



Medicinal uses and health benefits of Honey: An Overview

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Abstract

Honey is highly nutritious, it has traces of minerals and vitamins not to mention the antioxidants which destroy free radicals and delay ageing. In short, it is a safe and wholesome food for old, children and adults. Although not an herb, honey is a plant by-product and used medicinally around the world. Honey is also an energizer, helping workers and athletes overcome fatigue and regain energy. Children, young and old can alike take honey, without worrying any side effects. Honey is a multivitamin tonic, has antibacterial properties and has antioxidants. Nausea, cough, cold etc can be treated by taking honey with a tsp of tulsi (basil) leaf juice. Asthmatic persons can also benefit from taking honey everyday. Ayurveda acknowledges honey as a wonder medicine capable of providing longevity. Osteoporosis is another condition, which can be prevented by taking honey regularly. Modern researches have underpinned the wonderful effects of honey, proving honey to be effective against advanced cases of stomach and bone cancer. Taking one tablespoon honey with one tsp cinnamon powder three times a day and cancer symptoms receded in one month. Honey has several antioxidants, effective against cancer growth. You can take honey alone or with milk or water, with or without a pinch of cinnamon powder. Make honey a habit; it will keep you healthy, strong and fruitful. Honey is anti-bacterial, anti-viral and anti-fungal, and all of these properties make it ideal for healing wounds. It also dries out wounds effectively because of its low water content while its high sugar content keeps microorganisms from growing. Honey also contains an enzyme that produces the disinfectant hydrogen peroxide when it touches a damp surface like a wound.

Key words: Antiageing, honey bee, antibacterial and antifungal agents

Introduction

Honey is one of nature's wonders. Honey has been around for a long time and yet we know little about it. It is nothing more than nectar gathered from the blossoms of many flowers by bees. Honey has been a common sweetener for foods and a powerful medicinal tool for centuries. The oldest civilization known, the Sumerians, were well acquainted with bee keeping and honey, and it is safe to assume that early man also know how to gather honey and enjoy its sweetness. It is the simplest and often the best way to soothe a sore throat, and it can be taken at any time. Add the juice of a lemon, and a cup of warm water, and you have an age old remedy for colds which is still effective. Colloquial medicine holds that honey is effective in the treatment of stomach ulcers, and is a safe and gentle way to deal with this unpleasant problem. Certainly on the surface of the body, honey has shown again and again that it can clear up the dirtiest wound and the most stubborn sore. In some areas today, where modern medicines are hard to come by, honey is still being used to treat burns and wounds. It is applied directly to the area, and covered with clean gauze or cloth. The cloth is removed and discarded when a fresh application of honey is needed. The effects of honey's healing properties can be dramatic. For example, I once had a cut on my thumb which turned septic and refused to yield to any treatment. After honey was applied for 24 hours, the layer of infected skin peeled away to reveal new pink skin underneath and no sign of the infection. The use of honey as a wound dressing material, an ancient remedy that has been rediscovered, is becoming of increasing interest as more reports of its effectiveness are published. The clinical observations recorded are that infection is rapidly cleared, inflammation, swelling and pain are quickly reduced, odour is reduced, sloughing of necrotic tissue is induced, granulation and epithelialisation are hastened, and healing occurs rapidly with minimal scarring. The antimicrobial properties of honey prevent microbial growth in the moist healing environment created. Unlike other topical antiseptics, honey causes no tissue damage: in animal studies it has been demonstrated histologically that it actually promotes the healing process. It has a direct nutrient effect as well as drawing lymph out to the cells by osmosis. The stimulation of healing may also be due to the acidity of honey. The osmosis creates a solution of honey in contact with the wound surface which prevents the dressing sticking, so there is no pain or tissue damage when dressings are changed. There is much anecdotal evidence to support its use, and randomised controlled clinical trials that have shown that honey is more effective than silver sulfadiazine and polyurethane film dressings for the treatment of burns. Honey is also an ideal first-aid dressing material, especially for patients in remote locations when there could be time for infection to have set in before medical treatment is obtained: it is readily available and simple to use. It would be particularly suitable for first-aid treatment for burns, where emergency dousing or cooling frequently involves the use of contaminated water which then leads to heavy infection of the traumatised tissue. As well as providing an immediate anti-inflammatory treatment the honey would provide an antibacterial action and a barrier to further infection of the wound.

Honey's Nutritional Value

Honey is primarily made of water and carbohydrates. It also contains trace amounts of several minerals and vitamins. You can find niacin, calcium, copper, riboflavin, iron, magnesium, potassium and zinc in honey. Honey also contains a blend of flavonoids and phenolic acids. These are antioxidants that eliminate potentially destructive free radicals in the human body.

Darker honeys tend to have slightly higher antioxidant levels than do lighter varieties.

Serving size: 1 tablespoon

Calories: 64

Total fat: 0g

Sodium: 0 mg

Total Carbohydrates: 17g

Sugars: 16g

Protein: 0g

Therapeutic uses

Honey is most commonly used as a topical antibacterial agent to treat infections in a wide range of wound types. These include:

- Leg ulcers
- Pressure ulcers
- Diabetic foot ulcers
- Infected wound resulting from injury or surgery
- Burns

In most cases, honey is used when conventional antibacterial treatment with antibiotics and antiseptics are ineffective. Numerous studies have shown that these difficult-to-heal wounds respond well to honey dressings. Inflammation, swelling and pain rapidly subside, unpleasant odours stop, debridement is enhanced as the honey dressings remove dead tissue painlessly and without causing damage to the regrowing cells. Honey promotes rapid healing with minimal scarring. Honey can also be used as first aid treatment for burns as it has potent anti-inflammatory activity.

Health Benefits of Honey

There are many health benefits of honey

- fight acne
- combat infection
- fight colds
- treat burns
- reduce cholesterol
- clear bladder infection
- recede arthritis pain
- sooth toothache
- clear sinuses
- help fertility
- aide digestion
- fight fatigue
- help with weight loss
- strengthen immune system

Antibacterial properties of Honey are the result of the low water activity causing osmosis, hydrogen peroxide effect, and high acidity.

Osmotic Effect

Honey is primarily a saturated mixture of two monosaccharides. This mixture has a low water activity; most of the water molecules are associated with the sugars and few remain available for microorganisms, so it is a poor environment for their growth.

Hydrogen Peroxide

Hydrogen peroxide in Honey is activated by dilution. However, unlike medical hydrogen peroxide, commonly 3% by volume, it is present in a concentration of only 1 mmol/l in Honey. Iron in Honey oxidizes the oxygen free radicals released by the hydrogen peroxide. When used topically (as, for example, a wound dressing), hydrogen peroxide is produced by dilution with body fluids. As a result, hydrogen peroxide is released slowly and acts as an antiseptic.

In Diabetic Ulcers

Topical Honey has been used successfully in a comprehensive treatment of diabetic ulcers when the patient cannot use other topical antibiotics.

Acidity

The pH of Honey is commonly between 3.2 and 4.5. This relatively acidic pH level prevents the growth of many bacteria.

Nutraceutical Effects

According to recent findings, Honey may have some significant nutraceutical effects (or positive long-term health effects resulting from Honey's consumption). In addition to its primary carbohydrate content, Honey often contains polyphenols, which can act as antioxidants. Antioxidants in Honey have even been implicated in reducing the damage done to the colon in colitis. Furthermore, some studies suggest that Honey may be effective in increasing the populations of probiotic bacteria in the gut, which may help strengthen the immune system, improve digestion, lower cholesterol and prevent colon cancer.

Medicinal Properties

The *medicinal and curative properties* of honey are

- ❖ Honey is useful as sedative. Take one teaspoon of honey in warm milk before going to bed.
- ❖ Honey can be taken either with warm milk or with lemon juice and radish juice as a remedy for cold.
- ❖ Honey in warm *milk* or water can give relief to *sore throats*.
- ❖ Gargling with honey is very useful in gingivitis.
- ❖ A daily addition of honey to the food stimulates digestion and regulates the acidity of the gastric juices.
- ❖ One spoon of fresh honey mixed with the juice of half a lemon in a glass of lukewarm water taken first thing in the morning is very effective for constipation, hyperacidity and obesity.
- ❖ Honey is used to cure gastrointestinal problems. It is used as a remedy for gastritis and stomach and duodenal ulcers. In other words, for diseases accompanied by a rise in acidity.
- ❖ A mixture of honey and rose petals when taken in the morning, at the initial stages of tuberculosis produces best results.
- ❖ It is believed that a moderate quantity of honey and pomegranate (anar) is good for people with heart trouble or heart weaknesses.

- ❖ Asafetida (Hing) fried in ghee and mixed with a tablespoon of honey can be taken thrice a day for heavy and painful menstrual periods and leucorrhea.
- ❖ A daily intake of honey strengthens the *immune system* in children thus developing their disease resistance capacity.
- ❖ Add honey and fresh fruit to low-fat yoghurt for an energy sustaining snack or stir a spoonful of honey into a glass of water before your daily workout.

So for a healthy lifestyle and a quick source of energy and to reap the benefits of honey's healthful properties, make honey part of your daily diet along with plenty of fruits and vegetables.

Honey is becoming accepted as a reputable and effective therapeutic agent by practitioners of conventional medicine, and by the general public. This has been a consequence of there being an increasing awareness of the good clinical results that are obtained, and of there being rational explanations for its therapeutic actions. Further establishing this recognition of honey as a medicine involves a combination of literature research and laboratory research to obtain evidence and explanations of the therapeutic effectiveness of honey, and educating medical practitioners and the general public about the results of this research. Increasingly the medical profession is requiring evidence-based decisions on therapeutic options. There are many reports in the medical literature of honey being very effective as a dressing for wounds, burns and skin ulcers: inflammation, swelling and pain are quickly reduced, malodour is reduced, shedding of dead tissue is induced so surgical removal is unnecessary, healing occurs rapidly with minimal scarring and with no need for skin grafting, and infection is rapidly cleared. A moist environment is created which promotes the growth of new skin tissue. Although a moist environment also favours the growth of infecting bacteria, the antimicrobial properties of honey prevent infection. But unlike other antiseptics, honey is not harmful to tissues, and actually speeds up the growth of new tissue to heal the wound. Most practitioners have not been aware that there is a marked variation in the potency of the antimicrobial activity of honey, due mainly to differences in the amount of hydrogen peroxide generated, but sometimes to additional antimicrobial components from specific plant sources. Honey from manuka (*Leptospermum scoparium*) has an exceptionally high level of plant-derived antibacterial activity. The most common wound-infecting species of bacteria, *Staphylococcus aureus*, has been found to be particularly sensitive to this. All of the common wound-infecting species of bacteria have been tested and found to be sensitive to both types of antibacterial activity in honey. Clearing bacterial infection from a wound is essential to allow the healing process to occur. Recent tests carried out in collaboration with the Central Public Health Laboratory in London, UK, on many strains of multi-antibiotic-resistant bacteria such as MRSA strains MRSA, VRE and *Acinetobacter baumannii* have shown that these bacteria have no resistance to honey. (These "superbugs" are a serious clinical problem as infections with them often cannot be treated at all with antibiotics.) All of the testing of sensitivity of wound-infecting species of bacteria that we have carried out has been done with honeys selected to have mid-range levels of antibacterial activity. These have been found to have ten to fifty times more activity than is needed to completely suppress the growth of the bacteria tested. Although this may suggest that therefore other less potent honeys would be suitable for use on wounds, it should be taken into account that honey gets diluted by serum exuding from wounds, and that the depth of penetration of an effective level of antibacterial activity depends on the strength of the activity on the surface. The hydrogen peroxide generated in honey is responsible for some of the other therapeutic effects seen in wound treatment as well as for the antibacterial activity. It stimulates the growth of the cells responsible for replacing damaged

tissue. Additionally it has an insulin-like effect on cells which would be expected to be beneficial to the healing process as application of insulin to wounds aids healing. It also stimulates the development of new blood vessels, a key first step in tissue regeneration. It serves as a messenger between the different types of cells involved in the immune response of the body to infection. It also activates protein-digesting enzymes in tissues which are involved in the healing process. Although hydrogen peroxide is generally an inflammatory substance, the enzymic generation in honey gives only low levels. Also, antioxidants in honey prevent the formation of free radicals which are responsible for this inflammatory effect. The antioxidants in honey are also the likely explanation of the anti-inflammatory action of honey. The acidity of honey and its content of sugars and other nutrients are also important for the promotion of the healing process. Acidification of a wound prevents ammonia from bacterial metabolism being harmful to the body tissues. It also increases the release of oxygen from haemoglobin in the blood, oxygenation of the tissues being essential for growth of new tissue. Another important factor for growth of new tissue is a supply of nutrients, usually limited because of damage to the underlying circulation resulting from injury or infection. Honey will supply the cells with a wide range of vitamins, amino acids and minerals. It will also supply white blood cells with the glucose necessary for their "respiratory burst" to destroy bacteria. Further, it will supply nutrients to the cells by drawing serum out through the tissue by osmosis induced by the high sugar content of honey. This is what creates the moist environment for healing, preventing the deformity that would result if the re-growth were forced down by a dry scab forming on the surface. It also serves to create a film of liquid between the tissues and the dressing, which allows the dressing to be lifted off painlessly and without tearing off the recently re-grown cells. Another benefit is that it serves to reduce swelling in the surrounding inflamed tissue, and thus reduces a major cause of pain. The sugar content of honey also eliminates the unpleasant odour associated with major burns and skin ulcers, as the infecting bacteria use the sugar from the honey in preference to amino acids from the serum and dead cells, from which amines and sulphur compounds are produced. Other traditional therapeutic uses of honey, for peptic ulcers, diarrhoea, eye infections, and throat infections, have also been researched to find evidence for their effectiveness. Clinical trials have been reported in which honey was found to be effective in the treatment of peptic ulcers and diarrhoea, and a clinical reports of the use of honey for the treatment of eye infections indicate that the treatment is effective. Laboratory research has been carried out that demonstrates that the bacteria that cause these infections are sensitive to the antibacterial action of honey. In addition, laboratory research has been carried out to establish if there is a rational basis for trialing honey treatment of fungal infections of the skin, for protection of dental health, and treatment of mastitis in dairy cows and goats. In all of these it has been found that the microorganisms involved are sufficiently sensitive to the antimicrobial action of honey for a good therapeutic effect to be expected. Clinical trials are currently being undertaken to measure the effectiveness of honey as a treatment for persistently non-healing wounds, for eczema, and for mastitis in dairy cattle.

Medicinal Uses

Manuka honey is gathered from beehives in Australia and New Zealand. Traditionally used for wound healing in these countries, manuka honey was approved as a wound dressing by the U.S. Food and Drug Administration in 2007.

Honey as Antibiotic

Manuka honey has potent antibacterial properties, making it especially beneficial for preventing and treating wound infections by drug-resistant bacteria, according to physician Robert Frykberg of the Veterans Affairs Medical Center in Phoenix, Ariz.

Diabetic Benefits

Frykberg noted that the FDA-approved manuka honey product, Medihoney, has proven beneficial for healing foot ulcers in diabetic patients. Diabetics with foot ulcers that do not heal sometimes require foot amputation.

Time Frame

Medihoney wound dressings, manufactured by Derma Sciences Inc., last up to a week, making them convenient for people not staying at a hospital.

Gastrointestinal Effects

Manuka honey shows promise for healing peptic ulcers caused by *Helicobacter pylori* bacteria, in research cited by the University of Waikato in New Zealand. It is also effective against various strains of bacteria that cause gastroenteritis.

Limitations

Although manuka honey can heal certain peptic ulcers by killing bacteria that cause them, the University of Waikato cautions that the antimicrobial activity would be ineffective for most systemic ailments. An oral dose of honey becomes diluted after digestive absorption.

Recent Medicinal Research on Honey

For centuries honey had been known as nature's medicine. Ongoing medical research is turning up a multitude of curative uses for honey. Medicinal Benefits and Uses of Honey as a Natural Remedy. Honey is not only for eating, but has several different medicinal uses

- ❖ **Arthritis:** Take one part honey to two parts of luke warm water and add a small teaspoon of cinnamon powder, make a paste and massage it on the itching part of the body. It is noticed that the pain recedes within a minute or two. Or for arthritis patients daily morning and night take one cup of hot water with two spoons of honey and one small teaspoon of cinnamon powder. If drunk regularly even chronic arthritis can be cured.
In a recent research done at the coppen hagen university. It was found that when the doctors treated their patients with a mixture of one tablespoon honey and half teaspoon cinnamon powder before breakfast, they found that within a week out of the 200 people so treated practically 73 patients were totally relieved of pain and within a month, mostly all the patients who could not walk or move around because of arthritis started walking without pain.
- ❖ **Hair loss:** Those suffering from hair loss or baldness may apply a paste of hot olive oil, one tablespoon or honey, one teaspoon cinnamon powder before bath and keep it for approx. 15 min. And then wash the hair. It was found very effective even if kept for 5 min. Also.
- ❖ **Bladder infections:** Take two tablespoons of cinnamon powder and one teaspoon of honey in a glass of luke warm water and drink it. It destroys the germs of the bladder.
- ❖ **Toothache:** Make a paste of one teaspoon of cinnamon powder and five teaspoons of honey and apply on the aching tooth. This may be done 3 times a day daily till such time that the tooth has stopped aching.

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- ❖ **Cholesterol:** Two tablespoons of honey and three teaspoons of cinnamon powder mixed in 16 ounces of tea water if given to a cholesterol patient; it reduces the level of cholesterol in the body by 10% within 2 hours. As mentioned for arthritic patients, if taken 3 times a day any chronic cholesterol cured. As per the information received in the said journal, pure honey taken with food daily relieves complaints of cholesterol.
 - ❖ **Colds:** Those suffering from common or severe colds should take one tablespoon Luke warm honey with 1/4 teaspoon cinnamon powder daily for 3 days. This process will cure most chronic cough, cold and clear the sinuses.
 - ❖ **Upset stomach:** Honey taken with cinnamon powder cures stomachache and also clears stomach ulcers from the root. Gas: according to the studies done in India & Japan, it is revealed that if honey is taken with cinnamon powder the stomach is relieved of gas.
 - ❖ **Heart diseases:** Make a paste of honey and cinnamon powder, apply on bread or chapatti instead of jelly and jam and eat it regularly for breakfast. It reduces the cholesterol in the arteries and saves the patient from heart attack. Also those who have already had an attack, if they do this process daily, are kept miles away from the next attack, regular use of the above process relieves loss of breath and strengthens the heart beat. In America and Canada, various nursing homes have treated patients successfully and have found that due to the increasing age the arteries and veins, which lose their flexibility and get clogged, are revitalized.
 - ❖ **Immune system:** Daily use of honey and cinnamon powder strengthens the immune system and protects the body from bacterial and viral attacks. Scientists have found that honey has various vitamins and iron in large amounts. Constant use of honey strengthens the white blood corpuscles to fight bacterial and viral diseases.
 - ❖ **Indigestion:** cinnamon powder sprinkled on two tablespoons of honey taken before food, relieves acidity and digests the heaviest of meals.
 - ❖ **Influenza:** A scientist in Spain has proved that honey contains a natural ingredient, which kills the influenza germs and saves the patient from flu.
 - ❖ **Longevity:** Tea made with honey and cinnamon powder, when taken regularly arrests the ravages of old age. Take 4 spoons of honey 1 spoon of cinnamon powder and 3 cups of water and boil to make like tea. Drink 1/4 cup. 3 to 4 times a day. It keeps the skin fresh and soft and arrests old age. Life spans also increases and even if a person is 100 years old. Starts performing the chores of 20 years old.
 - ❖ **Pimples:** Three tablespoons of honey and one teaspoon of cinnamon powder paste. Apply this paste on the pimples before sleeping and wash it next morning with warm water. If done daily for two weeks. It removes pimples from the roots.
 - ❖ **Skin infections:** Applying honey and cinnamon powder in equal parts on the affected parts cures eczema, ringworm and all types of skin infections.
 - ❖ **Weight loss:** Daily in the morning 1/2 hour before breakfast on an empty stomach and at night before sleeping, drink honey and cinnamon powder boiled in one cup water. If taken regularly it reduces the weight of even the most obese person. Also drinking of this mixture regularly does not allow the fat to accumulate in the body even though the person may eat a high calorie diet.
 - ❖ **Cancer:** Recent research in Japan and Australia has revealed that advanced cancer of the stomach and bones have been cured successfully. Patients suffering from these kinds of cancer should daily take one tablespoon of honey with one teaspoon of cinnamon powder for one month 3 times a day

- ❖ **Fatigue:** Recent studies have shown that the sugar content of honey is more helpful than detrimental to the body strength. Senior citizens who take honey and cinnamon powder in equal parts are more alert and flexible. Dr. Milton who has done research says that half tablespoon honey taken in one glass of water and sprinkled with cinnamon powder, taken daily after brushing and in the afternoon at about 3:00 p.m. When the vitality of the body starts decreasing. Increases the vitality of the body within a week.
- ❖ **Bad breath:** People of South America, first thing in the morning gargle with one teaspoon of honey and cinnamon powder mixed in hot water. So their breath stays fresh throughout the day.
- ❖ **Hearing loss:** Daily morning and night honey and cinnamon powder taken in equal parts restores hearing.
- ❖ **Wound Healing:** Honey is one of the oldest known medicines that have continued to be used up to present times in folk-medicine. Its use has been "rediscovered" in later times by the medical profession, especially for dressing wounds. The numerous reports of the effectiveness of honey in wound management, including reports of several randomised controlled trials, have recently been reviewed, rapid clearance of infection from the treated wounds being a commonly recorded observation. In almost all of these reports honey is referred to generically, there being no indication given of any awareness of the variability that generally is found in natural products. Yet the ancient physicians were aware of differences in the therapeutic value of the honeys available to them: Aristotle (384-322 BC), discussing differences in honeys, referred to pale honey being "good as a salve for sore eyes and wounds"; and Dioscorides (c.50 AD) stated that a pale yellow honey from Attica was the best, being "good for all rotten and hollow ulcers". Any honey can be expected to suppress infection in wounds because of its high sugar content, but dressings of sugar on a wound have to be changed more frequently than honey dressings do to maintain an osmolarity that is inhibitory to bacteria, as honey has additional antibacterial components. Since microbiological studies have shown more than one hundred-fold differences in the potency of the antibacterial activity of various honey, best results would be expected if a honey with a high level of antibacterial activity were used in the management of infected wounds. Other therapeutic properties of honey besides its antibacterial activity are also likely to vary. An anti-inflammatory action and a stimulatory effect on angiogenesis and on the growth of granulation tissue and epithelial cells have been observed clinically and in histological studies. The components responsible for these effects have not been identified, but the anti-inflammatory action may be due to antioxidants, the level of which varies in honey. The stimulation of tissue growth may be a trophic effect, as nutrification of wounds is known to hasten the healing process: the level of the wide range of micronutrients that occur in honey also varies. Until research is carried out to ascertain the components of honey responsible for all of its therapeutic effects it will not be possible to fully standardise honey to obtain optimal effectiveness in wound management. However, where an antiseptic wound dressing is required then standardisation for this effect is possible. Several brands of honey with standardised levels of antibacterial activity are commercially available in Australia and New Zealand, but even where these are not available it is possible to assay the level of antibacterial activity of locally available honey by a simple procedure in a microbiology laboratory.

The antibacterial activity of honey is due primarily to hydrogen peroxide generated by the action of an enzyme that the bees add to the nectar, but there are some floral sources that provide additional antibacterial components. The body tissues and serum contain an enzyme, catalase

that breaks down hydrogen peroxide - how much of the honey antibacterial activity is lost through this is not known. The antibacterial components that come from the nectar are not broken down by this enzyme. Until comparative clinical trials are carried out to determine which type of antibacterial activity is the more effective, it may be best to use manuka honey, as this contains hydrogen peroxide activity as well as the component that comes from the nectar. Because the enzyme in honey that produces hydrogen peroxide is destroyed by heating and exposure to light, unpasteurised honey should be used, and it should be stored in a cool place and protected from light. If it is necessary to warm honey to liquefy it, it should be heated to no more than 37°C. If it is considered necessary to sterilise honey, this can be done by gamma-irradiation without loss of antibacterial activity. Gamma-irradiated manuka honey is available commercially. (In none of the clinical reports of use of honey on wounds was the honey used sterilised. No case of infection resulting from the use of honey has been reported.) Manuka honey can have a uniquely high level of an antibacterial component from nectar that is not broken down by catalase. This antibacterial component is particularly effective against *Staphylococcus aureus*. Like all honeys, manuka honeys vary very much in their potency. A 'UMF' rating ('Unique Manuka Factor', equivalent to the % phenol with the same activity against *Staphylococcus aureus*) is being used by producers of manuka honey to show the potency of this antibacterial component, as more than half of the manuka honey on sale does not have any significant amount of this component present.

Conclusion

Honey is produced in most of the countries of the world. Ayurvedic as well as Yunani medicine have been using honey as a vital medicine for centuries. Scientists of today also accept honey as a very effective medicine for all kinds of diseases. Honey can be used without any side effects for any kind of diseases. Today's science says that even though honey is sweet, if taken in the right dosage as medicine, it does not harm diabetic patients also. Studies conducted at some western universities have reinforced the centuries old knowledge that honey is effective against arthritis. Taking a tablespoon honey and half teaspoon cinnamon powder has helped arthritic patients walk without pain. Honey with lukewarm water and a dash of cinnamon powder made into a paste and applied to the joints also helped in quick recovery (within minutes) from pain. Ayurveda has long identified honey as a fertility medicine for both men and women. Honey improves the quality of semen. Honey strengthens ovaries and uterus. Men can take two tablespoons of honey every night. Women can take half a tsp honey with a pinch of cinnamon powder. Honey is a sweet thick fluid prepared by the honeybees from the nectar of flowers. Nutritionally speaking, honey contains about 75-80% sugar and the rest is a mixture of water and minerals like phosphorous, calcium, magnesium, some acids and enzymes. So we see, that together with minerals, honey also gives us energy, about 300 to 320 calories per 100ml of honey. To put it simply, one tsp of honey would give us about 15 to 16 calories. One to two tps full of honey in a glass of hot milk is said to be a good sedative. For children the use of honey as a general tonic has been known from time immemorial. The reason being that honey acts as a disinfectant and an antiseptic. So a judicious internal administration of honey would render the digestive system aseptic and disease-causing germs would fail to thrive. Honey is good for sore throats, coughs and colds. An age-old cough mixture still used in many homes consists of honey and lime juice in equal parts. Honey is also reputed to be a good stimulant for a weak heart. As far as constipation is concerned; honey is a very popular laxative.

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