

## HONEY

Although our ancestors used honey for a variety of healing purposes, in recent times, especially in the western world, we have almost lost touch with honey and its medicinal value. It is only very recently that scientists have started to re-visit honey and examine its properties and re-discover its benefits. The Tibb tradition of Eastern Medicine has always recognised the importance of honey as a healing substance and has used it up until the present day. In Britain, honey was once so prized and valued and its use so widespread that, at the time of the Roman conquest, the name for the British Isles was 'The Honey Isle Of Beli'.<sup>10 (p.27)</sup>

Aristotle and Hippocrates believed that eating honey prolonged life<sup>8</sup>. In Ancient Greece, all athletes were given honey as part of their diet and were given a drink of honey and water after any strenuous exercise or event, to fight against fatigue.<sup>10 (p.14)</sup> Pythagoras, the great philosopher and mathematician, (6<sup>th</sup> century BC) regularly took honey as part of his diet and ensured his students did so too. One of the most popular diets of the Pythagorean school was said to be honey and milk, known as 'ambrosia'.<sup>3</sup> Democritus, the great physicist who discovered the atom referred to honey as the basis of all matter.<sup>10 (p.15)</sup>

In ancient Britain, sugar was virtually unknown.<sup>13</sup> Beekeeping was a major industry and honey was a principle commodity of the British Isles. Honey was an important part of the diet of every Briton from the king down to the poorest serf in this 'Honey Isle of Beli'. Pliny the Elder (AD 23-79) on visiting Britain, wrote that:

'The islanders consume great quantities of honey brew'<sup>3 (p.27)</sup>

Apart from large numbers of wild bee colonies in the forests, the ancient Britons carried out a crude form of bee keeping, which monasteries encouraged, as it provided an excellent source of income, food, light and drink.<sup>10 (p.18)</sup> Plutarch (AD 46-120) observed that:

'These Britons only begin to grow old at 120 years of age.'<sup>3 (p.27)</sup>

There are many examples of honey and its association with longevity. Furthermore, beekeepers or those associated with beekeeping have always had a reputation for a longer than average life-span. Studies of graveyards in the British Isles reveal that some of our ancestors of the 16<sup>th</sup> and 17<sup>th</sup> century did indeed live to a ripe old age and on further investigation into the lives of some of these people, time and time again, honey appears as a factor in their lifestyle or diet.<sup>3(p.27)</sup> A Scottish king, Owen, passed away at the age of 124 and sired a son at the age of 98. He was reputed to have lived on a diet of milk, honey,

vegetables, water and wine. During the final years of his life he walked 74 miles in 6 days, evidencing his excellent health.

Another Scotsman, Peter Gordon lived to the age of 131 and another John Mount, to 136. Francis Consist of Yorkshire lived to the age of 150 and Thomas Parr of Shropshire to 152. Thomas Parr lived a quiet life until his death in 1635, drinking honey wine on a daily basis, but never to excess. He married Catherine Milton when he was 102 and she bore him a son.<sup>3 (p.28)</sup> John Anderson, lecturer of beekeeping at the University of Aberdeen suggests:

'keep bees and eat honey if you want to live long. Beekeepers live longer than anybody else.'<sup>6</sup>

### **Honey and digestion:**

According to the Tibb tradition of medicine, honey fortifies the stomach and stimulates the appetite. It is also in the nature of honey to expel the residue of whatever has collected in the stomach and intestines.<sup>4</sup> The fatty acids present in honey stimulate peristalsis and digestion. Honey in moderate doses has a beneficial effect on the digestion and appetite of those with weak stomachs and loose bowels. It provides a readily absorbable food. Recent research has also indicated that honey may increase iron absorption and utilisation.

### **Antibacterial action of honey:**

Honey is an ideal medium to act as a food preservative. It has been shown to reduce enzymatic browning in fruit and vegetables and prevents lipid oxidation in meat. Furthermore, and particularly relevant in the current climate: a study of Malaysian honeys has found that honey is effective antibacterially against standard and pathogenic bacterial strains, including MRSA.<sup>13</sup>

### **Honey to treat Candidosis:**

Candidosis is a yeast infection of the vagina caused by *Candida albicans*. Research has shown that honey inhibits *Candida* to the same extent as commercial preparations.<sup>1</sup>

### **Honey for ophthalmic conditions:**

Throughout history honey has been used to treat ophthalmic conditions including blepharitis, conjunctivitis, keratitis and burns and injuries to the eye.<sup>1</sup>

### **Honey for Tinea:**

Tineas such as ringworm and athlete's foot are caused by the dermatophytes *Deuteromyces* fungi and are notoriously difficult to treat. Research has shown the effectiveness of honey against 7 types of dermatophytes.<sup>1</sup>

### **Honey for veterinary applications:**

Some bacteria that cause mastitis in cattle are sensitive to honey. It has subsequently been suggested that honey could replace the use of harmful antibiotics.<sup>1</sup>

### **Wound healing applications of honey:**

As it is antibacterial, when applied to wounds, it sterilizes and inhibits wound pathogens and protein-digesting enzymes that destroy tissues and act as a protective barrier. Honey is also anti-inflammatory and reduces oedema, exudates, pain and keloids and scarring. It also stimulates rapid healing via increased phagocytosis, autolytic debridement and angiogenesis. It promotes tissue granulation, cell proliferation and collagen synthesis and re-epithelialization resulting in less need for skin grafting.<sup>1</sup>

There are many stories where honey has healed cases considered incurable or severe. A remarkable example is that of a teenage boy in the U.K., who was suffering from chronic infected lesions as a result of meningococcal septicaemia. Severe tissue necrosis had occurred to the extent that he had to undergo lower leg and finger amputations. Several months later, several skin grafts on his legs and a pressure ulcer became badly infected with *Pseudomonas* and with *Staphylococcus aureus* and did not respond to conventional treatment. He was then treated with Manuka honey on dressing pads and complete healing occurred within 10 weeks.<sup>1</sup>

Christie's hospital in Manchester, a unit dedicated to treating cancer patients, has shipped over 400 kg of Manuka honey, renowned for its anti-inflammatory and anti-bacterial qualities, from New Zealand and has been using it to treat mucositis, the inflammation and infection of the tissue lining in the mouth and throat, which is often a side effect of chemotherapy.<sup>3</sup>

A study in Nigeria also compared the healing of incised abscess wounds of 32 children whose wounds were dressed either with traditional Eusol or with honey. The results showed that the honey-treated wounds demonstrated quicker healing and a shorter hospital stay than those treated with Eusol, with the conclusion that honey is a superior wound dressing agent to Eusol.<sup>6</sup>

In a study in Israel on 9 neonatal infants with large, open, infected wounds that had refused to heal with conventional methods including antibiotics, all infants improved after being treated topically with fresh, unprocessed honey twice a day, with no adverse effects.<sup>8</sup>

### **Honey for Burns:**

Honey has been reported to heal burns as well as or better than conventional dressings.<sup>1</sup> Honey encourages rapid healing, sterilizes the wound and reduces pain, inflammation and scarring. In addition dressing changing is easier than with conventional dressings.<sup>1</sup>

### **Honey and Diabetes:**

Those suffering from diabetes are advised to avoid sweets and sugars to help maintain correct blood glucose levels. Modern research has shown though that what is important is the effect of different carbohydrates on glucose levels, i.e. the glycaemic index. Current recommendations are that the total amount of carbohydrates consumed is of more importance than the type of carbohydrate in producing the glycaemic response. Subsequently, sucrose, fructose and honey are permitted as part of the total carbohydrate quota of the diabetic's diet.<sup>1</sup>

Diabetics often replace sugar in their diet with artificial sweeteners such as aspartame. In traditional societies however, diabetics tend to replace sugar with honey. As honey is three times sweeter than sugar, much less need be ingested. Furthermore, honey contains a multitude of vitamins and trace elements essential and beneficial to the diabetic patient. Vitamins B1, B6, B12, C, E and Biotin are all recommended for diabetics and honey is a good source of all of these.

Chromium is a critical nutrient for those suffering from diabetes and pre-diabetic glucose intolerance. In addition, manganese is only present at half the normal level in diabetics and magnesium is also lowered. These elements are all present in honey. Vanadium is also present in honey and when this element is given to diabetics, it has been shown to decrease their insulin requirements. Honey also contains potassium, which has been shown to yield improved insulin sensitivity.

Zinc deficiency has also been shown to play a role in diabetic development, as it is involved in most aspects of insulin metabolism, synthesis, secretion and utilisation.<sup>11</sup> Zinc is another element which can be found in honey.

### **Honey for the prevention of Heart Disease:**

Coronary Heart Disease results from narrowing or blockage of the coronary arteries, which are vital in supplying blood and vital force to the heart muscles. The narrowing or blockage prevents unhindered blood supply to the heart and can result in angina or in severe cases myocardial infarction or heart attack. Sometimes the blood supply is hindered as a result of overwork or stress. Heart disease may also result from bad diet, pollution, lack of exercise and also spiritual causes. Coronary Heart Disease, is in fact the highest cause of death in the U.K.<sup>2</sup> Honey is excellent in providing energy for muscles including, the most important muscle of all – the heart. Regular use of honey can help prevent heart disease.

The most famous physician in Tibb medicine, Ibn Sina, or Avicenna, as he is known in the west, used to prescribe honey and pomegranate to patients suffering from heart conditions.

Honey is a heart tonic. It tonifies the heart muscles as well as giving energy and nutrients. If honey is used with senna, the senna and honey together, remove toxins from the body and the arteries in particular. One of the best tonics for heart patients is to drink a small glass of honey in warm water before breakfast.<sup>2</sup>

#### **Honey and Dental applications:**

A recent clinical trial has shown that when honey was used in the socket of removed molars, patients experienced less pain and postoperative complications and swelling was reduced.<sup>1</sup>

#### **Antioxidant properties of honey:**

Honey has antioxidant properties, which are of relevance for food preservation and human ageing. Antioxidants prevent damage caused by free-radicals. For centuries, naturally occurring antioxidants have been used in food preservation techniques to prevent deterioration, rancidity and discolouration. More recently, researchers at Clemson University used honey on a processed turkey product and found no growth of bacteria after 11 weeks of storage in a refrigerator. Other researchers at the University of Georgia found that when honey was added to a shrimp coating and to a marinade, micro organisms were either undetectable or lower than the control. When honey was added to a hydrated batter, it suppressed the growth of *Staphylococcus aureus* during the processing period.<sup>1</sup>

#### **Honey for Diarrhoea:**

Honey helps break up any excess moisture in the bowels i.e. as in the case of diarrhoea.<sup>6 (p.78)</sup> One teaspoon of honey taken in approximately 30 ml of barley water is extremely effective in cases of infantile diarrhoea.<sup>1</sup>

#### **Honey for Constipation:**

Honey softens the stomach, loosens the bowels and aids the excretion of waste. Overeating over a long period of time can result in the stomach lining becoming coated with mucus that results in slackness of stomach tissue, which subsequently obstructs the secretion of nutrients.<sup>10 (p.23)</sup>

#### **Honey as an anti-toxin:**

Honey can be used as a detoxicant for drug users or as an antitoxin for treating the accidental consumption of poisonous substances such as plants of the nightshade family or types of poisonous fungi. When drunk mixed with hot water it is a remedy to counteract the toxins of dog bites. When sweet roses are added to this drink it is used to treat rabies and as a preventative against further infection.<sup>7</sup>

#### **Honey for Peptic Ulcers:**

Honey has been used throughout history for peptic ulcers. When a link was made that pointed to *Helicobacter pylori* as a causative factor for peptic ulcers, researchers began looking at the therapeutic actions of honey and its success in treating this condition. Research concluded that *Helicobacter pylori* were sensitive to honey.<sup>3</sup>

### **Honey for Colon Cancer:**

A Turkish study has suggested that the taking of honey during the treatment of colon cancer may help tumours from recurring. The researchers have suggested that honey may act as a barrier to tumour cells spreading during surgery incisions and that furthermore there may be substances present in honey that may actually dissolve tumour cells.<sup>5</sup> Honey has also proved to be useful in the treatment of colitis.

It is interesting to note that only 10% of the honey eaten in the U.K. is actually produced in the U.K.<sup>1</sup> This is important because the consumption of food produced locally is not only more ethical, but more beneficial for health as relevant nutrients and antidotes for all the viruses and bacteria common in that local area are contained in local soil and therefore the plants and honey of that region.<sup>4(p.50)</sup>

But what of organic honey you might ask? Is that not a better option? Most store-bought organic honey originates from abroad, yet one of the finest honeys in the world, Scottish Heather Honey, is produced in Scotland. It has a reputation for quality and for its healing properties, derived from the heather from which the bees collect the nectar. But, none of the Scottish Heather Honey on sale is classified as organic.

The guidelines for organic certification for honey in the U.K. are stringent and include the origin of the bees and the siting of their apiaries. Apiaries are required to be sited on land certified as organic and in addition, any land within a 4 mile radius from the apiaries, must also contain organic crops or uncultivated areas. There must also be sufficient distance from non-agricultural production sources that could lead to possible contamination i.e. urban centres, motorways, industrial sites, waste sites. The 4 mile radius was arrived at after consultation with the National Pollen Research Institute and is the maximum distance the bees travel from their hives.

Essentially, these guidelines mean it is practically impossible for any U.K. honey producer to be certified as organic, with a few exceptions of cottage industries producing very small quantities. This means that the only organic honey available for sale in the U.K. therefore, is from non-U.K. sources.<sup>3</sup> The quality and nutritive value of organic honey from abroad, may in actual fact not be as great as a local quality honey, where no antibiotics are used in the bees' feed, but that cannot be labelled 'organic' due to strict criteria over which the producer has minimal control.

Honey contributes to the recommended daily allowance of vitamins and trace minerals for all ages, it assists digestion and healthy sugar metabolism and contributes to a healthy immune system. At times of ill-health, honey acts as a healer and assists the body's natural functions to bring about healing in a natural way and in re-balancing the body. Unlike synthetic medicines, it does this without upsetting the body's natural mechanisms.

A process as intricate, yet beautifully simple as that carried out by honey bees in their production and process of this unique and valuable healing product cannot be reproduced in a laboratory. Neglecting to use honey with all its healing properties is surely a waste of a natural gift.

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