

## The Causes of Halitosis in Children

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### Abstract

Bad breath is somewhat common, occurs in all ages, even children. It may be due to oral disease or latent infection within the body. It should be noted that the accumulation of postnasal discharge can be caused by allergies, colds and sinusitis which is the most common cause of bad breath. Other Causes include dental caries and other dental abscesses, mouth breathing, nasal foreign body, diseases such as digestive problems, asthma, liver disorders and diet. Elimination of bad breath in children is possible by using a series of recommendations.

**Keywords:** Halitosis; Oral hygiene; Dental caries; Dental abscess; Gingival inflammation; Diseases

### Introduction

Halitosis is very common in children. Most of the activity of bacteria may occur in the mouth, nose or the teeth. Allergies, colds and chronic sinusitis that are causing postnasal mucus are the most common factor of bad breath in children. Respiratory infections, diabetes, kidney disease and liver and digestive disorders can be effective in causing bad breath. The problem may have originated either inside or outside of the mouth, although oral agents are more prevalent. It should be noted that the main cause of bad breath in children include dental caries, poor oral and dental hygiene. Taking certain medications, mal occlusions, child's diet, dry mouth, and large tonsils are other cases which can be considered.

### Review of Literature

In most cases, bad breath in children is preventable and treatable by application of a series of measures, but in special cases such as illness, it requires a serious follow-up. In the following, we will review some common cases.

#### Decayed teeth and dental abscesses

Considering that dental caries creates cavities in the teeth, it virtually prevents cleaning the environment even if by brushing. In addition, the decay process will accelerate, creating an environment for microbial growth; hence, accumulation of food in these cavities will cause bad breath. Restorations of decayed teeth are effective in eliminating bad breath [1].

#### Poor oral hygiene

There are several areas in the mouth which food particles trapped there. The reactions of microorganisms in these areas can cause bad breath. Among these areas, I can mention surfaces of the teeth, grooves and spaces between the teeth and gums: and pores on the surface of the tongue. Ignoring oral hygiene in children is one of the major issues that need to be addressed. It may cause decay in between teeth, the tooth surfaces or even under an old restoration. Neglect of parents to their children's oral health, not brushing during the day, or poor nutrition of sticky and sweet food, is expected that children with these condition face bad mouth odor. Most children resist brushing their teeth during the day and in this case show stubbornness. Parents also may be tired of the daily behavior and they easily pass from this issue, therefore, they leave the children on their own ways. Some parents do not have patience to mess with the kids [2].

#### Periodontal disease

Gingivitis is an inflammatory condition that can lead to children's smelly mouth. An inaccuracy in dental plaque removal and lack of oral hygiene causes inflammation of the gums.

#### Foreign body in the nose

Stuck out a foreign body in the nose, such as peas, beans or small parts of toys can cause infection in the nose and cause bad breath. Important sign of this complication is drainage of pus from the nostrils. This happens especially in children and young who usually try new things is in common [3].

#### Mouth breathing

Regarding the saliva evaporation and the loss of washing effect of saliva; microorganism multiply faster, so bad breath is caused as a result. Snoring or mouth breathing during the night plays an important role to create smelly breath.

#### Tonsils

In children, the tonsils infection appears as cauliflower which sometimes associated with deep grooves. These grooves caused by the accumulation of food within these areas, as a result, causing an awful smell in the mouth. After consuming foods like pistachios, nuts and dried fruits, patients who have large and grooved tonsils sometimes suffer from bad breath because of the accumulation of these substances in the grooves [4].

#### Diseases and infections

Respiratory complications such as sinusitis, asthma and adenoid enlargement is considered another common cause of halitosis in children. Diseases such as diabetes, stomach infections, kidney failure, liver problems and cancer of the mouth lead to bad odor of the mouth,

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which is rare in children. In children undergoing chemotherapy, fungal infections that can be seen as evidence to develop bad breath [6].

### Medicines

Some drugs are causing dry mouth. Antihistamines, tranquilizers and Phenothiazines reduce saliva production. Thus, it diminishes spontaneous washing of the oral cavity which increases halitosis. Inappropriate and excessive use of antibiotics can cause the loss of beneficial bacteria in the mouth; and give the opportunities to oral fungal to grow. The use of antibiotics for more than a month can lead to smelly mouth in children [7].

### Dry mouth

Finger sucking or pacifier use causes dry mouth, which is a good place for the growth and proliferation of bacteria in the mouth. This function leads to a bad breath in the children.

### Malocclusion

The teeth outside of the dental arch, crowded teeth, mal positioned teeth and crooked teeth in addition to the formation of early caries, can exacerbate bad breath. For this reason, many children or adults, even though do not have decayed tooth, they experience bad breath due to misshaped teeth or small cavities between their teeth [8].

### Poor dental fillings

Amalgam or composite restorations which their walls are not shaped well in normal anatomy cannot be cleaned either by toothbrushes or dental floss in interdental area. If these restorations are not replaced, it leads to food impaction and bad mouth odor.

### Nutrition and diet

Some food has a certain smell that may be unpleasant for some people but is not associated with microbial activity. Eat some food and vegetables such as garlic, onions and some strong spices are in this category. After digestion and absorption of these vegetables in the body, odorous molecules enter the bloodstream and excreted gradually through the lungs and breathing.

High-protein foods such as red meat, fish and cheese will exacerbate bad breath. On the other hand, low-carbohydrate diet may also be effective in exacerbating this problem [9].

Hard and dry foods like potato chips, snack, sticky toffee and chocolate are also trapped in the dental grooves which in turn enhanced the proliferation of microorganisms, activities of dental caries and therefore, bad breath is the result.

### Orthodontic appliances

In most cases, bad breath is due to food particles stuck between or below these appliances; and cannot be well cleaned. When using removable and fixed orthodontic appliances including space retainers, space maintainer, brackets and fixed wires on the teeth, oral hygiene is more difficult. If the children do not have enough accuracy on their oral hygiene, they would face complications such as gingivitis, plaque formation and dental calculus, which lead to halitosis. So, children with orthodontic appliances need to pay more attention to cleaning their mouth [10].

### Symptoms of Halitosis

Many people may be unaware of their bad breath or signs and

symptoms of this problem could be temporary. Bad breath often depends on its sources. Some common signs and symptoms of bad breath include the following:

- 1) Oral odor
- 2) An unpleasant taste or sour taste in the mouth
- 3) Dry mouth
- 4) White surface of the tongue
- 5) Bleeding gums while flossing

### Prevention and Treatment

Oral hygiene that includes brushing, flossing, cleaning the back of the tongue, keeping wet the child's mouth, rinsing the mouth and treatment of sinusitis and allergies, can be effective in eliminating bad breath in children [11].

At an early age children, after every meal or before bedtime, the teeth should be cleaned with a toothbrush without application of toothpaste. If the child has a habit of thumb sucking, his hands should be frequently washed with soap and water. And lastly, his pacifier has to be sterilized in boiling water to eliminate harmful bacteria.

At older ages the teeth have to be brushed twice a day with fluoride toothpaste and the tongue must be especially cleaned. Dental floss is strongly recommended [12].

The use of fruits and vegetables such as celery, carrots, parsley, lettuce, mushrooms, spinach, apples, oranges, lemons, figs, strawberries and grape diet of children, inhibit the formation of plaque and as a result eliminate the bad breath. Of course, do not forget fluid intake, especially water and lemonade [13].

Bad breath may be transient, especially when waking up in the morning, which goes away after eating breakfast and brushing. The bad smell is normal and caused by reduced saliva during the night and inactivity of oral environment that provides a platform for microbial activity. It should be noted that this problem will be solved after eating a meal.

Children, who have persistent swelling and inflammation of the tonsils, may suffer from bad breath due to the production of pasty materials from the glands. After tonsillectomy, these patients should get rid of this problem.

Although in most cases bad breath in children is not alarming, but the long-term nature of this issue requires correct diagnosis and proper treatment. Naturally, if the treatment is involved in faster acting, it would be better for the health of children [14].

### Conclusion

Halitosis is a problem that occurs more or less in almost all societies and if untreated, can lead to mental disorders and serious damages. The causes of bad breath can be divided into two categories: pathological and non-pathological. Dental caries and tooth abscesses, poor oral hygiene, gingivitis, nutrition, diseases such as inflammation and infection of the sinuses and tonsils and eventually respiratory and gastrointestinal diseases, are considered as the causes of bad breath in children.

Recommending a series of the most common ways to parents can help children in the elimination of bad breath; and parents will be relieved of these concerns. It should be noted if the problem is

not resolved; the child's treatment must be pursued under medical supervision in the shortest period of time.

## Recommendations

Oral hygiene education to children is the first step to avoid bad mouth odor. Here's a proposed set of recommendations that I hope colleagues should advise parents at their offices:

Brushing twice a day for two minutes each time

Institutionalize the habit of brushing and cleaning mouth after every meal

Parents helping children when using dental floss

Use a mouthwash for children

Regular daily brushing on the tongue

Encourage children to drink water, especially before bedtime

Parents are advised to prepare a healthy breakfast including fruits and vegetables in each meal

Teaching how to properly clean the orthodontic brackets and orthodontic appliances to parents and children

Talking about the importance of oral hygiene in preventing bad breath

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