

## Medicinal Plants and Herbs-Pivotal of Animals and Humans Medicines

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### Introduction

Seasonal greeting to the editorial staffers, staff, and readers of MCMS globally. In the 20th and now 21st centuries, exponential uses and applications of medicinal plants, and herbs from different sources, in diverse forms, had become the basic fundamental norm in the health sector of the global population. In accordance to WHO findings, about 80% of the world population use one form of medicinal plants or herbs at their homes for prevention, and curing different types of diseases that have bedeviled humans in the 21st century largely due to our lifestyles-food materials that we eat, numerous different drinks either soda or alcohol or otherwise that most cases if not checked are inimical to our health at a long run; smoke pluming into the air, and find their ways into our lungs with lots of chemical compositions that are often lethal to the hosts in no time. Lots of effluents from industries and factories stemming from the extensive industrial revolution at different times to date are channeled into rivers, lagoons, seas, and oceans which eventually find their way into the sources of humans and animals' portable water. Others dug huge craters to empty such disastrous and cancerous-laden effluents that find its way to the water table and pollute our fresh drinkable water with lots of diseases such as cancer, skin diseases, and stimulation of mutagenesis. Industrialization had come with lots of costs on our lives, and that of animals because of improper disposal of mountains of wastes, effective management of natural resources, and illegal human activities in the biosphere that is easily seen by those with goo-goo eyes. In most rural areas, medicinal plants and herbs had become part of the basic health inputs due to no availability of modern medicines, health facilities, and aids with trained personnel to man such indispensable sensitive equipment and instruments. Where they exist, the costs aren't affordable by the majority of the rural dwellers [1, 2].

By WHO standard, it is estimated that not less than 210,000 medicinal plants and herbs have been noted that could be used for distinct ailments by humans and animals in the processes of prevention, and curing of disease conditions. We seem to be inextricably interlinked with the nature God has provided for us [3].

### *A Brief Historical Records of the Uses of Medicinal Plants and Herbs*

Hippocrates, lived between 460-380 BC, He is referred to as the Father of Medicine. During his lifetime as a scientist, he stratified herbs into important qualities in the form of either cold or hot, moist and dry, which led to a uniquely hot and cold, moist and dry. He further developed a resounding method of diagnosis and treatment of disease conditions via the usage of herbs. The number of effective medicinal plants he discussed was between 300 and 400 species [4].

From a technical perspective, herbalism is the art and science of applying herbs for promoting health. Herbalism constitutes Herbiology, Herbal Medicine, Phytomedicine, Phytotherapy, and Phytopharmacology, among other names.

The first known written record of herbalism was around 1500 BCE the Ancient Egyptians wrote the Ebers Papyrus which listed over 850 herbal medicines. The study of herbs is well documented.

There are shreds of evidence of the early herb gardens in reference to Europe in the Middle Ages.

Similarly, the discovery of the herbalist's schools in Egypt was dated back to 3000 B.C. Scholars were interested in herbs medicine, cosmetics, cooking, history, and folklore [5].

According to the archaeological evidence, the use of herbal medicine indicates that the use of medicinal plants dates back to the Paleolithic age, approximately 60,000 years ago [6].

Traditional Chinese medicine had been on record in use for the past thousands of years. Meanwhile, a discovery of clay slabs from Nagpur in Central India was early written evidence that proved the use of medicinal plants and herbs-poopies, and mandrakes as drugs notably. One of those famous medicinal plants in use and still in use in this 21st century is *Aloe vera*, its usage date back to thousands of years for skin burns and itching.

Historically, long prior to the prehistoric period, medicinal plants and herbs were used for one disease condition to the other. This explained why our forefathers weren't inflicted with some of the 21<sup>st</sup> disease conditions such as diabetes, high blood pressures, different forms of cancers, fibroids, and so many others. Ordinary uses of locust beans seed from which local seasoning are made help to lower blood pressure in comparison to numerous seasonings cubes that are laden with varying percentages of salts and other ingredients that could add to the woes of blood pressure victims unknowingly. As a result of its consumption [7-9].

One of the discovered written pieces about herbal medicine originated from China as back as 2800 BC from the archaeological findings that plants were used in the bury dead bodies and certain rituals.

From my vantage point, I have the following questions:

Why such surges in the usage of the natural-based sources for distinct remedies in our Homes, hospitals, clinics, retirees' homes, aged senior citizens' homes, and many others?

What is the force-driven such high demands in the usage of the medicinal plant's natural-based remedies?-the natural way of combatting and curing both animals and human diseases if discovered on time with the right application of suitable choices?

With such overwhelming demands even in the remotest rural dwellings, are we meeting up the demands for remedies from natural sources?

Are we taking the right natural-based remedies at therapeutic dosages for such illnesses we suffered from? Or the concoctions of such mixtures are doing more harm than good in our bodies or that of the animals?

Are such remedies formulated and applied correctly to our dear animals that can't talk in the right sense?

How well are such natural habitats being maintained for the same purpose for the future generations to come?

How human acuties have been responsible for the wanton destruction of such rich natural habitats worldwide?

With high demands of, hopefully, purified supplements of natural-based sources, are steps taken to deliver the milligrams of such in tablets, capsulated, pelleted, and injectable form for their indications?

### **Medicinal plants, Herbs, and their Uses**

Numerous pharmaceutical industries had sprung up in different parts of the world, churning out different brands of remedies from natural sources: from leaves, barks, stems, fruits, seeds, flowers roots of medicinal plants, and herbs. It includes edible mushrooms, nuts such as kola nuts, bitter kola, and many others. All these formulations are applied in the treatment of disease conditions at different stages such as diabetes type I and II, high blood pressure, trypanosomosis fibroid, ulcers, cancers, heart disease, migraine, and wound healing aids from medicinal plants in the form of powder, paste, balm, cream, and other forms [10].

### Medicinal Plants Formulation Contemplated for Used against Covid-19 Pandemic

To buttress the uses of medicinal plants and herbs, Indian researchers have used certain medicinal plants, *Ocimum sanctum* L. 2 leaves, *Cinnamomum verum*, stem barks, *Zingiber officinale* Roscoe rhizomes, and *Piper nigrum* L. fruits for the formulations, being sold as 'AYUSH Kwath', 'AYUSH Kudineer' or 'AYUSH Joshanda. Such are contemplated for use in the fight against the Covid-19 pandemic with its immunity-boosting capabilities and antiviral agent.

With the incoming of genetically modified coronavirus (by the psychopaths), which hitherto always appears in combination with a common flu virus with just 2% mortality rate often evident commonly as it is seen or evident during the winter season in the temperate countries or regions These herbs are reported to boost immunity [1-4] and are active remedies to various.

### Pain Killers

Aspirin, morphine, and chemotherapy are widely used by humans to relieve pain especially during surgery, and otherwise are wholly from the medicinal plants Notable medicinal herbs that are used globally at homes, and in pharmaceutical industries for the formulation of different types of medicines in different forms for prevention and curing of certain disease conditions are mentioned below but the list Isn't exhausted [11-14].

1. Black pepper
2. Ginger
3. Feverfew
4. Garlic
5. Gingko
6. Ginseng
7. Goldenseal
8. Thyme
9. Coriander
10. Kalmegh

### Medicinal Plant Used by the Locals to Treat Animal and Human African Trypanosomiasis

From the folk medicine, in touch with the locals, and our research findings that sprang up in the last couple of years, lots of medicinal plants used in the treatment of trypanosomiasis, a zoonotic blood protozoan disease, which is one of the neglected tropical diseases 'occurring in different parts of the world such as Africa, Asia, and Latin America.

A few medicinal plants that our research group has discovered, screened, and authenticated with identification of active secondary metabolites, purifications, and to a certain extent, structural elucidations of such isolated compounds against trypanosomiasis are listed below:

1. *Emblica officinalis* fruits (Indian specie)
2. *Terminalia chebula* fruits (Indian specie)
3. *Terminalia belirica* fruits (Indian specie)
4. *Achillea millefolium* leaves (Indian specie)
5. *Vitex negundo* leaves and stems (Indian specie)
6. *Centella asiatica* leaves (Indian specie)
7. *Zingiber officinalis* rhizomes (Indian specie)
8. *Moringa oleifera* leaves, seeds, fruits, and roots
9. *Picrorrhiza kurroa* rhizomes (Indian specie)

10. *Plumbago zeylanica* leaves and root-bark (Indian specie)
11. *Azadirachta indica* leaves and seeds (Indian specie)
12. *Azadirachta indica* leaves and seeds (Nigerian specie)
13. *Piper nigrum* seeds (Indian specie)
14. *Eupatorium adenophorum* leaves and flowers (Indian specie)
15. *Quercus borealis* (Oak) leaves and seeds (Indian specie)
16. *Galex alba* (Indian specie)
17. *Ageratum houstonionum* leaves, flowers) (Indian specie)
18. *Discorea bulbifera* leaves, stem, root, tree-bark, and root-bark(Nigerian specie)
19. *Eucalyptus camaldulensis* leaves, stem, root, tree-bark, and root-bark(Nigerian specie)
20. *Lantana camara* leaves (Nigerian specie)
21. *Sterculia seligera* (Fuchi) leaves, stems, root-bark, and root (Nigerian specie)
22. *Swartzia madagasariensis* (Yawalogi) leaves, stems, root-bark, and root(Nigerian specie)
23. *Detarium senegalense* leaves stems, flowers bark, and root (Nigerian specie)
24. *Jathropa* leaves, stems, pods, seeds, and bark (Nigerian specie)
25. *Calotropis gigantea* leaves and flowers (Nigerian specie)
26. *Parkia biglobosa* leaves, stems, pods, seeds, and bark (Nigerian specie)
27. *Dioscorea bulbifera* (leaves, stem, and bark) (Nigerian specie)
28. *Acacia nolotica* (Nigerian specie)
29. *Vittellera paradox* (Nigerian specie)
30. *Anogeissus leiocarpus*( Nigerian specie)
31. *Khaya senegalensis* (Nigerian specie)
32. *Eupatorium adenophorum* (Nigerian specie)
33. *Xanthium strumarium* (Indian specie)
34. *Quecus borealis* (Indian specie)

#### **Treatment of Intestinal Worms via Usage of Medicinal Plants**

In the same vein, some of the medicinal plants are used in the treatment of intestinal worms, nematodes, cestodes, and trematodes. One of such is *Azadirachta indica* popularly known as neem has been used by our forefathers in the treatment of intestinal worms. On screening and validation from the scientific point of view, different parts of neem such as leaves, stems, fruits, root bark, and root were proven to possess antihelminthic activities at graded level. Also, *Picria fel-terrae* Lour and *Swartzia madagasariensis* (Yawalogi) have been screened against intestinal worms either by the locals or validated in the laboratories, respectively [15].

#### **Medicinal Plants and herbs are used in the process of wound healing**

From time immemorial, medicinal plants and herbs have been used in wound healing. A few of the medicinal plants and herbs that were noted for such are *Aloe vera*, *Curcuma longa* *Centella asiatica*, The articulated processes of the wound healing in the body system includes the stepwise decrease in the inflammatory condition which is often triggered by the wounding, and coincidentally, the first step in a healing process. It is followed by maturity granulation of the affected tissue, which increases the pace of wound healing. These processes have been elucidated by researchers in different parts of the world [16].

In the current research models outfit of the wound healing, it involves incision, excision, contraction of the wounding site by decreasing in size, epithelialization, and histopathological that reveals regeneration, formation of the fibroblasts, and the angiogenesis to complete the process [17-20].

## Conclusion

In a nutshell, the natural-based sources of medications either locally used in the form of concoctions or from the pharmaceutical companies in its refined, and the purest forms with the identifications of the secondary metabolites responsible for their biological activities, they're part and parcel of our lives, and animals either domestic or in the wild. With numerous disease conditions that are threatening our very existence due to our lifestyles and in defiance of currently available medicines from the synthetic view, natural sources remain the last bastion of hope for future drugs development at any level to meet up with our ever-increasing health challenges on this planet earth.

## References

1. P Shaba, OP Sharma, NN Pandey and RK Singh. "Therapeutic activity of comparative extraction of *Quecus borealis* (OAK) LAM with solvent of different polarities against *Trypanosoma evansi*". *Medicinal plants, Phytochemistry, Pharmacology and Therapeutics* 4 (2016): 431-441.
2. P Shaba, NN Pandey, NPN Kurade and RK Singh. "Therapeutic evaluation of methanolic extract *Moringa oleifera* seeds against *Trypanosoma evansi*". *Medicinal plants, Phytochemistry, Pharmacology and Therapeutics*. 4 (2016): 443-454.
3. P Shaba, NN Pandey and RK Singh. Antitrypanosomal activity of *Xanthium strumarium* leaves against *Trypanosoma evansi*. *Utilization and management of medicinal plants* 3 : 315-324.
4. P Shaba, NN Pandey and RK Singh. "In vitro activity of comparative extractions of *Eupatorium adenophorum* leaves and flowers with solvent of different polarities against *Trypanosoma evansi*". *Utilization and management of medicinal plants* 3 (2016): 325-338.
5. Shaba P, S Dey, Mandal BD, Singh RK and Chaudary P. "Therapeutic activity of partially purified fractions of *Embllica officinalis* (Syn: *Phyllanthusemblica*) dried fruits against *Trypanosoma evansi*". *Journal of pharmacy and pharmacology* 4(2016): 546-558.
6. Shaba P Sahabdeb, D Nitish, P Kurade and Singh RK. "Trypanocidal activity of methanolic extracts (50 and 100%) of *Embllica officinalis* against *Trypanosoma evansi*". *Advances of pharmagonosy and phytomedicine* 1.1 (2016): 1-8.
7. Shaba P, Dey S, Mandal BD, Singh RK, Chaudary P. "Trypanocidal Activity of 50% methanolic Extract of *Khaya senegalensis* tree bark *Advances of pharmagonosy and phytomedicine*". 2.1(2016): 9-14.
8. Shaba P, et al. "Trypanocidal Activity of Purified Precocene I by Reverse-Phase High-Performance Liquid Chromatography from Essential Oil of *Ageratum houstonianum* aerial Parts". *American Journal of Pharmacology and Pharmacotherapeutics* 7.3.1 (2020).
9. Introduction and Importance of Medicinal Plants and Herbs.
10. Sayeed Ahmad., et al. "Indian Medicinal Plants and Formulations and Their Potential Against COVID-19–Preclinical and Clinical Research". *Front Pharmacol* (2020).
11. Karen H. Bartlett., et al. "A1. The Emergence of *Cryptococcus Gattii* in British Columbia and the Pacific Northwest".
12. Katie Pavid. "Aspirin, morphine and chemotherapy: the essential medicines powered by plants".
13. <https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/traditional-medicine>
14. Akanksha Sharma., et al. "Chapter 1-Herbal medicine-An introduction to its history". *Herbal Medicine in Andrology* (2021): 1-8.
15. <https://parama.blog.arph.org/who-discovered-medicinal-plants/>
16. Health & Beauty. Medicinal Dried Herbs.
17. Quick Answer: What Herbs Can I Plant Now.
18. <https://answer.blog.abatek.com/question/what-herbs-have-medicinal-properties.html>
19. How to Become an Herbalist.
20. Rasika Kumarasingha., et al. "Anthelmintic activity of selected ethno-medicinal plant extracts on parasitic stages of *Haemonchus contortus*".

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