



Brief History and Traditional Uses of Honey

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Abstract

Honey, a thick, viscous, sugary food substance, produced by honeybees has a history of use since thousands of years. Due to its concentrated sweetness and energy condensed properties, it is used as food ingredient since millennia. Evidences of its consumption has been found dating back to Neolithic age. Various cultures including Vedic, Egyptian, Roman, Greek, Mayans, Babylonians, and Chinese have been consuming honey and beeswax since ancient time. Evidences suggest the advent of apiculture or beekeeping around 2500 BCE in Egypt and then in different civilizations worldwide. Various religious texts around the group mention honey for its beneficial effects on health. During the long historical course of its association with human feeding habits, it has also been endorsed for religious rituals. It has been used in traditional medicine as well for several medicinal purposes. Traditionally, it has been mainly used for healing injuries in the form of wounds and burns. Other therapeutic applications of honey includes against oral ailments, digestive troubles mainly diarrhea and constipation, skin disorders, eye ailments, lung diseases, etc. Beneficial effects of honey are known since the beginning of its consumption; now these claims have scientific support with evidences coming from multiple research studies conducted in past decades. This chapter focuses on the historical aspects of honey consumption, along with its uses in traditional folk medicine.

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1.1 Introduction

Honey, a thick, viscous, sugary food substance, produced by honeybees has a history of use since thousands of years. Due to its concentrated sweetness and energy condensed properties, it is used as food ingredient since millennia. Evidences of its consumption has been found dating back to Neolithic age. Various cultures including Vedic, Egyptian, Roman, Greek, Mayans, Babylonians, and Chinese have been consuming honey and beeswax since ancient time. Evidences suggest the advent of apiculture or beekeeping around 2500 BCE in Egypt and then in different civilizations worldwide. Various religious texts around the globe mention honey for its beneficial effects on health. During the long historical course of its association with human feeding habits, it has also been endorsed for religious rituals. It has been used in traditional medicine as well for several medicinal purposes. Traditionally, it has been mainly used for healing injuries in the form of wounds and burns. Other therapeutic applications of honey includes against oral ailments, digestive troubles mainly diarrhea and constipation, skin disorders, eye ailments, lung diseases, etc. Beneficial effects of honey are known since the beginning of its consumption; now these claims have scientific support with evidences coming from multiple research studies conducted in past decades. This chapter focuses on the historical aspects of honey consumption, along with its uses in traditional folk medicine.

1.2 Background

Honey is a well-known food substance worldwide for its unique taste, sweetness, and health benefits. It is produced by honeybees in wild and in beekeeping (apiculture) facilities. Other honeybee byproducts are also there including bee pollen, beeswax, royal jelly, propolis, and bee bread. Honey is the only natural sweetener that does not need any processing to yield its sweetness for culinary purposes. It contains 80–90% of sugar content in the form of glucose and fructose and can be stored for years without adding any preservative. In addition to sweetness, it bears a particular flavor and aroma that is adored by many. Moreover, it is not just sweetness and flavor that make honey a preferable food item since the beginning of human civilizations. It has been seen as a health-boosting food ingredient since ages and even today is valued by nutritionists and consumers. Even today, in modern culinary methods, honey has its own unique place as an ingredient of several delicacies. These may include, but not limited to, honey butter, salad dressings, sweetened soups, snack bars, cookies, cakes, desserts, bread spread, beverages, etc.

Similar to some other food substances, including fruits and vegetables, honey has been lauded as a healthy and nourishing food substance that fulfills body's need



Fig. 1.1 Honeybees collecting nectar from flowers. (Image source: Biodiversity Heritage Library Public Domain)

of glucose, vitamins, and antioxidants. On the other hand, several recent research studies identified a large number phytochemicals in it and indicated their preventive role against certain diseases and conditions (Ahmad et al. 2017). These include bacterial infections, wounds, burns, atherosclerosis, gastrointestinal tract ailments, inflammation, oxidative damage, etc. Honey has been a much relished part of human diet since ages owing to its sweetness and particular taste. Uses of honey in folk medicine also root back to similar periods of time.

Based on bee species, geographical areas, and seasons, honey can be of different varieties, differing in taste, texture, and color. Honey is mainly found in golden yellow color; however, colorless, white, light yellow, and dark brown colored honey is also produced by different honeybees. There are over 300 types of honey that have been recognized worldwide (Samarghandian et al. 2017). The process starts with the collection of sugar-rich nectar of different flowers by a massive team of honeybees (Fig. 1.1). Types of flowers from different plant species determine the sweetness, taste, color, and phytochemical composition of the honey (Ahmad et al. 2017; Nguyen et al. 2019; Eteraf-Oskouei and Najafi 2013).

Honeybees are geographically distributed worldwide, and certain species are localized to a particular region (Al-Ghamdi et al. 2013; Cridland et al. 2017). *Apis mellifera* is the most widely distributed honeybee in the world. And this natural distribution along with apicultural activities makes this golden food item easily

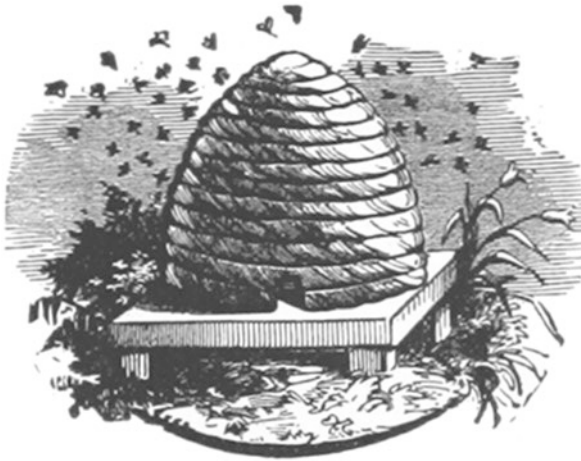


Fig. 1.2 Beehive for domestication of honeybees (beekeeping), circa 1881 (Image source: British Library Public domain)

available globally. It is known to contain around 200 natural substances (Escuredo et al. 2013; Cianciosi et al. 2018), including sugars, proteins, minerals, vitamins, organic acids, and volatile compounds (Escuredo et al. 2013). Honey is harvested from wild or domesticated beehives (Fig. 1.2). The part of beehive that contains the honey or the storage unit is called honey comb that is collected only instead of destroying the whole hive. It helps maintain a continuous existence of bee colony ensuring ample supply of the honey. Honey comb is cut into pieces to release the honey from cells, and collected honey is strain filtered before storage.

Throughout the history of human civilization, food and feeding habits have been one of the major aspects of cultural attributions. Their ingredients, way of preparation, etc. are not only a part of essential requirements but also a part of cultural heritage. Certain food items has become a part of daily essential needs while some are just included to enhance the yield of health benefits from the food. Honey may be included in such category along with dozens of others with promising health benefits. The following section focuses on the history of consumption and uses of honey.

1.3 Historical Aspects of Consumption and Uses of Honey

Through the course of history of human civilization, feeding habits also evolved along with the development and advancements of civilization. Several staple food items including wheat, rice, corn, and different kinds of vegetables and fruits became a part of human food with the emergence of agricultural practices when groups of humans started settling down. A new era started when humans left their

way of hunting and gathering and started agricultural activities including farming and animal breeding (mainly cattle, goats, etc.) for milk, meat, and transportation of goods. All these practices including settlements, farming, animal breeding mainly revolve around assurance of food and safety. The list of numerous food items and ingredients kept growing since the early era of human culinary history. New methods developed to process food with different ways and became a mark of identification for cultural communities. However, few food items appear to be unrelated with any particular community and remain in their original form for most of the feeding purposes. Honey is such a kind of major food that does not need any particular processing. It remains sweet, tasty, and energy rich even in its natural form. It can also be used as natural sweetener to make certain sweet dishes. It surely attracted humans due to its sweetness and energy-dense nature.

The use of honey as food by humans dates back to Stone Age (Crittenden 2011). Honey still remains a major source of energy for most of the tribal people around the world. The importance of honey diverted the focus of humans from honey-hunting to beekeeping (Kritsky 2016). Evidences suggest that the apiculture or beekeeping activities by humans dated back to around 9000 years (Fig. 1.3) (Roffet-Salque et al. 2015; Dams and Dams 1977). However, the evidences from 9000 years ago do not provide information regarding the methods followed to culture the bees. Other investigations provide such evidences that shed light on true beekeeping dates back to around 2450 BCE (Kritsky 2016).

Mesopotamian people used to offer honey to deities and consumed it as food. Another major product associated with honey, beeswax is also used as a burning fuel, for waterproofing of vessels, and in religious ceremonies. The earliest evidences date back to the seventh millennium BCE in Neolithic era in present day Anatolia, Turkey. During around 2500 BCE, Egyptians started beekeeping to produce honey and beeswax for various purposes. During excavations of pyramids and tombs, archaeologists have found world's oldest samples of honey in pots, approximately 3000 years old, interestingly in edible condition (Geiling 2013).

All major religious texts have little mentions of honey indicating its importance for human well-being.

1.3.1 Significance of Honey in Hinduism

In Hinduism, honey (“मधु”—Madhu) as a food has certain religious attributes. Honey is one of “the five Nectars” (Panchamrita), four others are milk, ghee, buttermilk, and sugar. In “Madhu Abhisheka” ritual, honey is poured on deities. Medicinal and nutritional values of honey has been mentioned in the Vedas. In Rigveda, one of the oldest sacred books, at several occasions, mentions bees and honey many times. The sacred book is believed to be compiled between 2000 and 3000 BCE. Following verses are from Rigveda about honey.

Rigveda (1:9:6-8)

“This herb, born of honey, dripped in honey, sweetened by honey, is the remedy for all injuries.”



Fig. 1.3 ‘Man of Bicorp’ cave painting found in Spain in 1921 depicts a honey hunter harvesting honey from a tree (circa around 8000 BCE) (Source: Public Domain)

“Let every wind that blows drop honey; let the rivers and streams recreate honey; let all our medicines turn into honey; let the dawn and the evening be full of honey; our nourisher, this sky above, be full of honey; let our trees be honey; let the sun be honey, let our cows secrete honey.”

Honey is a very significant part of Hindu birth ritual “Jatakarma,” wherein the father touches the baby’s lips with honey and ghee along with recitation of holy “Mantras.”

1.3.2 Significance of Honey in Islam

In Islam, an entire chapter is entitled Al-Nahl (The Honeybee), which mentions nutritious, healthy, and healing nature of honey. Following are the verses (English translation of verses 68 and 69) from chapter 16 (Al-Nahl) mentioning about honeybees and healing nature of honey.

Holy Qur'an, 16th Chapter Al-Nahl

Verse 68. *And your Lord inspired to the bee, "Take for yourself among the mountains, houses, and among the trees and [in] that which they construct.*

Verse 69. *Then eat from all the fruits and follow the ways of your Lord laid down [for you]." There emerges from their bellies a drink, varying in colors, in which there is healing for people. Indeed in that is a sign for a people who give thought.*

1.3.3 Significance of Honey in Judaism

Jewish traditions relate honey with New Year, called Rosh Hashanah, and use honey-dipped apples as a traditional meal on the day. The use of honey in this case is associated with "Manna," the food from Heaven, described in the Torah as being "like honey wafers" or "a pastry fried in honey" (Book of Exodus, 16:31). Manna was provided by the God during the wandering of Israelites for 40 years in the desert (Bramen n.d.). The Hebrew Bible contains several mentions of honey in it.

Song of Songs (4:11)

"The sweetness of Torah drips from your lips, like honey and milk it lies under your tongue."

Ezekiel (3:2-4)

"Feed your stomach and fill your body with this scroll which I am giving you. Then I ate it, and it was sweet as honey in my mouth."

1.3.4 Significance of Honey in Christianity

In Christianity, there are several references in the Bible indicating the significance of bees and honey including in the Books of Exodus, Judges, Mathew, and Proverbs.

Proverbs 24:13

My son, eat honey, for it is good, and the drippings of the honeycomb are sweet to your taste.

Proverbs 16:24

Gracious words are like a honeycomb, sweetness to the soul and health to the body.

Matthew 3:4

Now John wore a garment of camel's hair and a leather belt around his waist, and his food was locusts and wild honey.

1.3.5 Significance of Honey in Buddhism

In Buddhism, there is an old legend that when the Buddha was seeking enlightenment in wilderness, a honeycomb was offered to him by a monkey. Acceptance of monkey's offer by Buddha led him to celebrate in joy. He began leaping from tree to tree and ultimately resulting in his death by falling from the tree. Monkey fell to his death from the trees but was reborn because of his generosity. This joy of the monkey is remembered in Buddhism by naming the month, that he died in, Madhu Purnima, meaning "Honey (Sweetened)-Full moon." On Madhu Purnima, mainly celebrated in India and Bangladesh, Buddhists remember this act by offering honey to monks .

Buddha says about the honey bees:

"As a bee gathers honey from the flower without injuring its color or fragrance, even so the sage goes on his alms-round in the village."

In Sikhism also, honey is used in certain religious ceremonies. Similarly, in various other minor religious groups worldwide, honey has been given certain importance in rituals.

1.4 Honey in Folk Medicine

In ancient times, in different civilizations, honey was preferred as a natural sweetener and a good source of carbohydrate. However, since the very same time period, honey found a place in various religious rituals and folk medicine. Several traditional medicine systems worldwide value honey as a natural medicine that is recommended to improve a number of health conditions.

In Indian system of medicine "Ayurveda," honey is mentioned as a gift of nature to mankind and improves weak digestive system. In addition, honey can help in soothing upper respiratory tract in case of irritating cough. Ayurvedic practitioners also recommend honey for keeping teeth and gums healthy; other ailments that can be improved by honey include insomnia, skin disorders, cardiac problems, lung issues, and eye disorders (Eteraf-Oskouei and Najafi 2013). According to the Ayurveda, there are several kinds of honey that are used to treat different ailments. These include Pauttika, Bhramara, Kshaudra, Makshika, Chatra, Ardhya, Auddalaka, and Dala. Based on their properties, they can be used for treating blood ailments, cough, asthma, leukoderma, nausea, and worm infestations (Arawwawala and Hewageegana 2017).

In ancient Egypt, honey was used as a wound healing medicine either alone or combined with other ingredients. Smith papyrus, in hieroglyphic text, between 2600 and 2200 BCE, provides medicinal recipe for wound healing (Arawwawala and Hewageegana 2017; Eteraf-Oskouei and Najafi 2013). Ancient Egyptians also used honey in embalming recipes for their dead (Flowers 2017). Several modern research investigations have supported the wound healing properties of honey (Lay-flurrie 2008; Molan and Rhodes 2015; Sivamani et al. 2012).

A part of the Islamic texts also deals with health and medicinal issues. Quranic text mentions that honey is “healing for men.” According to Hadith text, Prophet Muhammad (PBUH) recommended honey as a treatment for diarrhea (Molan 2001). Recent clinical findings support the health-boosting effects of honey as an enteral nutrition in critically ill patients probably by reducing incidences of diarrhea (Shariatpanahi et al. 2018). It showed similar effects against infantile diarrhea in another study (Elnady et al. 2011).

The biblical traditional diet including date honey in addition to figs, wheat, grapes, barley, olives, and pomegranates has been associated with low rates of cardiovascular diseases along with obesity and other non-communicable diseases (Berry et al. 2011).

Hippocrates, considered one of the founding father of Unani Medicine, recommended several combinations of honey with other ingredients for pain, dehydration, and acute fever. Other conditions for which he used honey include wound healing, constipation, cough, baldness, eye ailments, and skin disorders (Eteraf-Oskouei and Najafi 2013). Ancient Greeks also believed that honey consumption is associated with longer life. Romans also, like any other culture, relied heavily on the natural medicines including herbs and other ingredients. Romans believed that honey can cure pneumonia, pleurisy, mouth ailments, and snakebite.

In Traditional Chinese System of Medicine or Traditional Chinese Medicine (TCM), honey has been used to treat cough, bronchitis, burns, open wounds, scars, dry skin, dry mouth and throat, and constipation and for boosting immune system. In this system, the main function of honey is to strengthen lungs, stomach, large intestine, and spleen. It is also used as a common ingredient in capsules, pills, herbal preparations, and other formulas as a flavoring agent. Honey is also recommended as an antihypertensive food in TCM (Zou 2016).

Use of honey-based medicines by non-indigenous people in Argentina has been reported (Kujawska et al. 2012). These people employed 50 different plant species and eight animal products to make different honey-based remedies. The most commonly treated ailments by these natural mixtures include respiratory disorders, skin ailments, ophthalmic conditions, gastrointestinal issues, musculoskeletal, and circulatory problems (Zamudio et al. 2010; Kujawska et al. 2012).

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