

Treatment Of Halitosis By Combining Popular Medicinal Herbs

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Abstract: The herbs available in nature are always an endless source of inspiration for doctors who specialize in traditional methods of diagnosis. The noted effects of herbs in general and *Plectranthus amboinicus* in particular are used to treat many diseases without taking any antibiotics. To prevent overuse of antibiotics, using home-made medicines will both help patients stay healthy and safe and avoid unfortunate consequences in the long run. In addition to the effects for common diseases in the winter such as flu, fever, colds, cough and sore throat, *Plectranthus amboinicus* can treat bad breath extremely effectively. In fact, the problem of overuse of antibiotics and the side effects of modern drugs has made the medical community as well as patients pay more attention to herbal medicines. The research on *Plectranthus amboinicus* is still small and its miraculous effects are not known to everyone. Therefore, this article will mention *Plectranthus amboinicus*, analyze its components and from that we will see that the advantages that it brings are extremely excellent.

Index Terms: *Plectranthus amboinicus*, herbs, halitosis, health

1 INTRODUCTION

Halitosis is a disease that causes an unpleasant odor when the breath comes out. This is a common disease, accounting for 40% of the population. The disease is not dangerous to the patient but it has a significant impact on daily life. People who suffer often lose confidence and confusion when communicating [1]. Halitosis is caused by a combination of volatile sulfur compounds called VSC including H₂S (Hydro Sulfide), CH₃SH (Methyl Mercaptan), CH₃CH₃ (Dimethyl Sulfide), etc. Knowing the cause and the problems surrounding bad breath will help find ways to overcome this problem.

2 SYMPTOMS AND CAUSES OF HALITOSIS

The main symptom of halitosis is bad odor. Halitosis is caused by a number of causes including tooth decay, periodontitis, root infections, food debris, and plaque on the tongue, accumulation of intestinal and gastric odor, chronic gastrointestinal diseases such as gastritis or constipation, odor due to respiratory pathology such as allergic rhinitis, stuffy nose, prolonged sinusitis, purulent tonsillitis, bad living habits such as smoking. In most people with bad breath, it is thought to be from bacteria and plaque in the mouth [2]. When bacteria break down proteins and food particles in the mouth, they produce a foul-smelling gas. The following may contribute to bacteria accumulation, plaque feeding, and bad breath [3]. Firstly, halitosis or bad breath usually occurs in the morning. Most people have different levels of halitosis when they wake up after a night's sleep. This is normal and happens because the mouth is dry and stagnant all night. It is easy to recognize this situation when saliva flow increases rapidly right after breakfast starts. The second is due to dry mouth. Halitosis is associated with a dry mouth that is caused by a decrease in the cleaning mechanism stemming from a decrease in saliva flow [4]. The most common cause is night sleep. Other causes of dry mouth include dehydration, side effect of certain medications such as tricyclic antidepressants, or symptoms of a number of diseases such as Sjogren's syndrome and head-radiotherapy complications. The third is

food, drink and medicine. Chemicals in food can enter the bloodstream, and then get into the lungs. Most people are accustomed to the smell of garlic, the smell of spicy food and the smell of alcoholic beverages in the breath of someone who has recently eaten this food. Many other foods and medications can make our breath smell. Some drugs related to bad breath include Betel, Chloral hydrate, Dimethyl Sulfoxide, Disulfiram, some chemotherapy drugs such as Phenothiazines and Amphetamines. Besides, smoking is a common cause of bad breath since the odor of the breath will follow the smoke that is pushed out when we breathe in the smoke. Smoking also increases the risk of developing gum disease - another cause of bad breath. The fourth is dieting or hunger strike. This is due to a chemical called Ketones produced during the breakdown of fat. In addition, during pregnancy, women often vomit more and cause gastroesophageal reflux which increases the amount of acid in the oral cavity, which can lead to bad breath if not cleaned properly. Pregnant women often eat a lot of cake, candy, junk food also cause bad breath. Due to hormonal changes that lead to gingivitis, this can cause an unpleasant odor in the oral cavity [5].

3 TREATMENTS OF HALITOSIS TODAY

The first is brushing right after eating. This is essential to help limit the best pathogens. After eating for about 30 minutes, we should brush our teeth at least twice a day to achieve a healing effect. Next is the use of dental floss after eating because brushing normally can not eliminate bacterial plaque in between teeth. Dental floss is one of the things that the dentist appoints to remove the plaque in between teeth. Also, tongue cleaning is important because many people have a habit of brushing their teeth but they do not know that tongue is also a part to be cleaned. The tongue is home to a lot of bacteria and is a suitable environment for bacteria to grow and the expression of bacterial overgrowth is the white-colored tongue. Cleaning our mouth and tongue is very important for getting rid of an unpleasant mouth odor. Another method is to drink lots of water because providing enough water for the body is not only good for health but also good for treating bad breath. For patients with chronic dry mouth (also called xerostomia), medical intervention is required in order to stimulate salivation or prepare artificial

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saliva. In addition, when we have a reasonable diet, bad breath will improve. People with bad breath should eat a lot of foods such as vegetables, fruits, avoid foods such as onions, garlic, hot spicy foods, coffee, foods high in sugar, etc. And one thing that patients with bad breath should not forget is regular dental care. Dental plaque should be applied 2 times a year since it is also a good way to keep our breath away from unpleasant odors [5].

4 TRADITIONAL TREATMENTS OF HALITOSIS

The current standard for evaluating oral health is 80% based on breath. A healthy white teeth with fresh breath is a good sign of normal oral condition. However, today, halitosis is becoming a common condition that many people encounter everyday. Put simply, this is an illness when a person's mouth emits bad breath or an unpleasant odor when speaking. In addition to the positive solution to treat the halitosis mentioned above, we can use one of the remedies for bad breath with traditional medicine and very effective folk experience [6].

4.1 Using green tea

Modern medicine points to two microelement elements of potassium and fluoride in green tea which have special uses in combating tooth decay, treating gum disease, reducing gum odor. By forming a habit of staying hydrated with green tea after brushing for 15 minutes or drinking 2-3 cups of green tea / day, we can kill bacteria and limit bad breath quickly [7].

4.2 Using lemon

Lemon is an "enemy" of bacteria in the oral cavity. Lemons have organic acid and vitamin C components that have a very good bactericidal and deodorizing effect. By washing a little fresh lemon peel, then put in our mouth to chew carefully, we will immediately feel the change from the breath soon after [8].

4.3 Using mint

The mint scent always feels good and refreshing. Therefore, using peppermint leaves and peppermint oil is also a cure for halitosis at home that has been successfully applied by many people. The simplest way to treat bad breath is to chew mint directly or use it regularly at every meal (Figure 1).



Figure 1. The image of mint

4.4 Using honey

An unexpected effect of honey is to overcome bad breath thanks to the antibiotic ingredient, which has a bactericidal effect and inhibits the growth of some types of bacteria in the oral cavity. Regularly, every morning and evening, we mix about 20ml of honey with 100ml of warm water, then add a few drops of lemon juice, gargle thoroughly (Figure 2). Consistently doing so for about 2 weeks, we will see the bad breath significantly reduced [9].



Figure 2. The image of honey

5 POPULARITY OF PLECTRANTHUS AMBOINICUS (LOUR.) SPRENG

According to Arumugan et al. (2016), *Plectranthus amboinicus* (Lour.) Spreng belongs to the family Lamiaceae "which occurs naturally throughout the tropics and warm regions of Africa, Asia and Australia". It is a herbaceous plant, perennial, about 20-25 cm high, thick hard leaves, brittle, succulent, green leaves on 2 sides. *Plectranthus amboinicus* leaves are often chopped by Vietnamese to marinate meat and fish. This leaf is also a special spice for sour soup and hotpot. In India, people often eat leaves of *plectranthus amboinicus* with bread and butter. In addition, *plectranthus amboinicus* is used as a spice in salads, marinated meat or as a flavoring in drinks. *Plectranthus amboinicus* is native to South Africa, East Africa and northern Kenya. In addition, trees are also grown in Malaysia, Cambodia, China, Indonesia, etc. Currently, this plant is imported and planted throughout the provinces in Vietnam.

5.1 Function of *plectranthus amboinicus* (lour.) spreng

In addition to the above-mentioned natural ingredients, *plectranthus amboinicus* is considered a very useful herb. This article focuses on this kind of herb since it is effective for many diseases, especially halitosis. Apart from being a popular spice, they are also known as a valuable folk medicine, helping to improve symptoms of sore throat, nosebleeds, and dry cough [10]. Not only is a spice in daily life, *plectranthus amboinicus* is also one of the herbs with extremely good healing effects [11]. This plant has been used for a long time in folk with the main uses to treat some diseases such as flu, high fever, sweating fever, bronchitis, cough, asthma, haemoptysis, sore throat, hoarseness, vomiting bleeding, nosebleeds, etc. In addition to being a common spice vegetable in Asian cuisine, *plectranthus amboinicus* is also a long-standing herbal plant in folk medicine which can treat fevers, sore throat, hoarseness,

insect bites, etc. Today, *Plectranthus amboinicus* is grown all over the world and is very popular in Vietnam. Studies have shown that *Plectranthus amboinicus* has a high antimicrobial activity, so it is becoming richer in preparations, from classical folk remedies to functional foods, pharmaceuticals and cosmetics [12]. A small survey was conducted to confirm the popularity of *Plectranthus amboinicus* among the people in Vietnam. The survey was conducted only with the support of 40 people in rural areas, this tree is grown quite popular in their gardens. About 62% of people said they would use *Plectranthus amboinicus* to treat flu and cough. Particularly for the effects of *Plectranthus amboinicus* to cure halitosis, most of them are not interested or unknown. Only about 10% of the respondents appreciate its usefulness to halitosis. They thought the aroma was very pleasant like peppermint and used as a spice to prepare food. The remaining people only use *Plectranthus amboinicus* to chew or drink when suffering from illnesses such as colds, sore throat, abdominal pain and especially cough. They say the effect of *Plectranthus amboinicus* is very good, can reduce the coughing very quickly and extremely effective.

5.2 Chemical composition

Research of modern medicine shows that *Plectranthus amboinicus* leaves mainly contain essential oils that effectively inhibit the activity of bacteria and are considered a valuable remedy for countless common diseases in the winter. Not only is a spice in daily life, *Plectranthus amboinicus* is also one of the vegetables with extremely good healing effects. It is very rich in vitamins C, A, E and many other minerals [13]. In Vietnam, the chemical composition of *Plectranthus amboinicus* essential oil is about 60% of Carvacrol, Caryophyllene (12%), α -Caryophyllene (2%), Caryophyllene oxide (2%). In the Netherlands, the chemical composition of Carvacrol is quite similar to these numbers, but in India, Carvacrol is very low (28.65%) since the geographical location and the soil conditions of countries are different [14]. Research of modern medicine shows that *Plectranthus amboinicus* leaves mainly contain essential oils, which are mainly phenolic compounds, the main component is Carvacrol, which has a strong inhibitory effect on bacteria. The chemical ingredients contained in *Plectranthus amboinicus* leaves have a strong antibiotic effect on bacteria, especially those in the throat, nose, mouth and intestinal tract. The active ingredients in *Plectranthus amboinicus* leaves help boost the immune system by blocking bacteria or pathogens from entering the body. The anti-inflammatory substance in *Plectranthus amboinicus* helps to reduce redness, swelling caused by insect bites. In addition, the fragrance of this plant also has a relaxing, mild sedative effect. For people who are constantly stressed, sniffing *Plectranthus amboinicus* leaves will help us relax and sleep better.

5.3 Pharmacological effects

There is currently quite little research on the effects of *Plectranthus amboinicus*. However, previous studies showed that the active ingredients extracted from *Plectranthus amboinicus* have strong antibiotic effect against bacteria such as *Shigella flexneri*-*Shigella sonnet*, *Coli bothesda* *Streptococcus*, *Pneumococcus*, *Coli paihogène*, *Staphylococcus* 209 p. *Salmonella typhi*, *Shigella dysenteria* (*Shiga*) *Subiilis*, *Diphteri* and *Bordet Gengou*. Because of this

effect, *Plectranthus amboinicus* leaves are often used to treat sore throats, phlegm, flu or cough due to typhoid fever, hoarseness, pertussis or insect bites. In addition, the nutrient content of *Plectranthus amboinicus* is quite high, helping to strengthen the body's resistance, against pathogens. In particular, the active ingredient limonene in leaves helps neutralize stomach acid, helps gastroesophageal reflux. Besides, they also have anti-inflammatory benefits, help protect the skin, limiting the growth of skin cancer cells and breast cancer cells [15].

5.4 Dosage

Plectranthus amboinicus can be squeezed for drinking or can be cooked for steaming. Depending on the condition and cause of the disease, the dose usually varies. *Plectranthus amboinicus* usually used fresh with a minimum daily dose of 10 - 16 grams. For halitosis, we can use dried *Plectranthus amboinicus* to cook in order to get special liquid, often suck, gargle and then spit out. We can do 5-7 times per day to get rid of halitosis (Figure 3).



Figure 3. The image of *Plectranthus amboinicus*

6 SOME NOTES WHEN USING PLECTRANTHUS AMBOINICUS

When using *Plectranthus amboinicus*, we should be careful because the leaves and stems of this plant are hairy, which can irritate people with sensitive skin. Although *Plectranthus amboinicus* is very good for treating common diseases in the winter, we should be aware to treat the disease effectively and avoid complications. Pregnant or lactating women should not use this plant because it contains some chemical components.

7 CONCLUSION

Plectranthus amboinicus is not only a popular plant used in family meals, it is also one of the common herbal remedies for many diseases, especially for coughs and flu. *Plectranthus amboinicus* essential oil has strong antibiotic properties, can cure many diseases, consistent with the experience of traditional healing not only in tropical countries but also in other countries. Because of its high medicinal properties, easy to grow, easy to harvest and preserve, *Plectranthus amboinicus* is ranked in the list of 60 medicinal plants by the Ministry of Health of Vietnam. *Plectranthus amboinicus* will confirm its great role in treating a number of diseases,

including halitosis. We hope that related products made from *Plectranthus amboinicus* will be circulated to the market to serve the health care needs of people.

LIMITATIONS OF THE RESEARCH

This paper has not been done in depth to get the best results.. Hopefully in the near future, it will be more complete.

ETHICAL CLEARANCE

I am ensuring the quality and integrity of my research. The ideas and opinions expressed in this paper are of my effort. By writing this research paper, I surely respect the confidentiality and anonymity of my research respondents since they participated in our work voluntarily.

CONFLICT OF INTEREST

No conflicts of interest noted in the paper.

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