions who suffered from oral diseases which probably due to better nutrition in rural society which reflected on the health or may be due to refusal of wearing a denture by rural inhabitant patients. Figure (II) shows the distribution of patients with halitosis according to date of presentation. It is found that the majority of patients were presented in the cold months (from October to April) which equal to 230 patients, comprising 71% of

total number of patients, this probably due to increase incidence of upper respiratory tract infection as well as lower respiratory tract in there months, or probably the drinking of water and liquids in hot whether which act to washes and dilutes the odoriferous substances.

### CONCLUSION:

Interest in problem of halitosis has been largely limited to the dentist and oral surgeon . In fact, little information found in the otolaryngological literatures to offer guidance in the systemic evaluation and treatment of patients with this problem. This small work try to establish a fact that halitosis can be caused by a lot of diseases other than oral disorders.

### ACKNOWLEDGEMENT:

Dr. Ammar Al- Jassim , dentist in Basrah health center kindly participated in this work.

### Tables

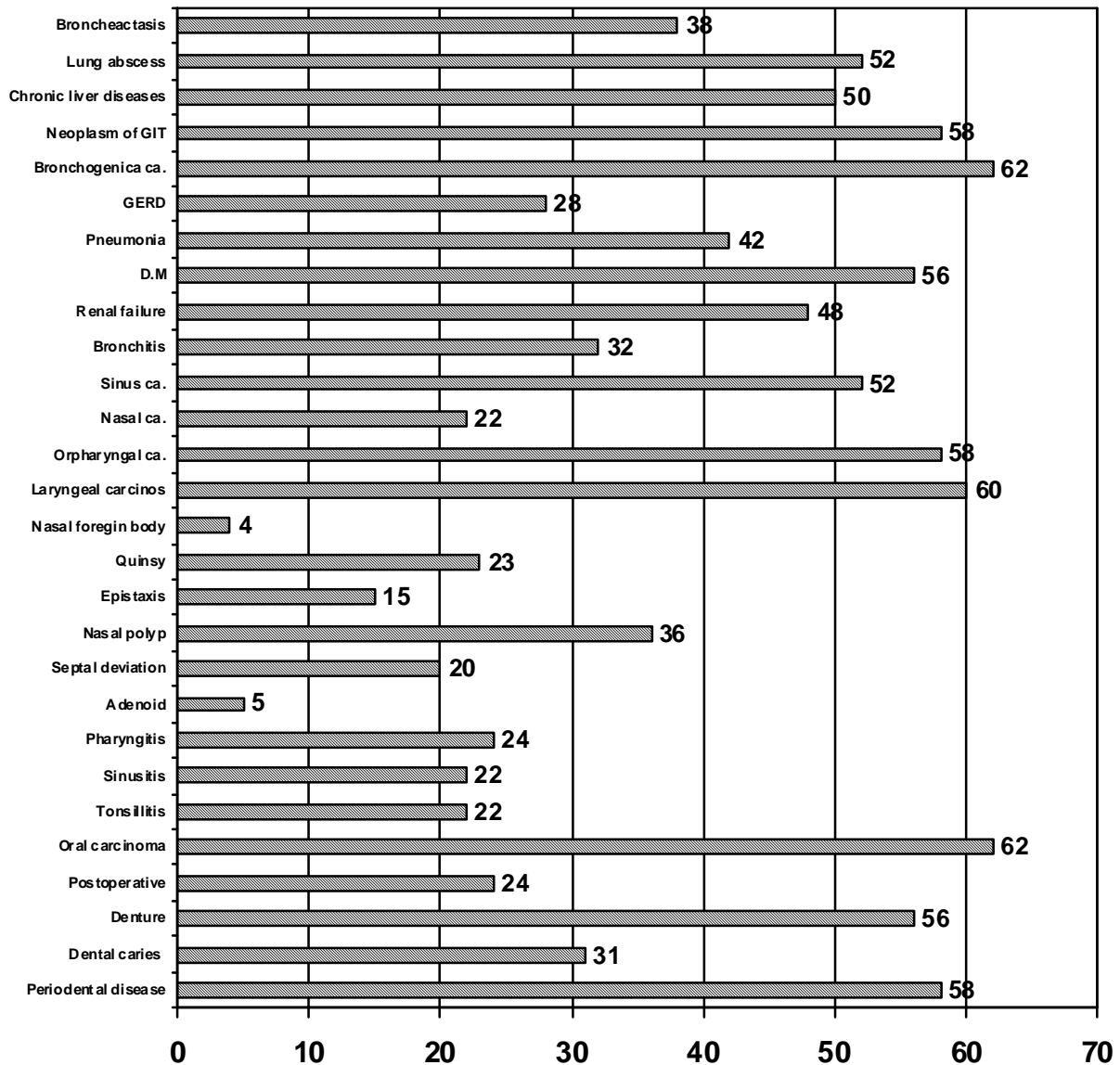
*Table (I): Causes of halitosis*

Oral			Extra oral					
	No.	%	E.N.T	No.	%	Medical	No.	%
Periodontal disease	42	37	Tonsillitis	39	24	Bronchitis	11	24
Dental caries			Sinusitis	31	19	Renal failure	9	20
Denture	32	28	Pharyngitis	24	15	D.M	8	17
Postoperative	28	24	Adenoid	18	11	Pneumonia	5	11
Oral carcinoma	8	7	Septal deviation	12	7	GERD	4	9
	2	4	Nasal polyp			Bronchogenic carcinoma	3	7
			Epistaxis	10	6	Neoplasm of GIT	2	4
			Quinsy	9	5	Chronic liver diseases	2	4
			Nasal foreign body	6	4	Lung abscess	1	2
			Laryngeal carcinomas	3	2	Broncheactasis	1	2
			Oropharyngeal carcinoma	2	1			
			Nasal carcinoma					
			Sinus carcinoma	1	0.6			
				1	0.6			

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*Table (II): Geographical distribution of patients with halitosis*

Causes Address	Oral		ENT		Medical			
	No.	%	No.	%	No.	%		
Rural	58	50.4	67	41	17	37	142	44
Urban	57	49.6	95	59	29	63	181	56
<b>Total</b>	<b>115</b>	<b>100</b>	<b>162</b>	<b>100</b>	<b>46</b>	<b>100</b>	<b>323</b>	<b>100</b>



*Figure (I): Relationship between the causes of halitosis and the mean age of presentation*

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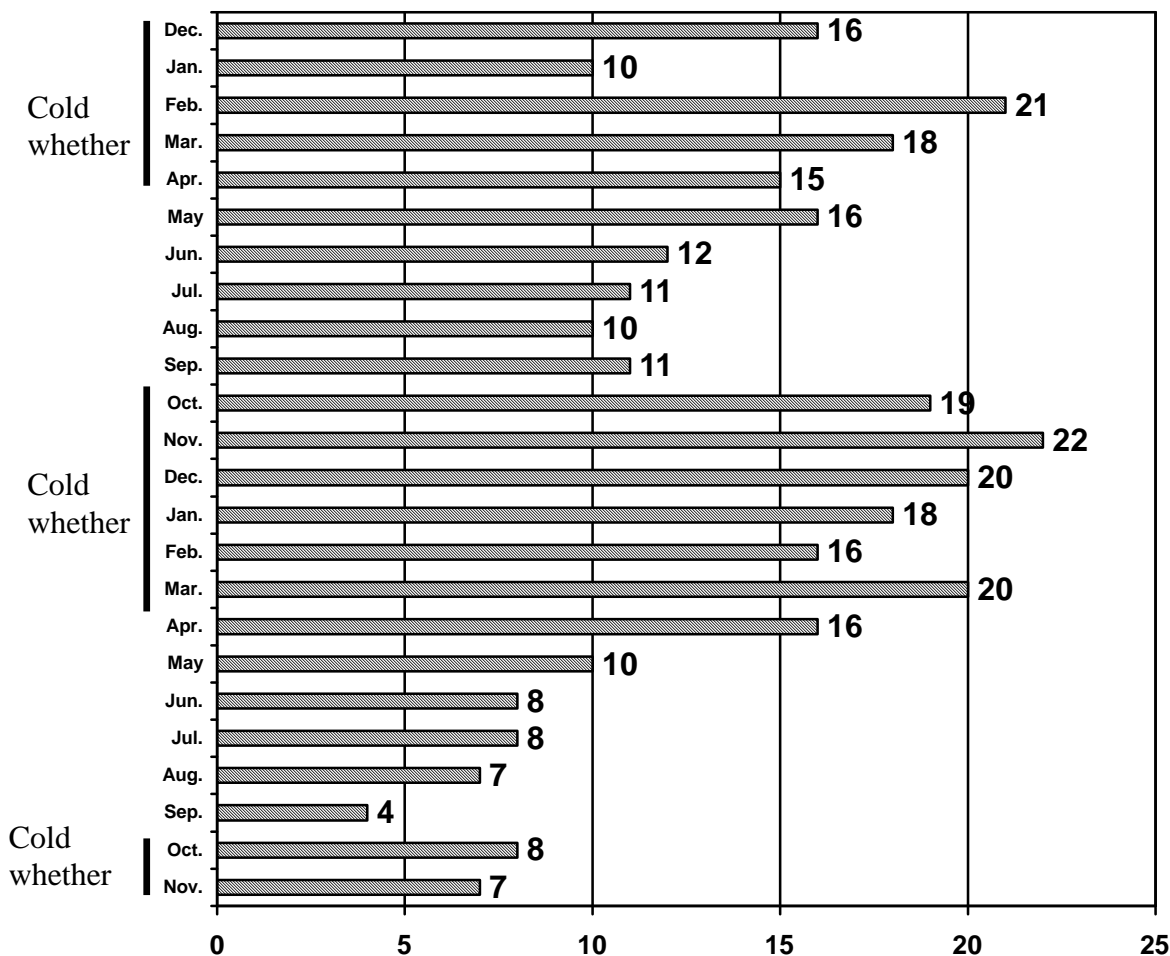


Figure (II): Distribution of patients with halitosis according to date of presentation

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### بخر الفم - دراسة سريرية

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### الملخص

هذه دراسته منظوره امتدت خلال الفتره من الاول لشهر كانون الاول سنة ٢٠٠٣ ولغاية الثلاثين من شهر تشرين الثاني سنة ٢٠٠٥ ، وهي تتضمن ٣٢٣ مريض .  
منه وخمسة عشر مريض كانوا مصابين بامراض الفم والذين يشكلون ٣٥,٦% من المجموع الكلي للمرضى ،بينما يشكل عدد المرضى الذين يعانون من امراض خارج الفم نسبة ٦٤,٤% ،من اولئك المرضى الذين يعانون من امراض خارج الفم ،هنالك ١٦٢ مريض يعانون من امراض الاذن والانف والحنجره (يشكلون ٧٨%) ،بينما البقيه وهم ٤٦ مريض يعانون من امراض باطنيه اخرى (يشكلون ٢٢%).  
لقد كانت اغلب اسباب بخر الفم المتعلقه بامراض الفم هي امراض اللثة (٤٢ مريض = ٣٧%) ، بينما كانت اغلب اسباب بخر الفم التابعه لامراض الاذن والانف والحنجره هي التهاب اللوزتين (٣٩ مريض = ٢٤%) ، اما التهاب القصبات فهو المسبب الرئيسي لبخر الفم نسبة للامراض الباطنيه (١١ مريض = ٢٤%).  
المعدل العمري للمرضى الذين يعانون من امراض الفم ٦,٢ سنة ، لمرضى الاذن والانف والحنجره كان ٢٧,٩ سنة ، لاولئك الذين يعانون من الامراض الباطنيه ٦,٦ سنة . غالبا ماتكون معانات مرضى بخر الفم في الاشهر الباردة من السنه (٢٣٠ مريض = ٧١%) ، في الاشهر من تشرين الاول الى شهر نيسان )

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