

## REVIEW ARTICLE

# Oral Hygiene Practices: Ancient Historical Review

G Gurudath, KV Vijayakumar, R Arun

## ABSTRACT

The ancient history of the world's fascination with oral health is a long and illustrious one. Numerous dental epidemiological studies indicate that people are keeping their teeth longer than ever before in this century. Neolithic age and prehistoric age people used agents and devices that have evolved, by custom, myth, beliefs and by research, to enable people, with professional assistance, to maintain good oral health. The first mentions of teeth and dental hygiene were found in inscriptions from Mesopotamian clay tablets, so called 'oral hygiene products' including toothpicks, chewing sticks, tooth powders and mouthwashes, dating back to 5,000 years ago. The Egyptians, Mesopotamians, Greco-Romans, Hindus and Chinese discovered variety of dental treatments and intricate surgical operations. The profession has met the challenge by developing and perfecting a myriad of devices and agents to thwart these pathogenic factors since ages. We certainly eat well, speak well, look fine and 'smell fresh'—but we also have plaque, gingivitis and dental caries. The reader can determine how much our ancestors thought, invented and practiced oral hygiene long long ago and which gave raise to later inventions.

**Keywords:** Oral hygiene, Miswak, Toothbrush, Toothpicks, Mouthrinses, Toothpaste.

**How to cite this article:** Gurudath G, Vijayakumar KV, Arun R. Oral Hygiene Practices: Ancient Historical Review. *J Orofac Res* 2012;2(4):225-227.

**Source of support:** Nil

**Conflict of interest:** None declared

## INTRODUCTION

Neolithic and prehistoric age oral hygiene knowledge and practices are of fascinating experiences to today's mankind.<sup>1-3</sup> The intent of early humans was probably not to clean the teeth but simply to remove an unpleasant subjective sensation. Later, they started keeping the mouth clean and healthy to prevent oral diseases. The state of one's oral health, resulting from this practice or neglect is also called oral hygiene. The aids and practices, which help in doing so, are called oral hygiene practices.

A variety of oral hygiene measures have been used since before recorded history. This has been verified by various excavations done all over the world, in which treatment for various dental alignments, toothpicks, chew sticks, tree twigs, strips of linen, bird feathers, animal bones and porcupine quills were discovered.

Oral hygiene has been practiced for thousands of years, with evidence for various oral hygiene products including toothpicks, toothbrushes, tooth powders and mouthwashes, dating back to 7000 BC. Hence, an attempt is made to brief

about ancient historical review which gives a foresight to their knowledge and practices.

## HISTORICAL REVIEW

### Dental Alignments and Treatment

The Indus valley civilization has yielded evidence of dentistry being practiced as far back as 7000 BC.<sup>1</sup> The Neolithic age practiced earliest form of dentistry involved curing tooth related disorders with bow drills operated, perhaps, by skilled bead craftsmen. The reconstruction of this ancient form of dentistry showed that the methods used were reliable and effective.

The Edwin Smith Papyrus written in the 17th century BC but which may reflect previous manuscripts from as early as 3000 BC, includes the treatment of several dental ailments. In the 18th century BC, the Code of Hammurabi referenced dental extraction twice as it related to punishment. Examination of the remains of some ancient Egyptians and Greco-Roman reveals early attempts at dental prosthesis and surgery. False teeth date back to 700 BC, where the Etruscans designed them from ivory and bone and secured them with gold bridgework.

Ancient Greek scholars Hippocrates and Aristotle wrote about dentistry, including the eruption pattern of teeth, treating decayed teeth and gum disease, extracting teeth with forceps, and using wires to stabilize loose teeth and fractured jaws. Some say the first use of dental appliances or bridges comes from the Etruscans from as early as 700 BC. Further research suggested that 3000 BC. In ancient Egypt, Hesi-Re is the first named 'dentist' (greatest of the teeth). The Egyptians bind replacement teeth together with gold wire (Fig. 1). Roman medical writer Cornelius Celsus wrote extensively of oral diseases as well as dental treatments, such as narcotic-containing emollients and astringents.

### Toothpicks

Oral hygiene was practiced by the Sumerians of 3000 BC and elaborately decorated toothpicks with gold, which was found in the excavations, this shows the cleanliness suffered from periodontal problems, and the clay tablet of that period suggests of gingival massage combined with various medications.<sup>1,4</sup> Periodontal disease was the most common of the diseases evidenced in the embalmed bodies of the ancient Egyptians. The Ebers Papyrus contains many references to gingival diseases and offers a number of prescriptions for strengthening teeth and gums.



**Fig. 1:** Egyptian rank Hieroglyphs: Physician who deals with teeth at court of Pharaoh



**Fig. 2:** Beard tweezers and toothpick: Sushruta and Samhita

Skeletal remains indicate noticeable occlusal wear of the dentition our ancestors as well as considerable interproximal bone loss. Toothpicks, in whatever form, probably provided relief from persistent food impaction.

The most famous and first known toilet set was found in a Mesopotamian king's tomb dating to 3000 BCE. Artisans fashioned a golden toothpick, a part of the toilet set, connected to a ring by golden wire and housed in a golden case.

The toothbrush seems to have its origins in the chewing sticks of Babylonia as early as 3500 BC. Over the years the toothpick evolved into a chew stick, which was the size of a pencil. Records from China around 1600 BC show that one end was chewed until it became brush like, the other end was pointed and used as a toothpick. The twigs used for this purpose were from aromatic trees and therefore freshened the mouth, as well as cleaning it.

The first bristled toothbrush also originates from China at around the same time and was brought back to Europe by traders. It was made from hairs from the neck of the Siberian wild boar, which were fixed to a bamboo or bone handle.

The medical works of ancient India devoted a significant amount of space to oral and periodontal problems. The Sushruta Samhita contains numerous descriptions of severe periodontal diseases with loose teeth and purulent discharge from the gingiva. In later treatise, the Charaka Samhita, toothbrushing and oral hygiene are stressed (Fig. 2).

### Chewstick (Miswak)

The miswak is predominant in Muslim areas but its use predates the inception of Islam.<sup>5,6</sup> It is often mentioned that Muhammad himself recommended its use. Mohammed was

an enthusiastic supporter of its use as a purgative for the mouth, and he developed rules and rituals for the correct and effective use of the miswak.

### Toothbrush

Ancient Roman participants engaged special slaves to clean their teeth as part of religious ritual.<sup>7</sup> The toothbrush seems to have its origins in the chewing sticks of Babylonia as early as 3500 BC. Over the years the toothpick evolved into a chew stick, which was the size of a pencil. Records from China around 1600 BC show that one end was chewed until it became brush like; the other end was pointed and used as a toothpick. The twigs used for this purpose were from aromatic trees and therefore freshened the mouth, as well as cleaning it.

The first toothbrush thought have been invented in China in 1000 AD, had an ivory handle and bristle made from horse's mane. The first modern idea of a toothbrush is believed to have been invented in China. However, many other peoples used different forms of toothbrushes.

Ancient Indian medicine has used the neem tree and its products to create toothbrushes and similar products for millennia. In the Muslim world, the miswak, or siwak, made from a twig or root with antiseptic properties is widely used.

The first bristled toothbrush also originates from China at around the same time and was brought back to Europe by traders. It was made from hairs from the neck of the Siberian wild boar, which were fixed to a bamboo or bone handle. The handles were carved out of cattle bones and the bristles were made from wild boar or horsehair.

### Halitosis and Mouthrinse

The problem of bad breath was addressed in the Jewish Talmud, as well as by Greek and Roman writers.<sup>8,9</sup> Islamic

teaching stresses the use of special wooden stick, the siwak, for cleaning the teeth and prevents bad breath. Folk remedies for bad breath abound and many are still in use. The Bible of Genesis mentions labdanum (mastic), a resin that has been used in Mediterranean countries for breath freshening for thousands of years. Other folk cures include parsley (Italy), cloves (Iraq), guava peels (Thailand) and eggshells (China).

Mouthrinse represents one form of attack on oral malodor. The first reference of mouth rinsing of formal practice is credited to Chinese medicine, about 2700 BCE, for treatment of diseases of the gums. The recommendation was rinsing with the urine of a child. Pliny recommended salty water use in an uneven number of mouthfuls, and Hippocrates advocated a mixture of salts, alum and vinegar.

### Dentifrices

5000 BC—the Egyptians were making a tooth powder consisting of powdered ashes of ox hooves, powdered and burnt eggshells, and pumice.<sup>9,10</sup> The earliest known reference to a toothpaste is in a manuscript from Egypt which prescribes a mixture of powdered salt, pepper, mint leaves and iris flowers. The Romans used toothpaste formulations based on human urine. Since urine contains ammonia, it was probably effective in whitening teeth.

The Greeks and then the Romans improved the recipes for toothpaste by adding abrasives, such as crushed bones and oyster shells, which were used to clean debris from teeth. The Romans added powdered charcoal, powdered bark and more flavoring agents to improve the breath.

1000 AD—Persians wrote to advise their people to be wary of the dangers of using hard abrasives as toothpowders. It was recommended that people used burnt horn, the burnt shells of snails and burnt gypsum. Other Persian recipes involved dried animal parts, herbs, honey and minerals. One recipe to strengthen teeth includes green lead, incense, honey and powdered flint stone.

### CONCLUSION

In many cultures, oral well-being, good looking teeth and perception of fresh breath are important to the individual and a healthy smile is more than cosmetic. Research on ancient oral hygiene practices shows that Neolithic and

prehistoric age humans had good knowledge on practices. Customs, myths and beliefs of various cultures gave rise to different forms and methods in keeping their mouth clean. The challenges which they faced and the inventions are fascinating to modern times.

### REFERENCES

1. Shklar G, Carranza F, Williams RC. The historical background of periodontology (1st ed). Chicago, IL, Quintessence Pub Co 2003:23-44.
2. Hoffmann-Axthelm W. History of Dentistry (1st ed). Chicago, IL, Quintessence Pub Co 1981:12-18.
3. Needleman IG. Oral hygiene. Today's view. *Int Dent J* 1998;48(1):45-500.
4. Fishman SL. The history of oral hygiene products: How far have we come in 6000 years? *Periodontology* 2000. 1997;15:7-14.
5. Darby ML, Walsh M. Dental hygiene theory and practice (1st ed). Saunders 1995;4(2):99-110.
6. Yarde A, Robinson M. The miswak chewing stick: A traditional oral hygiene aid. *NDA J*. 1996 Summer:47(1):20-21.
7. Al-Qtaibi M, Al-Harthy M, Soder B, Gustafsson A, Angmar-Mansson B. Comparative effect of chewing sticks and tooth brushing on plaque removal and gingival health. *Oral Health Prev Dent* 2003;1(4):301-07.
8. Jackson RJ. Metal salts, essential oils and phenols—old or new? *Periodontology* 2000. 1997;15:63-73.
9. Ciancio SG. Chemical agents: Plaque control, calculus reduction and treatment. *Periodontology* 2000. 1995;8:75-86.
10. Jones CG. Chlorhexidine: Is it still the gold standard? *Periodontology* 2000. 1997;15:55-62.

### ABOUT THE AUTHORS

#### G Gurudath

Reader, Department of Preventive and Community Dentistry Farooqia Dental College, Mysore, Karnataka, India

**Correspondence Address:** #2203/179, 11A, 3rd Main Road, Bamboo Bazar, Mysore-570021, Karnataka, India, Phone: 09844493489 e-mail: dentdutt@yahoo.co.in

#### KV Vijayakumar

Assistant Professor, Department of Preventive and Community Dentistry, Government Dental College RIMS, Kadappa, Andhra Pradesh, India

#### R Arun

Professor, Department of Pedodontics, Kalinga Institute of Dental Sciences, Bhubaneswar, Odisha, India