

Emotional impact of halitosis

O impacto emocional da halitose

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Abstract

Objective: To evaluate the emotional impact of halitosis on 18-year-old men using a self-reported questionnaire.

Method: A total of 2,224 participants underwent dental and medical examinations in the army medical services in the city of Pelotas, southern Brazil, in July 2008.

Results: In this sample, 12% of respondents expressed concern about their oral malodor, which had a strong emotional impact on their quality of life.

Conclusions: The individuals reporting halitosis showed a higher degree of concern with their oral malodor. Low educational level and low income were associated with psychological impact and halitosis in this population.

Keywords: Halitosis, emotional impact, young men, military.

Resumo

Objetivo: Avaliar o impacto da halitose em uma amostra de homens de 18 anos usando um questionário autoaplicável.

Métodos: Um total de 2.224 indivíduos foram submetidos a exames dentários e médicos no serviço médico do Exército na cidade de Pelotas, no sul do Brasil, em julho de 2008.

Resultados: Nessa amostra, 12% dos respondentes expressaram sua preocupação quanto ao mau hálito, com forte impacto emocional em sua qualidade de vida.

Conclusões: Os indivíduos que relataram halitose apresentavam maior grau de preocupação com mau hálito. Nível educacional baixo e baixa renda estiveram associados ao impacto psicológico e à halitose nesta população.

Descritores: Halitose, impacto emocional, homens jovens, militares.

Introduction

Halitosis is a common social condition that affects a considerable portion of the general population. The prevalence of halitosis is close to 50% in some populations.¹ This oral condition may cause embarrassment, depression and make relationships more difficult.² Some studies have investigated whether the psychological profile of patients might have some influence on the complaints about halitosis, or even on halitosis itself.^{3,4} In a study that included 1,052 participants and self-reported halitosis, Sentiner et al.⁵ reported that poor oral hygiene and general anxiety were associated with halitosis.

Halitosis is divided into intraoral, extraoral, pseudohalitosis and halitophobia. Intraoral halitosis, responsible for 85% of the cases of halitosis, is subdivided into physiologic (genuine) halitosis or pathologic halitosis.¹ Extraoral halitosis occurs when malodor appears with no oral cause, as in the case of pulmonary causes. Both patients with pseudohalitosis and halitophobia present with complaints of halitosis, but without any diagnostic evidence of malodor.

This study determined the prevalence of halitosis in the group of enlisted individuals and the emotional impact of this oral condition on their lives, and correlated findings with sociodemographic factors.

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Methods

Every year, all 18-year-old male Brazilians undergo medical and dental examinations by the army medical services because of mandatory enlistment for military service for all that reach that age.

This study selected 2,224 male recruits that joined the Brazilian Army in the city of Pelotas, RS, Brazil. After having their health assessment (medical and dental examination) completed by physicians, participants completed a questionnaire, applied by trained interviewers, and underwent an anthropometric examination. The questionnaire contained questions about their systemic health, oral health, halitosis, and demographic data. This study was conducted in association with a dermatology investigation. In questions about halitosis, the enlisted men were asked about their concern about breath and issues that might indicate the psychological impact of halitosis and the factors associated with it.

The questionnaire had four questions about the impact of halitosis that addressed the emotional impact of halitosis. The questions about psychological aspects were:

1. Did you use any product to hide unpleasant mouth odor in the last 4 weeks?
2. Did you seek any specialized treatment in the last 4 weeks?
3. Did your breath make you feel worried in the last 4 weeks?
4. Did you feel tense, irritated, depressed, embarrassed and/or ashamed, have smiling difficulties, difficulties in dating, feel uncomfortable talking to others or avoid the company of others because of your breath in the last 4 weeks?

The statistical analysis was made using the Statistical Package for Social Sciences (SPSS), and the sample was described using univariate frequency distribution. A chi-

square test was used to analyze the association of self-perceived halitosis and sociodemographic data.

This study was approved by the Ethics Committee of Santa Casa de Misericórdia de Pelotas, RS, Brazil (protocol no. 028/2008). Participants' confidentiality was guaranteed. Written and verbal informed consent to participate in the study was obtained from all participants.

Results

Of the 2,274 individuals interviewed, 457 attempted to disguise their oral malodor (20.09%). The correlation of this data with household income was significant (0.020). Individuals with an income above four minimum wages had the highest prevalence in disguising malodor (22.5%). There was no significant association with education ($p = 0.146$). Seventy-five individuals (3.29%) sought specialized treatment, but household income did not affect outcomes ($p = 0.91$). Nevertheless, individuals with up to 5 years of schooling sought specialized treatment in a much higher proportion than those with 5 to 8 years and those with more than 8 years ($p = 0.001$).

Our results also revealed that 274 people were worried about their oral malodor (12%). Of these 274, 104 felt tense and 48, depressive; 192 were ashamed; 71 avoided the company of others; 198 did not feel comfortable talking to others; 85 had difficulty smiling; 82 reported difficulties in dating. The concern with oral malodor was associated with income and level of education. Individuals with an income of two or more minimum wages, as well as those with fewer than 5 years of schooling, reported greater concern with oral malodor. Associations were significant ($p < 0.001$). Table 1 shows the emotional impact of halitosis on patients according to the first three questions.

Table 1 - Effect of education and household income on the emotional impact of halitosis, n (%)

	Did you use any product to hide unpleasant mouth odor in the last 4 weeks? Yes	p	Did you seek any specialized treatment in the last 4 weeks? Yes	p	Did your breath make you feel worried in the last 4 weeks? Yes	p
Total family income						
Up to 2 minimum wages	105 (17.6)	0.020	17 (2.9)	0.91	95 (15.8)	$p < 0.01$
Between 2 and 4 minimum wages	155 (19.4)		31 (3.9)		95 (11.9)	
More than 4 minimum wages	197 (22.5)		27 (3.1)		84 (9.6)	
Total	457*		75		274	
Level of education						
Up to 5 years	26 (18.4)	0.146	13 (9.2)	0.001	31 (22.0)	$p < 0.01$
5 to 8 years	196 (19.0)		34 (3.3)		138 (13.4)	
Over 8 years	236 (21.5)		28 (2.5)		105 (9.5)	
Total	458		75		274	

* One missing.

Discussion

In our sample of 2,224 individuals, 274 (12.0%) were concerned about their oral malodor, which is a common complaint among the general population,⁶ found in a considerably larger percentage than halitosis itself; that is, there is a greater number of patients complaining about halitosis than suffering from it.⁷

This may be explained by the fact that it depends on a subjective evaluation of patients with halitosis. In a study³ carried out with 38 participants that answered a questionnaire and underwent periodontal examination and organoleptic evaluation of halitosis, participants were not able to correctly associate their halitosis with periodontal parameters and organoleptic evaluations. In another study,⁸ 165 participants were classified as neurotic, with neurotic tendency, with a tendency to normal and without neurosis (normal), and the percentage of halitosis was high in this neurotic group. A halimeter and gas chromatography were used to classify individuals into five levels of halitosis. The author concluded that the psychological condition of the patients might be related to the degree of halitosis and their clinical characteristics. A Brazilian study⁷ also found a high prevalence of psychological distress in patients with halitosis. This conclusion might have been reached because patients with halitosis reported higher levels of depression than those with pathological halitosis. In addition, the authors suggested that halitosis might be exacerbated in depressed patients because many lack motivation to maintain adequate oral hygiene. Our questionnaire has not been validated, but some cause and effect relations may be considered. Some patients with halitophobia reported halitosis because of their degree of depression. Although some authors agree about the reliability of the self-assessment method used in our study, some individuals might be reporting greater halitosis.⁴ This is

one of the limitations of this type of study, particularly because no other assessment method was used.

Conclusion

In this sample of 2,224 individuals, 12.0% were concerned about their oral malodor. Findings were associated with low income and lower level of education. Halitosis may lead to changes in the behavior and social life of those affected by it.

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