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Effect of Adding One Fourth Tea Spoon Salt on Morning Tooth Brushing on Halitosis

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Abstract
Background: Halitosis is a social problem concerned with daily life for all individuals especially employees who the nature of their work requires a closer contact with people. Refreshing the healthy breath is a complex and challenging procedure, especially for individuals with, persist malodor. Appropriate tooth brushing –in which adding a 1/4 teaspoon of salt- plays a useful control to get fresh breath.
The aim of the study: Home remedy to get rid of halitosis.
Materials and methods: Sample composed of 40 participants with persist halitosis, age ranged between (18 yrs. – 24 yrs.). The sample was divided into Control group(included 20 with normal tooth brushing) and Study group(included 20 with salty tooth bushing). Organoleptic measurements were taken for every subject in both groups after 4 hours of tooth brushing.
Results: The statistical analysis showed that there was a highly significant difference between control and study groups.
Conclusion: Salty tooth brushing plays a pivotal role in getting rids of halitosis.

INTRODUCTION

Halitosis is unpleasant odor presented on the exhaled breath. following tooth decay and gum disease[1]. halitosis is estimated to be the third reason for people to seek dental care. Up to 90% of oral malodor has been attributed to the oral cavity[2]. Tonzetich and Richter reported in 1964 that volatile sulfur compounds (VSC) were the primary agents responsible for oral malodor. Volatile sulfur compounds are produced by anaerobic bacteria breakdown of the cell wall polypeptide chains of amino acids primarily cysteine and methionine into hydrogen sulfide and methyl mercaptan, the primary site for VSC production is the dorsum of the tongue and the 2nd site is the gingival sulcus[3]. A study demonstrated that tongue coat is responsible for 60% of oral halitosis[4]. From the above, it is clear that bad breath associated with a direct association with anaerobic bacteria. So we must remove these bacteria to get rid of unpleasant odors. The viable solution is the mechanical and chemical removal of these bacteria. Flossing and brushing of teeth can deprive bacteria of a prime breeding ground but not dramatically, According to one study published in the Journal of Clinical Periodontology, after dental and tongue cleaning, concentrations of key odor-causing bacteria dropped from 75 to 25 percent, so including the incorporation of antimicrobial or other chemotherapeutic agents[5] . A recent investigation by White and Armaleh found significant reductions in salivary bacterial counts with daily saturated saline rinses in adults[6]. Saltwater efficacy lies in the scientific concept of a diffusion gradient, which leads to dehydration and death of bacteria[7].

MATERIALS AND METHODS

Sample composed of 40 participants with chronic halitosis, age ranged between (18 yrs. – 24 yrs.). The total sample attended the dental clinic and they were examined from November/ 2015 to January/ 2016. All the participants were informed about the aims of the study.
The sample was divided into-:
Control group: included 20with normal tooth brushing and flossing
Study group: included 20 with salty tooth brushing and flossing
Selection criteria

1. All participants referred to ENT specialist and internal medicine physician to ensure their health [8-12].
2. No signs and symptoms of periodontitis[13].
3. Stop eating garlic, onion and spicy three days before the clinical procedure[14].
4. No history of drug intake especially drugs which cause halitosis as an antihistamine, antidepressant, disulfiram, paraldehyde[15].
5. No smoking[16]

CLINICAL PROCEDURE

Both groups were carefully trained for tooth brushing and dental flossing with correct procedure and duration.
The study group was informed to add 1/4 teaspoon salt with toothpaste and brush teeth.
An organoleptic assessment[17] (A square of gauze moved on the dorsum of the tongue and then smelled away from the participant breath) was done after 4 hours from tooth brushing for each participant, then the collected data was entered and analyzed by SPSS ver. 21 software using chi-square test.

RESULTS

The intergroup comparison of halitosis showed that the study group showed a statistically significant difference over the control group.

Table (1). Group and Breath (halitosis) Cross tabulation after four hours

group	No.	Halitosis %
control	20	100 %
study	20	15 %

P=000
According to the results with 40 participants, salt is an effective way to kill bacteria that cause halitosis.

DISCUSSION

The results showed that there was a highly significant difference when control group compared with salt toothbrushing group, showing that tooth brushing alone did not have any effect on bacteria produced halitosis. While the results showed that there was a dramatic decrease in halitosis when a punch of salt added to the toothpaste. The results of the present study are in agreement with Ramdurg et al.[18].

CONCLUSIONS

1. Tooth brushing and dental flossing was not a challenge procedure for chronic halitosis
2. Salty toothpaste has a positive direct effect on halitosis by providing a fresh breath lasting for at least 4 hours from the beginning of tooth brushing.

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