

POSSIBLE ROLE OF T-AYU-HM PREMIUM AND OTHER HERBAL DRUG TREATMENTS IN COVID19

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Abstract: The current scenario of pandemic Covid-19 is not a word to use lightly or carelessly. It is a word that, if underestimated, can cause unreasonable fear, or unjustified acceptance that the fight is over, leading to unnecessary suffering and death. The situation is most important for scientist across the countries for finding reasonable safe and effective solution. Lots of researches are going on for antiviral drug development; vaccine development with an ultimate goal is to fight against the novel corona virus. Till any solution comes out as boon for this infection, world health organization has mentioned specific measures to prevent the spread like social distancing, contact tracing, and quarantine for the cases and maximum testing. It is also observed that lots of researches are initiated in emphasizing role of herbal formulations or medicinal plants with allopathic drugs with synergistic actions. India has tremendous herbal drug resource and potential, routine consumption of these herbs might be the reason providing internal immunity to combat the COVID19. The time being tested herbal drug combinations may become powerful tool in fight against the COVID19. T-AYU-HM Premium is novel herbo-mineral formulations have been used in sickle cell anemia with its proven safety and efficacy data. The researchers are keen on considering the formulation application in COVID19 due to its mechanism on cellular structures. The potential of T-AYU-HM premium to maintain red blood corpuscles in sickle patients might favor its consideration in COVID19 prophylaxis and treatment with other supportive measures. Further studies are required to prove its mechanism of action as antiviral agent in COVID19. The possibilities of utilizing crucial hearbal medicine through Nasya karma is also discussed in the article.

Keywords: COVID19, T-AYU-HM Premium, Nasya, Herbo-mineral, Sickle cell anemia,

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Introduction: COVID19 is a word which needs no further description as bundles of research paper and information day by day updated by scientist working on it. The parameters like ageing, other disease prevalence and immunity might be also a factor to consider for designing the treatment option for COVID19 patients. The incubation period and asymptomatic characteristics in patients suffering may be also more complicated to differentiate. The characteristics of virus and its mechanism to target angiotensin converting enzyme type 2 on pneumocytes is already known and reported. The clinical characteristics of virus into humans producing various complications are also evident in various literatures. There are many preventive guidelines issued by world health organization and individual countries to withstand against the outbreak of COVID19. The critical situation has also provides challenges to many scientists to develop solution against the virus. India is mainly an agriculture country and hub for traditional herbal medicines. [1-4]

There are many countries that also have high prevalence of autosomal recessive type of hemoglobinopathy, which is known as sickle cell anemia which is single point mutation. The even world health organization has also mentioned new born screening, patient education are important for its control. The literature also mentioned that sickle cell anemia affects 5 percent of population every year. [5-8] If every countries having sickle cell anemia prevalence upload their data for sickle cell trait and disease patients on their national health portal it will be good for understanding and mapping the disease severity. [8-9] India was second most affected country with sickle cell anemia births in 2010. [10] There are lots of efforts have been made by government afterwards definitely. Still there are no specific medicines available for managing the quality of life in patience of sickle cell anemia. All available options are either symptomatic or have side effects or patients can't tolerate the medicine throughout the life span. [8-9]

T-AYU-HM Premium is novel herbo-mineral formulation having potential to act as anti-sickling medicine. The formulation is made up of some vital herbs like Calyx of Mica, Calyx of iron, *Terminala chebula*, *Zingiber officinale*, *Punica granatum*, *Asparagus racemosus*, *Piper longum*, *Myristica fragrans*, *Leptadina reticulata* and *Tinospora cordifolia*. The formulation has documented anti sickling activity. [10-11]

The previous studies on sickle cell mentioned that factors like dehydration can cause dysfunction in calcium dependent potassium efflux channel (Gardos) in red blood corpuscles of sickle cell patients. [12-15] The cell also posses less anti oxidant activity which may be reason for intracellular damage, dysregulation of mRNA and hence abnormal possibilities of gene expression. [12,16-18] The oxidative stress can therefore cause disturbance in function of membrane protein and intracellular proteins aggregation. This increases phosphatidyl-serine exposure and allow pre-coagulant activity of red cells. [19]

The T-AYU-HM Premium formulation contains the anti sickling activity it clearly means the formulation have potential in preventing dysregulation of Gardos channels. The formulations consist of ingredients like *Punica Grantum* and *Tinosporia Cordifolia* drug extracts having metal chelating activity served as potent antioxidants for the red cells. The ingredients also source of iron and ascorbic acid increased possibility of absorption of iron also increases. [4] Thus the formulation having potential to improve quality of life in patients of sickle cell anemia.

Role of T-AYU-HM Premium: The COVID19 is affecting ACE-2 and serine protease enzyme receptors in humans. The infection mainly damages lungs and its organelles like alveoli and bronchi. The virus eventually damages the gas exchange function, leads to edema and increases load on heart. The proposed T-AYU-HM Premium claiming to be potential precautionary and preventive option in this crucial time due to its following significance in current disease condition. The formulation posses metal chelating activity and possible it might help in pneumocytes having ACE-2(metaloproteinase) enzyme. The formulations also possess activity to manage the cellular integrity and intracellular signaling by preventing lysis of cell against hypoxia, acidosis and dehydration. This might not allow the activation of phosphatidyl-serine because it is the main source for entry of viruses [20] The formulation also provides immunity to the body and respiratory stimulant action. All the ingredients in formulation also possess antiviral actions too. [4] The drug component like *leptadenia reticulata* havinf anti asthmatics activity, helps in clearing airways which might be constricted either due to inflammatory mediators or mucus in COVID19.[4,21] The formulation with proposed mechanism explained above definitely has potential to provide fight against COVID19. It needs to consider for long term future research. Synergistic treatment approach with other allopathic medicines or herbal medicines can also be tested for future studies.

Herbal management options like Nasal drug administration/ "Nasya Karma":

As the infection spread through oral route and receptors are identified in lungs. In Ayurveda, the nasal mediated drug administration is known as Nasya karma (nasal medications), dhumrapana (ayurvedic inhaler). Medications given thorough this route affects the mind, Prana vata, Tarpaka kapha, sadhaka pita and majja dhatu. Administration of medicine though this route on empty stomach an hour before or after a shower or exercise. Lie down with the head tilted back and put 5 drops of nasya in each nostril. Sniff deeply, than remain lying for a minute or so, to allow the medications to penetrate. [22]

Onion and Garlic nasal drops: Herbal medicinal plants like Onion or garlic having potential antiviral characteristics can be given through nasal route of administration. Significance of onion is it can be given to even patients having co existing disease like diabetes. [4, 23] Some reported studies mentioned excessive demand of steroid inhalers and facing shortage. [24] The onion or garlic nasya karma can definitely consider in comparison to steroidal inhalers efficacy in COVID19. Even the patients of asthma and chronic obstructive pulmonary disease may also relieve from it due to their effectiveness. [4, 23] Current world health organization report mention COVID19 transmits through respiratory droplets and close contacts routes. [25] This suggests the people can prefer steam of this herbal drug like onion or garlic at home during their quarantine period.

Conclusion: Indian medicinal plants have always become emergency antidotes and treatment for many previous health related issues. Proper combinations of herbal medicines in formulations can become potential management tools. The T-AYU-HM Premium is definitely intended to be anti-sickling formulation but it also posses antiviral activity, blood tonic, reduce cough and improves breathing, antioxidant activity, hepato-protective, immune-modulator functions. The formulation not only maintains cellular structure from lysis but it rejuvenates skin and body organelles. The role of herbs like *Punica grantum* and *tinosporia cordifolia* towards ACE, and their cardio-tonic potential may demand further research in relation to COVID19. There is a dire need to conduct a further research to assess its activity in COVID19. Even the formulations might also become potential option in management sickle cell anemia patients for providing better quality of life to them.

Acknowledgment: The authors would like to express their sincere thanks to all scientists whose references are helping is preparing this article for further expansion of research.

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