

## HONEY-THE HIDDEN MIRACLE

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### Introduction:

Honey is a combination of various sugars producing a highly viscous sweet solution which is obtained from the nectar of flower or other plant secretions. The honey bee (*Apis mellifera*) is responsible for this mixture of sugars in addition to various other enzymes which originate from the bees.[1]

The medicinal property of honey has been described in the Bible, the Quran and the Torah. The first documentation of the use of honey in wound management was by the Egyptians in 2000 BC. The Egyptians have used honey as a beauty cream and also for embalming the dead. In Ayurvedic medicine, honey has been described as the nectar of life. It has been used widely to treat various diseases.[2] In the early 20th century, various reports have documented the use of honey in burns and have confirmed the advantages of using this natural remedy for wounds. However, with the advent of antibiotics and other surgical procedures, the Western medicine replaced the use of honey.[1]

Due to the widespread use of antibiotics, resistance to various antibiotics has developed and many multi-resistant micro-organisms are present. As the introduction of newer antibiotics decreased, the emergence of alternative or traditional medicine was reborn. Hence, the interest of using honey for wound management was re-initiated. Also Honey plays an important role in Weight Loss and Weight gaining mechanisms.

### History of honey:



Over four thousand years ago, honey was used as a traditional ayurvedic medicine, where it was thought to be effective at treating material imbalances in the body. In pre-Ancient Egyptian times, honey was used topically to treat wounds. Egyptian medicinal compounds more than five millennia ago used honey. The ancient Greeks believed that consuming honey could help make you live longer. Even the Prophet Mohammed glorified the healing powers of honey.[3]

The Quran also praises honey's healing ability:

"And thy Lord taught the Bee to build its cells in hills, on trees, and in (men's) habitations; Then to eat of all the produce (of the earth), and find with skill the spacious paths of its Lord: there issues from within their bodies a drink of varying colors, wherein is healing for men: verily in this is a Sign for those who give thought." [4]

The beneficial properties of honey have been explored in modern times, and there is evidence to suggest that these historical claims may hold some truth.

### Composition Of Honey:

Honey is a mixture of Carbohydrate, Proteins, amino acid, vitamins, minerals, Antioxidants and other compounds. It contains a number of enzymes, including invertase, glucose oxidase, catalase, and acid phosphatase. Honey also contains eighteen free amino acids, the most abundant of which is Proline. It contains trace amounts of the vitamins B2, B4, B5, B6, B11, and vitamins C. Minerals like Calcium, iron, zinc, magnesium, selenium, chromium and manganese are also found in honey.

### Nutritional Composition of Honey: [5,6,]

	<b>Blossom Honey</b>		<b>Honey dew Honey</b>	
	<b>Range</b>	<b>Mean</b>	<b>Range</b>	<b>Mean</b>
Water	15-20	17.2	15-20	16.3
Total Sugars		79.7		80.5
Monosaccharides				
Fructose	30-45	38.2	28-40	31.8
Glucose	24-40	31.3	19-32	26.1
Disaccharides				
Sucrose	0.1-4.8	0.7	0.1-4.7	0.5
Others	2.0-8.0	5.0	1.0-6.0	4.0
Trisaccharides				
Oligosaccharides		3.1		10.1
Erllose	0.5-6.0	0.8	0.1-6.0	0.1
Melezitose		<0.1	0.3-22	4.0
Others	0.5-1.0	0.5	0.1-6.0	3.0
Minerals	0.1-0.5	0.2	0.6-2.0	0.9
Amino acids	0.2-0.4	0.3	0.4-0.7	0.6
Acids	0.2-0.8	0.5	0.8-1.5	1.1
pH value	3.2-4.5	3.9	4.5-6.5	5.2

### Antioxidants in Honey:

The main group of Antioxidants in Honey are Flavanoids, of which, pinocembrin is unique to honey and bee propolis. Acetic, butanoic, formic, citric, succinic, lactic, malic, pyroglutamic, gluconic acids and a number of aromatic acids are also found in Honey.

The Presence of Free radicals and reactive oxygen species is culpable in the processes of cellular dysfunction, pathogenesis of metabolic and Cardiovascular diseases (CVDs) as well as aging. The consumption of foods and substances rich in antioxidants can protect against these pathological changes and consequently prevent the pathogenesis of these and other chronic ailments. Researches indicate that NH contains several important compounds, and these include antioxidants[7,8]. The qualitative and quantitative composition of honey (including the antioxidants constituent and the other phytochemical substances) is a reflection of the floral source as well as the variety of the particular honey. The color of Honey also influences its antioxidant Content, as darker honeys are known to have higher amount than lighter honey [9]. In their analysis of the phytochemical composition of monoflural Cuban Honeys, Alvarez-Suarez and coworkers, agreed with this submission and concluded that Cuban Honeys contain important phenolic, flavinoid and carotenoid concentrations with substantial antioxidant capacity[10]

### Types Of Honey:

Eight types of honey are described in ayurveda depending on the type of bee which collects it. They are Pouttika, Bhramara, Kshoudra, Makshika, Chatra, Arghya, Oudalaka, Dala. [11]

- **Pouttika** - This honey is collected by very large bees from the nectar of poisonous flowers. It increases vata, causes gout and burning sensation in chest. It is also sedative and reduces fat.
- **Bhramara** - This honey is collected by large bees and Sticky in nature.
- **Kshoudra** - (Honey collected by medium sized honey bees) light and cold in nature. Dissolves Kapha.
- **Makshika** - (Honey collected by small honey bees) very light and dry natured. Useful in VataKapha diseases and kapha diseases
- **Chatra** - Heavy and cold in nature useful in gout, Leucoderma (Shwitra),
- **Arghya** - Good for eyes but causes arthritis.
- **Dal** - Dry and Reduces Vomiting
- **Oudalaka** - Useful in skin diseases, and helps in modulation of voice.

Amongst all the above "Makshika" is considered as the best type with immense medicinal properties.[11]

### Properties of Honey :

According to Chakra Samhita, honey is of four types. They are Makshika, Bhramara, Kshaudra and Paittaka. Makshika, the best type of honey is produced by reddish variety of Honey Bee. This type of Honey is of the color of Tila Taila (sesame oil). Bhramara honey is produced by the Bhramara type of Bee. It is the Guru (heavy) and is of White color. Kshaudra honey is produced by the small type of honey Bee and is Brown in color. Paittaka honey is produced by a large type of bee and is of the color of ghee.[12]

According to Susrutha Samhita, honey is of eight types Pauttika, Bhramara, Ksaudra, Makshika, Chatra, Arghya, Auddalaka and Dala Madhu. Pauttika honey is Ruksha (dry), Ushna (hot), it increases Vata, Rakta and pitta, and this is also Chedana (liquefaction), produces heart burn and is intoxicative due to inherent poisonous nature. Bhramara honey is Guru (heavy – not easily digested) because of its Picchila (slimy) and Ati Swadu (excessively sweet) properties. Kshaudra honey is specially Sheetha (cold), Laghu (light-easy to digest) and Lekhana (anti-obesive), Makshika honey is Laghu (lighter than Kshaudra), Ruksha (dry) is the best and especially beneficial in diseases like asthma, Chatra honey is Madhura (sweet after digestion), Guru (heavy), Sheetha (cold) and Picchila (slimy).

It cures bleeding disorders, leucoderma, urethritic discharges and worm infestations. Arghya honey is beneficial for eyes, eliminates vitiated Kapha and Pitta Dosha, Kashaya (astringent in taste) Katu Vipaka (pungent after digestion) Balya (strengthening) and does not aggravate Vata. Auddalaka honey bestows taste, good for voice and cures skin diseases. It is Kashaya (astringent) and Amla Rasa (sour), Katu Vipaka (pungent after digestion) and aggravates Pitta. Dala honey is Ruksha (dry). It mitigates vomiting and diabetes mellitus.[13]

According to Sushruta, some actions of new and old bee's honeys are very much opposite to each other. New bee's honey has Vrumhana guna (nourishing the body) but it does not eliminate vitiated Kapha Dasha much and is a laxative. Old bee honey is Grahi (anti diarrhea), reduces fat and obesity. According to Sushruta, mature honey eliminates vitiated Tridosha while immature honey vitiates Tridosha and is sour in taste. It is the best Yogavahi substance. That is to say, while without changing its own properties, honey carries the effects of the drugs added to it. It means it enhances the properties and actions of the substances with which it combines.[13,14]

### Conclusion :

Experiment and studies on honey have shown that honey is antiseptic, antimicrobial, antipyretic, anti-inflammatory, antiallergent, antitoxic, sedative, laxative, antianemic, antioxidant, healing and cleansing (external and internal), moisturizing and blood-purifying. It promotes rehydration, easily digestible, stimulates immunity, and is beneficial for all types of skin diseases.[15]. In present day scenario because of all these properties and nature of bees honey, Researchers are showing limelight on Honey.

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