



IMMEDIATE APPLY COST-EFFECTIVE EASILY PREPARABLE-AVAILABLE 21STCENTURY POTENTIAL-AYURVEDIC-HERBAL-INTEGRATIVE-MEDICINAL-VACCINE OF COVID-19: ACHIEVED AGRICULTURE HEALTHCARE-SOCIO-ECONOMY SCIENCE TECHNOLOGY COMMUNICATION MECHANISM!



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ABSTRACT

The 5th epidemic-COVID-19 spreads all around the world forming total change of the world health, education, research, travel, socioeconomic, and human civilization, and the proper potential vaccine still unknown for the future efficacy of reinfection outbreaks of the vaccinated peoples with manufacturing capacity for the whole world population including new variant also. The poor marginalized society, aged people, street -children, and -animals, are not able to manage and purchase vaccines. And the pandemic must be controlled or managed by every nation; otherwise, a globe is at risk of further outbreaks, and India with the whole world develop a policy to overcome the pandemic-COVID-19. India emphasis on consumption of vegetable as the preventive traditional-ayurvedic-medicines against many naturally-infected-diseases of man, animals and plants caused by various-pathogens, remarkably reducing agricultural productions. The various-pesticides reduce the plant-diseases, but it is not cost-effective and environment-friendly. The present treatment confirms the flowering-meristems of wormwoods-Artemisia nilagirica (Clarke) Pamp, prepared or developed the ayurvedic-medicine, dissolved in germfree-tap-water applying foliar-spray against plant-diseases, and the molecular-weight of soluble-root-proteins were determined. The recent treatment confirms once again that the ayurvedic-medicines-prepared from the flowering-meristems of Artemisia nilagirica (Clarke) Pamp are very much effective in controlling different-plant-pathogens caused many-diseases, synthesizing many new PR-proteins (pathogenesis-related-protein), boosting their response of defense naturally against pathogens, and increased growth of plants and protein-content, by confirming the “Immediate Apply Cost-Effective Easily Preparable-Available 21stCentury Potential-Ayurvedic-Herbal-Integrative-Medicinal-Vaccine of COVID-19: Achieved Agriculture Healthcare-Socio-Economy Science Technology Communication Mechanism with Clinical, Physical, Chemical, Biological, Physiological, and Molecular Weight”, by boosting-immunity. And it will be best side-effect-free potential-ayurvedic-COVID-19-Vaccine due to an ultra-diluted-low-dose, and globally develop all aspects in the scientific-basis of the ayurvedic-biomedicines, and it is thought that the present problems of the civilization of human will soon be overcome as early as possible retaining whole world in the new-normal or old-forms against the COVID-19.

1. INTRODUCTION

1.1. RECENT PROBLEMS

The pandemic COVID19 effects on the civilization of human with health, travel, socio-economy and clinical research, and scientists, has been an tried to prepare cost-effective proper vaccines of COVID-19 [2] for the unusual viral pneumonia [3], forming the fifth endemic coronavirus, the health danger [4], and wildlife contains many closely related animal-human coronaviruses [5], genetic resistance [6], divergence, structural and the future evolution, adaptation, and spread [7], prevailing for a long time as an asymptomatic patients [8], analogous to war [9], and the WHO do research, making blueprint, diagnostics, vaccines, and therapeutics for this novel coronavirus [10].

1.2. IMPACT OF VIRUSES ON THE GLOBAL SOCIOECONOMY

To overcome the pandemic crisis, India depends on vegetables [11], okra, the oldest widely cultivated-oligo purpose traditional medicines [12], consumed in a variety of ways [13], for good source of superior nutritional quality, achieving India first in the world [13]. But the Root-Knot (RK) diseases, Yellow Vein Mosaic Virus (YVMV) disease- and Okra Enation Leaf Curl Virus (OELCV) disease of plants hamper production. The chemical pesticides control diseases, but they are expensive and environment unfriendly-health hazards [14], [15] and the genetics-resistance [16] to YVMV and OELCV in okra, and diversity of viruses affect the global economy [17], [18].

1.3. PROBABLE SOLUTIONS

Many plant-bioagents [19], [20], [21] or -bionematicides [15], [22], [23] and intercropping or multiple-cropping [24], [25], [26], [27], and biomedicine [28], [29], [30], [31], are very much effective against different diseases caused by pathogens with some problems [32], [33]. The use as traditional medicine, the 'Indian wormwood'- Artemisia nilagirica (Clarke) Pamp, against difficult medical complications of plants and animal diseases [33], [34], [35], [36], [37], due to its low toxicity and high efficacy [38], [39], [40], [41], [42], [43], [44].

1.4. AIMS AND OBJECTIVES

The main aims and objectives were to further confirm the controlling of Root-Knot, Yellow Vein Mosaic Virus, and Okra Enation Leaf Curl Virus diseases of okra, (*Abelmoschus esculentus* L. Moench) cv. Ankur-40 disease, by using pre-and post-ayurvedic-biomedicines; Artemisia nilagirica-extracts, developed from the Artemisia nilagirica (Clarke) Pamp, with ayurvedic-biomedicines, at an extremely low dose, and to also confirm the production of new root-proteins, by using sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) and are scanned with recording densitometer electrophoretic scanner, measuring the molecular weight of the proteins. And to confirm the best ayurvedic vaccine against the COVID-19 [1], [2], [3], [4], outbreak [9], [10] by improving our immune system.

2. MATERIAL AND METHODS

2.1. PREPARATION OF AYURVEDIC-BIOMEDICINES-ARTEMISIA NILAGIRICA

The ayurvedic-biomedicines-Artemisia nilagirica -extract was prepared from air-dried and powdered flowering meristems of 'Indian Wormwood'-Artemisia nilagirica (Clarke) Pamp (Plate 1) [22], [23], [32], [35], [46], [47], [48], and the crude residues were dissolved in ethanol at 1mg/ml concentration [31], [38], [39], [40], [41], [42], [43], [44] [45],[46].

2.2. PREPARATION OF THE PRE-AND POST-TREATMENT PLOTS

The experiment was carried out in the garden of Department of Zoology, Visva-Bharati, Santiniketan-731 235, West Bengal, India, at an ambient temperature $25\pm 2^{\circ}\text{C}$ and RH $75\pm 5\%$ [5], [19], [20], [21], [22], [25], [26], [27], [28], [39], [40], [41], [42], [43], [44], with four concrete plots; one untreated plot, and other three plots were naturally infected with *Meloidogyne incognita* (Kofoid and White, Chitwood, 1949) [25], [34], [47], [48], [49], [50], [51], [52], [53], [54], [55], [56], [57], [58], [59].

2.3. PLANTATIONS

The treatments-plots were: uninoculated untreated, inoculated untreated, ayurvedic-biomedicines- *Artemisia nilagirica*-pretreated, and ayurvedic biomedicines; *Artemisia nilagirica*-extract-posttreated, and were applied on okra (*Abelmoschus esculentus* L. cv. Ankur-40), and allowed to grow for a period of ninety-one days [15], [19], [20], [21], [22], [25], [26], [27], [28], [39], [40], [41], [42], [43], [44].

2.4. MORTALITY TEST

The mortality test was done with the pretreatment -test solutions of ayurvedic biomedicines *Artemisia nilagirica* extract on *M. incognita* with five times replication [5], [7], [11], [12], [13], [14], [15], [6], [18], [22], [25], [33], [60], [61].

2.5. PRE-AND POST- TREATMENT WITH AYURVEDIC-BIOMEDICINES

The test- and -control solutions (1mg/10ml) of *Artemisia nilagirica* extract, the ayurvedic biomedicines, were confirmed by application on the three foliar diseases; Root-Knot (Plate 2) [14], [15], Yellow Vein Mosaic Virus (Plate-3) and Okra Enation Leaf Curl Virus (Plate 4) of okra plants again [31], [38], [39], [40], [41], [42], [43], [44], [45], [46].

2.6. ANALYSIS OF AYURVEDIC-BIOMEDICINES RESIDUE

The residues run in a thin layer chromatography plate (TLC) with *Artemisia nilagirica*-extract treatment test substances, the standard ayurvedic biomedicines for confirmative test again [31], [38], [39], [40], [41], [42], [43], [44], [45], [46].

2.7. HARVESTING

All the plants were uprooted after 94 of plantation, and all the parameters were estimated [54], [55], and all the parameters of diseases were assessed by confirming after the last pretreatment, by using the Student t-test [31], [38], [39], [40], [41], [42], [43], [44], [45], [46], [56], which were considered and were presented in Table 1 again.

2.8. PREPARATION OF ROOT PROTEINS

Fresh roots of okra plants of 6-groups were collected and homogenized [56] forming extract, which was then used for centrifuged forming the supernatants, and were collected and transferred for lyophilization, and the powdery extract was stored (-200°C) for confirmation of protein separation [54],[57].

2.9. DENSITOMETER SCANNING

Analysis of total soluble roots proteins separation was carried out essentially by the method of Laemmli [57], by using one-dimensional vertical sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE), with the modification as suggested by the LKB Instructional Manual (1986). A 10% separating gel and 5% stacking gel were used. Samples for the preparation of electrophoretic run were mixed with 2x treatment buffer, and the root protein

sample was loaded along with dye for confirmation again, with the help of scanning-recording electrophoretic-scanner (Biomidi, 96-300 densitometers, Pare de La Plaine, France), and the total number of root-proteins of molecular weight were confirmed from the densitometers scanning curve. Wide range markers (k) of Pharmacia United Ltd., Sweden, were used as the standard, for the molecular weight estimation of proteins [58].

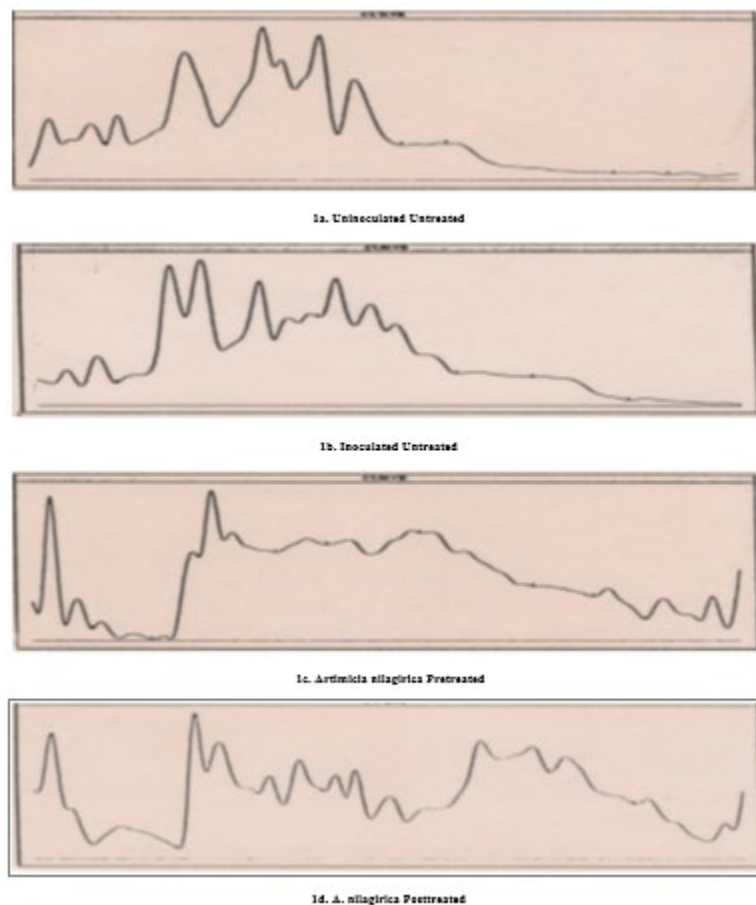


Figure 1: Densitometric tracings of root proteins of okra plants resolved on acrylamide gel (SDS-PAGE)

2.10. SCIENCE TECHNOLOGY COMMUNICATIONS AYURVEDIC APPLICATIONS

The pre-and post-treatment with ayurvedic-biomedicines; *Artemisia nilagirica* –extract, at extremely low doses, use for confirmative activity and the importance of potential cost-effective ayurvedic biomedicines against various pathogens including COVID-19 for publishing in the different [14], [15], [19], [20], [59], [60].

2.11. DEVELOPMENT FOR PREPARATION OF AYURVEDIC VACCINE

It will be confirmed from analysis or justifications of literature review, reports of clinical research trials, or fields note for the development of new ideas of vaccines of COVID-19 [14], [15], [19], [20], [59], [60].

3. RESULTS

3.1. TOXICITY TEST ON MORTALITY

There were no direct toxic effects on nematodes mortality by the ayurvedic-biomedicines; *Artemisia nilagirica*-extract, at extremely low doses.

3.2. ANALYSIS OF RESIDUES TOXICITY

The ayurvedic-biomedicines; Artemisia nilagirica-extract-treated leaves of okra did not contain any toxic residue again.

3.3. ROOT-KNOT AND FOLIAR DISEASES

Table 1 confirms again that both treatment with the high diluted ayurvedic-biomedicines; Artemisia nilagirica-extract, at extremely low doses, on Root-Knot (RK) disease, and both the foliar diseases of okra plants; Yellow Vein Mosaic Virus (YVMV) and Okra Enation Leaf Curl Virus (OELCV), estimated before pretreatments (Day-0) and after last posttreatment (Day -30), in a field trial with the number of common-shared root-protein in relation to uninoculated untreated one ($P < 0.01$ by 't'- test). All the ayurvedic-biomedicines; Artemisia nilagirica-extract pretreatment, remarkably decreased the 3-diseases, and all the plant's groups, average; the number of leaves, number of nematodes in soil, the biomass of shoots, and protein of fruits, are remarkably increased than inoculated untreated groups, but the mean of the biomass of roots, number of root galls and nematodes populations in roots, and root protein content percent, is greater in the inoculated untreated one again. It is confirmed that the common-shared root proteins are seven, the highest number, in healthy uninoculated untreated control plants, but the lowest number is one in the inoculated untreated one (Table 1 and Fig. 1) again.

Table 1: Effects of the ayurvedic-Artemisia nilagirica extract treatments groups of okra plants infected with root-knot, YVMV and OELCV diseases

Treatments Groups	Average number of disease infected leaves / plant (%)				Average number of leaves / plant	Average number of root galls / plant	Average number of nematodes (Populations)		Average Biomass (g)		Average Protein %		Number of common shared root-Protein in respect to uninoculated untreated
	YVMV		OELCV				Soil (200 g)	Root (2g)	Shoot	Root	Root	Fruits	
	Day-0	Day-30	Day-0	Day-30									
Uninoculated Untreated	1.03 %ax ±0.01	88.00 %by ±0.02	0.05 %ax ±0.01	28.98 %by ±0.06	11.3 4b ±0.3 3	Nil	Nil	Nil	127.25a ±4.3 4	16.1 2c ±0.0 2	1.1 4b ±0.0 06	2.8 7a ±0.0 23	7
Inoculated Untreated	1.03 %ax ±0.03	94.00 %cy ±2.12	0.05 %ax ±0.03	48.00 %cy ±0.09	6.40 a ±0.1 8	348. 80b ±15. 30	30.2 0a ±0.1 4	708. 62c ±8.3 5	108.23b ±3.2 2	49.7 2a ±0.0 9	2.8 9a ±0.0 09	1.1 2c ±0.0 02	1
A. nilagirica - Pretreated	1.03 %ax ±0.02	3.01% ay ±0.21	0.05 %ax ±0.02	0.84% ay ±0.02	15.7 7c ±0.3 5	29.1 1a ±0.4 8	474. 68b ±4.6 5	32.0 2a ±0.4 6	127.12a ±2.1 1	18.1 2b ±1.7 6	0.9 9b ±0.0 04	2.6 8b ±0.0 05	3
A. nilagirica -	1.03 %ax ±0.02	4.65% ay ±0.03	0.05 %ax ±0.02	1.02% ay ±0.02	14.6 7c ±0.3 0	33.2 2a ±0.4 2	520. 02b ±5.3 7	38.9 8b ±0.1 6	126.30a ±4.2 6	19.0 2b ±0.6 7	1.1 7b ±0.0 02	2.2 4b ±0.0 02	2

Posttreated													
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'a,b,c,d,e'- means different small letter in a column indicate significant difference ($P<0.05$) by 't'-test.

'x,y'- means different small letter in a row indicate significant difference between day-0 and day-30 ($P<0.01$) by 't'-test.

'Day-0' - means before pretreatment.

'Day-30' - means after posttreatment.

3.4. ROOT PROTEINS

Table 2 and Fig 1; confirms the root protein's molecular weight (k) of the different okra plants, with both the treatments of high diluted ayurvedic-biomedicines; *Artemisia nilagirica*-extract, at extremely low doses, on Root-Knot disease, and Yellow Vein Mosaic Virus (YVMV) and Okra Enation Leaf Curl Virus (OELCV) foliar diseases of okra plants, and the root proteins of all groups confirmed by the increased number of proteins in the roots again; the lowest number of protein is 11 in the uninoculated untreated roots and highest number of proteins, are 18 in the pretreated- and 16 in the post-treated- ayurvedic-biomedicines; *Artemisia nilagirica*-extract, roots respectively again (Table 2 and Fig. 1). It is also confirmed that 280k (280,000kDa) is the highest molecular weight protein, and 11k (11,000kDa) is the lowest molecular weight protein. Four is the lowest number of the new pathogenesis-related protein (PR-proteins) in the uninoculated untreated roots, and 15 and 14 are the highest number of the new pathogenesis-related proteins (PR-proteins) in the pretreated- and post-treated- ayurvedic-biomedicines; *Artemisia nilagirica*-extract, roots respectively again (Table 2 and Fig. 1), and 14 is in the PR-proteins of inoculated untreated one again (Table 2 and Fig. 1).



Plate 1. Flowering meristem of *Artemisia nilagirica* (Clarke) pamp



Plate 2. Root-Knot (RE) disease caused by *Meloidogyne incognita* of okra



Plate 3. Yellow Vein Mosaic Virus (YVMV) disease of okra



Plate 4. Okra Enation Leaf Curl Virus (OELCV) disease of okra

Table 2: Molecular weight (K) of the root proteins of ayurvedic-*Artemisia nilagirica*-extract treatments groups of okra plants

Treatments Groups	Total number of protein	Molecular weight (k) of pretreatment groups																				Total number of PR-protein			
		Serials number of proteins																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		21	22	23
Uninoculated Untreated	11	280	260	240	210	155	115	105	85	70	45	13	-	-	-	-	-	-	-	-	-	-	-	-	4
Inoculated Untreated	15	270	240	200	170	145	118	98	90	77	65	58	46	37	27	17	-	-	-	-	-	-	-	-	14
<i>A. nilagirica</i> - Pretreated	18	280	260	250	220	190	165	150	135	85	55	38	40	27	23	22	18	15	12	-	-	-	-	-	15
<i>A. nilagirica</i> - Posttreated	16	260	210	150	135	120	110	95	80	72	60	50	37	28	23	16	11	-	-	-	-	-	-	-	14

'- 'indicate no band

3.5. APPLICATIONS OF SCIENCE AND TECHNOLOGY COMMUNICATIONS

It is confirmed by many ways like campaign, aware, discuss, arrange workshops and seminars, make news, and publish as abstract regarding the importance of ayurvedic-biomedicines against various pathogens, including COVID-19.

3.6. AYURVEDIC VACCINE PREPARATION

The high-diluted-ayurvedic-biomedicines; *Artemisia nilagirica*, the vaccine preparation for treatment, at extremely low doses, against COVID-19, confirms the future goal.

3.7. RESEARCH IN FUTURE

Here, the ayurvedic-biomedicines; *Artemisia nilagirica*-extract, at extremely low doses, with daily consumption of okra-vegetables are confirmed research in the future again.

4. DISCUSSION

4.1. DISEASES OF PLANTS

The Root-Knot (RK) disease, and Yellow Vein Mosaic Virus (YVMV) and Okra Enation Leaf Curl Virus (OELCV) foliar diseases of okra plants, confirm that all the high-diluted ayurvedic-biomedicines; wormwoods-*Artemisia nilagirica*-extract, at extremely low doses, treatments are not only controlled, but also improved the nutritive protein of the infected fruits of plants [31], [38], [39], [40], [41], [42], [43], [44]. It is also confirmed that pretreatments are more effective than posttreatment ayurvedic-biomedicines; *Artemisia nilagirica* again, which suggest for future control of all naturally occurred other diseases also.

4.2. TOXICITY

It is also confirmed that the diseases of plants and animals is directly controlled by the high-diluted *Artemisia nilagirica*-extract at extremely low doses with no direct toxic effect also [31], [38], [39], [40], [41], [42], [43], [44], [45], [46], [47].

4.3. MECHANISMS OF SYNTHESIS FOR DISEASE RESISTANCE

It is also confirmed that it is induced synthesis of some antagonistic substances in the treated plants by all the ayurvedic-biomedicines; *Artemisia nilagirica*-extract [22], [23], [51], resisting against pathogens [61], [62], [63], [64], or systemic acquired resistance [63], [64], [65], [66], [67], or by the polar vesicl [68], or by the defense-related triterpene glycoside avenaacin A-1[69].

4.4. DEFENSE ON PR-PROTEINS

It is already known that a plant ATP binding cassette-type transporter [70] involving in antifungal terpenoid for the disease resistance, or by the sharing of common antigens with its host plants [71] or by the pure compounds of acaciasides [72], [73], [74], [75], using against pathogens. The treatments with the highly-diluted ayurvedic-biomedicines; *Artemisia nilagirica*-extract, at extremely low doses, confirm the synthesis of many antigens-proteins, and the lowest number of the new PR-proteins is 4 in the uninoculated untreated roots and the highest number of the new PR-proteins is 15, inducing defense responses involving several pathogenesis-related proteins in which the naturally infected plant pathogens fail to tolerate like nematode extract [15], [20], [22], [76], [77], due to the antigenic-proteins similarity [71], which is proved from the inoculated untreated pretreatment okra plants, were directly using against diseases of plants and animals, the *Artemisia nilagirica*-extract, and improving immunity or defense responses for the production of new PR-proteins.

4.5. CONSERVATIONS OF BIODIVERSITY

It is confirmed that the pathogens infestation act as a repressor for the expression of defense gene in the ayurvedic biomedicines treated plants [2], [3], [7], [8], [9], [10], [11], [12], [13], [14], [15], [16], [17], [18], [20], [21], [22], [24], [25], [34], [51], [52], [82], and serve as a inducer for the expression of various new defense-related PR-proteins by systemic acquired resistance [62], [65], [66], or increasing immune-systems against pathogens [78], or governing defense-response genes, or encoding production of various pathogenesis-related (PR) proteins [79], and it confirming the very cost-effective eco-friendly biomedicine promoting the growth of test plants, and conserving the biodiversity of conservations, forming as potential cost effective-drug against various plant-pathogens [22], [23], [76], [77]. So, the high-diluted ayurvedic; *A. nilagirica*-extract-treated-biomedical drugs, at an extremely low dose, are not only highly effective in different plant diseases [31], [38], [39], [40], [41], [42], [43], [44], [45], [46], enriching agriculture and the applications biomedicine economy [78], [79] confirms against the diseases of animal and human also [80], [81]

4.6. IDEAS DEVELOPMENT FOR PREPARATION OF VACCINE AGAINST COVID

4.6.1. FROM GENOME BIOLOGY

It is well known that the human-genetic material; the 145-genes come from bacteria, other unicellular organisms, and viruses, and 17- as possible horizontal-gene transfer [82], the 96.2% identical genomic sequencing to a bat coronavirus, which shares a 79.5% sequence identity to SARS-CoV [82], [83], [84] dealing the structure and function of genetic material [85], [86], and the ten percent of the human genome making of virus- DNA [87], and the human endogenous retroviruses [88] which don't always require a body [89].

4.6.2. FROM GENETIC RESISTANCE

It is reported that genetic resistance to coronavirus infection according to those three host resistance mechanisms: genetic control [16] and the pandemic COVID-19 outbreak is due to SARS-CoV-2 responsible for the main protease, the key enzyme helping in antiviral drug formation [90].

4.6.3. FROM IMMUNE SYSTEM BLUEPRINT

The human body is attacked by a virus, the immune system starts to fight, creating a blueprint in the body, and remembering the germ to fight against re-infection by the viruses[91].

4.6.4. TRADITIONAL MEDICINE

The 70%- 80% population is primarily dependent on animals and plant-based traditional medicine for treatments [10], [92].

4.6.5. FROM THERAPEUTIC VALUE

It is already known that the 'Indian wormwood'- ayurvedic-biomedicines; *Artemisia nilagirica*, is used for many ailments, and it has high content of biologically active molecules and essential oils, using in Alzheimer's disease, hypertension, diabetes, atherosclerosis, cardiovascular diseases, cytotoxic, malignancy, genetic abnormalities, diabetes, epilepsy, asthma, psychoneurosis, depression, anxiety and stress, leucorrhoea, threatened abortion, hemoptysis, tuberous sclerosis, skin diseases, immunological disorders, antimicrobial, antifungal, antibacterial, filarial, insecticidal, antiulcer, anticancer, antioxidant, anti-proliferative, healing potential, neurological disorders, tuberous sclerosis, dermal infection, larvicidal, anti-inflammatory activities, anti-asthmatic and anti-malarial activity, Parkinson's disease, and the aging process since centuries, due to its therapeutic value, and presences of the wide range of chemical compounds [33], [34], and the human, animals, and plants parasites, are also controlled by the common photochemical of *A. nilagirica*, the ayurvedic-biomedicines, contain biologically active flavonoids, alkaloids, tannins, glycosides, phenol, saponins, terpenes, amino acids, quinines, phlorotannins and volatile oils, polysaccharides, sesquiterpene lactones, coumarins and acetylenes, and terpenoids [33], [34], [35], [36], [37], and the 98.16% essential oil, 79.91% monoterpenoids, 18.25% sesquiterpenoids, α -Thujone (36.35%), β -thujone (9.37%), germacrene D (6.32%), 4-terpineol (6.31%), β -caryophyllene (5.43%), camphene (5.47%) and borneol (4.12%) [93]. The *Artemisia* has a diverse range of activities for medicinal uses in human and plant diseases ailments due to possess several active constituents; working through several modes of action, and the 1, 8-cineole, beta-pinene, thujone, artemisia ketone, camphor, caryophyllene, camphene, and germacrene D are the major components [94], and it also use as a food source [95], and hepatoprotective- and hepatic non-toxic- effects [96]. But WHO considers *Artemisia annua* as possible treatments against COVID-19 testing for efficacy and adverse side effects? [96]

4.6.6. FROM THERAPEUTIC APPROACH

The NovavaxInc, use as epidemic vaccines of COVID-19 using their recombinant protein, the 'saponin-based'-adjuvant with the "potent and well-tolerated effect" [97], [98]. Scientists are discovering novel inhibitor molecules against enzymes Mpro and ACE2, and developing the antiviral compounds against Coronavirus [99].

4.6.7. FROM SUCCESSFUL VACCINATION

The successful vaccination requires four components; Human Immunomics Initiative (HII) aims to decode the underlying mechanisms of the human immune system [100], following the guideline entitled "Vaccine-preventable diseases and vaccines" [10], [100], [101], for the "reduces wait time for emergency vaccination" [102] and randomizing the trials [103] with the candidates, and the Merck's new investments focus on two different COVID-19 vaccines for clinical trials[105].

4.6.8. DEVELOPMENT OF IDEAS FOR TREATMENT

The public health experts engage in academic research [106], “Return to Work” [107], and reopening, which fulfill the goal for the effective treatment’s methods with the ayurvedic-biomedicines; Artemisia nilagirica-extract [31], [38], [39], [40], [41], [42], [43], [44], [45], [46], need to justify again [96] for immunomodulatory effect [108].

4.7. REASONS FOR TREATMENTS

Currently, in lower-income-countries cause excess deaths [109], and “the largest humanitarian crisis in the world [110], urgently need effective drugs for coronavirus [111], and apply the plasma[112], with the Max Planck Institute test Artemisia annua plant extract [96], [113], and A. annua extracts show very little toxicity and artemisinin-based drugs are widely used [113], as a vaccine, and it is not be cost-effective, affects biodiversity in conservation [31], [38], [39], [40], [41], [42], [43], [44], [46], [114]. Hence, the high-diluted ayurvedic biomedicines; Artemisia nilagirica-extract [96,113], is effective in vaccine formulations to regulate immune function by acting as ayurvedic antioxidants and scavenge oxidative stress [31], [38], [39], [40], [41], [42], [43], [44], [46], [96], [113], due to the presence of chief constituents of many human health care potential biologically active chemical compounds; are flavonoids, alkaloids, tannins, glycosides, phenol, saponins, terpenes, amino acids, quinines, phlorotannins, polysaccharides, sesquiterpene lactones, coumarins, acetylenes, and volatile oils; terpenoids, monoterpenoids, sesquiterpenoids, α -Thujone, β -thujone, beta-pinene, germacrene D, 4-terpineol, β -caryophyllene, 1, 8-cineole, artemisia ketone, camphor, caryophyllene, camphene, and borneol, etc. [33], [34], [35], [36], [37], [93], [94], [95], [96], [115].

4.8. SITUATIONS FOR IMMEDIATE USE OF DRUGS AGAINST COVID-19

Recently, the COVID-Toes [116], locust attack [117], excess deaths in lower-income [109], and humanitarian crisis [110], united the world for vaccine of the novel coronavirus; many groups (80) are working [111] in different stages of clinical trials [118]. In this situation, it is thought that the personalized medicines [119], for the production of vaccines, and to distribute free for all the population, and important producer, becoming the “bad example” [120] for the present treatments with the high-diluted ayurvedic-biomedicines; Artemisia nilagirica-extract-biomedical drugs, at an extremely low dose, should be immediately applied against pandemic COVID-19 for the beneficial clinical treatments, with no side effects [121], [122], [123], [124].

4.9. IMMEDIATE APPLICATIONS OF VACCINE AGAINST COVID-19

4.10. VACCINE-I FOR ALL GENERAL AND DIABETIC PATIENTS

The high-diluted ayurvedic-biomedicines; Artemisia nilagirica-extract, prepared from the flowering meristem of ‘Indian Wormwood’-Artemisia nilagirica, @ 5-10 drops mixed with 10-20 ml of sterile distilled- or pure drinking -water, maybe orally administered twice daily in the early morning and evening respectively (before taking any food) for 10-15 days, depending of age and body weight, against naturally occurring novel coronavirus infections,15-days before symptom onset OR illness onset (as a vaccine) OR onset of symptoms where patients in hospital-associated COVID-19 infections have been reported (treatments) [46], [124]. In the case of application of drugs for treatment, depending on the disease intensity, the dose may be increased 3-5 times a day. It is cost-effective, eco-friendly, and easy -prepare able and -available and emergency applicable drug [115], [122], [123]. It is obligatory that information on ClinicalTrials.gov, a resource provided by the U.S. National Library of Medicine (NLM), to the National Institutes of Health (NIH) or World Health Organization or other agencies of the U.S. Federal Government, is provided by study sponsors and investigators, and they are responsible for ensuring that the studies follow all applicable laws and regulations [92], [100], [101], [116], [122], [123], [126], [127]. The concerned authorities [92], [100], [101], [123], [127] should give permission for direct-emergency[119], [120], [121], used of ayurvedic biomedicines; Artemisia nilagirica -extract, -liquid against COVID-19 [46], [101], [102], [104], [114], [115], [122], [123], [124], [125], which

is well known with the generalized concept of medicines for emergency apply [119], [120], [121], [122], [123], and these drug serve as emergency-medicines, like antibiotics, leading to a generalized concept of medicine for emergency-applications [123], [126]. It is the most cost-effective [122], [123], easily prepare able [114], [115], easily available [20], easily applicable [119], [120], [121], [127], and help in biodiversity conservations and green economy applications against COVID-19 also [31], [32], [33], [34], [35], [36], [37], [38], [39], [40], [41], [42], [43], [44], [45], [46], [96], [104], [114], [115], [125] for the nonspecific benefits as well as immunity to the target pathogen? [128].

It is known that our body as a complex system, has the capacity for self-organization, emergence and self-similarity over global (overall health and wellbeing) and local (organ) levels of organization and these features are key for future research on the systemic healing that evolves over time during individualized emergency treatment with medicines; Artemisia nilagirica-extract [131], which is a complex nano-scale system involving multiple inter-connected, interacting components, and emergent properties [132]. So, it is the most; cost-effective, easily prepare able, easily available, and helps in biodiversity conservations and green economy applications issues and easily applicable also with increasing immunity [128] and the high-diluted ayurvedic-biomedicines; Artemisia nilagirica-extract, is the best emergency applicable effective applicable treatment potential biomedicine [46], [101], [102], [104], [114], [115], [122], [123], [124], [125], against COVID-19. It is also studied the cost-effectiveness of emergency care interventions in low and middle-income countries like India [120], [121], [122], [123], [124].

4.11. VACCINE-II FOR GENERAL AND NON-DIABETIC PATIENTS

The high-diluted-ayurvedic-biomedicines; Artemisia nilagirica-globules, prepared from the few drops of a liquid Artemisia nilagirica-extract, by pouring and to just moistening all the sucrose-globules in the vial forming Artemisia nilagirica- ayurvedic- biomedicine- globules [31], [38], [39], [40], [41], [42], [43], [44], [45], [46] @ 10-20 medicated-globules (7.2-14.4mg), maybe orally administered thrice daily in the early morning, afternoon and evening (before taking any kinds of food) for 10-15 days, depending of age and body weight, against naturally occurring virus infections 15-days before symptom onset OR illness onset (as a vaccine) OR onset of symptoms where patients admitted in hospital with COVID-19 infections have been reported (treatments) [123]. In the case of treatment, depending on the disease intensity, the dose may also be increased 3-4 times a day. It is also the most cost-effective and easy-prepare able, -available and easy-applicable drug [122]. The ayurvedic-biomedicines; Artemisia nilagirica-globules, can also be directly used for emergency effective treatment of COVID-19 after getting permission from the; -WHO, -ClinicalTrials.gov., -U.S. NLM and -NIH [92], [100], [101], [127],. The concerned authorities [92], [100], [101], [127], should give permission for direct-emergency used of ayurvedic-biomedicines; Artemisia nilagirica-globules against COVID-19, because for no side effects [119], [122], [124], [125], and serve also as antibiotics, leading to a generalized concept of medicine [123], [126], [127], [128], [129], [130], [131], future research on the systemic healing that evolves over time during individualized emergency applications [131], with multiple inter-connected, interacting components, and emergent properties [132]. It is the most; cost-effective, easily prepare able, easily available, and helps in biodiversity conservations and green economy applications issues and easily emergency-applicable also with increasing immunity [128] and it is the best emergency effective applicable treatment methods [46], [101], [102], [104], [114], [115], [122], [123], [124], [125] against COVID-19, without spending time and it also becomes the most cost-effectiveness of emergency applicable-care interventions in low and middle-income countries like India [120], [122], [123], [124].

4.12. VACCINE-III FOR ALL PATIENTS

The adjuvant 'Indian Wormwood' ayurvedic-biomedicines; -Artemisia nilagirica-extract [96], [113] maybe used with recombinant protein nanoparticle antigens derived from the coronavirus spike protein and combine these antigens with its adjuvant ayurvedic-biomedicines; Artemisia nilagirica-extract for the final formulation of the vaccine and it may be shown a "potent and well-tolerated effect" through stimulating the entry of antigen-presenting cells into the injection site and enhancing antigen presentation in local lymph nodes, boosting immune responses [31], [38], [39], [40], [41], [42], [43], [44], [45], [46], [97], [98], [113], [114], [115], [133]. In a letter as an e-mail, the Science Advisory Board Net, at Express Cells, for their business of creating better knock-in cell lines for drug discovery, toxicology, and other biologic research and add for purchase SARS-CoV-2 Spike Protein (NC_045512.2), SARS-CoV-2 Nucleocapsid Protein (NC_045512.2), TMPRSS2 (NM_001135099.1), ACE2 (NM_021804.3), BSG

(CD147) (NM_001728.3), SARS-CoV Nucleocapsid Protein (MK062179.1), SARS-CoV Spike Protein (MK062179.1), MERS-CoV Nucleocapsid Protein (NC_019843.3), MERS-CoV Spike Protein (NC_019843.3) [133] and the readily available coronavirus spike proteins may be helped to use for vaccine preparation which may fight against “COVID Toes among kids: New symptom of novel coronavirus infection” [116]. Here, vaccination or treatments, is the use of remedies against diseases either earlier in an epidemic or given routinely to prevent diseases. When the latter is used it involves mostly the users just like any conventional vaccination which administers the antigen in an inactive state to gain immunity towards the disease and is given before the onset of disease or disease symptoms in an individual as a prevention rather than cure [122] and in a clinical study shows the efficiency of triple antibiotic mixture and propolis as intracanal medication in revascularization process in immature apex [122], [134]. It is obligatory that information to the ClinicalTrials.gov, the U.S. National Library of Medicine, to the National Institutes of Health or other agencies of the U.S. Federal Government [92], [100], [101], [127] and maybe easily emergency-applicable drugs with increasing immunity [128].

4.13. VACCINE-IV FOR ALL PATIENTS

The adjuvant ‘Indian Wormwood’ ayurvedic-biomedicines; Artemisia nilagirica-extract [96], [113] maybe used with anti-Human antibodies like IgG (A80-104A, A80-105A), IgM (A80-100A, A80-101A), & IgA (A80-102A, A80-103A) and offer treatments or vaccine preparation of COVID-19 (SARS-CoV-2) and it may also be accelerated the discovery to improve lives [100], [114], [115], [116], [122], [126], [127], [133], [134], [136]. After getting successful clinical trials, the concerned authorities may be permitted for the use as a vaccine for emergency preparation for treatments against novel coronavirus [92], [100], [101], [127].

4.14. IMMEDIATE APPLICATIONS SITUATION

Recently, the NovavaxInc, the adjuvant is ‘saponin-based’[96], [97], [98], and the Merck’s new investments focus on two different COVID-19 vaccines that are already in early clinical trials [105], [114], [115] and the Max Planck Institute test Artemisia annua plant extract[96], [113] against the novel coronavirus disease and A. annua extracts show very little toxicity and artemisinin-based drugs are widely used to treat malaria even in newborns [101], [105], [113]. In this pandemic situation, it is thought that the high-diluted ayurvedic-biomedicines; (liquid and globules); Artemisia nilagirica-extract, at the above-mentioned doses, the personalized medicines, may improve medical decision-making individualized diagnosis, prevention, and emergency applicable cost-effective treatments against COVID-19 diseases [119], with the support of WHO, NIH, ClinicalTrials.gov. and U.S. NLM, showing an example for the ‘Use, Production and Emergency Application of Vaccines’, and to distribute free for all the population[10], [92], [116], [118], [119], [120], [121], [122], [123], [124], [126], [127]. Because, all the high-diluted ayurvedic-biomedicines; Artemisia nilagirica-extract, -liquid and -globules, are making them capable for different biological activities, and expected to be effective against Covid-19, and the U.S. Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO), want to apply safe vaccine against SARS-CoV-2, for the newly developed-late hyper inflammatory multisystem inflammatory syndrome in children (MIS-C) and adults with Covid-19[114], [115], [136], [137]?

4.15. SCIENCE AND TECHNOLOGY COMMUNICATIONS ECONOMY

Recently, the Coronavirus pandemic has adverse effects on education, especially on school education and characteristics, including research, academic programs, staff professional development, and jobs also [129]. At present, many groups (80) are working globally for vaccines for a human which normally takes years to develop. Currently, there are [111] potential vaccines for the SARS-CoV-2 which are in different stages of clinical trials [118] and a committee that makes vaccine use recommendations to the U.S. Centers for Disease Control and Prevention (CDC), suggesting they should be high on the list [138].

While a cure or vaccine for COVID-19 is not available, in the absence of any side-effects and adverse interactions with any conventional medicines along with a robust safety profile and repeated evidence-based successes against viral infections, the high-diluted ayurvedic-biomedicines (liquid and globules); Artemisia nilagirica-extract, at an

extremely low dose, may play an important role in the fight against COVID-19 [122], [124]. It is the most; cost-effective-methods, easily prepare able, easily available, and help in biodiversity conservations and green economy applications issues also [46], [101], [102], [104], [114], [115], [122], [124], [125] and should be use as emergency immediate applicable methods against COVID-19 as early as possible [104], [119], [120], [121], [122], [126], [127], [128], [129], for taking measures or treatment opportunities or avoid new coronavirus infections. So immediate apply ayurvedic-biomedicines by; campaign, aware, discuss, arrange workshops and seminars, make news, and publish as abstract regarding the importance of “The Ayurvedic-Biomedicines (liquid and globules); Artemisia nilagirica-extract, at extremely low doses; Indicate the Potential Cost-Effective Medicines Against Various Pathogens including COVID-19 by Improving Immunity Again”.

4.16. FUTURE RESEARCH OKRA AS A VACCINE

Here, the results fulfill the goal of a research title because the present treatments with - ayurvedic-biomedicines; Artemisia nilagirica-extract, at extremely low doses, with regular consumption of okra vegetables of need to justify future research ideas. It is known that social vaccines resist and change unhealthy social and economic structures and useful metaphor for health promotion [130]. It may be the most; cost-effective, easily-available, safe-edible and prepare able as well as and safe alternative to live replicating COVID-19 vaccines which restarts, a window of hope and opportunity opens for nations to green their recovery the 21st-century economy in ways that are clean, green, healthy, safe and more resilient, and there are many other ways future positive applications [139], [140], [141], [142], [143], [144], [145], [146], [147], [148], [149], [150], [151], [152], [153], [154].

4.17. WHY IMMEDIATE APPLY POTENTIAL AYURVEDIC-COVID-19-VACCINE?

The following reasons may be useful as follows [139], [140], [141], [142], [143], [144], [145], [146], [147], [148], [149], [150], [151], [152], [153]:

- Use as traditional medicines.
- Overcome various medical complications.
- Proven for many pharmacological activities.
- Due to low toxicity (LD50 = 3741.7 mg/kg) and high efficacy.
- Present of various effective phytochemical constitutions.
- No side effects and some vaccines are made from its phytoconstituents.
- Cost effectiveness, easily prepare-able, easily available, easily manufacture-able, equitable, marketable and supply-able etc.

5. CONCLUSIONS

The recent treatment confirms once again that the ayurvedic-medicines-prepared from the flowering-meristems of Artemisia nilagirica (Clarke) Pamp are very much effective in controlling different-plant-pathogens caused many-diseases, synthesizing many new-pathogenesis-related-proteins (PR-proteins), boosting their defense-response naturally against pathogens, and increased plants-growth and content of protein. So, it may be confirmed for “Immediate Apply Cost-Effective Easily Preparable-Available 21stCentury Potential-Ayurvedic-Herbal-Integrative-Medicinal-COVID-19-Vaccine: Achieved Green-Socio-Economic Healthcare Science Technology Communication Mechanism”, by boosting-immunity. And it will be best side-effect-free potential-ayurvedic-COVID-19-Vaccine due to an ultra-diluted-low-dose, and globally develop all aspects in the scientific-basis of the ayurvedic-biomedicines, clinical, physical, chemical, biological, and physiological effects, with relative molecular mass, and the sincere hope that the crisis of human civilization will soon be over and also the whole world may retain in new-normal or old-forms by fighting threatening the recovery against the COVID-19.

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CONFLICT OF INTEREST

The author have declared that no competing interests exist.

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