

Natural honey helps as diet-mediated for tuberculosis prevention or treatment

Sir,

Honey is an organic, natural sugar alternative with no additives that is easy on the stomach, adapts to all cooking processes, and has an indefinite shelf-life.^[1] Honey is a welcome variation and delicious addition to the diet and it is a builder food, packed with the things the body needs to build and rebuild itself.^[2] It gives a quick energy release, which makes it appealing as a breakfast complement as it quickly supplies the energy needed to start the day right.^[3] Tuberculosis (TB) also is a contagious disease. Like the common cold, it spreads through the air. When infectious people cough, sneeze, talk, or spit, they propel TB germs, known as bacilli, into the air. A person needs only to inhale a small number of these to be infected.^[4] Left untreated, each person with active TB disease will infect on average between 10 and 15 people every year. In 2005, estimated per capita TB incidence was stable or falling in all six World Health Organization (WHO) regions. However, the slow decline in incidence rates per capita is offset by population growth. Consequently, the number of new cases arising each year is still increasing globally and in the WHO regions of Africa, the Eastern Mediterranean, and South-East Asia. The human become sick when the immune system of body does not work normally and bacterium causes infection either endogenously or exogenously by *Mycobacterium tuberculosis*. Internet search for literature on effects of honey on *M. tuberculosis* was performed using a variety of search tools. Evidential literature suggests that honey has different sugars including glucose, fructose maltose, turanose sucrose, erlose, and different enzymes including lipase, amylase diastase, invertase, catalase, phosphatase, glucose, inhibin, polyphenol oxidase, inulase glycogenase, and different types of amino acids including serine, alanine, histidine, proline, leucine, glycine, threonine, lysine, valine, and pollens including phosphotides, lecithins, cephalin, photosterol, phosphatidylserine, and 6500 types of flavonoids and minerals including molybdenum, silica, Bohr, chrome, calcium, phosphorus, sodium, potassium, iron, zinc, magnesium, selenium, copper, manganese

chloride, sulfur, and different types of vitamins including Thiamine (B1), Riboflavin (B2), Niacin Pyridoxine Â6, Tsiankobalamin Â12 Folic acid, Vitamin C, Vitamin A, Vitamin D, Vitamin E, Vitamin K, Vitamin H (biotin), and organic acids including gluconic acid, malic acid, lactic acid, oxalic acid, maleic acid, citric acid, carboxylic acid, and other different compounds.^[5,6] Honey has decontamination property too.^[7,8] A hypothesis is that honey could be acted as a diet-mediated antituberculosis prophylaxis and cure of patients. The WHO estimates that the largest number of new TB cases in 2005 occurred in the South-East Asia Region, which accounted for 34% of incident cases globally.^[4] However, the estimated incidence rate in sub-Saharan Africa is nearly twice that of the South-East Asia Region, at nearly 350 cases per 100 000 population. It is estimated that 1.6 million deaths resulted from TB in 2005. Both the highest number of deaths and the highest mortality per capita are in the Africa Region.^[9] The TB epidemic in Africa grew rapidly during the 1990s, but this growth has been slowing each year, and incidence rates now appear to have stabilized or begun to fall. Honey is an organic, natural sugar alternative with no additives that is easy on the stomach, with good source of different essential compounds for human body. Honey has different medical advantages^[10] including relieves annoying coughs which are more common in TB patients. Nowadays, it has to be said that drug-resistant TB is more common in different part of the world. Drug-resistant TB is caused by inconsistent or partial treatment, when patients do not take all their medicines regularly for the required period because they start to feel better, because doctors and health workers prescribe the wrong treatment regimens, or because the drug supply is unreliable. A particularly dangerous form of drug-resistant TB is multidrug-resistant TB (MDR-TB), which is defined as the disease caused by TB bacilli resistant to at least isoniazid and rifampicin, the two most powerful anti-TB drugs. Rates of MDR-TB are high in some countries, especially in the former Soviet Union, and threaten TB control efforts.^[11] Since the earliest recorded times, human beings have taken this honey for use, not only as a food product, but also as a medicine, especially for wound care.^[12] It has to be said that the pH of honey is about 3.5 which is not suitable for the growth of most bacteria, perhaps for *M. tuberculosis*. Based on WHO data, the number of MDR-TB and XDR-TB is increasing daily. My personal opinion for a better prevention and

cure for the TB patients is that honey is very beneficial. Possibly a few studies also are supporting this.^[13] Honey has also been applied for inhibition of *H. pylori* and many Gram-negative and Gram-positive *in vitro*^[14-17] and many diseases perhaps Cancer,^[18,19] respiratory diseases,^[20,21] and obstructive jaundice in Animal Model too.^[22] I believe that if honey is added to individual diet daily, the number of TB infection could come down slowly. The honey could be used for preventing the disease and cure the patient, especially with (Multidrug Resistant TB) MDR or (Extensive Drug Resistant TB) XDR-TB successfully too.

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References

- Available from: <http://www.rainforestwildhoney.com/> and <http://www.rainforestwildhoney.com/pdf>. [accessed on 2010 Mar 5].
- Available from: <http://www.blackherbals.com/honey.htm>. and <http://www.blackherbals.com/honey.htm>. [accessed on 2011 Jan 26].
- Available from: <http://www.nondomesticatedthinker.com/tag/yourubamedicine> and <http://www.nondomesticatedthinker.com/tag/yourubamedicine>. [accessed on 2011 Jan 26].
- Available from: <http://www.who.int/topics/tuberculosis/en/> and <http://www.who.int/topics/tuberculosis/en/>. [accessed on 2011 Jan 26].
- Available from: <http://www.info-bashkirbeehoney.com/10> and <http://www.info-bashkirbeehoney.com/>. [accessed on 2011 Jan 26].
- Zumla A, Lulat A. Honey: A remedy rediscovered. *J R Soc Med* 1990;83:127.
- Saxena S, Gautam S, Sharma A. Microbial decontamination of honey of Indian origin using gamma radiation and its biochemical and organoleptic properties. *J Food Sci* 2010;75:M19-27.
- Kwakman PH, Te Velde AA, de Boer L, Speijer D, Vandenbroucke-Grauls CM, Zaat SA. How honey kills bacteria. *FASEB J* 2010;24:2576-82.
- Available from: <http://www.who.int/mediacentre/factsheets/fs104/en/> and <http://www.who.int/mediacentre/factsheets/fs104/en/>. [accessed on 2011 Jan 26].
- Beretta G, Gelmini F, Lodi V, Piazzalunga A, Maffei Facino R. Profile of nitric oxide (NO) metabolites (nitrate, nitrite and N-nitroso groups) in honeys of different botanical origins: Nitrate accumulation as index of origin, quality and of therapeutic opportunities. *J Pharma Biomed Anal* 2010;53:343-9.
- Available from: <http://www.searo.who.int/EN/Section10/Section2097/Section2106.htm> and <http://www.searo.who.int/EN/Section10/Section2097/Section2106.htm>. [accessed on 2011 Jan 26].
- Boukraâ L, Sulaiman SA. Honey use in burn management: Potentials and limitations. *Forschende Komplementarmedizin* 2006;17:74-80.
- Available from: [Http://www.online-vitamins-guide.com/dietary-cure/tuberculosis.htm](http://www.online-vitamins-guide.com/dietary-cure/tuberculosis.htm). [cited in 2010].
- Ali AT, Chowdhury MN, al Humayyd MS. Inhibitory effect of natural honey: On *Helicobacter pylori*. *Trop Gastroenterol* 1991;12:139-43.
- Carson CF, Riley TV. Non-antibiotic therapies for infectious diseases. *Commun Dis Intel* 2003;27(Suppl):S143-6.
- Keenan JI, Salm N, Hampton MB, Wallace AJ. Individual and combined effects of foods on *Helicobacter pylori* growth. *Phytother Res* 2010;24:1229-33.
- Dai T, Huang YY, Sharma SK, Hashmi JT, Kurup DB, Hamblin MR. Topical antimicrobials for burn wound infections. *Recent Patents Anti-Infect Drug Discov* 5:124-51 2010.
- Kilty SJ, Almutari D, Duval M, Groleau MA, De Nanassy J, Gomes MM. Manuka honey: Histological effect on respiratory mucosa. *Am J Rhinol Allergy* 2010;24:e63-6.
- Jaganathan SK, Mondhe D, Wani ZA, Pal HC, Mandal M. Effect of honey and eugenol on Ehrlich ascites and solid carcinoma. *J Biomed Biotechnol* 2010;2010:989163.
- Malak AT, Karayurt O, Demir E, Yumer AS. Complementary and alternative medicine in cancer patients-analysis of influencing factors in Turkey. *Asian Pac J Cancer Prev* 2009;10:1083-7.
- Colin G, Nunes H, Hatron PY, Cadranet J, Tillie I, Wallaert B. Clinical study of interstitial lung disease in mixed connective tissue disease. *Revue des Maladies Respiratoires* 2010;27:238-46.
- Ergul E, Ergul S. The effect of honey on the intestinal anastomotic wound healing in rats with obstructive jaundice. *Bratislavske Lekarske Listy* 2010;111:265-70.

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Burn wound septicemia—A pilot study from a tertiary care hospital

Sir,

Burn wound infections are a serious complication of thermal injury. Delay in isolating the pathogen and reporting of antibiotic sensitivity in these cases can lead to loss of critical time in patient management. This study was undertaken to study the microbiology of burn-associated infections and emphasize the role of automation (BacT alert 3D, Biomerieux France) in

rapid detection of sepsis in these patients.

A total of 36 patients having burn wounds with clinical and histopathological evidence of septicemia were included in this study and evaluated according to a predetermined protocol. The samples included tissue biopsies, wound swabs, and paired blood samples. Tissue biopsy specimens were cultured by a semiquantitative