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TUALANG HONEY – THE MIRACULOUS MALAYSIAN HERB!!!

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ABSTRACT
Better health through the power of nature shall be the motto of medical fraternity. As plenty of illnesses are given to mankind, so are given plenty of herbs for its remedies. These natural herbs have a more natural way to heal our bodies and lives. Honey has been a primitive health solution to a diverse class of health ailments but this summarization is an insight to a wild honey variant form Malaysian jungle. Tualang Honey, as it is called, endorse multiple medicinal virtues making it a perfect proposal to be used as a therapeutic health supplement in oral health conditions wherein its studies have not been taken into consideration yet.

KEYWORDS: Tualang honey, anti-oxidant, antibiotic, preventive, therapeutic.

INTRODUCTION

Tualang Honey is a multifloral jungle honey. There has been a gush of interests pouring in estimating the impending benefits of various kinds of honey but the results came unexpectedly diverse and prolific for this miraculous honey produced by the giant rock bee *(Apis dorsata),* which builds hives high up in the branches of Tualang tree (*Kompassia excelsa*) in Malaysia. Tualang has been used traditionally in Malaysia as an anti-ageing health supplement. It has been used by indigenous tribes and villagers to treat infections and cure diseases for centuries, without the need for modern pharmaceutical drugs. It is also commonly offered as a pious gift and is highly treasured for its medicinal benefits amongst the native people of Malaysia.

Composition and Properties of Tualang Honey

Physical Properties

Appearance	Dark Brown
Specific gravity	1.335
Moisture content	23.30 %
pH	3.55-4.00

Chemical composition

Total reducing sugars	67.50%
Fructose	29.60%
Glucose	30.00%
Maltose	7.90%
Sucrose	0.60%
Potassium	0.51%
Calcium	0.18%
Magnesium	0.11%
Sodium	0.26%
Carbon	41.58%
Oxygen	57.67%

Key contents of Tualang.

Tualang is opulent in phenolic acids (benzoic, gallic, syringic, trans-cinnamic acids) and flavonoids (catechin, kaempferol).[1,2,3,4,5]

This nature's therapist has multiple benefits –

a. Tualang as Antibacterial

Honey has been used extensively for its medicinal properties since ancient times to treat a variety of ailments but predominantly been used as a promising candidate as an antibacterial. All types of honey constitute a high sugar content but a low water content and acidity, which prevent microbial growth. Tualang Honey is more acidic than other honeys making it more effective against several pathogenic microorganisms. It can inhibit the growth of a wide range of bacteria, fungi, protozoa and viruses due to its osmotic effects and peroxidase activity. Its antibacterial properties are also because of certain non-peroxidase compounds like benzoic acid, gallic acid and syringic acid. It has both bactericidal and bacteriostatic properties against various strains especially gram negative. The species responding to Tualang at a concentration of 6-25% are streptococcus pyogenes, salmonella typhi, staphylococcus aureus and also coagulase negative species like streptococcus species and E. coli.[3,6,7,8,9]

Antibacterial activity of diluted Tualang Honey

The honey dilutions have tended to show variation in antibacterial activity. At a dilution of about 30%, honey showed enhanced antibacterial properties. The dilution of honey increases the per oxidase content of the honey

which inhibits the bacterial action and makes it bactericidal at a dilution of 45-70%. These results were evident in the inhibition of E. coli at a dilution of 40% wherein more substrate involved in producing the enzyme glucose oxidase leading to higher production of hydrogen peroxide.[10,11]

b. Tualang as a wound healer

The uses of honey as a burn wound medicine was first recognised by the Egyptians in 2000 BC. It is well established from centuries that honey can inhibit a broad spectrum of bacterial species Microorganisms such as Staphylococcus aureus, Pseudomonas aeruginosa and Escherichia coli. All these microorganisms are commonly found in skin wound infections and frequently isolated from skin wounds. The pathophysiology of wound suggests that the pathogenic organisms which colonize around the wound especially the burn wound take their origin from patients' endogenous skin, GI and respiratory flora communication and contaminated with external surfaces, water, air and soiled hands. Many gram-positive bacteria inhabit the wound site but the most serious complication in burn patients is associated with infection of P. aeruginosa, followed by infections with E. coli. Tualang honey has shown unsurpassed bactericidal properties against these gram-negative pathogens. Besides its antimicrobial properties, Tualang honey can sojourn the infection in by boosting the immune system, with anti-inflammatory and antioxidant activities and via stimulation of cell growth.

The study done by Nasir et al showed significant results with Aquacel – Tualang honey dressings on burn wounds. The spectrometric study done by Hern Tze Tan revealed results for Tualang honey to be better against MRSA (Methicillin resistant staphylococcus aureus) than manuka honey which has been traditionally accepted as the best traditional burn dressing. Some researchers also report that by using the honey on that burn wounds prior to skin graft surgery, infection was avoided and the size of burns decreased 32 percent.[12,13]

c. Tualang as Antioxidant

Tualang with highest amounts of phenolic acid and flavonoids in comparison to all other honeys makes it the best natural antioxidant. Besides these two compounds, it also illustrates highest ferric reducing power values which contribute to its scavenging properties of engulfing free radicals produced as a result of oxidative stress.

Antioxidants are affluences that may protect cells from the damage caused by unstable molecules known as ROS (reactive oxygen species) and free radicals. Free radicals are responsible for causing a wide number of health problems which include cancer, heart diseases and gastric problems etc. Flavonoids and phenolics acids are secondary metabolites and bioactive compounds in plants and good sources of natural antioxidants in human diets. It is an antioxidant substance capable of scavenging free superoxide radicals, reducing the risk of cancer and protecting biological systems against the harmful effects of oxidative processes on macromolecules, such as carbohydrates, proteins, lipids and DNA. Honey has the potential to impound metal ion in complexes which prevent the formation of free radicals. A study done by Shafin et al showed positive results for Tualang honey supplements reducing the blood oxidative stress levels in post- menopausal women. The study done by Mohd. Sairazi et al determined the effect of pretreatment with tualang honey as a potent factor against KA- induced oxidative stress that resulst in neurodegenration.[14,15,16,17]

d. Tualang as Anti diabetic

Glucotoxicity contributes to beta-cell dysfunction through oxidative stress. Studies have shown that Tualang honey ameliorated renal oxidative stress and produced hypoglycaemic effect in streptozotocin (STZ)-induced diabetic rats in an experiment. Tualang honey significantly reduced elevated MDA (malonaldehyde) levels. Honey treatment also restored SOD (superoxide dismutase) and CAT (catalase) activities. These results suggest that hypoglycaemic effect of Tualang honey might be attributed to its antioxidative effect on the pancreas and can be therapeutic in diabetes.[4,14,15,16,17]

e. Potential health benefits in Chronic Smokers

Smoking introduces free radicals into the body resulting in oxidative stress, decreased antioxidant status and negative health impacts. Chronic smokers have significantly higher levels of F2-isoprostanes, TAS (Total antioxidant status) and CAT (catalase) activity as well as significantly lower levels of SOD (superoxide dismutase) and GPx (glutathione peroxidase) activities. It is seen that supplementation of Tualang honey for 12 weeks significantly reduced the level of F2-isoprostanes and increased the level of TAS as well as the activities of CAT and GPx among chronic smokers. The findings may suggest that honey can be used as a supplement among those who are exposed to free radicals in cigarette smoke either as active or passive smokers in order to protect or reduce the risk of having cardiovascular diseases.[18,19]

CONCLUSION

The enormous amount of data about honey's therapeutic properties, along with the swiftly increasing interest in and research into natural health remedies and supplements, has led to a resurgence in interest in honey's therapeutic uses. Tualang Honey is only recently attracting attention. More laboratory research and clinical trials are needed to develop a better understanding of its potential health benefits and to abate scepticism.

Future prospects for research in Tualang honey

1. Tualang honey research is needed to assess it as a natural equivalent of Hormone replacement therapy.
2. Irradiated Tualang honey with gamma radiation, showed antioxidant, free-radical scavenging

properties increased up to 111 percent — a most unexpected outcome, which shall be taken as a research project.

3. Tualang honey can be used as a supplement among those who are exposed to free radicals in cigarette smoke either as active or passive smokers in order to protect or reduce the risk of having cardiovascular diseases."

As an oral health professional, I would suggest a supplement of Tualang Honey would be surprising for preventive measures in all the oral premalignant lesions and conditions. I would propose the research of pure Tualang or its supplement in the prevention and treatment of all pathogenic conditions which have autoimmune origin or associated with some kind of deleterious habits.

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