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Recent Advances in Ayurveda in India with Reference to COVID-19 Pandemic

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Abstract: *In India, Kerala State Government stated 1206 AYUSH Raksha Clinics and associated task forces across the state in April 2020. It is to apply Ayurvedic Preventive, Therapeutic and Convalescent care strategies for the COVID-19 pandemic. Sayed Ahmad et. al. (2021) worked on medicinal plants and formulations and their potential against COVID-19 preclinical and clinical research. According to them, the AYUSH recommended formulations of medicinal plants routinely used by Indian population, which can be tested against COVID-19.AYUSH emphasised on Indian medicinal plants reported for antiviral, immune modulatory and anti-allergic/anti-inflammatory activities. AYUSH also categorised for prioritization in research on the basis of earlier reports. Sayeed Ahmad et. Al. (2021) further suggested that AYUSH has promising formulations with Indian medicinal plants to be investigated on a priority basis to solve the present pandemic situation. According to Unnikrishnanet. Al. (2020), approach of Ayurveda in pandemic situation like COVID-19 will reduce long time for clinical trials of allopathic drugs. Ayurveda and its derived drugs in COVID-19 resolved the long time for pandemic remedies. They also said that efforts should be taken to bring the whole systems approach into research methodologies to effectively generate evidence supporting Ayurveda interventions for COVID-19.Rakesh Kotecha (2021) state that use of immunity promoting interventions form the ancient traditional systems of medicine involving Ayurveda, Yoga and Naturopathy, Unani, Siddha, Sowa Rigpa, and Homeopathy (AYUSH) and several home remedies based on traditional knowledge played important role in lowering rates of mobility and mortality in India during COVID-19 pandemic Situation. Harish Singh(2022) provided a pragmatic plan for Ayurveda intervention in COVID-19 pandemic situation. He said that it should be implemented immediately it will be helpful to learn, to generate evidence of application of Ayurvedic in COVID-19 pandemics..*

Keywords: COVID-19; SARS-Co.V-2; TCM, Ayurveda, Pandemic, AYUSH, MoA; WHO, ICMR, CSIR

BIBLIOGRAPHY

[1]. WHO Coronavirus (COVID-19) Dashboard | WHO Coronavirus (COVID-19) Dashboard With Vaccination Data. Available online at: https://covid19.who.int/ (accessed June 29, 2021).
[2]. What is the economic cost of covid-19? | The Economist. Available online at: https://www.economist.com/finance-and-economics/2021/01/09/what-is-the-economic-cost-of-covid-19 (accessed May 9, 2021).
[3]. Tillu G, Salvi S, Patwardhan B. AYUSH for COVID-19 management. J Ayurveda Integr Med. (2020) 11:95–6. doi: 10.1016/j.jaim.2020.06.012
[4]. Paudyal V, Sun S, Hussain R, Abutaleb MH, Hedima EW. Complementary and alternative medicines use in COVID-19: A global perspective on practice, policy and research. Res Soc Administrative Pharmacy. (2021) 17:1507–17. doi: 10.1016/j.sapharm.2021.05.004
[5]. Hussain S, Xie YJ Li D, Malik SI, Hou JC, Leung ELH, Fan XX. Current strategies against COVID-19. Chin Med. (2020) 15:1–12. doi: 10.1186/s13020-020-00353-7
[6]. Ministry of Ayush. Available online at: https://www.ayush.gov.in/ayush-guidelines.html (accessed June 4, 2021).

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International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
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[7]. National Clinical Management Protocol based on Ayurveda and Yoga for management of Covid-19 | Ministry of Ayush | GOI. Available online at: https://www.ayush.gov.in/docs/ayush-Protocol-covid-19.pdf (accessed June 4, 2021).

[8]. Ng JY. Global research trends at the intersection of coronavirus disease 2019 (COVID-19) and traditional, integrative, and complementary and alternative medicine: a bibliometric analysis. BMC Complementary Med Therap. (2020) 20:1–9. doi: 10.1186/s12906-020-03151-

[9]. About Kerala - Government of Kerala India. Available online at: https://kerala.gov.in/about-kerala (accessed June 4, 2021).

[10]. Kerala Model of Development. Encyclopedia.com. Available online at: https://www.encyclopedia.com/international/encyclopedias-almanacs-transcripts-and-maps/kerala-model-development (accessed June 4, 2021).

[11]. Franke RW, Chasin BH. Kerala State, India: radical reform as development. Int J Health Serv. (1992) 22:139–56. doi: 10.2190/HMXD-PNQF-2X2L-C8TR

[12]. Parayil G. The "Kerala model" of development: development and sustainability in the third world. Third World Q. (1996) 17:941–58. doi: 10.1080/01436599615191.

[13]. Chathukulam J, Tharamangalam J. The Kerala model in the time of COVID19: rethinking state, society and democracy. World Dev. (2021) 137:105207. doi: 10.1016/j.worlddev.2020.105207

[14]. Responding to COVID-19 - Learnings from Kerala. Available online at: https://www.who.int/india/news/feature-stories/detail/responding-to-covid-19—learnings-from-kerala (accessed June 4, 2021).

[15]. Elias AA. Kerala's innovations and flexibility for Covid-19 recovery: storytelling using systems thinking. Global J Flexible Syst Manage. (2021) 22:33–43. doi: 10.1007/s40171-021-00268-8

[16]. Directorate of Health Services Government of Kerala. Available online at: https://dhs.kerala.gov.in/# (accessed June 4, 2021).

[17]. Covid-19 Jagratha Government of Kerala. Available online at: https://covid19jagratha.kerala.nic.in/home/ (accessed June 5, 2021).

[18]. Ganguly S, Bakhshi S. Traditional and complementary medicine during COVID-19 pandemic. Phytotherapy Research. (2020) 34:3083–4. doi: 10.1002/ptr.6828

[19]. Rao M, Juneja A, Maulik M, Adhikari T, Sharma S, Gupta J, et al. Emerging trends from COVID-19 research registered in the Clinical Trials Registry-India. Indian J Med Res. (2021) 153:26–63. doi: 10.4103/ijmr.IJMR_2556_20

[20]. Abd-Alla, H. I., Moharram, F. A., Gaara, A. H., and El-Safty, M. M. (2009). Phytoconstituents of Jatropha curcas L. Leaves and their immunomodulatory activity on humoral and cell-mediated immune response in chicks. Zeitschrift fur Naturforsch C. 64 (7-8), 495–501. doi:10.1515/znc-2009-7-805

[21]. Adhikari, P. P., and Paul, S. B. (2018). History of Indian traditional medicine: a medical inheritance. Asian J. Pharm. Clin. Res. 11 (1), 421. doi:10.22159/ajpcr.2018.v11i1.21893

[22]. Agarwal, P., Sharma, B., Fatima, A., and Jain, S. K. (2014). An update on ayurvedic herb convolvulus pluricaulischoisy. Asian Pac. J. Trop. Biomed. 4 (3), 245–252. doi:10.1016/S2221-1691(14)60240-

[23]. Agarwal, R., Diwanay, S., Patki, P., and Patwardhan, B. (1999). Studies on immunomodulatory activity of Withaniasomnifera (Ashwagandha) extracts in experimental immune inflammation. J. Ethnopharmacol. 67 (1), 27–35. doi:10.1016/S0378-8741(99)00065-3

[24]. Aher, V., and Wahi, A. K. (2011). Immunomodulatory activity of alcohol extract of Terminalia chebularetzcombretaceae. Trop. J. Pharm. Res. 10 (5), 567–575. doi:10.4314/tjpr.v10i5.5

[25]. Balkrishna, A., Pokhrel, S., Singh, J., and Varshney, A. (2020). Withanone from withaniasomnifera may inhibit novel coronavirus (COVID-19) entry by disrupting interactions between viral S-protein receptor binding domain and host ACE2 receptor. Virol. J. [Epub ahead of print]. doi:10.21203/RS.3.RS-17806/V1

[26]. Bonaterra, G. A., Bronischewski, K., Hunold, P., Schwarzbach, H., Heinrich, E. U., Fink, C., et al. (2020). Anti-inflammatory and anti-oxidative effects of Phytohustil® and root extract of althaeaofficinalis L. On macrophages in vitro. Front. Pharmacol. 11, 290. doi:10.3389/fphar.2020.00290

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[27]. Chandran, U., and Patwardhan, B. (2017). Network ethnopharmacological evaluation of the immunomodulatory activity of Withaniasomnifera. J. Ethnopharmacol. 197, 250–256. doi:10.1016/j.jep.2016.07.080

[28]. Devaux, C. A., Rolain, J. M., Colson, P., and Raoult, D. (2020). New insights on the antiviral effects of chloroquine against coronavirus: what to expect for COVID-19?. Int. J. Antimicrob. Agents 55 (5), 105938. doi:10.1016/j.ijantimicag.2020.105938

[29]. Dogan, A., and Anuk, O. O. (2019). Investigation of the phytochemical composition and antioxidant properties of chinar (Platanusorientalis L.) leaf infusion against ethanol-induced oxidative stress in rats. Mol. Biol. Rep. 46 (3), 3049–3061. doi:10.1007/s11033-019-04741-7

[30]. Ghoke, S. S., Sood, R., Kumar, N., Pateriya, A. K., Bhatia, S., Mishra, A., et al. (2018). Evaluation of antiviral activity of Ocimum sanctum and Acacia arabica leaves extracts against H9N2 virus using embryonated chicken egg model. BMC Complementary Altern. Med. 18 (1), 174. doi:10.1186/s12906-018-2238-1

[31]. Hsieh, C. C., Peng, W. H., Tseng, H. H., Liang, S. Y., Chen, L. J., and Tsai, J. C. (2019). The protective role of garlic on allergen-induced airway inflammation in mice. Am. J. Chin. Med. 47 (5), 1099–1112. doi:10.1142/S0192415X19500563

[32]. Khorrami, S., Daneshmandi, S., and Mosayebi, G. (2018). Sesame seeds essential oil and Sesamol modulate the pro-inflammatory function of macrophages and dendritic cells and promote Th2 response. Med. J. Islam. Repub. Iran 32 (1), 566–573. doi:10.14196/mjiri.32.98

[33]. Kaunda, J. S., and Zhang, Y. J. (2019). The genus solanum: an ethnopharmacological, phytochemical and biological properties review. Nat. Prod. Bioprospect. 9, 77–137. doi:10.1007/s13659-019-0201-6

[34]. Musarra-Pizzo, M., Ginestra, G., Smeriglio, A., Pennisi, R., Sciortino, M. T., and Mandalari, G. (2019). The antimicrobial and antiviral activity of polyphenols from almond (prunusdulcis L.) skin. Nutrients 11 (10), 2355. doi:10.3390/nu11102355

[35]. ei, H., Xue, L., Tang, M., Tang, H., Kuang, S., Wang, L., et al. (2020). Alkaloids from black pepper (piper nigrum L.) exhibit anti-inflammatory activity in murine macrophages by inhibiting activation of NF-κB pathway. J. Agric. Food Chem. 68 (8), 2406–2417. doi:10.1021/acs.jafc.9b07754

[36]. Prasad, S., and Srivastava, S. K. (2020). Oxidative stress and cancer: chemopreventive and therapeutic role of triphala. Antioxidants 9 (1), 72. doi:10.3390/antiox9010

[37]. Rastogi, S., Pandey, D. N., and Singh, R. H. (2020). COVID-19 pandemic: a pragmatic plan for Ayurveda intervention. J. Ayurveda Integr. Med. [Epub ahead of print]. doi:10.1016/j.jaim.2020.04.002

[38]. Salim, B., and Noureddine, M. (2020). Identification of compounds from nigella sativa as new potential inhibitors of 2019 novel coronasvirus (Covid-19): molecular docking study. chemRxiv:10.26434/chemrxiv.12055716.v1.

[39]. Taylor, D. J. R., Hamid, S. M., Andres, A. M., Saadaeijahromi, H., Piplani, H., Germano, J. F., et al. (2020). Antiviral effects of menthol on coxsackievirus B. Viruses 12 (4), 373. doi:10.3390/v12040373

[40]. WHO (2020a). Coronavirus disease (COVID-19) outbreak. Emergencies Dis. Available at: https://www.who.int/emergencies/diseases/novel-coronavirus-2019 (Accessed December 19, 2020).

[41]. WHO (2020b). Rolling updates on coronavirus disease (COVID-19). Events as they happen. Available at: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen (Accessed December 19, 2020).

[42]. Yamprasert, R., Chanvimalueng, W., Mukkasombut, N., and Itharat, A. (2020). Ginger extract versus Loratadine in the treatment of allergic rhinitis: a randomized controlled trial. BMC Complementary Med. Ther. 20 (1), 119. doi:10.1186/s12906-020-2875-z

[43]. Yuki, K., Fujiogi, M., and Koutsogiannaki, S. (2020). COVID-19 pathophysiology: a review. Clin. Immunol. 215, 108427. doi:10.1016/j.clim.2020.108427

[44]. Zhang, T., Wu, Q., and Zhang, Z. (2020). Probable pangolin origin of SARS-CoV-2 associated with the COVID-19 outbreak. Curr. Biol. 30 (7), 1346–1351.e2. doi:10.1016/j.cub.2020.03.022

[45]. WHO. International Clinical Trials Registry Platform (ICTRP). 2020. Online document at: https://www.who.int/ictrp/en/, accessed September 3, 2020.

IJARSCT
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[46]. Lythgoe MP, Middleton P. Ongoing clinical trials for the management of the COVID-19 pandemic. Trends PharmacolSci 2020;41:363–382.
[47]. Zagury-Orly I, Schwartzstein RM. Covid-19—A reminder to reason. N Engl J Med 2020;383:e12.
[48]. Greenhalgh T. Will COVID-19 be evidence-based medicine's nemesis? PLoS Med 2020;17:e1003266.
[49]. WHO. WHO coronavirus disease (COVID-19) dashboard. 2020. Online document at: https://covid19.who.int/, accessed August 8, 2020.
[50]. G. Ministry of AYUSH. 2020. Online document at: https:// www.ayush.gov.in/docs/clinical-protocol-guideline.PDF, accessed August 8, 2020.
[51]. Priya R, Sujatha V. AYUSH for COVID-19: Science or superstition? Indian J Public Health 2020;64:105–107.
[52]. Patwardhan B., Chaturvedi S. India in COVID-19 times: modern and wiser. J Ayurveda Integr Med. 2020;11(4):367–368. [PMC free article] [PubMed] [Google Scholar]
[53]. https://www.ayush.gov.in/ayush-guidelines.html
[54]. Zhou P., Yang X.L., Wang X.G., Hu B., Zhang L., Zhang W., et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. Nature. 2020;579:270–273. doi: 10.1038/s41586-020-2012-7.
[55]. Chen N., Zhou M., Dong X., Qu J., Gong F., Han Y., et al. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in wuhan, China: a descriptive study. Lancet. 2020;395:507–513. doi: 10.1016/S0140-6736(20)30211-7.
[56]. Dong E., Du H., Gardner L. An interactive web-based dashboard to track covid-19 in real time. Lancet Infect Dis. 2020 doi: 10.1016/S1473-3099(1020)30120-30121.
[57]. Xu B., Gutierrez B., Mekaru S., Sewalk K., Goodwin L., Loskill A., et al. Epidemiological data from the covid-19 outbreak, real-time case information. Scientific data. 2020;7:106. doi: 10.1038/s41597-020-0448-0.
[58]. Goyal M. Threats and challenges of emerging viral diseases and scope of Ayurveda in its prevention. AYU. 2019;40:67–68.