

Medical Journals Document Value of Bee Propolis, Honey and Royal Jelly

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When it comes to bee pollen, propolis, and royal jelly, people either seem to swear by them or swear at them.

Bee products epitomize everything that's right and wrong about natural foods and dietary supplements. For a lot of people, the concept of eating "beestuff" - other than honey - seems awfully strange. And while bee products have a faithful following, few people really understand why they work. Scientifically, that is.

Not surprisingly, physicians usually bristle at the thought of people popping bee pollen and propolis capsules. One doctor, almost 20 years ago, warned in a medical journal that patients shouldn't get "stung" by the miracle claims of bee pollen.

Even worse, advocates of bee products can often be their own worst enemies with wild cure-all claims of everything from arthritis to sexual impotence.

Bee products don't cure everything. But in a search of recent medical journal articles - most turned out to be from overseas - I found impressive documentation for propolis and honey as powerful, natural antibiotics. Amazingly, some doctors have even used honey-soaked gauze as wound dressings. And a few of the components of propolis and royal jelly even have anti-cancer properties.

As for allergies, bee pollen might help you the way it helped Sen. Tom Harkin (D-Iowa). But there's a dearth of medical journal reports on pollen, except to point out that it can cause dermatitis or anaphylactic shock.

Propolis

Bees create propolis by collecting a resinous sap from trees and then mixing it with wax back at the hive. They use this material much the way people use caulk: to seal their homes. Chemically, propolis is exceedingly complex and contains a rich variety of potent terpenes and benzoic, caffeic, cinnamic, and phenolic acids. It's also high in flavonoids, which by themselves may account for many of the benefits attributed to propolis - and some researchers refer to propolis as a type of flavonoid.

One of the most significant medical journal articles described how the caffeic acids in propolis and honey might prevent colon cancer, which kills some 60,000 Americans each year. Chinthalapally V. Rao, Ph.D., of the American Health Foundation, Valhalla, N.Y., reported in *Cancer Research* (Sept. 15, 1993; 53:1482-88) that these caffeic acids prevented the formation of precancerous tissue in rats after they were exposed to cancer-causing chemicals.

Most medical articles, however, still point to the value of propolis as a powerful, natural antibiotic. That doesn't mean eating propolis will let you throw away your antibiotics - only that you may not need them quite as often.

Why would bees need substances with broad antibacterial and antiviral properties? Any beekeeper will tell you the answer. Bees are very susceptible to bacterial and viral infections, which can destroy hives the way the bubonic plague ravaged Europe in the 17th century.

Two medical journal articles document the activity of propolis specifically against *Staphylococcus aureus*, the bacterium that causes dangerous and often deadly surgical infections, blood poisoning, and a type of pneumonia. Five to 10 percent of all patients hospitalized in the United States develop such infections, and *S. aureus* has become resistant to all but one pharmaceutical antibiotic.

In a Chinese study, researchers found that extracts of propolis - specifically, sinapic, isoferulic, and caffeic acids - inhibited the growth of *S. aureus* (Qiao Z, *China Journal of Chinese Materi Medica*, Aug. 1991;16:481-2). A European study reported that ethanol extracts from propolis had a "marked synergistic effect" on the anti-staph activity of two antibiotics, streptomycin and cloxacillin, and a moderate effect on several others (Krol W, *Arzneimittel-Forschung*, May 1993;43:607-9).

Another scientific investigation discovered that propolis inhibited the activity of several streptococcal bacteria species that cause dental caries. Japanese researchers reported that propolis-fed laboratory rats had far fewer caries than those given a regular diet. Propolis protected specifically against *Streptococcus mutans* and several other strep species (Ikeno K, *Caries research*, 1991;25:347-51). These strep species are closely related to the germ that causes strep throat.

Propolis works against bacteria in several ways. One study reported that it prevented bacterial cell division and also broke down bacterial walls and cytoplasm, which is how some prescription antibiotics work (Takaisi-KikuniNB, *Planta Medica*, June 1994;60:222-7).

Perhaps more remarkable is that propolis acts against viruses, which antibiotics do not. A number of medical journal reports have discussed the role of propolis in fighting upper respiratory infections, such as those caused by the common cold and influenza viruses (Focht J, *Arzneimittel-Forschung*, Aug. 1993;43:921-3). Other investigators have reported that the cinnamic acid extracts of propolis prevent viruses from reproducing, but they worked best when used during the entire infection (Serkedjieva J, *Journal of Natural Products*, March 1992;55:294-302).

Underpinning many of the benefits of propolis is that some of its components, like the flavonoids and ethanols, function as antioxidant free-radical scavengers. A study published in the *Journal of Ethnopharmacology* (Jan. 1994;21:9-13) noted that some of the antioxidant phenols in propolis functioned similarly to vitamin E. In another article, researchers described that propolis had anti-inflammatory properties and that it could also prevent blood clots (*Drugs Under Experimental & Clinical Research*, 1993; 19:197-203).

Honey

Six medical journal articles over the past three years have also described the antibiotic properties of honey. A physician at the medical college in Maharashtra, India, recently explored the use of honey-soaked gauze to treat burn patients. The 40 patients treated with honey healed in about half the time - and with half the scar tissue - compared with patients treated by other means. (Subrahmanyam M, *Burns*, Aug. 1994;20:331-3).

A team of researchers from the department of surgery, University Teaching Hospital, Nigeria, reported that unprocessed honey "inhibited most of the fungi and bacteria" causing surgical and wound infections. In a remarkable conclusion in the journal *Infection* (Jul.- Aug. 1992;20:227-9), Dr. S. E. Efem and his colleagues wrote, "Honey is thus an ideal topical wound dressing agent in surgical infections, burns and wound infections."

Perhaps most remarkable is the effect of honey on *Helicobacter pylori*, the bacterium now known to cause gastric ulcers. Because honey has long been a folk remedy for dyspepsia, or stomach upset, a team of researchers from the University of Waikato, New Zealand, tested whether honey would have any benefit. Within three days, honey stopped the growth of *H. pylori* colonies obtained from patients.

Royal Jelly

Highly touted royal jelly, fed to the debutante larvae that grow into queen bees, contains a powerful antibacterial protein that Japanese researchers discovered and named royalisin. Rich in amino acids, royalisin is primarily effective against "Gram-positive" bacteria, which include staph and strep species (Fujiwara S, Journal of Biological Chemistry, July 5, 1990; 265:11333-7).

Like propolis, royal jelly also appears to have anti-tumor properties. Another team of Japanese researchers gave royal jelly to one of two groups of laboratory mice before transplanting different types of cancer cells in them. The royal jelly had no effect on the leukemia cells, but it had dramatic effects on sarcoma cells. The lifespan of the mice was extended by about one-fifth and tumor sizes were about half the size, compared with untreated mice, according to a report in the journal *Nippon Yakurigaku Zasshi-Folia Pharmacologica Japonica* (Feb. 1987; 89:73-80).

In sum, we could learn a lesson from bees that eat honey and royal jelly, and seal their hives with propolis. By eating these bee products, we can preventively "innoculate" ourselves against many bacterial and viral infections - and maybe even reduce our risk of developing cancer.

So, in light of the scientific evidence, next time you hear someone ridicule bee propolis, royal jelly, and other products, just tell them to "buzz off."

This article originally appeared in the *Natural Foods Merchandiser*, published by New Hope Communications. The information provided by Jack Challem and The Nutrition Reporter™ newsletter is strictly educational and not intended as medical advice. For diagnosis and treatment, consult your physician.

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