



HERBS AS ANTIVIRALS

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Backgrounds and aims:

1. Clarify the ecosystem as a factor in combating Covid19
2. Clarify the expected future of apitherapy regarding SARS CoV2 and other diseases
3. Clarify the possible relationship between our disturbed ecosystem and disturbing human immunity.
4. Clarify the persistence of the old remedies for vital activities like harvesting mountain honey and its significance. Figure1

Inclusion criteria: current antiviral herbs recognized by traditional medicine, evidence-based characters, and biological markers of raw bee honey in disease cure.[1]

Exclusion criteria: herbs with unclear posology, multipurpose herbs, herbs with disputed effectivity, and bees honey poor quality .

Methods: Literature reviews based upon publicized scientific research illustrating the persistence of some traditional methods for keeping and harvesting honey over thousands of years, illustrating the advantages of the recent "superflow hive" style and suggesting some solutions for "Colony Collapse Disorder" of bees. Figure2,3,4[2]

Abstract

In Traditional Medicine: "Echinacea" herb is used for the common cold, "Lianhua" for SARS, "Sambucus" for Swine Influenza. Other suggested herbs include "Korean Angelica" and "Aloe Vera" for Covid19. Elderberry and Rosemary are used as general antivirals. "Nigella Sativa" (Fennel)

was added to honey in Pakistan as a trial to cure Covid19. Alone it can be both preventive and curative. Italian researchers found that bees are a good "biological indicator" for the spread degree and prevalence degree of SARS CoV2. "Grunenthal Group" and Bayer companies committed fatal mistakes regarding the environment and medical ethics. The coming "FHIR" system (fast interoperability healthcare resources) in the USA can broaden the scope of medical research.. "Anti quorum sensing" and "Antibiofilm" in raw bees honey may be the trigger for "Apitherapy new discoveries". The discovery of the "Antigravity" flying mood of honey bees and the discovery of its capacity to diagnose some diseases by "smell" like Tuberculosis and Breast cancer are put side by side with the ability of bees to identify explosives, narcotics, and even human emotions by their superpower smell. Ancient Egyptians came to know that "Linden" flowers' honey has a superpower in preserving cadavers. Some recent researches show that bee "propolis" and beeswax are more antibacterial than bee honey itself while the "regenerative" power of bees venom is restricted by its high price. The current knowledge about "Manuka" honey for bacterial diarrhea, "Medihoney" as burn honey, "Hitkari" honey as the "trusted" honey, and "Elvish" honey as "unique" honey are unsatisfactory. Figur5-14.

Keywords: Herbs, Cure, Apitherapy, Ecosystem, SARS CoV2, FHIR, Traditional medicine, repurposing, ethnomedicine.

1.Introduction

1.1 Hippocrates said: "Let food be your medicine and medicine your food".At the time of Nixon's presidency in the USA, it was a surprise to find one of his ministers relieved of severe pain in China by the so-called "Moxibustion" and Acupuncture. That was the trigger to enter "Alternative & Complementary medicine" inside the USA.Figure15,16[3]

1.2 Complementary and Alternative medicine clinics currently get profits more than that of primary care conventional medicine. Acupuncture cures some cases of "post-traumatic stress" as well as some neuralgic pain. Herbal medicine may help rabies, leprosy, bronchial asthma, hay fever, and urinary tract infection. Honey is recognized in frequent religions including Islam, Christianity, and Hinduism, and is accepted in

some countries' conventional medicine to treat burn wounds. Figure 17 [4,5]

1.3 The discovery of checkpoint inhibitors (e.g: Atezolizumab) was of value for some tumors like melanoma, colon cancer, and lung cancer. Instead of multiple regimens like chemotherapy, here is one-way therapy which proved effective in some cases. The recent "Antimicrobial peptides" also deal with gram-negative, gram-positive bacteria, enveloped viruses, and maybe cancer cells. Under the same meaning, the presence of Antiinflammatory+Microbicidal+Antioxidant in one compound (raw bees honey) runs in the same rationale. Yet the latter lacks clinical "invivo" trials and posology components (brand, subtype, .(strength, timing, duration, etc). [6,7]

1.4 The scandal of "Thalidomide" and its sequelae i.e: "Phocomelia" congenital anomalies was preceded by the accusation of "Bayer" company after world war 1 for being encouraging to unwise consumption the stored "Asprin" before the expiry of its patent. Many cases of "Spanish Influenza" were attributed to Aspirin toxicity instead of the so-called "Cytokine storm". Again "Bayer" tried recently to dispatch its annual 9000 tons of pesticides (neonicotinoids and imidacloprid) despite the proof of being toxic to bees and dispersing to the underground water and even affecting fish in rivers. The fish immunity was deranged. "Publication bias" did occur during our current Covid19 pandemic when some manuscripts are not conforming with the common share of controlled trials of big research centers. Figure 18,19 [8]

1.5 After the crisis of SARS CoV2 in north Italy, researchers remembered that they rely upon honey bees as a monitor to detect the spread of "gram-negative" bacteria in apple trees during a previous agricultural crisis. They imagined that they can do the same with SARS CoV2. The rationale was: bee has a range of 7 square kilometers of movement per day. It has 2 million hair all over its body even over the eyes. It works daily with a 12-hour shift without lockdown or "stay at home" like humans. Moreover, bees can see the polarized light enabling them to

forage even in the foggy time. A civilized city has a bulk of the so-called "Particulate Matter" PM suspended in its air with a range of 2.5-10 microns. Those PMs carry samples of pathogens including Covid19 over bees' hair.[9][10][11]

1.6 For unclear reasons, scientists gave special interest to bees' life. And for unclear reasons, their research raises signals which means: "wait for the coming!". Scientists discovered that between the wings of a bee, there is a pit that produces energy. That energy is supposed to acquire the bee's "antigravity" power. Now, we can believe how a bee carries in its "corbiculae" and in its abdomen a load equal to its body weight and moves at a speed of 20 kilometers/hour. Bees can detect by their superior smell (100 power to that of humans) the smell of tuberculosis patients, breast cancer patients, drug smugglers, and explosive smugglers and even human emotions like " being afraid" through smelling the specific "pheromone" that is supposed to arise from the afraid person.[12][13]

1.7 Despite "Drones" being used for wildfires in forests, we did not hear that they can do a proper job of harvesting Mountain Honey bees. Those who purchase the "Elvish" Turkish variety of honey, one kilogram for \$5800 are supposed not to be foolish. Rather, they "Believe" in the "hidden" curing power of that brand. The aim of my research is to clarify that there are "in silico" data referring to social bees, whether stingless, sting, Bumble, or Apis Mellifera denoting coming signals for a new brand of therapy for the human being.Figure20

2. Methods

Inclusion and exclusion criteria

2.1 Inclusion criterion: included agreed-upon herbs like "phytolacca" for Rabies in Ethiopia, "Genuine Manuka" (of Australia or Neozelanda) honey for burn wounds. Proper posology like the raise in serum Prostaglandin level in HIV patients after80 gram/day of bees honey for 21 days.Figure 20,21[14][15]

2.2 Exclusion criterion: like bees honey which became toxic like that from "Rhododendron" or "Azalia" farms (mad honey), honey subjected to heat above 60 C or ultraviolet rays, honey of "California buckeye" farms which are toxic both for bees and humans. Bees raised on artificial sugar or obliged" to specific farms by some beekeeper tricks, adulterated honey, or any honey subjected to preservatives, heating, or additive.Figure23-26[16]

2.3 Experimental Grouping:

Reviewing the pictures of flowers of mountains versus valleys shows more "tight" and "brilliant" flowers. Native Stingless Bees NSB is famous for its sharp citrus tangy flavor. Raw honey (no additive, no preservatives, no heating) is the standard. The triad of:1.Pollen content percentage 2. Sealed brood percentage 3. Varroa virus affection percentage is taken to compare between different hives vitality.Figure27-30

2.4 Statistical Analysis

Over the past 40 years, there is a drop in the number of beehive colonies all over the world (Colony Collapse Disorder). My "radar char"t showed "linden" farms in Egypt giving the maximum amount of bees honey while apple farms gave the minimum amount. Wholesale "Zealand" and "Elvish" honey are among the most costly. The Italian record shows a high mortality rate at the start of SARS CoV2 while very low after "Flattening of the curve". Statistics also show good living conditions for bees in North America, Algeria, Iran, Turkey, and Sudan comparative to the other nations.Figure31

3. Results

3.1 Bioavailability

The short bioavailability of the chosen bee product was among the reasons why the results are incomplete or unexplained. It appears that "mountain honey" can help to solve this problem. Some Manuka brands have 100-time bactericidal power comparative to others. Lack of air pollution in mountains, lack of bee predators leave them the hope for the coming bee research.Figure32[17]

3.2 Man-made spoiling

Some nations supply bees with sugar and water as a replacement for taking their honey. Others "infuse" the odor of some crops (like clove) with sugar as a "taming" to bees followed by traveling the hives to that specific crop instead of leaving bees select foraging by its will." Bayer" company with its an insistence to manufacture "neonicotinoid" and "mediclopilid" caused a tragedy in bees. It is said that the annual loss of bees inside the USA allows a football stadium with an underground depth of 9 feet to be filled with dead bees. We are in need of apitherapy clinics not only to cure humans by bees but also to cure bees affected by "varroa" by humans. The only exception from "varroa" is Australian bees and "New Guinea" bees. Using honey in pancakes is wrong since heat above 60 C destroys the curing qualities of honey.[18][19]

3.3 Flow hives invention

It is worth of trial. It costs \$517 per hive yet has some unique advantages: 1. Providing soft plastic frames with hexagonal combs. Using a special tool, the hexagonal frame turns to "cylinders" for draining honey with extra space to assure no crash to the bees. 2. Nontouch noncontaminated honey (raw honey). 3. Semi isolated from the bee so there is no need for full protection costume at the time of honey collection. Figure 33-36 [20]

3.4 Start of apitherapy Posology and classification

80 gm of raw honey/day for 21 days for some HIV patients resulted in an increase in " prostaglandin" serum level. Adhesive plasters formed from honey and its wax was proved efficient in many cases of burns. 60 gm of raw oral honey/day for E Coli diarrhea cases resulted in a cure of 66% of patients." Acacia " honey, used topically proved effective in the acceleration of wound healing in a new corneal transplant. "Gelam" honey is said to protect from radioactivity side effects. Figure 37 [21][22]

3.5 Bees favorite farm encouragement

Among the beloved farms of bees are Lavender, Lilac, Borage, Pussy, Glossy Abella, Beebalm. Those have to be encouraged. The violet and .yellow colors are beloved by bees. Figure 38-42

3.6 Artificial Honey and artificial pollination debate

Artificial honey did not prove efficiency like the natural one. Chinese tried artificial pollination by mankind. The end result is their need for thousands of wages for workers in place of one bee hive. Moreover, the bee while "wavering" in front of a flower "petal" does not break or spoil a soft plant organ. That technique is difficult with human-made machines.

3.7 Funding Alternative and complementary Medicine Research Centers

Unfortunately, the words "experimental" and "unexplained" are mostly in the face of Alternative medicine trials. One gram of Bee venom costs \$350 which is 7 times the cost of gold!. Yet we have to notice that the "Elvish" Turkish honey costs \$5800 per kilogram. On the other side, "Nepal" Mountain honey may drop to only \$40 for a kilogram. Looking at the maneuver of "Nepal" honey collection resembles the "Pharaonic" inscriptions 3500 BC. Invitro, ex vitro and animal studies are currently available related to ethnomedicine, but it lacks full-blown "invivo" work in humans. Colony Collapse disorder has to trigger our memory of what happened to "Dinosaur" 80 million years ago start to disappear when a drop of 4 degrees in climate temperature resulted in that supposed genocide. Figure 43

3.8 Diversity in Bee products

1. "raw honey": equal power (according to some studies) in its effectivity toward a. Bactericidal b. Regeneration c. Detoxication d. Metabolic reactivation e. Immune system bolstering[23]

Regarding the other components of Bee products, the picture differs:

2. **Propolis:** Regeneration and Antibacterial on top. That may suggest its use in "rheumatic disorder"s.[24]

3. **Wax:** the Antibacterial on top. That may suggest its use in some "Dermatologic disorders".[25]

4. **Venom:** Regeneration on top, that may suggest usage in immunologic disorders.[26]

5. **Pollen:** Detoxication on top: that may help hepatic disorders.[27]

6. **Royal jelly:** Detoxication on top: can be used in some fertility disorders.[28]

7. the so-called "**honeydew honey**": has a "cantaloupe" odor and is more watery. It is called "wild honey" and is said to have more "antibacterial" effectivity comparative to "Manuka" honey.[29]

8. The so-called "**Beehive air**": the evaporate of all bee secretions inside the hive. It is said to be "very effective" in some respiratory illnesses including sinusitis, bronchial asthma, and lung fibrosis.Figure44[30]

9.**Bee bread:** fermented pollens after mixing it with honey. It may help protect from side effects of chemotherapy and may lower cholesterol and triglycerides .Figure45[31]

3.9 Correction of Ecosystem

If we put what " "Albert Einstein" said in our consideration " humans can not live more than 4 years in absence of bees", here we can assume that in such a condition, a shipment of "Potatoes" will be more valuable than a shipment of "Gold".Without bees, no pollination, no crops, no forests, and no ozone protection to our planet.

Countries superior in beekeeping like Turkey, Romania, North America, Germany, Iran, and Austria can assume the presence of the "Ministry of Bees".Its rule will be to "fund" apitherapy research, licensing the pure versus adulterated honey, protecting bees from harmful pesticides, reconciliation between the new technologies and bees (like 5th generation of internet, smart cellular phones), and acquiring "drone"

airplanes as well as GPS" tracers to discover and image Mountain beehives as well as establishing farms beloved by bees not by farmers. It is not accepted that the same procedure in the year 2022 is exactly like that practiced 3000 years ago, we want new techniques and more .positive and safe results in collecting mountain honey.

3.10 The oldest does not always mean the worse:

Ancient Egyptians used "Linden leaves "s with honey in the coffins of their pharaohs. Recently, we came to know that Linden farm bees honey is among the highest in hydrogen peroxide and osmolarity. Cars' by-products pollute the air and cover leaves of fruits while donkeys by product fertilize the farm."Maggot therapy" in treating burns, though offensive yet has astonishing cure result.Figure46[32][33]

3.11 Research in Bees is an honor

Bees are"jack of all trades". From cleaning the nest to feeding the brood to attending the queen to defend the hive to explore the surrounding, to forage, to poll for" swarming", to scout for proper flowers, to explore for a new nest. Bees are creative in nature. Newzealand did not know "clove" except after bees. California's huge fruit farms came after bees. Bees defend their hive with their life. They are loyal to their queen. The queen accompanies 20 generations of workers due to her long life span. Those workers spend their life in hard work. A bee drops over 5000 flowers during her short life of about 2 months. The queen gives an egg in an isolated and separated cell every 43 seconds of her life. The male receives generous support at his birth but once his number exceeds the colony's requirement expelled relentlessly by workers. Bees do not poop inside their hive and do not sting during swarming denoting that stings are only to defend their established home.Figure47-50[34]

3.12 Antitumor activity of bees honey

The ratio G0/S cell line was arrested by honey in some research in rats after the addition of "Aloe vera". The antiproliferative capacity of honey was proved in arresting G0/G1 cell lines in Melanoma, glioma, and colon cancer.[35]

3.13 Anti SARS CoV2 vaccine

Unsatisfactory results up till now. The genetic subtypes may resemble Hepatitis C virus in being in continuous change (quasispecies).[36]

4. Summary

Mountain honey is a hope for "invivo" human trials due to its supposed longer bioavailability. We need to understand and support the problems of bees. Herbs boosting human immunity like Ginger, Garlic and Curcuma have to be encouraged. Climate change, clear water, and biodiversity are cornerstones to correct our ecosystem. The fact that 70% of human bacterial infections are accompanied by biofilm has to encourage researchers to a new modality away from our current antimicrobial stewardship. Figure 51-53

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