

**“Handwashing, physical distancing and use of mask in public and workplaces will help us to overcome this difficult time.” — Prof. (Dr) Balram Bhargava  
DG-ICMR**

**Professor Balram Bhargava** is currently Secretary, Department of Health Research (Ministry of Health & Family Welfare), Government of India and Director General, Indian Council of Medical Research (ICMR). He is Professor of Cardiology at the All India Institute of Medical Sciences (AIIMS), New Delhi and one of the foremost leaders in biomedical innovation, public health, medical education and research. He is the Founding, Editor in Chief of the British Medical Journal Innovations (BMJi). Prof. Bhargava has been awarded the Padma Shri and the UNESCO Equatorial Guinea International Prize for research in Life Sciences. He is also a member of all the four major Science Academies of India.

In an interview to **Science Reporter**, Prof. Bhargava talks about the strategies and preparedness of the Ministry of Health & Family Welfare and ICMR to fight against COVID-19. He also talks about the dire need for scientific awareness to combat this pandemic.



**Manish Mohan Gore:** Prof. Bhargava, thank you so much for talking to **Science Reporter**. In India, COVID-19 cases are still increasing substantially with every passing day. In your estimation, can you give us a tentative timeline till when we can expect the cases to increase?

**Prof. Balram Bhargava:** SARS-CoV-2 is a novel virus, only six months old. Globally, a plethora of research has been and is still being conducted. Until an effective vaccine is available, the virus transmission will be halted only if we religiously follow the interventions like physical distancing (*do gaz ki doori*), use masks at public places and offices, and practice hand hygiene. In the past three months, there has been increased awareness regarding prevention from COVID-19. More people following protective measures along with avoiding unnecessary travel will result in a decline in daily cases.

**Manish:** Sir, during the last three months, the Health Ministry has adopted several measures for containment and mitigation of the coronavirus infection. What has been the strategy so far?

**Prof. Bhargava:** The current strategy is the right mix of containment and mitigation measures. There is a wide variation of disease distribution in different states. Depending upon the level of transmission, the strategy is designed for the respective regions. The basic strategy includes active surveillance in containment zones with contact tracing within and outside the containment zone, Expanding laboratory capacity for testing all suspect samples, close contacts, ILI and SARI, establishing robust healthcare system for clinical management, home quarantine of mild and moderate cases, implementing social distancing measures, and intensive risk communication.

The measures will be up-scaled in areas with high number of cases.

**Manish:** *The ICMR has also issued a number of guidelines for the general public as well as various stakeholders. What methods are being adopted to disseminate the messages among the masses to control the epidemic?*

**Prof. Bhargava:** ICMR and the Ministry of Health and Family Welfare (MoHFW) are developing guidelines addressing various aspects of disease prevention, mitigation and management. ICMR has appealed to the general public to not consume and spit tobacco in public places. Various measures have been taken towards enhanced risk communications as well. MoHFW has developed many informative short films and infographics to raise awareness among the masses. Awareness is being created among the community through distribution of pamphlets, public announcements, mass SMS and social media. Also, radio and television (using local channels) are being extensively used to ensure the penetration of health messages in the target community.

**Manish:** *At present, a total of 507 government and 217 private laboratories are providing COVID testing facilities across the country. Is this number sufficient to cater to the huge population of India? Are efforts being made to further augment the number of testing centres?*

**Prof. Bhargava:** ICMR is continuously working towards increasing the testing capacity. From 108 laboratories on 23 March 2020, today we have a wider network of 724 laboratories. We are testing 1.3-1.4 lakh samples a day with a target to reach 2 lakh samples per day in the near future. Testing these many samples a day is a herculean task. The physical, mental and emotional toll on the staff working for long hours in 24x7 operational laboratories is unimaginable. It is an apt demonstration of how Indians rise to the occasion in times of need.

**Manish:** *Sir, there is huge pressure on government hospitals and medical colleges during this pandemic. Do you think the medical infrastructure is enough to sustain the pressures that come with a pandemic of this nature? Has our medical infrastructure been faced with such a challenging scenario ever in the past?*

**Prof. Bhargava:** The novel coronavirus has posed an immense level of pressure and unique limitations on our medical infrastructure. The Government of India has ramped up the healthcare infrastructure required for COVID-19 management with the required human resource training and availability of Personal Protection Equipment (PPE). As on 3 May 2020, 952 dedicated COVID hospitals with 1,66,332 Isolation beds, 21,393 ICU beds and 72,762

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says Prof. Bhargava.

Oxygen supported beds are available. 2,391 dedicated COVID Health Centres with 1,34,945 Isolation beds; 11,027 ICU beds and 46,875 Oxygen supported beds have been operationalised. The Centre has also provided 125.28 lakh N95 masks and 101.54 lakh Personal Protective Equipment (PPEs) to the States/UTs /Central Institutions.

**Manish:** *Has there been a need to impart COVID-19 specific training to medical personnel and health workers?*

**Prof. Bhargava:** Various trainings and workshops have been organised for medical and lab personnel and health workers by different government and non-government agencies. Government has launched iGOT portal to train doctors and health care workers in combating COVID-19. ICMR provided training to lab personnel about routine laboratory procedures that include Biosafety Level 2 (BSL-2) facility and to adhere to Good Microbiological Techniques (GMT) while handling the clinical specimens from patients who are suspected or confirmed to be infected with COVID-19.

**Manish:** *In India, COVID related death rate is low and the recovery rate is high compared to other affected countries of the world. What does that indicate? Is the immunity of the Indian populace better to fight this deadly virus, as has been felt by some?*

**Prof. Bhargava:** There has been no scientific study on low death rate to provide conclusive reasoning. It could be attributed to various factors including timely actions to contain the pandemic, early preparedness, higher proportion of young population, our immune system, etc.

**Manish:** *The malaria drug Hydroxychloroquine (HCQ) was used in many countries to treat COVID-19. However, WHO has recently discouraged its use. What is India's stand on this?*

**Prof. Bhargava:** ICMR has issued guidelines for its empiric use in COVID-19 prophylaxis in healthcare workers and close contacts of confirmed cases. On the basis of ICMR studies, it has been found that prophylactic HCQ doses reduce the odds of SARS-CoV-2 infection in healthcare workers. Revised guidelines have been issued that include intake of HCQ dose with meals and one ECG monitoring post-8-weeks usage to minimise the side effects. Health care workers are advised to use PPEs along with HCQ prophylaxis. People with Retinopathy, Hypersensitivity to

*“Effective science communication in this COVID era is the need of the hour,”* says Prof. Bhargava.

HCQ or 4-aminoquinoline compounds, G6PD deficiency or Pre-existing cardiomyopathy and cardiac rhythm disorders, children under 15 years of age and pregnant or lactating women should not take HCQ.

Apart from prophylaxis, ICMR has also enrolled in the WHO Solidarity Trial that is evaluating the use of HCQ in COVID-19 treatment along with three other drugs. The HCQ arm study was paused for a while after a report of increased mortality in patients on HCQ treatment. However, WHO executive committee has examined the results and has recommended the continuation of the trial. We should wait for the trial results before forming any opinion.

**Manish:** *Is plasma therapy effective in controlling COVID cases?*

**Prof. Bhargava:** Currently, there are no approved, definitive therapies for COVID-19. Convalescent plasma is one of several emerging therapies. However, there is no robust evidence to support it for routine therapy. US FDA has also viewed it as an experimental therapy. Convalescent plasma therapy comes with its own share of technical challenges, like antibody titer testing. There are also several risks of using this therapy including life-threatening allergic reactions and lung injury. Given the serious uncertainties around this therapy, ICMR has initiated a multi-centre clinical trial to evaluate the safety and efficacy of using this therapy in COVID-19 patients in India. There is a need to ensure the ethical integrity & establish the scientific basis of using COVID-19 convalescent plasma therapy in patients.

**Manish:** *The Ministry of AYUSH, Ministry of Health and Family Welfare and Ministry of Science & Technology have joined hands to undertake collaborative clinical research studies on Ayurveda interventions as prophylaxis to COVID-19. Can you tell us about these studies?*

**Prof. Bhargava:** ICMR has partnered with various Science Departments like Department of Science and Technology (DST), Department of Biotechnology (DBT) and Council of Scientific and Industrial Research (CSIR) for evaluating the antiviral properties of AYUSH formulations/investigational products/repurposed drugs/devices/technologies, etc.

**Manish:** *COVID-19 is spreading silently through asymptomatic carriers of coronavirus. How can this danger be handled and reduced?*

**Prof. Bhargava:** There has been no clear evidence about the infectivity of asymptomatic carriers. However, we need to follow proper precautions as mentioned earlier to avoid contracting the disease.

**Manish:** *How can people learn to live with this virus and what are the major changes in our daily lifestyle that would be essential?*

**Prof. Bhargava:** As mentioned earlier, good health practices including frequent hand washing, intake of balanced diet and exercise along with practising adequate physical distancing and use of mask in public and workspaces will help us in steering through this difficult time.

**Manish:** *All the research findings indicate that the novel coronavirus is highly unpredictable and its characteristics are extremely mysterious as well. Is the strain of virus in India different? Are there chances of more deadly mutations in the virus in the coming days?*

**Prof. Bhargava:** During transmission, SARS-CoV-2 has differentiated into ten different clades/clusters. The Indian samples fall under five different clusters. However, as of now, no major variation resulting in a change of virus behaviour has been noticed. We don't know how this virus is going to behave in the future. We need to wait and keep a close watch.

**Manish:** *Science communication is playing a big role in making people aware about COVID-19. Can you share any idea or suggestion for creating scientific awareness to combat this pandemic?*

**Prof. Bhargava:** Effective science communication in this COVID era is the need of the hour. There has been a communication gap between scientists and the common man since a very long time. We need to create a bridge for better connect and early transfer of knowledge to the society for a swift uptake. It is a pleasure to watch all the Indian S&T agencies working tirelessly to fill in this void. As of today, I can see the common man understanding the nitty-gritty of COVID-19 infection, testing, etc. The news channels are talking about mutations and herd immunity. We all should continue working towards this endeavour and ensuring that only the right information is passed on to society.

**Manish:** *Thanks a lot for sparing your valuable time and sharing your thoughts with our readers.*

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