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Research Article

Ayurveda as an Adjuvant Therapy For COVID-19

Observational Research On Urban Public Awareness of Ayurveda as an Adjuvant Therapy During COVID-19

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Abstract: Ayurveda labels COVID-19 as *Janapadodhwamsa Vikara* (epidemic disease). *Charaka Samhita: Vimana Sthana* Chapter 3 discusses epidemics; even though there is dissimilarity in the physical constitution of human beings; still there are such factors that are common to all individuals, and vitiation of these factors lead to the simultaneous manifestation of diseases having the same set of symptoms leading to the destruction of countries. All citizens share air, water, location, and seasons. The subjects were drawn from the general population who had tested positive for COVID-19. An accurate and comprehensive questionnaire was used to conduct the online survey. All of the responses were correctly completed. All information was gathered from the online survey and properly analysed. This study included 250 COVID-19-positive participants. A questionnaire and verbal dialogue assessed COVID-19 ayurvedic adjuvant therapy utilization. 89.6% had COVID-19. 65.6% of patients have RTPCR to confirm COVID-19. 81.2% of COVID-19 patients initially used allopathic medication, with 59.6% reporting negative effects. After that, 87.2% received ayurvedic COVID-19 medicine. 96.4% of COVID-19 patients had a fever, cold, cough, and weakness. *Mahasudarshana Kadha* (71.2%), *Samshavani Vati* (66.4%), and *Sitopaladi Churna* (51.2%) were the top three COVID-19 medicines. Most nations treat COVID-19 with antiviral combinations for other viral infections. SARS-COV-2 antivirals may not work clinically. Ayurveda treats sickness via mind-body-physiology. Ayurvedic medicine boosts immunity and fights viruses. Ayurveda adjuvant therapy helped COVID-19 patients. Ayurveda can treat COVID-19 symptoms without side effects.

Keywords: COVID-19, Ayurveda, Adjuvant therapy, Epidemic disease, Immunity

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1. INTRODUCTION

The efficacy of Ayurveda medications such as *Ayush Kwath*, *Sanshamanvati*, and others in improving the condition of COVID-19 patients in a short period with complete symptom regression[1]. The usefulness of ayurvedic pharmaceuticals as immune boosters in Covid-19 patients with the least negative effects[2]. The COVID-19 virus has sparked a global health calamity on an unprecedented scale. The number of deaths and infected people is increasing daily worldwide. Several social and economic difficulties exacerbate this position[3]. Infection control strategies are constantly being developed, and efforts are being made to integrate traditional medicines with the standard of care. Ayurveda and Yoga can supplement the preventive measures recommended by the Ministry of Health and Family Welfare (MoHFW)[4]. According to current COVID-19 information, a strong immune system is crucial for sickness prevention and protection. Traditional medicine systems, such as Ayurveda, address diseases holistically, considering mind-body-physiology. Ayurvedic philosophy suggests "a collection of phytoconstituents" with adaptogenic, immunomodulatory, and drug-targeting properties. As a result, "Rasayana botanicals" are used in Ayurveda to revitalize the body by strengthening the immune system and lowering disease symptoms[5]. The immune system and antiviral capabilities of Asparagus racemosus (AR), also known as *Shatavari*, *Tinospora cordifolia* (TC), commonly known as *Guduchi*, and *Withania somnifera* (WS), generally known as Ashwagandha, are all known[6].The ideal COVID-19 therapy would include (a) antiviral capabilities against SARS-COV-2, (b) safety for concurrently administered medications such as antihypertensive, anti-diabetic, anti-asthmatic, and drugs for respiratory tract infections, and (c) immune system modification with rejuvenation ability[7]. To better understand their immunomodulatory influence, a network pharmacology model was built to discover and illustrate the interactions of phytochemicals with molecular targets in the immune system. In addition, the phytoconstituents were docked to three SARS-CoV-2 molecular targets to evaluate if they have antiviral activity[8]. Predictive algorithms were also used to assess the likelihood of interactions between phytoconstituents and commonly prescribed drugs. According to thorough research findings, Ayurveda Rasayana botanicals have the potential for immunomodulatory and antiviral actions and could be used as a therapeutic adjuvant for COVID-19 therapy[9]. This study was conducted to be aware of the use of Ayurved medications as adjuvant therapy in the COVID-19 pandemicurban population.

2. MATERIALS AND METHODS

2.1. Study design

It was an observational cross-sectional study. A systematic and validated module was developed to raise awareness regarding using ayurveda medicines as adjuvant therapy in the treatment of Covid-19 and to assess the efficacy of Ayurvedic medicine in treating Covid-19 using a questionnaire. Covid-19 positive patients were selected for the study. Verbal consent should be obtained, and the audience should know about the Covid 19 precautions and treatment module. A post-test provided by an interviewer was utilized to examine socio-demographic variables, knowledge, attitude, and awareness about using ayurvedic medications as adjuvant therapy in treating Covid-19 from the Wardha district. The respondent's verbal consent was obtained before the interview.

2.2. Study population

The study covered all 250 patients who had tested positive for Covid-19 from August 2021 to March 2022.

2.3. Setting

The suggested study was conducted in the Wardha district among urban residents. The study lasted three months, and data was collected following the questionnaire.

2.4. Sample Size

At least 250 patients were considered to be a practical sample size. The ease of data collection during the pandemic was made possible by the cheap resource cost and feasibility, which was the main justification for such convenient sampling. Researchers contacted the patients who had already signed up for the integrated study project via phone or in-person interviews. The study includes all individuals who tested positive for Covid-19 and were willing to enroll. Participation in the study was entirely voluntary. Patients were chosen based on inclusion and exclusion criteria.

2.5. Inclusion andExclusion Criteria

All individuals between the age of 18 years to 60 years, whether affected by the COVID-19 virus or not, were included in the study. And individuals below 18 years and above 60 years were excluded from the study.

2.6. Assessment Method and Data Management

Patients who agreed to participate were given a questionnaire and explained the study's details verbally. Before any encounter, each participant provided written informed consent. The online survey was completed, and data was gathered as a result. The questionnaire consisted of yes or no type questions. The information collected from all available sources will be kept safe. A duplicate copy will also be made and stored on an external data storage device; only the current study's authors can access it. Statistical data was created online using a Google form and examined based on recorded responses [Fig-1].

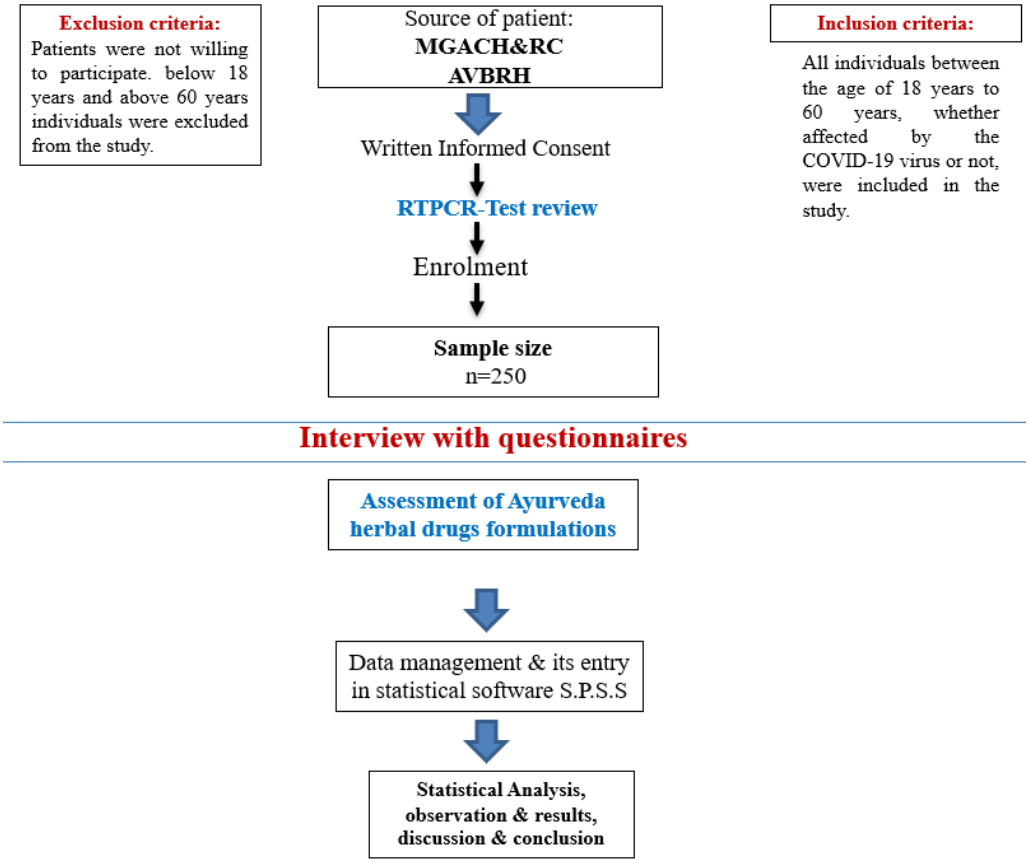

Fig-1: A diagram displaying the detailed study strategy.

3. OBSERVATION

Table 1: Analysis of recorded responses in the survey

SN	Questions	YES	NO	MAYBE
1	Have you tested positive for COVID-19 recently?	226 (89.6%)	24 (10.4%)	00 (0%)
2	What was the test you went through?	**Rt-PCR** 164 (65.6%) **Antigen test** 60 (24%)	26 (10.4%)	-
3	Have you been on allopathic medications for the treatment of COVID-19?	203 (81.2%)	40 (16%)	07 (2.8%)
4	Were there any side effects of allopathic medications?	149 (59.6%)	41 (16.4%)	60 (24%)
5	Have you been treated with ayurvedic medications for COVID-19?	218 (87.2%)	17 (7.8%)	05 (2%)
6	Have you suffered from symptoms like cold, cough, fever, and weakness?	241 (96.4%)	08 (3.2%)	01 (0.4%)
7	Was it effective?	196 (78.4%)	06 (3.4%)	48 (19.2%)
8	Were there any side effects?	09 (3.6%)	117 (70.8%)	64 (25.6%)
9	Have ayurvedic medications shown quicker effects for the relief of symptoms?	175 (70%)	11 (4.4%)	64 (25.6%)
10	Will you continue ayurvedic medications as a treatment plan for COVID-19?	180 (72%)	05 (2%)	65 (26%)
11	Have you experienced any major side effects from using Ayurveda medication as your treatment?	12 (14.8%)	202 (80.8%)	36 (4.4%)
12	Can ayurvedic medications be used as adjuvant therapy in Covid-19 cases?	244 (97.6%)	02 (0.8%)	04 (1.6%)

Two hundred and fifty patients who tested positive for COVID-19 took part in this study. A questionnaire and verbal communication were used to assess the usage of ayurvedic medication as an adjuvant therapy during COVID-19. COVID-19 was found in 89.6% of those tested. As a confirmatory test for COVID-19, 65.6% of patients underwent RT-PCR. In the beginning, 81.2% of persons utilized allopathic medication to treat COVID-19, with 59.6% of patients experiencing side effects from the allopathic medicines. Following that, 87.2% of patients were treated with ayurvedic drugs for COVID-19 treatment. During COVID-19, 96.4% of patients experienced symptoms such as fever, cold, cough, and weakness [Table 1]. Ayurveda drugs had no adverse effects on 80.8% of the patients. In COVID-19, 97.6% of patients agreed to useAyurveda drugs as adjuvant therapy [Fig-2].

Table 2: Ayurveda herbal formulations used for COVID-19 as adjuvant therapy

S.No.	Name of medicine	The number of patients	% of patients used medicine
1	*Samshvani Vati*	166	66.4
2	*Tribhuvankirti Vati*	98	39.2
3	*Lakshmivias Ras*	102	40.8
4	*Arogyavardhini Vati*	112	44.8
5	*Dhanwantara Gutika*	118	47.2
6	*Kutaj Ghanavati*	89	35.6
7	*Talisadi Churna*	98	39.2
8	*Sitopaladi Churna*	128	51.2
9	*Sudarsana Churna*	102	40.8
10	*Mahasudarshan Kadha*	178	71.2
11	*Patoladi Kadha*	56	22.4
12	*Vasavaleha*	54	21.6
13	*Vibhitakavleha*	36	14.4

The most used medicine during the COVID-19 period was *Mahasudarshana Kadha* (71.2%)- which increases appetite and improves digestion, enhances immunity and provides protection against common infections., *Samshavani Vati* (66.4%) has antipyretic and anti-inflammatory properties.*Sitopaladi Churna* (51.2%)is the most effective expectorant found in nature. It is then absorbed by the body, serving as a source of food and energy for the digestion of mucous conditions. [Table:2].

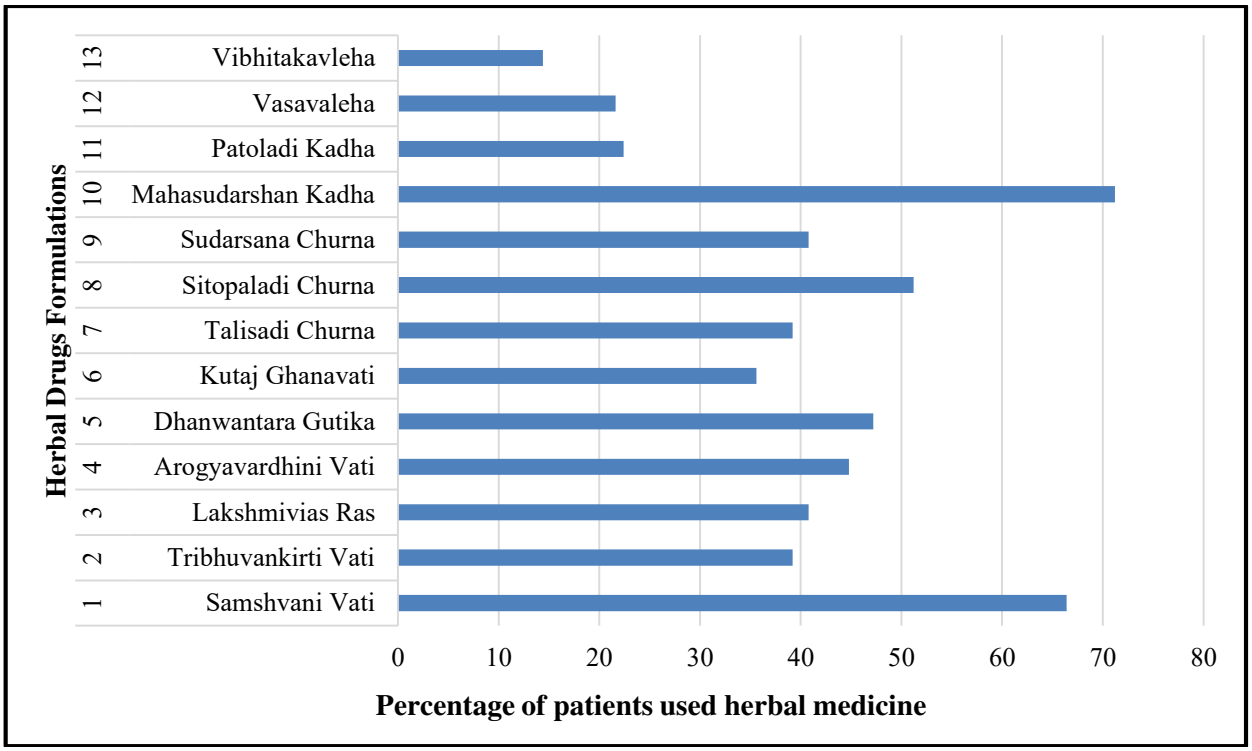

Fig-2: Herbal drug formulations & their percentage of usage

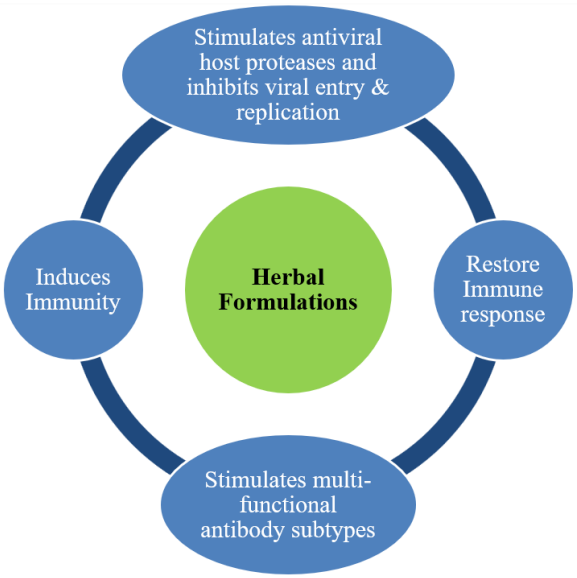

Fig-3: Therapeutic modalities of herbal medicine

Table 3: Status of COVID-19 patients

	The number of patients	% of patients
Age		
18-40 years	134	53.6
41-60 years	116	46.4
Gender		
Male	152	60.8
Female	98	39.2
Education		
Illiterate	34	13.6
Up to high school	37	14.8
Graduate	75	30
Post Graduate	60	24
Profession		
Farmer	37	14.8
Office Job	121	48.4
Business/Self-employed	69	27.6
Homemaker	23	9.2
Number of chronic conditions		
Single morbidity	238	95.2
Multiple morbidities	12	4.8

The study population was more males between 18-40 & 41-60 years. Most of the population was literate, and was around 68.8%. Most of them were working in government and private offices. And it was observed that 95.2 % population suffered from single morbidities like hypertension or diabetes [Table:3].

4. DISCUSSION

COVID-19 is a novel coronavirus-caused illness (SARS-CoV-2). Even though antimalarial, antiviral, steroid, and other medications are being repurposed to treat the disease, research and trials have proved inconclusive. The current standard of care is symptom-focused and supportive. Providing prompt emergency care in a hospital is important for successful pandemic management. Despite excellent medical advice, a high proportion of light and moderate uncomplicated cases are admitted to the hospital and clog the system, in our experience. The use of ayurvedic drugs greatly reduced hospitalization duration. Understanding the pathophysiology of COVID-19 is becoming more prevalent around the world. A wide range of patient populations is described, ranging from asymptomatic through mild or moderate instances and severe cases (some with relapse). Severe SARS-CoV-2 infections result in death due to severe acute respiratory syndrome accompanied by hypoxia, followed by organ failure. We require preventive medications (before and post-COVID-19), immunomodulatory and adaptogenic, and anti-SARS-CoV-2. Using in silico techniques, the current study reveals that the selected medicines' botanicals may have all these activities and may be useful for COVID-19 management[Fig-3]. It is worth noting that the phytoconstituents described above are projected to have a high docking score; ligand efficiency, oral bioavailability, and drug likeliness are two factors to consider. As a result, they are appealing molecules for rapid medication discovery and development for COVID-19 management using a multi-targeted pharmacology method. *Samshvani Vati is a one-of-a-kind Ayurvedic traditional preparation made from an aqueous*

extract of Guduchi, which has anti-inflammatory and immunomodulatory properties.10. Tribhuvankirti Vati, Lakshmivias Ras, Sitopaladi Churna possessed good reducing power, antipyretic and antioxidant activity[11]. *Arogyavardhini Vati* ingredients, such as *Tamra Bhasma* (burned copper), *Guggulu*, *Katuki*, and *Triphala*, have properties that help people lose weight, improve digestion and metabolism, and fix problems with lipid metabolism and transportation.

Garlic has properties that help clear blockages in small channels and fight free radicals, which may help fix the root cause of disease and set up a healthy body[12]. *Dhanwantara Gutika* has anti-inflammatory properties[13]. In *Kutaj Ghanavati,* Kutaja includes alkaloids responsible for its effect on Atisar. Connesine is a significant alkaloid among them[14]. *Talisadi Churna* is highly effective on *Vata-kapha* predominant *Kasa* (Bronchitis)[15]*Sudarsana Churna* is the most potent antipyretic Ayurvedic medication, with bitter components that can treat fever-related symptoms like dyspepsia, anorexia, weariness, and nausea. It has a modest laxative effect and does not cause constipation. It stimulates bile flow and is used as a digestive in gastrointestinal diseases[16]. Ayurvedic polyherbal medication *Maha Sudarshan Churna* is used to treat fever (particularly chronic kind), cold, and malaria, as well as to promote digestion and appetite, flush out toxins from the blood, and guard against common bacterial infections[17]. *Patoladi Kadha* help to lower body temperature and treat fever, suppress inflammation, modulate the immune system, and effect immunity[18]. *Vasa Avaleha* is a herbal remedy frequently used to treat a variety of respiratory illnesses[19]. Numerous pharmacological and therapeutic properties of the *Vibhitakavleha* have been established, including anti-inflammatory, anti-mutagenic, anti-proliferative, radioprotective, cardioprotective, anti-arthritic, gastrointestinal motility-enhancing, and wound-healing properties[20].Ayurvedic medicine is based on universal interconnection, the body's constitution (prakriti), and life forces (doshas). Treatment goals assist the person by removing impurities, lowering symptoms, boosting resistance to disease, reducing worry, and increasing life harmony. Ayurvedic medicine uses herbs and other plants, including oils and common spices. Pharmacovigilance is crucial for maximizing drug safety and raising therapeutic success[21-23]. Ayurvedic drugs can treat mild to moderate symptoms quickly [24,25]. However, in the present study, 70% of patients demonstrated a faster impact after using Ayurveda medication. In the event of COVID-19, 72% of participants said they would continue to utilize ayurvedic drugs as a useful therapy.

5. CONCLUSION

Most countries treat individuals with antiviral combinations for other viral diseases during COVID-19. The clinical efficacy of used antivirals against SARS-COV-2 is unclear. Ayurveda medicine considers mind-body-physiology to treat disease. Ayurveda medication modifies the immune system and has antiviral properties. It was found that COVID-19 patients can be benefited from Ayurveda adjuvant therapy. Ayurveda medicines can treat COVID-19 symptoms with negligible adverse effects.

6. ETHICAL APPROVAL STATEMENT

The cross-sectional survey was conducted for six months, and approval has taken from the Institutional Ethical Committee, Mahatma Gandhi Ayurved College, Hospital & Research Centre, Salod (H). Letter ref.MGACHRC/IEC/June-2021/06.

7. AUTHORS' CONTRIBUTION STATEMENT

Dr.Gaurav Sawarkar conceptualized the study protocol. Dr. Shumaila Mirza Collected the Data and prepared the primary manuscript. Dr.Punam Sawarkar made the data analysis. All authors discussed the methodology of the study. Dr.Gaurav Sawarkar finalized the manuscript.

8. CONFLICT OF INTEREST

Conflict of interest declared none.

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