



Bad Breath – A Major Disability According to the Talmud

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Bad breath (halitosis) is a common condition today. Millions of people either suffer from bad breath or think that they do. This concern has spawned a multi-billion dollar market of commercial products, including mouth rinses, toothpastes, sprays, chewing gums, mints, etc. Interestingly, bad breath is considered a serious medical problem in the Talmud, seemingly out of proportion to its medical significance. The present article reviews Talmudic teachings in the context of our current understanding of the problem.

Origins of bad breath, now and then

Today, most cases of bad breath (perhaps 90%) originate from the mouth itself (oral malodor), with some 5–10% coming from the nasal passages. While many other medical conditions can cause bad breath, they are responsible for only a small fraction of cases. In most instances, the odor is related to bacterial putrefaction within the oral cavity. In the initial phase, glycoproteins may be deglycosylated by Gram-positive bacteria, exposing the naked proteins to proteolysis by enzymes secreted by Gram-negative bacteria (Sterer and Rosenberg, submitted). The amino acids can then be further broken down, yielding foul-smelling molecules, such as hydrogen sulfide (from breakdown of cysteine), methyl mercaptan (from methionine), cadaverine (from lysine), indole and skatole (from tryptophan) [1].

Currently, the tongue appears to be the major source for bad breath. Postnasal drip, food debris and desquamated epithelial cells can collect on the posterior area of the tongue dorsum, and they are subsequently putrefied by the large resident microbial population [1]. Advanced cases of gingivitis and periodontal disease may contribute to oral malodor [2]. Mouth dryness, which increases during fasting (e.g., “Yom Kippur breath”) or sleeping, is an important factor in oral malodor. In contrast to popular opinion, the stomach is not considered to contribute to bad breath, except in rare circumstances [1].

Of course, one can only guess at the various causes of bad breath at the time of the Talmud. For example, acetone breath due to uncontrolled diabetes, which is currently a rare phenomenon, may have been widespread in ancient times. Advanced periodontitis may similarly have been more common then. Furthermore,

ulcerating gingivitis and other necrotizing oral infections, common causes of morbidity until the last century, may have contributed to cases of particularly foul breath. These conditions may have been exacerbated by dietary insufficiencies (e.g., vitamin C). Finally, insufficient water supplies, in some areas, may have led to chronic oronasal dryness.

There are, however, indications that bad breath during the time of the Talmud bears some resemblance to the current condition. For example, several of the remedies suggested in the Talmud have potent antibacterial properties (see “Remedies”).

Bad breath in the context of marriage laws

In the Talmud (*Ketubot* 72b and 77a)*, bad breath is considered a serious disability, particularly regarding spouses and priests. The Talmud considers bad breath to be a major ground for divorce, and prohibits priests with bad breath from carrying out holy duties.

In the Jewish marriage, the husband gives his wife the *ketuba*, a marriage contract that details the amount he must pay in the case of divorce. According to Talmudic law, if – after the wedding – the husband detects a serious disability that was not disclosed previously, he can annul the marriage and summarily void the marriage contract. These include ungainly breasts, a thick voice, non-obvious lesions of the head and neck, sweat (body odor?) and oral malodor (*Ketubot* 75a).

In general, women do not have the reciprocal prerogative of unilaterally divorcing their husbands. However, bad breath is considered such a major problem (alongside affliction with boils, and engaging in “foul-smelling” professions such as leather curing, copper work, and collection of dog dung) that a woman is entitled to seek divorce (*Ketubot* 77a). In this context, the Talmudic sages consider whether nasal malodor should be included as a type of bad breath and given the same legal stature as oral malodor. The great Jewish scholar, philosopher and physician Maimonides (1138–1204) later decided that both types should be considered

* We refer throughout to the Babylonian Talmud, unless otherwise stated; page numbers are equivalent to the Hebrew numbering in the accepted Vilna format.

equivalent (*Hilchot Ishut* 25:12). The discussion refers to the condition *polypous* (a Greek word for "a morbid excrescence") [3] referring to chronically infected adenoids [4], or possibly postnasal drip, currently considered a major cause of bad breath [1]. The Talmud discusses whether *polypous* causes oral or nasal malodor (*Ketubot* 77a). It states that if the wife did not know before getting married that her husband suffered from *polypous*, she could ask for a divorce and concomitant fulfillment of the *ketuba*. However, Rabbi Meir, voicing a dissenting view, opined that even if she knew beforehand that her husband had bad breath, she could still sue for divorce, saying "I thought that I might get used to it over time, but was unable to do so."

Bad breath is also referred to in the case of performance of the duty of a husband's brother (*yibum*). According to Jewish law, if a husband dies without leaving children the widow is obligated to marrying the husband's brother (Deuteronomy 25:5-10). Only under special circumstances can the widow request to be exempted (*halitza*). In the case in which both brothers have oral or nasal malodor, the wife could claim that she could tolerate the foul odor of her deceased husband but not of the prospective groom (Maimonides, *Hilchot Ishut* 25:13).

Throughout the world, bad breath continues to be a major impediment between couples. Since Israeli divorce law leans on religious courts, having a spouse with bad breath can, to this day, be cited as grounds for divorce.

Bad breath and the holy duties of Kohanim

The same tractates that discuss bad breath as grounds for divorce prohibit priests (*kohanim*) from performing holy rites in the Temple if they have bad breath. Interestingly, one treatment that was suggested for priests (but not for women, see further) was "to place a pepper in his mouth," to enable the priest to continue with his duties (*Ketubot* 75a). Even a minute amount was considered effective (*Shabbat* 90a).

Why should oral malodor be acceptable in priests yet not in a married woman? Rav Ashi explains that a priest can place a pepper** in his mouth while he carries out his rituals, but that this is not acceptable in the case of a wife (*ketubot* 75a). According to Rashi (renowned biblical and Talmudic commentator, 1040-1105), since the husband is continually in the presence of his wife (literally "speaks to her every hour"), this palliative measure would not be sufficient***.

Causes

The Talmud discusses various causes of and remedies for bad breath, particularly in the context of diet. In Tractate *Berachot* (40a), it is said that anyone who eats without salt, or consumes liquids but not water, risks having bad breath during the daytime****. Rabbi Hisda, on the other hand, warned his daughters that eating

vegetables at night might cause bad breath (*Shabbat* 140b). Vegetables that fell off the table are also a risk factor according to the sage Abbayae (*Chulin* 105b). Specific vegetables are also mentioned elsewhere as bad breath risks: raw peas (*Yerushalmi Eruvin*, 19a) and extensive consumption of lentils (*Berachot* 40a). Another tractate refers to insufficient exercise following meals (*Shabbat* 41a). Walking at least four steps following eating is encouraged to avoid putrefaction of the ingested food, which leads to bad odors (oral malodor, according to Rashi). Likewise, failure to move one's bowels was considered to cause intestinal putrefaction leading to oral malodor, as well as body odor (*Shabbat* 82a).

Some causes of bad breath are obscure. Working with flax was considered a cause of bad breath (*Tosefta Ketubot* 5:3). Finally, Maimonides (*Hilchot De'ot* 4:19), observing that sperm is the vital power of life, concluded that any man who is excessively and obsessively sexually active risks premature aging, fatigue, poor eyesight and bad breath.

Remedies

The Talmud suggests a variety of remedies for bad breath. Two of these (mastic gum and an oil-water mouthwash) are of particular interest, since they reflect antibacterial approaches common today.

Mastic gum

One intriguing Talmudic cure is the chewing of *mastic* or *mastiki* (from the Greek), a hard gum (resin) exuded by the *Pistacia lentiscus* tree (known to this day in Israel as *eilat hamastic*, i.e., the chewing gum tree). The Biblical "ladanum" mentioned in the book of Genesis (37:25) may refer to the very same gum [5]. This resin has been used for thousands of years in the Mediterranean basin as a breath freshener and antibacterial balm in medicine and dentistry and is still cultivated on the Greek island of Chios, off the Turkish coast [5]. *Tosefta Shabbat* (8:7) states: "It is forbidden to chew mastic on Sabbath, yet it is permitted for the prevention of oral malodor." Although its use as chewing gum has diminished, it is still used in Greece and Turkey. Recent research has shown that mastic gum has potent antibacterial activity against a wide variety of microorganisms [6], including *Helicobacter pylori* [7].

Oil-water mouthwash

According to the Talmud, the sage Rabbi Yohanan suffered from *tsafдина* (readily bleeding gums, considered a dangerous illness by Rashi). This might have been acute necrotizing ulcerative gingivitis or scurvy, both of which cause foul breath). He consulted with a Gentile aristocratic woman (perhaps a healer) who advised him to use leavening water (possibly the water left over after kneading of the dough), salt and olive oil. Interestingly, the woman considered the formula to be proprietary, and only parted with it after the sage swore by oath to keep it secret (*Yoma* 84a; *Avodah Zara* 28a). Another

** It is unclear whether the reference is to red pepper (*Capsicum annum*), black pepper (*Piper nigrum*), or perhaps some other plant. Rashi interpreted it to be a "long pepper" (*Shabbat* 64b), characteristic of *Capsicum*, rather than white or black pepper (*Avodah Zara* 66a; *Shabbat* 89b).

*** Analogously, priests can temporarily overcome their body odor problems with sour wine or vinegar (*Ketubot* 75a).

**** A later commentary by Rama (Rabbi Moshe Isserles, 1525-1572, annotations on the leading Halachic code *Shulhan Arukh* by Rabbi Joseph Karo 1488-1575) suggests that the diet at that time no longer constitutes a problem (*Halacha* 170:22).

rabbi recommended the leavening itself, alongside the salt and olive oil.

Unaware of this Talmudic story, in the early 1980s we began the development of a two-phase oil-water mouthwash with bacteria-desorbing properties. Our earliest formulations consisted of salt water and olive oil. Only later did we become aware of the mouthwash recipe of "leavening water, salt and olive oil" described in the Talmud! (*Yoma* 84a; *Avodah Zara* 28a). Thus, the oil-water mouthwash, which has in the meantime become a commercial product (no longer containing salt and olive oil), was alluded to in ancient times. Whereas the current product relies on cetylpyridinium chloride to provide emulsifying activity, it is possible that the leavening ingredient provided the emulsification necessary to mix the oil and water phases in the Talmudic recipe.

Other cures

Similar to the palliative breath-masking agents used in breath sprays today, the Talmud suggests aromatic spices (ginger and cinnamon) as oral fresheners (*Shabbat* 65a). Other Talmudic cures for bad breath are somewhat more obscure. The sage Abbayae consulted an Arab, who suggested making a tar from heating unripe olive pits (what might be considered today to be a "periodontal pack"), which he then stuck on his teeth. Yet another remedy included the fat from goose-wing feathers (*Yoma* 84a; *Avodah Zara* 28a).

Why is bad breath considered a major disability in the Talmud?

From the above, it is clear that bad breath was considered a serious problem in the time of the Talmud, not only from a medical standpoint but also relating to social harmony and sanctity. Marriage, in itself a holy as well as social bond, can be disrupted by bad breath in either spouse. However, there appears to be a further spiritual context, which is reflected in the prohibition of priests with bad breath from performing holy duties (as if to say that bad breath is offensive to the Almighty himself). This may be

understood in the larger biblical context, in which bad odors are allegories for Divine displeasure. Throughout the Bible, the Lord's fierce anger or wrath is referred to as *haron af* (*af* being the Hebrew for nose) [8]. When the Israelites in Egypt complain to Moses and Aaron about worsening their lot with Pharaoh, they complain that their leaders have literally "caused their smell to be repugnant" in the eyes of Pharaoh (Exodus 5:21). In this context, anyone with bad breath (especially a priest) would be disabled spiritually as well as socially.

Today it is widely recognized that the sense of smell is the sense closely linked to our memory and basic emotions [9]. This is clearly apparent in the Talmud: "What is it that the soul enjoys but the body does not? It is the sense of smell" (*Berachot* 43b).

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