

Review Article

**POSSIBLE CHARACTER OF CLASSICAL
THERAPEUTIC RHIZOME OF TURMERIC FOR
THE PREVENTION AND THE EXECUTIVES OF
NOVEL CORONA VIRUS**

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ABSTRACT

Human history is watching a very odd time fighting an imperceptible enemy. The novel coronavirus infection was started in late December 2019 from Wuhan city, China. A short time later, the novel corona virus (COVID-19) episode was announced as a Community Health necessity of International involvement by the World Health Organization (WHO). Presently, around more than 70 million people are suffering and more than one lakh are dead worldwide because of the highly infectious and deadly quality of the virus infection. Unfortunately, no standard medicines, drugs, or vaccines are available to treat the infection. The major clinical signs & symptoms of COVID-19 are runny nose, dry cough, high fever, fatigue, shortness of breathing, diarrhea. Clinical symptoms based on India have good, old traditional medicinal practices, for example, Ayurveda could be beneficial to treat and prevent the virus infection. Indian traditional Golden spice, the kitchen of Queen rhizomes of turmeric (curcumin) has been expressed to have antiseptic, anti-inflammatory antibacterial majorly anti-viral potential against Para-influenza virus type3(PIV-3), feline infectious peritonitis virus (FIPV), herpes simplex virus(HSV), Coxsackie virus, major pandemics of Hepatitis B Virus (HBV), Curcumin is broadly used as Ayurvedic medicine to treat cold, cough, gastric ulcers, dental issues, asthma, diarrhoea, wounds healing which are also reported as the normal clinical symptoms of COVID-19. Turmeric is answered to ensure to boost immune response during viral infections. Multidimensional antiviral restorative potentials of curcumin demand estimating its likely application to control COVID-19 along with modern therapeutic practices. But a list of empirical database and translational research is required to establish the hypothesis.

INTRODUCTION

Corona virus infection or crown like projection infection disease may bring about massive alveolar damage and dynamic respiratory failure. Corona virus initial symptoms are fever, chills, fatigue, cough, diarrhoea, respiratory related symptoms and brevity breath standard vaccines and any antiviral agents could be beneficial to prevent and treat corona virus infection.[1,2,3] Unfortunately, there is no such proper medication or treatment identified yet to treat novel COVID-19. Improvement of antiviral medication or vaccines may require months or years also when quick treatment is required to stop this exceptionally infectious ailment but the Chinese government is appreciating the use of traditional herbal or natural medication for the cure of infected patients. At the coinciding Indian government also encourage through AYUSH Indian based traditional medicine like Ayurveda, Unani, and siddha based medicine beneficial & effective to treat pandemic novel COVID-19 because of it is a "severe acute respiratory syndrome" associated coronavirus (SARS-CoV) infection depending upon signs and symptoms.^[4]



Image of turmeric & its powder

IMPORTANCE OF TURMERIC IN INDIAN TRADITIONS

Ayurveda is the world's most seasoned medical system that can deal with any illness without any side effects. Ayurveda is outfitted with an assortment of treatment modalities to deal with any type of dangerous diseases. However, a significant drawback is a lack of an adequate scientific basis. To overcome this problem, the Indian government has started empowering research in several areas to improve the system effectively. Among Ayurveda and any other traditional medicines, systems are Turmeric one of the most, primary medicine. Turmeric, also known as "Haridra" or "Haldi Turmeric" is an old flavor got from the rhizomes of *curcuma longa*, which is a representative of the ginger family (*Zingiberaceae*). Turmeric, a golden spice, has been utilized by the people of the Indian subcontinent for a century with no known reactions, as a part of food as well as to treat a broad array of illnesses to the extent achieved evidence, it is used daily in India for at least 6000 years as a medicine, cooking spice beautifying agent, a coloring agent in different preparations like clothes. It has been utilized in classical medication as a common household relief acts as first aid and kitchen Queen for different ailments, including cough, wound healing, hepatic issues, anorexia, and sinusitis.

Turmeric perennial plant having short term with huge oval leaves, and bears oval leaves, and bears

ovate, pyriform, or oval rhizomes which are regularly stretched and earthy yellow in color. ^[5]Haldi has traditional events from birth to burial. It is viewed as hallowed, promising, and a harbinger of success. A piece of turmeric tied to turmeric colored thread is used as a matrimonial string in numerous Indian people. It is applied to the complete body of the bride and bridegroom on the earlier day of marriage. Garments colored or marked apart with it are viewed as favorable. It has been applied the cheeks, foreheads, neck, hands, foot and on auspicious occasions, as well as every morning and evening in some communities in Indian traditions.

Indian women have been portrayed as attractive in great Indian writing if their faces and bodies are sparkling yellows. It is also utilized in Hindu temple practices and ceremonies for example "Homa" & "Pooja" as an ornament to avoid insidious spirits. "Kumkum" was classically processed by alkalizing turmeric rhizome powder. It is applied by wedded women on the splitting of the hairlines or in the middle of the two eyebrows. ^[6,7,8] Turmeric powder has been shown to have an extension of biological actions. these include it researchers who have demonstrated turmeric as homeostatic, ready to stop the seeping of a wound and a vulnerary, an extraordinary healer of wounds due to being both anti-microbial, anti-viral, anti-inflammatory. Turmeric powder has a mending impact on both aseptic and septic injuries. ^[9]

POSSIBLE ROLE OF TURMERIC MANAGEMENT OF COVID-19

Turmeric aids in building our immunity active immunity is our body's natural defense against disease-causing bacteria and viruses .it can considerably curtail the difference of getting axil.it is only because of the weak immunity that people are getting influenced with the broad spread coronavirus and other such pandemics conditions. The main lifesaving active constituents in turmeric rhizome are about 3-5% of curcumin. ^[6]As the climate changes from cold to warm or warm to cold it is basic for individual to catch a common cold or flu.

Turmeric helps the body naturally purge the respiratory tract, turmeric helps fight the flu virus and its anti-inflammatory characteristics mitigate people from the direct impact of flu, cold, and other respiratory issues. People having bronchial issues such as sinus, sinusitis, and a lot of issues because of less immunity power. Active constituents of turmeric can be useful in facing such issues and also working up the immunity power so that there should not be kind of respiratory problems. Symptoms and signs results congestion of nose, bronchial asthma, and airways because of inflammation, running nose, and cough and periodically, more affecting children, adults and old people. Inflammation compresses the airways and forms it ambitious to breath. This is much related to an emphasized response by the

resistance system that show to chronic inflammation and flawed to bronchial layers by free radicals.

Curcumin constituent constrains inflammation, relieves congestion and pain thus improves our breathing. Curcumin suppresses different inflammatory molecules that are culpable for the element of the bruises by viruses. It benefit to diminish signs and symptoms provides relief from inflammation^[24]. Turmeric shows to inhibit peptic ulcer, Gastric disturbances formation caused by Non-steroidal anti-inflammatory drugs like Indomethacin, stress, alcohol automatically increasing gastric wall mucus in rats subjected to these GIT issues so researchers has confirmed the best digestive benefits of turmeric^[10]. Golden spice^[11] also works productively foe stopping nosebleeds, helps with clearing the sinuses, restores a progressively intense feeling of smell, and helps to purify the mind and brain as per data turmeric powder is used in Indian and Chinese medication for treating sputum, dry cough, sinusitis, dysphonia, toothache, ear and eye pains^[12] Curcumin shows all the antiviral activities by deducing the replication of the virus. Curcumin thus deduces the viral load. There exist strong scientific evidence for turmeric rhizome has been classically and classically used as antimicrobial activity as well as shows a different types of an insect repellent^[13] a few investigations have detailed the wide range antimicrobial activity for curcumin including antibacterial, antiviral, antifungal and antimalarial exercise due to all-

encompassing antimicrobial movement of curcumin and wellbeing property even at high dosage evaluated 12g per day by clinical trials in human beings. Another study has been exhibited that turmeric as plant derivatives has a broad range of antiviral properties against various viruses^[14].

The study of different bi conjugates of curcumin, namely, di-*O*-decahedral curcumin, di-*O*-palmitoyl curcumin opponent variety of viruses including para-influenza virus type3 (PIV-3), vesicular peritonitis virus (FIPV), herpes simplex virus (HSV), respiratory syncytial virus. Existing strong scientific proof for the viral long terminal repay (LTR) has basic role in transcription of type1 human immune deficiency virus (HIV1) provirus. Inhibition of LTR action can be potential pathway for antiviral medication to against HIV1 replication. Curcumin established to be an effective compound to inhibit the HIV1 LTR directed gene expression beyond any major effects on cell viability. Curcumin also shows inhibition of hemagglutination of the Influenza virus, H1N1 and H6N1 subtypes.

Turmeric rhizome shows the antiviral properties against Coxsackievirus by protein synthesis, devaluation of viral epidemic and virus titer. As per study of different avenues exhibited that turmeric compelled its dominant antiviral effects in inhibition of Coxsackievirus replication through dysfunction of the Ubiquity no protean some system (UPS)^[15].As per another study of antiviral effect of

hydro concentrate of *Curcuma longa* rhizome against liver diseases correlated with viral infections are dominant pandemics of Hepatitis B virus (HBV) in Hep G 2.2.15 cells consists of HBV genomes showed repression of HBs Ag released from liver cells without any cytotoxic effects^[16].

High-risk human papilla major uses (HPVs) infection via the interpretation of E6 and E7 viral oncoprotein has a critical role for improvement of cervical carcinoma. Turmeric exhibits the inhibitory activity opposing the expression of E6& E7gens of HPV-16 and also HPV-18 as two major highly oncogenic human papilloma viruses. The transcription factor AP-1 is a main factor for transcriptional regulation of high risk HPVs like HPV-16&HPV-18. The analysis of antiviral property of Curcumin on Neuro2acell line infected with JEV exhibits a reduction in manufacture of infectious viral particles via inhibition of ubiquity no protean some system. The DNA binding and transcriptional effects of AP-1(Activator protein-1) in HTLV-1-infected T-cell adjoin were abolished by active constituents of turmeric treatment^[17,26]Turmeric has shown extensive tardily use of in food products, as per different studies and researchers curcumin with the condition of supervising fungal associated adulteration and fungal pathogens. Curcumin and turmeric oil exert antifungal effect against two phytophagous fungi, namely, *Fusarium solani* and *Helm* in this podium *oryzae*.^[18,25] The investigation of two hundreds of

scientific isolates of candida breed counting *C.kefyr*, *C.krusei*, *C.tropicalis*, *C.guillermondii*, *C.glabrata* demonstrated fungicidal activity. Another study explained that curcumin enhances the expression of catharsis K and L in lung which an effect on lung fibroblast cell behavior^[19] Oral administration of curcumin has inhibited bleomycin induced pulmonary fibrosis in rats and cigarette smoke-induced inflammation band emphysema in mice^[20]. Curcumin, active of turmeric shows central role in the modulation of immune system. A study was achieved to check the effect of active constituents of turmeric on tuberculosis cells and macrophages results proved that curcumin imparted immunosuppression by majorly down-regulating the interpretation of CD28, CD80 and up-regulating cytotoxic T-lymphocyte antigen4 (CTLA-4)^[21,22] depends upon experimental analysis curcumin shows reduces malaria parasite effected on lice, reduction of blood parasite by 80-90% and enhance their endurance significantly.

Other investigation results reasoned that curcumin shows cytotoxic effect in *Guardia lamblia* inhibiting the parasite grow band adherent capacity, instigated morphological adjustments and incited apoptosis like changes size that turmeric rhizome may be effective in the prevention, control and management of novel COVID-19 though the existing literature supports. The management and control of symptoms of novel pandemic COVID-19 using curcumin, a lack of standard detailing limit bits use.

This is the need of time to begin with traditional research to give scientific proof for the efficacy and built up the Standard formulation of curcumin in the management of novel pandemic COVID-19.

POSSIBLE CULINARY USED OF TURMERIC RHIZOME [23,27-34]

1. Intestinal antiseptic: Take a teaspoon full of turmeric rhizome powder with milk two to three times daily. Very effective on an empty stomach.
2. Diarrhea: The turmeric, its juice or dried powder, mixed in curdled milk or water is effective for chronic diarrhea.
3. Cough & throat infection: Take one and half teaspoons of newly turmeric powder mixed in thirty ml milk is very active especially for throat infection and cough treatment. In case of running nose fumes from blazing turmeric can be inhaled. This increases the discharge from the nose and brings quicker relief.
4. Anemia: everyday take a dose of the spoon of turmeric juice blend with honey.
5. Asthma: warm one cup of milk with spoon of turmeric powder, drink warm.
6. Burns: Take spoon of turmeric with one teaspoon of *Aloe Vera* and apply the burnt area.
7. Conjunctivitis: Mix spoon of Crushed, raw turmeric in one third cup of water. Boil, cool and sieve 2-3 drops of this mush may be utilized in individual eye up to three times per day.

8. Complexion: Turmeric paste apply on the skin ahead bedtime and wash off after sometime in the morning, clean any remaining yellow tinge with mixture of gram flour and oil.
9. Dental problems: Take one teaspoon of Haldi powder with half teaspoon of salt add oil of mustard to make a pap. Rub on gums of the tooth with this twice a daily.
10. Diabetes: One teaspoon full of turmeric rhizome powder should be taken three times a day.

DISCUSSION

The wellbeing advancing impacts of curcumin are around perceived and are in practice in traditional medication since ancient times. Ayurveda, Unani and siddha based medicines of curcumin are active constituents of Haldi are famous in the disease management because of its nontoxic and fewer symptom properties. A significant number of *in vitro*, *in vivo* and clinical trials based examinations revealed that curcumin and its ingredients are compelling modulators of biological procedure. No experimental information is available to associate the medicinal capability of turmeric for the treatment who are suffered from novel COVID-19 patients because of its multidimensional therapeutic potential, it very well may be hypothesized that turmeric could be a successful ayurvedic medicine for the management and treatment of novel COVID-19 in addition to modern medicinal practices. A progress of experimental database and

translational research is needed to build up the standard preparations of turmeric or turmeric derived chemical constituents having antiviral potential especially in Novel pandemic COVID-19.

CONCLUSION

In spite of the fact that the existing literature underpins the management of symptoms of manifestation of novel COVID-19 using turmeric is a broadly used in Ayurvedic, home remedies having antiseptic, antiviral, immunity booster potential, one of the significant concerns with developing Curcumin for clinical adequacy in novel methodologies but lack of standard formulations limits its use. This is the need of time to begin with translational research to give scientific proof the efficacy and build up standard formulations of turmeric in the management and treatment of high infections and deadly viral infections.

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