HEALTH

Is honey such a sweet medicine?

Compared to regular honey, manuka honey looks darker and thicker.

What is the medicinal and dietary potential of manuka honey, asks **Mario Caruana**.

More than 300 different types of honey are produced worldwide. At the highest rank, manuka honey is marketed as a superfood 'healer' that can treat wounds, cold, flu, sore throats and more. But how are these properties reflected when we consume manuka honey? My aim in this feature is to look at the dietary component of such health claims, using an evidence-based approach.

Let us first look at what manuka honey really is and how it differs from other types of honey. Manuka honey is simply honey derived from the bees that feed on the manuka plant, which is found in New Zealand. Prof Peter Molan of Waikato University in New Zealand was the first to report the unusual activity of manuka honey, and began testing its action against a wide range of different bacterial species in the mid-1980s (Molan, P., Rhodes, T. (2015) *Honey: A Biologic Wound Dressing*. Wounds, 27 (6): 141-51.)

Manuka honey usually has a Unique Manuka Factor (UMF) rating on the package which means that it has been tested for antibacterial activity. The higher the UMF, the greater the antibacterial effects and the higher the price.

Regular or commercial honey is pasteurised (heated to high temperatures) and filtered to kill any yeast that may be present in order to prevent fermentation. Regular honey is smooth and uniform in colour. On the other hand, raw honey is honey in its natural state, meaning it has not been strained, filtered or heated, as is the case of manuka honey.

The minimal processing of raw honey is often why it includes particles of wax, propolis and pollen. Compared to regular honey, manuka honey looks darker, thicker and more difficult to spread.

Throughout history, honey has been used as a medicine, particularly to treat wounds and skin infections.

This is due to honey's antibacterial and antimicrobial properties, whereby high sugar and low pH (acidity) inhibit microbial growth. It is important to note that the honey used to treat wounds is a medical-grade honey. This means that it is specially sterilised and prepared as a dressing, not just a jar of commercial honey!

One might ask – will it matter which honey you use? This is where manuka honey excels. Compared to other types of honey, manuka honey has been shown to be more potent and anti-bacterial because of its higher methylglyoxal (MG) concentration. Indeed, manuka honey provides an additional healing property known as non-peroxide antibacterial activity. This is the reason why manuka honey is sometimes referred to as medicinal honey because it has a high antibacterial activity. In fact, apart from wound healing it can help relieve sore throats, mouth ulcers and sore gums (Carter, D. A, Blair, S.E., Cokcetin, N.N., Bouzo, D., Brooks, P., Schothauer, R., Harry, E.J. (2016) *Therapeutic manuka honey: no longer so alternative*. Frontiers in Microbiology, 7: 569.)

More recently clinical trials discovered that manuka honey can eradicate around 250 clinical bacterial strains, including antibiotic-resistant varieties like MRSA (Methicillin-resistant Staphylococcus aureus) (Mohan, A., Quek S.Y., Gutierrez-Maddox, N., Gao, Y., Shu, Q. (2017) *Effect of honey in improving the gut microbial balance*. Food Quality and Safety, 1(2), 107–115.)

> *"Manuka honey has a high antibacterial activity*

While manuka honey might help treat a sore throat or gingivitis by inhibiting bacteria, the main components responsible for the antimicrobial activity will not survive the digestion process. Most of the honey varieties, including manuka honey, do contain prebiotics, which help to feed the good bacteria in our gut. So in this respect honey may help support a healthy gut (https://www.webmd.com/a-to-z-guides/manuka-honey-medicinal-uses#1 [Accessed 8/2/2018]).

Notwithstanding, at the time of writing this article, no conclusive evidence of eating manuka honey having been found in relation to medicinal or dietary benefit, other than as a sweetener. In other words evidence is lacking on whether or not manuka honey has any effect on medical conditions like high cholesterol, diabetes, cancer, inflammation, eye-ear-sinus infections, and gastrointestinal problems.

More studies are needed to decide if manuka honey is safe and effective for such health claims that are commonly stated on the web.

Manuka honey is still honey and should be eaten in moderation. While manuka honey may have some health benefits, honey is still an added sugar, and hence we want to limit consumption. Research has given proof of a wide range of wholesome foods such as herbs, spices and fermented vegetables that provide our bodies with antibacterial compounds. Therefore it is not necessary to receive these just from honey.

Although manuka honey does come from a natural source and undergoes minimal refining, it is recommended to approach honey as we do with regular sugar. Honey is still a form of 'added' sugar and is processed by the body in a similar way to other types of sugar. The good news is that honey takes longer to digest than table sugar, providing more sustainable energy.

When it comes to added sugars like honey, we want to keep to small portions – one tablespoon provides around 80 calories and 20g of carbohydrates. The World Health Organisation (WHO) recommends adults and children to limit their intake of added sugars to fewer than 10 per cent of total daily energy intake. It is important to keep in mind that many of the added sugars in our diet come from prepackaged foods and drinks, and therefore physically adding sugars to foods (honey to toast, tea, cereal) may push us over our five to 10 per cent daily limit of added sugars. Although the perception is that honey is healthy, its high sugar content (about 80 per cent) should make us wary!

Furthermore, although you can certainly benefit from manuka honey, there are possible side effects that you must watch out for such as (a) allergic reactions, especially among people who are allergic to bees (b) risk of increase in blood sugar levels (especially if used in high amounts) and (c) possible interactions with certain chemotherapy drugs. In addition, manuka honey should not be given to babies under 12 months old as honey is a known source of bacteria spores that can cause botulism – a rare and serious disease triggered by toxins from the Clostridium botulinum bacteria strain. •

Dr Mario Caruana PhD is a registered dietician-nutritionist and researcher. For further information visit www.mariocaruana.com.