ROLE OF BALA (IMMUNITY) IN COVID-19 PANDEMIC: AN AYURVEDIC REVIEW

Gurav Vishal Prabhakar¹*, Gannur Prasadshakti G²

*¹P.G. Scholar, ²Professor & PG Guide, Dept of Shalyatantra, BLDEA’s AVS Ayurveda Mahavidyalaya, Bijapur, Karnataka, India.

ABSTRACT
The whole world is suffering from the disaster COVID-19 pandemic caused by the novel Coronavirus SARS-CoV-2. This novel Coronavirus is extremely contagious that can cause life threatening respiratory symptoms. Due to these reasons, it has evolved as a serious hazard to humanity in short span of time. In this panic situation everyone is looking for confirm cure for this disease. But no Authorized treatment is available yet to overcome against COVID-19. Adopting preventive measures is the only option to avoid its infection. Various studies suggest that Coronavirus usually affects or shows severe symptoms in the people with low immunity and also mortality rate is higher in immuno compromised and comorbid patients. Therefore strong and healthy immune system is necessary to safeguard the human being from various pathogenic organisms including corona virus. Hence, strengthening the immunity of human body is the best way to restrict COVID-19 infection. This Study is a small effort to enlighten the Ayurvedic broad concept of Bala which has a direct relation with Ojus and Vyadikshamatva which plays vital role in prevention of various diseases (Vyadhi pratibandhakatwa). This Ayurvedic concept has the potential to built strong immunity against COVID-19 which may be helpful in this battle against the current scenario of the disastrous COVID 19 pandemic for the survival of human beings.

KEYWORDS: Bala, Vyadikshamatva, Ojus, Immunity.

INTRODUCTION
The world is experiencing the tragedy of the disease caused by a Novel Coronavirus named SARS COV2. This COVID-19 is extremely infectious and in only couple of months became a genuine danger to humanity everywhere in the world. WHO has declared COVID19 as a global health crisis.

This Coronavirus comprises to a group of single stranded RNA viruses that cause diseases in mammals and birds. Patients infected with coronavirus presents with mild to serious respiratory tract infections. The mode of transmission of disease from human to human is via droplets or by direct close contact with the infected person. The time from exposure to symptom onset known as incubation period is thought to be 2 to 14 days. Sore throat is the first clinical presentation along with symptoms like fever, myalgia, dry cough, loss of smell and taste severe dyspnea, Pneumonia, fibrosis of the lungs. However, individuals with COVID-19 may have some, all or none of the above symptoms. People with older age and existing medical conditions have higher risk of serious illness from COVID-19,[1,2]

As it is a highly contagious disease only prevention is the way by using sanitizers, mask and practicing social distancing. The severity and fatality of COVID-19 have been directly related to the age and immunity of a person.[3]

No confirmed treatment is available yet to overcome against COVID-19. The immune system is the best defense because it supports the body’s natural ability to defend against pathogens like viruses, bacteria, fungus, etc. and resists infections.

Ayurveda the ancient medical science and science of life propounds that prevention is an equally important aspect of disease management as a cure and thus, giving strength to our immune system is the most logical way to assist the body to fight against the COVID-19 infection.

Swasthasya Swasthya Rakshanam 1
Atursaya Vikara Prashanamch II

Ayurveda has stated many concepts which empower immunity of human being. Acquired immunity or herd immunity is the weapon for keeping oneself away from Infection. The concept of Bala, Ojus, and adopting a way of living as directed by Ayurveda like Dinacharya, Ritucharya, Sadvritta,
Navega Dharan, etc enhances Vyadhikshamatva (Immunity). These measures are useful in preventing the Aupsargik Rogas (communicable diseases), Janapada Dhwasna Rogas (epidemic diseases), Krumij Roga (infectious diseases), Asatmyaj Roga (allergic disorders).\textsuperscript{[5]}

This study of the Ayurvedic concept of Bala and Vyadhikshamatva may be helpful in this battle against the current scenario of the disastrous COVID-19 pandemic for the survival of human beings.

**AIM**

This article is a small effort to understand the Ayurvedic concept of Bala and its possible role to prevent the society from COVID 19 Infection.

**MATERIAL AND METHODS**

The materials for the study were gathered from classical Ayurvedic literature like Charaka Samhita, Sushruta Samhita, Ashtang Hrudaya, etc., magazines, articles, research journals, and government advisories.

**Literature Review**

Bala of the body (Sharirbala) is one of the main factors for Vyadhikshamatva. Bala is of three types: Sahaja (constitutional), Kalaja (temporal strength), or Yuktikrita (acquired strength). Acquired strength or Yuktikrita Bala represents the immunity acquired against the disease causing agents or plans for enhancing immunity by the Ayurvedic concept.

**Bala**

*Tatra Balen Stheerophitamamsata Sarvachershta Swapratigahata Sarva Varna Prasada Bahyanam Abhyantaranamch karanam Atmakam Karya Pratipati Bhavante II* \textsuperscript{[6]}

Means Bala imparts firm integrity to the muscles, improves the voice and complexion, and helps the person to perform his natural functions effectively. According to Acharya Charaka and Sushruta prevention and recovery of the body, health depends on Bala or body resistance.

**Trividham Balam Itee**

1) Sahaja 2) Kalaja 3) Yuktikrita \textsuperscript{[7]}

**Sahaja Bala**

*Sahajam Vat Sharir Satvayo* 

Natural physical and mental power present by birth is called as Sahaja Bala. It depends on the healthiness of Shukra (sperms) and Artava (ovum). Some peoples are tough from birth because they have Uttam dhatu Sarata. In modern science, natural immunity subdivides into, species immunity (Jathiniyatha), racial immunity (Kulaniyatha), and individual immunity (Pratyatmaniyat Prakritis).

Same as explained in Ayurveda according to species, race, climate, season, age, and personal habits.

**Kalaja Bala**

*Kalakrutam Rutuvibhagajam Vayakrutam ch*

The strength is based on the seasons and person’s age called Kalaja Bala. Bala of person will be Hina (less) in Adana Kala means in late winter, spring, and summers and it will be Uttama (more) in Visarga Kala (rainy seasons, autumn, and winter). In Taruna Avastha (young age) Bala will be Uttama (maximum) and in Balya Avastha (childhood) and Vridhha Avastha (old age) Bala will be Alpa (minimum).

**Yuktikrita Bala**

*Yuktikrutam Punastadahar Cheshta Yogajam*

Yuktikrita Bala means acquired strength which is obtained by the proper healthy diet and physical activities. This type of strength is obtained by a logical combination of the intake of nutrition rich food like meat, ghee, milk products, etc., and other factors such as proper exercise, rest and the use of strength-building and rejuvenating drugs \textsuperscript{[8]}

**Shleshma**

Shleshma, the Kapha is one of the Tridosha which retains the properties such as Snigdha, Sita, Guru, Manda, Slaksna, Mrstna, Sthira.\textsuperscript{[9]} Shlesma in normalcy gives strength to the body and is known as Bala. The Bala itself is considered as Ojas. Bala and Ojas derive their strength from Shlesma. Kapha in a normal state provides solidity, stability, protection, heaviness, courage, resistance and immunity.\textsuperscript{[10]}

**Ojas**

The essence of Saptadhatus is called Ojas and it is the seat for strength and it is one among the seats of Prana, hence called Bala. The location of Ojas is in the Hridaya which is Somatmaka (watery), clear (transparent), viscous, greasy and slightly reddish yellow. Its destruction, loss, or absence may lead to death and its presence in the body assures survival.

**Classification of Ojas**

According to Chakrapani Ojas is of two types:\textsuperscript{[11]}

**Para Ojas**

Para Ojas is the chief-top quality Ojas, where Prana the life inhabit. Its quantity is Ashtabindwamak (8 drops) which is present in Hridaya. Loss of minute quantity of Para Ojas can result in death. It is white-yellowish red.

**Apara Ojas**

Quantity of Apara Ojas is half Anjali. It is less important as compared with Para Ojas. According to Sushruta, there are three stages of abnormality of Ojas are: \textsuperscript{[12]}

Available online at: \url{http://ijapr.in}
**Oajovisransa**

Signs and symptoms of Oajovisransa are slackness of joints, body ache and shifting of Doshas from their seat, weakness and impairment in the execution of the action.

**Oajovyapada**

Signs and symptoms of Oajovyapada are heaviness of the body, joint stiffness, depression, body ache, drowsiness and non-pitting edema.

**Oajokshaya**

Signs and symptoms of Oajokshaya are unconsciousness, wasting of body mass, drowsiness, coma and sudden death. According to Ayurveda, Ojas is the principal factor that plays an important role in the defense mechanism of the human body.

Acharya Charaka stated that, during conception, Ojas is the Sara Bhaga of Shukra and Artava which is known as Garbha Rasa. Garbha Rasa is an Amniotic fluid that nourishes the embryo for proper growth. It circulates in the fetus and increasing the strength of Dhatu. Ojas promote cellular growth and prevent cellular destruction. It is an important site of Prana, and if it is affected, it can cause sudden death. [13]

**Vyadhikshamatva**

“Vyadhikshamatvam Vyadhibalavirodhitvam Vyadhiutpad Pratibandhkatvamiti Yawat” [14]

Ayurveda is a science that deals not only with preventing the disease but also curing the disease by increasing the strength of the body. Many fundamental principles are explained regarding immunity. Vyadhikshamatva (immunity) is explained as the ability to resist the disease-causing factors to avoid occurrence as well as recurrence of the Vydhi. The concept of immunity contains two factors: Vyadhi Utpadpa Prathibhandhakatvam – It is nothing but the resistance power against the causative factors of a disease. It is a counter-attacking strength of the body to inhibit the occurrence as well as recurrence of the disease. Vyadhi Bala Virodhitvam – It is the ability to inhibit or resist the strength or severity of the diseases. Means power to resist the development of the disease.

**Types of Bala (Immunity)**

![Figure 1: Bala (immunity) types](image)

**II) Types of Bala**

1. **Pravara**
2. **Madhyama**
3. **Avara**

**III) Bala according to Kala (season)**

| Kala       | Uttam | Madhyam | Hina   |
|------------|-------|---------|--------|
| Adankala   | Shishir| Vasant  | Grishma|
| Visargakala| Hemant| Sharad  | Varsha |

**IV) Bala according to Vaya (age)**

| Vaya      | Bala    |
|-----------|---------|
| Balyavastha| Madhyama|
| Madhyamavastha| Uttam |
| Vridhhavastha| Heena |

**V) Bala according to Dosha & Kala of the day**

| Bala | Uttam | Madhyam | Hina  |
|------|-------|---------|-------|
| Dosha| Kapha | Pitta   | Vata  |
| Kala | Purvardha | Madhyanha| Aparanha |

Yuktkrit Bala

Bala can be improved with the help of Yukti means by logic or by strategy with these factors:

1. **Diet - Balanced Diet (Ahara)**

   Food is one of the responsible factors for the growth and development of Bala and Ojas. No medicine is equivalent to food. A proper diet can help human beings to live a disease-free life. Dhatu sarata, the balance of Doshas, Agni, and the health of Srotasas should be maintained with a proper nutritious diet to maintain immunity. With the help of a properly balanced diet digestive power ultimately increases resulting in the formation of Ahara Rasa. This Ahara Rasa has nutrients of Sapta Dhatus and supports the body strength and immunity. The formation of Bala and Ojas depends on the qualities of Dhatus. Therefore, food and digestion play a very important role in the production of Bala. [15]
2. Code of Conduct (Sadvritta/Achar Rasayana)

It suggests ethical, moral and behavioral conduct such as truth, personal and public cleanliness, non-violence, mental and personal hygiene, compassion, devotion. Follow the proper diet, well sleep, and Brahmacharya (supreme reality). Daily massage of a body is done with Tila Tail. One should take bath every day, clean tongue, Kavala- Gandusha, cut hair, mustache, body hair, and nails thrice in 15 days, wear clean good cloth every day, comb the hair, and apply oil to head, ear, nose, and feet every day, one should clean excretory orifices and feet frequently, daily walking, use of medicated Dhumpan improves the Bala of organs that are situated above the neck (hairs, ear, etc.) These activities may have an apprehensible influence on strength as explained in Ayurveda.[16]

3. Medication (Aushadhi)

In Ayurvedic texts, many combinations of the drug are mentioned with strength improving results. Mainly they are explained in Rasayan– Vajikaran Adhikar and others are under Chikitsa sthana. Strength enhancing drugs means Balyakar Dravya dominantly have Madhur Rasa (sweet taste), Madhur Vipak (sweet property) and Sheet Virya (cold potency).[17]

4. Daily Regimen (Dinacharya)

Daily regimen includes Drva Achamana (sipping of water), Anjana (collyrium), Abhayanga (massage), Snana (bathing), Anulepana (ointments), wearing of cloth, footwear, coverings for protection (like a mask, cap), washing of feet. Danta Dhawana (brushing with Neem), Jihwa Nirleka (tongue cleaning), Gandusha (gargling with Tila Taila), Kavala (mouthwash by medicated paste prepared with antiviral drugs), Dhumapana (smoking by medicated paste prepared with antiviral drugs), Nasya (nasal drops such as Tila Taila and Anu Taila), Vayyama (exercise & Yoga) and awakening at Bramha Muhurtha, etc.[18]

5. Seasonal Regimen (Rutucharya)

The immunity, body texture and luster of human beings is magnified by practicing proper logical diet and regimen according to season. The schedule which is healthy for everybody regarding diet and practices is Rutu Charyya. The principal treatment of the derangement of the season is stated as old herbs, boiled water & Rutu Sodhana (Panchakarma). [19]

6. Rejuvenation Therapy (Rasayana Chikitsa)

Rasayana Chikitsa is a magical treatment that can improve the Immunity and strength of the body. The Rasayana Chikitsa is used in preventing and curing diseases as well as the prevention of senility. Acharya Kashyapa has explained the concept of Balarasayana to improve immunity. Asara Dhatu should be strengthened by Rasayana Chikitsa. Chakrapani holds the view that no such types of diseases can occur if effective Rasayana is taken beforehand.[20, 21]

Types of Rasayana

i. Nalimittika Rasayana- It is used for a particular curative reason. It accelerates the speedy recovery from the disease. Example; Dhatri Rasayana, Brahmi Rasayana, Triphala Rasayana.

ii. Ajastrik Rasayana- It is utilized to built & maintaining good health with diet, exercise and a good lifestyle. It involves consumption of milk, honey, Gheeta and maintaining the discipline of the lifestyle.

iii. Kamya Rasayana- It is utilized to enhance & refine the functions like aspiration and intellect. Examples are Shankhapushpi, Ayush Kamya for increasing longevity. [23]

7. Swarna Prashan

Acharya Kashyapa in Kashyapa Samhita explained the Swarna Prashan which should be given to newborns as an immunity booster, explained in Jatakarma Sanskara of Navajata. It protects the baby from infection, enhances intelligence, and acts as a memory booster.[24]

Immunity and Covid- 19: WHO

Currently, there is no licensed medication available to cure COVID 19, hence our immune system is the best defense, as it supports the body's natural capacity to protect against disease causing pathogens such as viruses, bacteria, protozoan, fungi and withstand against various infections. If we built our immune system stronger, the various infections such as COVID 19 go unnoticed.[25,26] World Health Organization suggested food, vaccination, drugs, and supplements for enhancing the immune system against COVID19.

The person who consumes a well-balanced nutritious diet is healthier and develops a strong immune system and ultimately has a low risk of chronic illness, infectious diseases. Vitamins and minerals are vital. Vitamin B, insoluble in water, protects from infection. Vitamin C protects from flu-like symptoms. Lack of Vitamin D and Vitamin E can lower immunity and eventually cause various infections. Vitamin D can be found in sunlight, and...
Vitamin E can be found in, for example, oil, seeds and fruits. Zinc is necessary for maintaining the immune system. Food rich in protein should be the top priority because it has immune properties, Immunoglobulin production capability, and potential antiviral activity. [27-29]

Under nutrition is harmful and life-threatening for patients with COVID 19. Hence, every individual should take well balanced nutritious diet every day which contains fruits, green leafy vegetables, nuts, whole grains, sprouts, unsaturated fats and foods from animal sources. Drinking at least 8 to 10 cups of water daily is recommended.[30]

Along with diet, physical activity is another factor. Individuals should be active and perform physical exercise regularly to boost the immune system and should have proper sleep.[31]

Boosting the immune system through nutrition and an active lifestyle should be recommended for COVID-19 patients because no registered medicine is available for its treatment.

**DISCUSSION**

According to Ayurveda, immunity means the ability to resist the disease-causing factors to avoid occurrence as well as recurrence of the disease and also provide rapid recovery from it. Bala is one of the main factors of Vyadhikshamatva, which is the biological defensive power of the body to fight against diseases and to prevent the future development of diseases. As in modern science, immunity had 2 types- Innate and Acquired immunity. In which inborn capacity is Innate and resistance developed in the body against any specific foreign body like bacteria, viruses, toxins, vaccines, or transplanted tissues are Acquired Immunity.

In Ayurveda, Vyadhikshamatva mostly depends on the Bala of the body. Therefore, the types of Bala are correlated with the types of immunity in Ayurveda. As Sahaja Bala which comes from Parents and inherited it develops and increases the innate immunity in the body. Kalaja Bala is developed according to the Ritu, Kalashava, and Vaya. The Yuktikruta Bala comes from the Aahara, Vihara, and Rasayana. Vajikarana medicines are useful to develop the acquired immunity. Bala Vruddhikara Bhavas are the factors which help to maintain proper health & immunity in human being. By following rules and principles like Dincharya which is daily regimen helps to set a proper daily regimen, proper rules for living life, Ritucharya also helps to provides proper Aahara, Vihara, etc according to every Ritu, Rasayana therapy forms strength and health and helps to avoid aging effects. Achara Rasayana gives proper Behavioral conduct for physical as well as psychological health, Sadrvitta (code of conduct) for social behavior and mental health, Vega Dharana which is a very big cause for disease development nowadays, that are called as natural urges that are suppressing due to work, shyness, etc. By implementation of all these principles in our life, we are able to form a natural immunity against all diseases. Developing the Bala, Ojas, balance of Kaptha Doshha, Dhatu Saarata, etc are defiantly helpful to increase immunity in our body.

**CONCLUSION**

As there is no specific treatment, no licensed medicine or therapy has shown promising results in preventing as well as curing the COVID 19 disease; hence enhancing an individual’s body immunity is the best way for preventing COVID 19 infection. Modern medicine has very limited resources for improving immunity. Ayurveda has the potential to fill up this lacuna with the concept of Bala, Ojas and Vyadhikshamatva.

Bala is an important property of the body. Bala is considered as a responsible factor for Vyadhikshamatva (immunity). It is associated with Kaptha, Vata dosha, and Mamsa, Asthi, Majja and Shukra Dhatu. Sahaj and Kalaj Bala can be improved and maintained with the help of Yukti i.e., with the help of the above explained Balyakar Aahar, Dincharya, Ratricharya, Ritucharya, Sadrvitta, Achara Rasayana etc are when implemented in daily life it helps to provide good health and immunity.

This Ayurvedic concept has the potential to built strong immunity against COVID-19 which may be helpful in this battle against the current scenario of the disastrous COVID-19 pandemic for the survival of human beings.

**REFERENCES**

1. Li X, Geng M, Peng Y, Meng L, Lu S. Molecular immune pathogenesis and diagnosis of COVID-19. J Pharm Anal 2020:10:102-p.08
2. Meo SA, Alhowikan AM, Meo IM, Helепoto DM, Iqbal M, Usmani AM, et al. Novel coronavirus 2019-nCoV: Prevalence, biological and clinical characteristics comparison with SARS-CoV and MERS-CoV. Europ Rev Med Pharmacol Sci 2020; 24: 2012-19
3. Coronavirus Disease (COVID-19) Outbreak, Europe: World Health Organization; 2020. Available from: http://www.euro.who.int/en/healthtopics/healthtopics/mergencies/coronavirus-COVID-19.
4. Tripathi B, Charaka-Samhita of Agnivesa, Sootrastrhana Chapter30, Verse26 Varanasi Chaukhamba Subharati Prakashan (2008); p.565
5. Subhash D. Waghe, Sanjay P. Deshmukh, Critical analysis of Ayurveda Vyadhikshamatva concept w.s.r. to modern immunity, National Journal of Research in Ayurved Science, April- June 2019, Vol. 07th | Issue: 2nd, p. 01
6. Shastri K, *Susruta samhita* edited with *Ayurveda-Tattva-Sandipika, Sootra Sthana*; Chapter- 15, verse 25, Varanasi, The Kashi Sanskrit Series, 2011, p.79

7. Tripathi B, *Charaka-Samhita of Agnivesa, Sootrasthana* Chapter 11, Verse 36, Chaukhamba Surbharati Prakashan, Varanasi (2008), p.240

8. Upadhyaya Y, *Astangahrdaya of Vagbhata, Sutrasthana*, chapter 11, Verse 37-38, Chaukhamba Prakashan, Varanasi, 2007, p.54

9. Ibid; chapter 1, Verse 8-9, Prakashan, p.03

10. Tripathi B, *Charaka-Samhita of Agnivesa, Sootrasthana*, Chapter 17, Verse 117, Chaukhamba Surbharati Prakashan, Varanasi, 2007, p.353

11. Dr.Brahmanad Tripathi and Dr.Ganga Sahay Pandey, *Charak Samhita* with Charak Chandrika Hindi commentary, *Sutrasthana*, chapter 12, Verse 75, Chaukhamba Prakashan, Varanasi, 2007, p.353

12. ShastriK, *Susruta Samhita*, edited with *Ayurveda-Tattva-Sandipika, Sootra Sthana*, Chapter - 15, verse 28-29, The Kashi Sanskrit Series, Varanasi, 2011, p.80.

13. Tripathi B, *Charaka-Samhita of Agnivesa, Kiyanta Shreesiyadhya, Sootrasthana* Chapter 17, Verse 74, Chaukhamba Surbharati Prakashan, Varanasi (2008), p.390

14. Ibid; Chapter 28, Verse 7, p.527.

15. Citta Ranjan DA, *A Text Book of Physiology, Volume- I*, Reprint edition. Delhi, Chowkhamba Sanskrita Pratishthan; 2015, p.509

16. Tripathi B, *Charaka-Samhita of Agnivesa, Indriyopakramaneeya Adhyaya, Sutrasthana* Chapter 08, Verse 18, Chaukhamba Surbharati Prakashan, Varanasi (2008), p.126

17. Vidyadhari Shukla ed. (F.d. Priya Vrat Sharma), *Charakasamhita* elaborated by *Charaka & Dridhabala*, Chaukhamba Surbharati Prakashana, Varanasi 2/5, p.347

18. Citta Ranjan DA, *A Text Book of Physiology Vol-I*, Reprint edition. Delhi, Chowkhamba Sanskrita Pratishthan, Varanasi, 2015.

19. Srikantha Murti KR, *Ashtanga Hrudhya, Sutrasthana, Rutucharyaadhyaya*, 3/35, English Translation. 2nd ed. Chowkhamba Sanskrita Pratishthan, Varanasi, 1997.

20. Manish KS, Omprakash S., *Importance of Rasayan in immunity (Vyadhikshamatva)*., World Journal of Pharma Medical Research 2018, 4:196, p.08.

21. Vinayak SN, Aparna N, Agrawal M, *Review on Rasayana therapy to improve immunity for better health.*., Journal of *Ayurveda* Integrated Medical Science, 2019, 4:154, p.06.

22. Chauhan P, Dutt B, Vyas M, Gupta SK., *Effect of immune-modulators (Rasayana Dravya) in Janapadodhwansa w.s.r to COVID-19*, Journal of *Ayurvedic Herbal Medicine*, 2020, 6:26, p.09.

23. Vaidya Jadayu Trikamji Chakrapani, *Charaka Samhita* by Agnivesa, *Chikitsa Sthana, Adhyaya* 1st, 1st Pada, *Slok 7 & 4th Pada, Slok 30-35*, Chaukhamba Publications, New Delhi, p.376.

24. Prof.P.V.Tiwari, *Kashyapa Samhita, Vridhajivikya Tantra*, Chaukhamba Bharati Academy, Varanasi 2008.

25. Perdue, Samule Scotte and Humphrey, John H., *Immune system*, Encyclopedia Britannica, 20 Aug. 2020, https://www.britannica.com/science/immune-system.

26. COVID-19 Information, National Center for Biotechnology Information, U.S. National Library of Medicine, 2020, https://www.ncbi.nlm.nih.gov/books/NBK279397/.

27. NgTB, Cheung Rc, Wong Jh, Wang, Ip Dt., *Antiviral activities of whey proteins*, Apple Microbiol Biotechnol, 2015, 99, 6997-7008.

28. Norman k, Pichard c, Pirlich M., *Prognostic impact of disease related malnutrition.*, *Clin Nutrition*, 2008, 27, 5-15.

29. Schuetz p, Baechli v, Geiser m, Gomes F, *Individualised nutritional support in medical inpatients at nutritional risk: a randomised clinical trial*, *Lancet*, 2019, 393, 2312-21.

30. Nutrition advice for adults during the COVID-19 outbreak, World Health Organization, Nutrition News, http://www.emro.who.int/nutrition/nutrition-infocus/nutrition-advice-for-adults-during-the-COVID-19outbreak.

31. Liz Meszaros, *How to boost your immune system during the COVID-19 pandemic*, Intern Med 2020, https://time.com/5819965/coronavirus-treatments-research/

---

**Cite this article as:**
Gurav Vishal Prabhakar, Gannur Prasadshakti G. *Role of Bala (Immunity) in Covid-19 Pandemic: An Ayurvedic Review*. International Journal of Ayurveda and Pharma Research. 2021;9(6):69-74.

**Source of support: Nil, Conflict of interest: None Declared**

---

**Address for correspondence**
**Dr. Gurav Vishal Prabhakar**
P.G Scholar, Dept. of P.G Studies in Shalyatantra, BLDEA's AVS Ayurveda Mahavidyalaya, Bijapur, Karnataka, India. Email: vishu884@gmail.com
Contact - +91-81494-72696

---

Disclaimer: IJAPR is solely owned by Mahadev Publications - dedicated to publish quality research, while every effort has been taken to verify the accuracy of the content published in our Journal. IJAPR cannot accept any responsibility or liability for the articles content which are published. The views expressed in articles by our contributing authors are not necessarily those of IJAPR editor or editorial board members.