

Original Article

The Powerful Healing Effect of Traditional Medicine for The Treatment of Certain Chronic Diseases: One of The Means To Better Defeat Covid-19

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Abstract: Health is one of the greatest blessings a person can have, and it is priceless. Traditional medicine has always been and remains an important practice for human health. In all regions of the world, popular knowledge has acquired its own experiences in traditional medicine which are passed on from generation to generation and which have generated wonders in terms of innovation of effective traditional remedies which bear the fruit of the healing. After the release of the novel Covid-19 virus, several research studies have focused on the study of medicinal plants that fall under traditional Chinese or Indian medicine or others around the world, to try to put in place remedies against this virus. Chronic Diseases kill millions of people around the world every year. These diseases cause a weakening of the immune system in people who have them. As a result, health experts have classified those affected by these diseases as being among the most at risk in the event of contracting Covid-19. It is therefore obvious that preventing and combating chronic diseases helps to better cope with this Virus or others that may arise in the future. In this humble work, we have tried to make a small contribution that could help fight Covid-19. In the light of actual practices supported by bibliographic research, we try to recall some orientations of natural treatments against certain widespread chronic diseases namely: type 2 diabetes; arthritis and weak immune system (particular case of a low white blood cell count). The results of these treatments are very promising for healing and recovery; which opens doors of hope for those who are affected. Moreover, this subject deserves serious investigations through Research for a better consolidation of these therapies.

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INTRODUCTION

Nature has provided innumerable number of culturally important medicinal plants that have been indispensable for the treatment of various diseases and maintaining health; the term of medicinal plants includes a various types of plants used in herbalism with medicinal activities (Ashraf et al., 2014).

The use of medicinal plants for the treatment of diseases dates back to the history of human life, that is, since human beings have sought a tool in their environment to recover from a disease, the use of plants was their only choice of treatment (Halberstein, 2005).

Jamshidi-Kia et al. (2018) reported from some authors that evidence indicates that plants have been cultivated as drugs approximately 60 000 years ago and that Scripts about medicinal plants date back to almost 5000 years ago in India, China and Egypt, and at least 2500 years in Greece and Central Asia.

In Islamic medicine and as indicated by Hussein et al. (2019), the Prophetic Medicine (known in Arabic as “Ettib Ennabaoui” which means “The Medicine of the Prophet”) was developed during

the time of Prophet Muhammad (peace be upon him), while Islamic Medicine is a continuation of endeavours reaching its peak during the Islamic Civilization Era, the Islamic Golden Age, spanning the 8th to the 15th Centuries.

According to Ghazanfar (1994), Arabian physicians, such as Al Razi, Ibn Sina, Abu Al-Qasim Al-Zahrawi, Ibn Rushd and Ibn Naffis, further developed medicine as a scientific discipline in the Middle Ages. The growth of Islam in the seventh century sparked a golden age of scientist discovery. Building on the wisdom of ancient civilizations, Muslim doctors pushed the boundaries of medical science into bold new places; They were also pharmacists who produced their own medicines (Pallejá de Bustinza, 2016).

It is currently estimated that approximately 420,000 plant species exist in nature, reported Ashraf et al. (2014) from McChesney et al. (2007) and Vuoleraa et al. (2004). About 25,000 plant-based formulations have been used in folk remedies in Indian medicine. Recently, the total number of Indian medicinal plants was estimated to be around 3000, yet, traditional practitioners use around 8000

different species for their practice, reported Vellingiri et al. (2020).

The parts of medicinal plants that may be used are different types of seeds, root, leaf, fruit, skin, flowers or even the whole plant. The active compounds in most parts of the medicinal plants have direct or indirect therapeutic effects and are used as medicinal agents (Jamshidi-Kia et al., 2018)

Recently, the World Health Organization (WHO) estimated that 80 % of people worldwide rely on herbal medicines partially for their primary health care. There is now a consensus regarding the importance of medicinal plants and traditional health system in solving the health care problems, efficacy and safety of medicinal plants in curing various diseases, indicated Motaleb et al., 2011.

The World Health Organization (WHO), defined Traditional Medicine as the sum total of the knowledge, skill, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness.

The emergence of the dangerous novel virus Covid-19 has confirmed this powerful use of medicinal plants and traditional medicine, in particular with the absence of a vaccine update. Indeed, sometime after the start of the spread of Covid-19 in the world, several researchers quickly published several articles which highlight herbal remedies and traditional medicine for the fight against the virus; some papers can be cited on this subject such as those of Balachandar et al. (2020), Kanyinda (2020); Helali et al. (2020), Liu et al. (2020), Vellingiri et al. (2020); ... etc. Recall here that the novel coronavirus disease (COVID-19) is caused by SARS-CoV2 and represent the etiology of a potentially fatal disease that is of immense worldwide public health concern, as indicated by Prasad and Prasad (2020).

The Australian Government Department of Health (2020) declared that the people with chronic conditions or compromised immune systems are at greater risk of more serious illness if they are infected with coronavirus (COVID-19). According to the same source, among the chronic conditions that may put a person at increased risk of serious illness from COVID-19, diabetes, some chronic inflammatory conditions and treatments, primary or acquired immunodeficiency.

The World Health Organization (WHO) defines a chronic disease as a long-lasting condition (6 months or more). According to WHO (2005), without action, an estimated 388 million people will die from Chronic Diseases in the next 10 years. Many of these deaths will occur prematurely, affecting families, communities and countries.

Diabetes is a chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Over time, diabetes can damage the heart, blood vessels, eyes, kidneys, and nerves. In 2016, diabetes was the direct cause of 1.6 million deaths and in 2012 high blood glucose was the cause of another 2.2 million deaths (WHO, 2019).

Arthritis is also a chronic disease. As reported by Houge et al. (2020) from several authors, Rheumatoid arthritis is a systemic inflammatory disease causing inflammation in the synovia. It may lead to joint destruction and extra-articular manifestations such as pericarditis, vasculitis, osteoporosis, rheumatoid nodules and Sjögren's syndrome. Rheumatoid arthritis patients have increased risk of cardiovascular events, as well as have higher cardiovascular, respiratory, and all-cause mortality rates compared to the general population. Remember here that the World Health Organization (WHO) (2020) indicated that Cardiovascular diseases (CVDs) are the number 1 cause of death globally, taking an estimated 17.9 million lives each year. According to the same source, Chronic Diseases are the leading cause of death and disease burden worldwide.

The immune system has a central role in many processes involving chronic diseases (Bagatini et al., 2018). It has been scientifically proved that the immunity system is the only system that has the ability to combat diseases and produce cells that kill viruses (Nazir et al., 2018).

Algeria is country rich in medicinal and aromatic plants. As everywhere in the world, the local populations have acquired knowledge and have resorted to medicinal plants and traditional medicine for a long time. According to Mokkaedem (2004), in Hoggar and in the absence of doctors, in certain isolated regions, the Tuaregs take care of themselves with medicinal and aromatic plants, the secrets of which they know passed from father to son. In Kabylia, when there is snow and the roads are cut, the mountain dwellers use medicinal and aromatic plants to heal themselves (fumigation of eucalyptus leaves against influenza). In the steppe during transhumance, nomads use white mugwort to fight against indigestion.

The recent study made by Helali et al. (2020) in Algeria, showed that with the arrival of Covid-19, nearly 57 plants have been identified in use by local populations to disinfect the air and relieve some symptoms that may be related to respiratory infections or even the Coronavirus.

To help cope with the new Covid-19 virus, we are trying through this work to make a small contribution to remind people of the usefulness of certain natural remedies capable of bringing healing to certain chronic diseases. We will limit ourselves to these three types of chronic diseases based on real experiences: type 2 diabetes; the

arthritis and the weakened immune system because of a low white blood cell count.

MATERIALS AND METHODS

The information given in this work emanates from family knowledge, from exchanges of experiences with other people and also from a bibliographical research.

The proposed work is based on real experiences on a family scale concerning the diabetes 2; the low white blood cell count. For arthritis, it concerned also test on family member plus testimonies of some extern persons. Although the number of people tested is very limited, however, the results of the natural treatments adopted have been spectacular against type 2 diabetes; the low white blood cell count and the arthritis. These findings were confronted with the writings and research carried out around the world on plants and other natural products used.

We seemed useful to highlight these experiences in order to derive maximum possible benefit from them and to open up more investigations in terms of research related to human health in relation with these subjects.

- Against diabetes 2, In addition to a more or less strict diet, we have used sage also called common sage (*Salvia officinalis* L.) called “Miramiya” in Arabic or “Swak Nbi” in the Algerian Arabic dialect; and we used cinnamon (*Cinnamomum* spp.) sticks as herbal teas (cinnamon is called “Karfa” in Arabic).
- Against arthritis, we used honey, garden cress (*Lepidium sativum* L.) seeds (called Thafaa or Habb Rachad in Arabic) and black cumin (El Habba Essaouda in Arabic or “Sanouj” in Algerian Arabic dialect) or nigella (*Nigella sativa* L.) seeds as oral cure. For external treatment, we used the dried and ground leaves and flowers of common Rue (*Ruta graveolens* L.) macerated in olive oil (for external use). Rue is called “El Fijel” in Arabic.
- Against the low rate of white blood cells, we take herbal teas made from ginger (*Zingiber officinale*) (called “Zenjabil” in Arabic), lemon (*Citrus limon*) (called “Leymoun” in Arabic), green (*Mentha viridis* L. or *Mentha spicata*) (called “Naanaa” in Arabic), jujube leaves (*Zizyphus lotus* L.) (called “Sidr” in Arabic). In addition, we have incorporated black seed of nigella and olive oil to make bread made from durum wheat flour and soft wheat. Before the start of taking these herbal teas and others, bloodletting sessions (“El Hijama” in Arabic) had been started a few months previously

Remedies used for diabetes 2 and mode of uses

For the equivalent of two large cups of water, a pinch (the equivalent of a large tablespoon) of sage leaves is taken. After the water has boiled, we put the sage leaves that can be left to boil for a few seconds, then we cover and let infuse for at least 10 minutes. We drink two cups a day two or three times a week at the onset of the illness. Then we decrease the dose as the blood sugar level improves. It is best to avoid drinking this herbal tea every day. It can be alternated with herbal tea made from cinnamon sticks. Two cinnamon sticks for two large cups of boiled water that is left to infuse. To drink at least twice a day and to take twice a week (alternate with the other herbal tea).

Along with these herbal teas, a diet is adopted as follows:

- Hot drinks (coffee, herbal teas and others) taken without sugar
- No sugary drinks (We can take them but very rarely; after a day of fasting for example)
- Very limited bread consumption
- Very limited sweet cakes per day
- A lot of vegetables but fruits without excess

Remedies taken for low white blood cell count and mode of uses (start of treatment with the arrival of covid-19 in Algeria, around march 2020)

Diet and herbal tea

In addition to home-made bread made from a mixture of durum wheat and soft wheat flour, to which black seeds (nigella) and olive oil are incorporated, herbal teas are prepared almost daily. In a liter of boiled water, we add a pinch of spearmint leaves, a pinch of jujube leaves, a small piece of ginger from a fresh root, half or a whole lemon. We let it boil for a few moments and then we cover for at least 10 minutes. Lemon juice is extracted to incorporate it into the herbal tea. We take several cups of this herbal tea per day.

Remedies adopted for arthritis and mode of uses

The person concerned: Woman, 73-year-old when started the disease at her: arthritis with very severe pain in the right shoulder.

Oral treatment

Before starting traditional treatment, the elderly person suffering from severe shoulder arthritis pain stopped the prescribed medical treatment as well as the rehabilitation sessions due to the lack of permanent improvement (The injections as well as the physical exercises limited the pain temporarily and in a short time).

The natural oral treatment was based on the triptych: honey, black seeds (Nigella seeds) and garden cress seeds.

In a 250 g jar of honey, we added a large ground spoon of black cumin seeds and a small ground spoon of garden cress seeds.

Two large spoons of this mixture was swallowed per day, one in the morning on an empty stomach and the other in the evening before sleeping. The duration of the cure varies from three weeks to one month but the favourable results were already visible very quickly. Let us put out that the treatment can be resumed if the pain returns.

One elderly person we met with experience advised another way of using garden cress seeds to treat arthritis. She recommends swallowing the equivalent of a teaspoon of garden cress grains in the morning on an empty stomach with water for a period of 20 days and which gives an excellent curative effect, according to her testimony.

External treatment

The treatment for external use was based on olive oil and dry ground leaves and flowers of common rue or *Ruta graveolens* (available from herbalists). For this, crushed fresh leaves can also be used if available.

The ground leaves and flowers or the fresh leaves crushed in olive oil must be left to macerate for a few days. In a quarter of a liter of olive oil, you can put at least 3 large spoons of leaves and / or flowers of common rue.

Once the mixture has been well macerated, a quantity is lightly heated and applied to the painful areas and then covered with a bandage. It can be applied twice a day.

This external application can be renewed over time whenever the need arises in order to reduce pain due to arthritis.

RESULTS AND DISCUSSION

Diabetes 2

After the diet followed and the intake of herbal teas, in particular based on sage and reinforced with that of cinnamon sticks, the results were positively spectacular to the point where the diabetologist was impressed by the regulation of blood sugar in the person concerned.

In fact, this normal recovery of blood sugar has not been momentary but it has lasted for almost four years despite the presence of the hereditary effect compared to this disease prevalent among close relatives.

Indeed, sage is known for its virtues on human health and particularly on diabetes. Results of the work of Behradmanesh et al. (2013) showed that *Salvia officinalis* might be beneficial in diabetic patients to reduce 2 hours postprandial glucose and cholesterol. Eidi and Eidi (2009) concluded from their experiments on rats that the traditional use of *Salvia officinalis* as an antidiabetic agent is justified and that extracts from this plant show a

dose-dependent activity which is comparable to the standard antidiabetic drug glibenclamide.

According to Bnuham et al. (2006), many authors confirmed the hypoglycaemic effect of sage or *Salvia lavandifolia* Vahl. and suggested that this hypoglycaemic effect may arise by several mechanisms: a). potentiation of insulin release induced by glucose; b) increased peripheral uptake of glucose; c) decreased intestinal absorption of glucose; d) hyperplasia of the pancreatic islet beta cells 116. Recall here that *Salvia lavandulifolia* Vahl. is also called Spanish sage or *Salvia officinalis* subsp. *lavandulifolia* (Vahl) Gams, as indicated by Cutillas et al. (2017).

Concerning the cinnamon, the results of the study of Khan et al. (2003) demonstrate that intake of 1, 3, or 6 g of cinnamon per day reduces serum glucose, triglyceride, LDL cholesterol, and total cholesterol in people with type 2 diabetes and suggest that the inclusion of cinnamon in the diet of people with type 2 diabetes will reduce risk factors associated with diabetes and cardiovascular diseases. According to Sartorius et al. (2014), cinnamon extracts were shown to have antidiabetic effects as a number of cell studies demonstrated an insulin-like action.

Low white blood cell count

The patient's white blood cell count remained below half of the normal number for years and was one of the effects of treatment with chemotherapy and radiotherapy, thus compromising the immune defence.

The arrival of Covid-19 has encouraged the person to seek out natural remedies that could restore the balance of the number of white blood cells.

Bibliographical research in this context has focused on drinks made from ginger and lemon and consumption of black seed (*Nigella sativa*). The problem of chronic allergic bronchitis led to us to incorporate in the herbal tea of ginger and lemon the leaves of wild jujube tree (*Zizyphus lotus*) but also of spearmint or green mint (*Mentha spicata*).

The results of the blood tests made three months after taking this herbal tea alongside the bread in which the black seed or nigella and olive oil were strongly incorporated, were surprising (Recall here that bloodletting sessions had been started a few months previously). The white blood cell count has not only improved but even better, it has become normal, which is extraordinary since for years, it has remained, let us remember, well below the normal norm. Let's show what the research says about these ingredients to try to figure out what happened.

For the ginger (*Zingiber officinale* Roscoe), family of Zingiberaceae, and according to Pattanayak (2019), the rhizome is antioxidant, stimulant common cold, anticholesterol and pieces of succulent rhizome taken orally with salt in

pharyngitis, common cold. It is considered immunostimulant, indicated Pattanayak (2019).

Always about ginger, Bole and donge (2011) indicated that the most common use of ginger is to alleviate the vomiting and nausea associated with pregnancy, chemotherapy, and some types of surgery. The clinical data undoubtedly indicate that ginger is at least as effective, and may be better, than vitamin B6 in treating these symptoms. Interest in ginger as an anticancer agent has markedly increased over the last few years and a direct protein target has been identified in colon cancer. Ginger also appears to reduce cholesterol and improve lipid metabolism, thereby helping to decrease the risk of cardiovascular disease and diabetes, added Bole and donge (2011).

Concerning the lemon, according to Pattanayak (2019), *Citrus limon* (L.) Burm. Rutaceae family (lemon is common name), fruit, is anti-cancer, prevent kidney stone, balance body acid-base balance and is used as immunostimulant during acute stage and after recovery from disease.

Indeed, lemon (fruit) is known for its richness in vitamin C and its antioxidant properties. According to Ali et al. (2020), lemon fruit is known by its various health benefits, such as anticancer effect, antimicrobial effect, lipid-lowering effect, protective effect against cardiovascular diseases and antifungal activity.

For the wild jujube (*Zizyphus lotus*) called in Arabic "SIDR", Bellakhdar (1997) indicated that several parts of *Zizyphus lotus* have been used in traditional medicine for the treatment of bronchitis, diarrhea, and abscess. Dahlia-Mahieddine (2019) reported from some authors that different organs of wild jujube have been used in traditional medicine as an anti-inflammatory, analgesic, anti-ulcerogenic, antispasmodic, antidiabetic, sedative, as well as in the treatment of digestive disorders and fever. In his side, Abdoul-Azize (2016), mentioned that recently, several scientific reports for health benefit and nutritional potential of bioactive compounds from jujube have been reported. This plant is rich in polyphenols, cyclopeptide alkaloids, dammarane saponins, vitamins, minerals, amino acids, and polyunsaturated fatty acids. These identified compounds were supposed to be responsible for most of *Zizyphus lotus* biologically relevant activities including antimicrobial, anti-inflammatory, hypoglycemic, antioxidant, and immunomodulatory effects, added Abdoul-Aziz (2016).

About *Mentha spicata*, Kee et al. (2017) reported from some authors that spearmint possesses antioxidant activity on account of the presence of phenolic acids, flavonoids, carvone and ascorbic acid in leaves and that spearmint can become an alternate form for synthetic antioxidants which bring harmful effects. In their side, Ben Haj Yahia

et al (2019), reported that the genus *Mentha*, encompassing about 40 among species and recognized hybrids distributed worldwide is one of the most important genera of the *Lamiaceae* family and *Mentha* species are a well-known source of terpene-rich essential oils used in traditional medicine as well as in flavoring, beverage, culinary and for cosmetic application.

Concerning *Nigella* and according to Hossein and Saifullah (2019), literatures relating to the prescription of *Nigella sativa* in various diseases go back 2000 years in history. Black seed oil has been commonly used in the treatment of health issues relating to the cardiovascular system, liver and kidney functions, digestive tract, respiratory system and immune system support, besides overall well-being. Nazir et al. (2018) indicated that the seeds of *nigella* are also rich in essential fatty acids such as Linoleic acid, which cannot be produced inside the body and need to be obtained from food. Black seed is a source of minerals like calcium, sodium, iron, and potassium and is thus important for the body. These same authors concluded that black Seed may be a cure for every disease because it strengthens the immunity system which is responsible for curing diseases and combating viruses.

For olive oil, Foscolou et al. (2018) concluded through their work that the aggregated evidence supports the assertion that olive oil consumption is beneficial for human health, and particularly for the prevention of cardiovascular diseases, breast cancer, and type 2 diabetes mellitus.

So, going through the bibliography, we find that everything that has been incorporated as plants and others in our herbal tea and diet is generally antioxidant and strengthens immunity.

Arthritis

Remember that to treat an elderly person suffering from arthritis in the right shoulder, we have used three types of ingredients: honey, black seed (*Nigella sativa*) and garden cress (*Lepidium sativum*) seeds for oral cure. Extern cure consisted on crushed dry leaves and flowers from common rue (*Ruta graveolens*) macerated in olive oil.

After taking the treatment and as a quick result, the pain has completely gone. Moreover, the passage of time by years proved that the patient was cured. Other testimonies granted by some people have confirmed the effectiveness of the utilisation of garden cress grains and of the external use based on olive oil and rue in the soothing of pain due to arthritis or rheumatism or other diseases related to the bone.

What does the bibliography say about garden cress (*Lepidium sativum*) and others?

According to Singh and Paswan (2017), the content of biologically active compounds, as well as the

antioxidant capacity of *Lepidium sativum* has been investigated by several researchers and their findings indicated that seeds of garden cress plants are good source of amino acids, minerals, fatty acids and have the ability to act as *in vivo* as well as *in vitro* antioxidants due to their high content of phenolic compounds. The authors add saying that the functional health benefits of garden cress seeds may be exploited by incorporating it in several food formulations and health drink preparations.

Coming from crucifereae family, garden cress has been used for respiratory disorders, vitamin C deficiency, constipation, poor immunity, and as a diuretic (Al-Jenoobi et al., 2013).

Ghante et al. (2011) indicated that seeds of garden cress have been implicated in the treatment and management of a plethora of diseases such as asthma, pain, inflammation, nociception, blood coagulation, oxidative stress, enuresis, and related disorders.

According to Bansal et al. (2012), the seeds of *Lepidium sativum* are aperient, diuretic, tonic, demulcent, carminative, galactagogue, and emmenagogue, are used to induce an abortion, and also possess antibacterial and antifungal properties.

Elshal et al. (2013) reported that many studies have assessed the influence of *Lepidium sativum* seeds and roots on bone health. In his study, Juma (2007) concluded that *Lepidium sativum* seeds showed a significant effect on fracture-induced healing in rabbits *in vivo*, which supports the observation noted in the community and in traditional folk medicine, added the same author.

About honey, El Sayed et al. (2020) reported from Yaghoobi et al. (2013) that the use of Honey leads to improved wound healing in acute cases, pain relief in burn patients and decreased inflammatory response in such patients. Samarghandian et al. (2017) reported that Honey is the only insect-derived natural product formed from nectar of flowers by honeybees (*Apis mellifera*; Family: Apidae) and they mentioned from several authors that evidence indicates that Honey can exert several health-beneficial effects including antioxidant, anti-inflammatory, antibacterial, antidiabetic, respiratory, gastrointestinal, cardiovascular, and nervous system protective effects.

About Nigella, the results of a study taken by Kooshki et al. (2016), showed that topical application of Nigella sativa oil was effective in reducing pain in patients with knee osteoarthritis; therefore, it is recommended as a safe supplement for these elderly. Remember that we have seen before some other virtues attributed to black seed or nigella.

Natural honey has anti-oxidant, anti-bacterial and anti-inflammatory properties and is a confirmed remedy in Prophetic Medicine beside black seed or nigella, indicated El Sayed et al. (2020). Indeed, alongside honey and black seed, garden cress

(which is called in Arabic “Thafaa” or “Habb Rachad”) is also among the remedies strongly recommended in Islam through Prophetic Medicine for their powerful curative effect against diseases. It is also the case for bloodletting (called “El Hijama” in Arabic).

Concerning the Rue (*Ruta graveolens*) used in our case as extern usage with olive oil (which is also known for its therapeutic properties), Zampieron and Kamhi (2015), reported that this plant contains many anti-inflammatory flavonoids, which can inhibit inflammation and reduce oxidative damage related to arthritis and other inflammatory conditions. According to the same source, the Rue is particularly useful for ligaments and tight muscles following injuries. (i.e pulled hamstrings) It can be used topically or in homeopathic doses. Rue should not be used internally due to toxicity issues.

The data obtained by Loonat and Amabeoku (2014), indicated that *Ruta graveolens* has antinociceptive, anti-inflammatory and antipyretic activities, justifying the use of the plant species by traditional medicine practitioners in the management and treatment of pain, inflammation and fever, indicated the same authors.

CONCLUSION

The arrival of the dangerous Covid-19 virus has worried the whole world given its novelty and therefore lack of knowledge about it and the great threat it poses to human lives. In the absence of a vaccine against this virus at present, extensive use of herbal remedies and traditional medicine has been recommended around the world in the hopes of saving as many human lives as possible. Those most exposed to this virus are especially those who suffer from chronic diseases that weaken their body and their immune system. Diabetes, arthritis, and a weakened immune system are some of the chronic diseases that can make concerned people worse if they contract Covid-19. As we have seen through the bibliography of this work, some of these diseases mentioned can induce others even more dangerous and more deadly as is the case for cardiovascular diseases and others. Hence, the natural remedies which can cure them would be of great help for Human Security. Regarding diabetes, as we showed through this work, before the progression to diabetes 1, there is great hope for a cure in people with type 2 if they seriously follow a regular diet with the use of certain herbal antidiabetic medicines. For arthritis and weakened immunity, there is also a lot of hope in the effectiveness of some traditional remedies for their cure. In this work, we have limited ourselves to a few diseases (and some medical plants) given the actual practices that have been used to address them. This does not rule out that for other diseases there are natural remedies to deal with them. The

doors of research in this direction are open and must be inspired by the experiences of those who have the knowledge of traditional medicine. It is certainly important to point out that the use of medicinal plants must be done with caution in terms of dosages and modes of use with a good knowledge of what they can induce as side effects. Finally, we would like to point out that the practices relating to traditional medicine recommended in this humble work must be better studied in order to develop certified and adequate protocols for maximum human benefit.

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