

Integrative Approach to COVID-19: An Indian Facebook Recipe for Mental Health

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Abstract

Background: The COVID-19 pandemic has given the world a big blow and has forced the entire world to develop a new thought process. To cope with the stress of lockdown, it was important for people to indulge in educational and health activities to save them from the threats being caused by the news and social media.

Summary: A Facebook page named Yoga scholars Post Graduate Institute of Medical Education and Research (PGIMER) was created where three sessions were held per day for 225 days regularly. This activity resulted in people adopting an integrative approach towards alternative medicine.

Key message: This also made possible a trial of Ashwagandha for COVID-19 treatment by the Ayurveda, Yoga, Naturopathy, Unani, Siddha and Homeopathy (AYUSH) ministry.

Keywords

COVID-19, pandemic, Academic social responsibility (ASR), Yoga, Facebook

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Background

The SARS-CoV-2 pandemic has created an adverse impact on the mental health of the general public as well as the health care workers (HCWs). The earlier pandemics, such as those of cholera, plague, and smallpox, had also caused similar anxiety and distress among people, but because of the unavailability of digital media, instant awareness and countermeasures were not easily accessible. Unlike the previous pandemics, the chief reason for the increased stress and deteriorating mental health because of COVID-19 stems from an overhyped media blitz. COVID-19 is a highly contagious viral disease having the potential to spread to family members and has resulted in an economic slowdown, unemployment, bankruptcy, insomnia, and social isolation. Therefore, it is important to keep the morale of health care providers upbeat. With the need for physical distancing, coupled with the temporary closure of specialized outpatient clinics, many patients, with psychological trauma have not been able to seek counseling services. The importance of stress reduction and psychosocial well-being of patients with co-morbidities like diabetes and hypertension^{1,2} is well known, yet only a few of them have access to countermeasures

other than TV, internet, and food. Physical activity has also been considerably reduced because of the lack of accessibility to parks, gyms, and fitness centers. The various methods of combating the growing fear include the availability of vaccines and awareness about the efficacy of self-regulation techniques such as mindfulness, yoga, and meditation. Even

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though the acceptance of yoga has been increasing in recent times, it varies across the globe because of limited scientific data. A lot of scientific literature is available for various diseases. This includes disease biomarkers^{3,4,5,6} and experimental treatments⁷ spanning different approaches ranging from *in-vivo*,^{8,9} *in-vitro*,¹⁰ and genetic analysis^{11,12} to studies directly conducted on humans.¹³ Despite these efforts, the integrative analysis to examine yoga concerning these biomarkers has not been adequately studied.

Brooks et al. reviewed 3166 papers related to the psychological impact of quarantine, but these did not include yoga and Meditation practices,¹⁴ indicating an element of cognitive bias against investigating the outcome of such nonpharmacological self-regulation techniques. The scholars in public health and life sciences are equally aloof of the theory and practical benefits of these techniques.¹⁵ The “*Yamas*” and “*Niyamas*” of the *Ashthanga* yoga system prescribe self-discipline, sanitation, and nonviolence, which are relevant to the current requirements of preventive health care. In this context, a comprehensive discussion on the subject is timely so that a review of the existing health care solutions, suited to the social, secular, and cultural fabric of a country, is considered. The need for a new public policy, guided by the research studies undertaken to understand the precepts of health and wellness, is imperative. Hawryluck et al. also conducted a study on 129 quarantined Canadian participants and reported that 28.9% and 31.2% of respondents were found to have posttraumatic stress disorder and depression, respectively.¹⁶ Psychological imbalance, anxiety, and depressive symptoms were also reported in the initial phase of lockdown in China.^{17,18} Therefore, the importance of creating awareness about counter-stress measures, such as yoga and meditation, is of utmost importance for the public and frontline workers alike.¹⁹ However, the perception of the benefits and barriers to the practice of yoga remains highly variable.²⁰ The impact of a stressful and disruptive ecosystem in the academic fraternity has also been rather limited.²¹ Because the current crisis can severely affect those with preexisting mental health issues,²² it is important to develop customized mindfulness and yoga intervention modules that can be broadcast over the internet as a countermeasure to the COVID-19-related stress and anxiety.

Our studies show that yoga and meditation can be an effective intervention to achieve positive mental health among individuals with co-morbidities and/or lifestyle disorders.^{23,24} The Ministry of Ayurveda, Yoga, Naturopathy, Unani, Siddha and Homeopathy (AYUSH), Government of India, has also been propagating the use of validated yoga and meditation protocols in Type 2 Diabetes Mellitus (T2DM) individuals with the goal of COVID risk reduction.^{25,26} In addition, we have also shown improvement in the happiness index and psychosocial health using advanced meditation techniques.²³ Faced with the closure of gymnasiums and sports centers, the daily online yoga and mindfulness sessions were conceptualized by us in order to provide free online

access to “Facebook live” yoga and meditation virtual retreats that were meant to cater to the mental health of health care providers and public. The experts invited for this purpose included guest speakers from yoga schools, research organizations, and medical institutes for knowledge and practice of the general public as well as the HCWs.

The “Continuous Yoga Education” series was broadcast live from the “Yoga Scholars Post Graduate Institute of Medical Education and Research (PGIMER)” Facebook page. It was inspired by the need to bring the authentic scientific and traditional perspective of yoga, meditation, and mindfulness from all schools of yoga under one platform.

Scientific Social Responsibility (SSR)

This program was also inspired by the Scientific Social Responsibility Policy drawn by the Department of Science and Technology (DST), Ministry of Science and Technology, New Delhi on September 19, 2020. As per the policy, scientists must promote social welfare by organizing various academic social activities. We had undertaken a similar activity for five years as part of the national “clean India” effort.^{27,28} The new policy calls upon researchers to devote at least ten days every year to activities that can help society and enhance its knowledge about scientific procedures.^{29–31} Keeping in mind this objective of the SSR policy of DST, a conjoint program named “Biology Series” was also started on September 16, 2020. The series was planned to give the yoga scholars and alternative medicine practitioners a glimpse into the basic science and scientific methods that are useful in studying its effects. This ranged from an introduction to structure and function of the cell, deoxyribonucleic acid (DNA), ribonucleic acid (RNA), and anatomy and physiology of the human body such as respiratory system, brain, spinal cord, eye, etc. to the clinical studies that have contributed to the advancement of knowledge in the field.^{32–37} This was meant for the education of AYUSH practitioners so that they may be inspired to take up biological research in the field of AYUSH.

Similarly, another academic program was organized for the benefit of school kids. It was broadcast at “Yoga Scholars PGIMER”. It became an important outreach event that attracted over 9,500 views, with the majority of school students watching. The renowned Immunologist Dr N. K. Mehra and the All England Badminton Champion Mr Gopichand, along with Dr Atul Padnekar from Yoga Institute, Mumbai, took questions from school kids in the live program. This event became immensely popular.

The Indian Academy of Neurosciences (IAN) held a workshop on “Mind Body Medicine” in its annual meeting. This included popular Yoga Gurus Sri Sri Ravishankar from the Art of Living Foundation and Daa ji from the Heartfulness Foundation. With 21,000 views, this academic discussion stimulated several research questions. This session included questions and answers about research, lifestyle, stress, and

interpersonal skill development modules. The entire session is available in the archives of Facebook page.

Outcomes of the Program

Cross-Pollination of Ideas

The Facebook-based academic exchange encouraged the cross-pollination of ideas among two different groups—one practicing modern science and the other with traditional practitioners of medicine, including yoga, Ayurveda, and other components of.²⁷ Dignitaries from various fields shared their knowledge and experience regarding the science behind the concerned practices.^{36,38–40} Daily short practical sessions were broadcast live so that the viewers could experience the essence of yoga and its various published protocols. Also, the HCWs were encouraged to take “yoga breaks” from their hectic schedule. In many ways, this educational platform served to fill the void created by the physical distancing during lockdown. The daily “theory and practice” educational sessions also sought to dispel misbelief about yoga held by the medical and scientific academy that was unmindful of the principles of mental health. The perpetuation of dissociation of public health intervention strategies from yoga and mindfulness protocols had led to overdependence on pharmaceutical remedies for stress and anxiety management. The uncertainty of COVID-19 crisis has provided the needed pause to the propagation of this dogma.

Discussions on COVID Yoga Protocol Usefulness

The deliberations have led to the academic need for the usefulness of COVID yoga protocols and the urgency of undertaking the efficacy studies. The increased viewership now includes physicians, scientists, nurses, and AYUSH experts

Integrative Approach

October 2 is celebrated as the birthday of Mahatma Gandhi. An important webinar was organized on this day, bringing the top policymakers, patient support organizations, scientists, and AYUSH practitioners in the presence of honorable Minister of Prime Minister’s office (PMO) Dr. Jitender Singh who advocated the need for integrative health in Indian hospitals. The program featured the top experts from Harvard University, USA; University of California San Francisco (UCSF), USA; University Grant Commission (UGC) SVYASA, Bengaluru; and NIMHANS, Bengaluru. Entire discussions were also aligned to the demand for integrative health by patient support organizations.⁴¹

Summary of Various Talks and Discussions Held in PGIMER

The various talks included subjects like Ayurveda, yoga, traditional Chinese medicine, *Agnihotra*, and medical astrology, in addition to discussions on the utility of other alternative medical practices in the current crisis. The deliberations were based on published evidence described on the premise of “cause and effect” paradigm. The program was spontaneously endorsed by the Ministry of AYUSH as eminent people like HH Dalai Lama, Nobel Laureate Elizabeth Blackburn (UCSF, USA), Dr Elisa Epel (UCSF, USA), Dr H. R. Nagendra (SVYASA, Bangalore), Sadhguru (Isha Foundation, Coimbatore), Swami Ramdev (PatanjaleeYogpeeth, Haridwar), Dr Vikram Patel (Harvard Medical School, USA), Dr Shirley Telles (Patanjali Yogpeeth, Haridwar), Dr Sat Bir Khalsa (Harvard Medical School, USA), Dr Helen (UCLA, USA), B. K. Shivani (Brahmkumaris, New Delhi), Dr J. L. N. Sastry (National Medicinal Plant Board, New Delhi), Dr Cohen Lorenzo (MD Anderson Cancer Centre, USA), Dr Rajesh Kotecha (Secretary, AYUSH, New Delhi), Hansaji (Yoga Niketan, Mumbai), Dr Arthur Brownstein (Hawaii, USA), Dr Valery Feign (AUT, New Zealand), Dr Danilo Santaella (Sao Paulo, Brazil), Dr Elisa Kozasa (Univ of Sao Paulo, Brazil), Dr Anita Jain (Clinical editor, BMJ, Mumbai), and Dr Kamlesh Patel (Heartfulness Foundation, Hyderabad) interacted with HCWs and the general public. Dr Rob Friedland (Louisville, USA), Dr Bhusan Patwardhan (Vice Chairman, UGC, New Delhi), Dr B. N. Gangadhar, Former Director, NIMHANS, Mr J. M. Balamurugan (Principal Secretary, Governor of Panjab), and many other professors from reputed Indian and global institutes presented their views and gave live presentations for the benefit of HCWs and the common people. As this program has now become a vibrant platform with more than 3.0 million combined views and 670 video archives, with an average of 600 to 1000 views per session, we are analyzing the impact of these programs on health outcomes, perception of life, and practice of integrative health.

Coping Pandemic Stress During Lockdown

The Center for Disease Control and Prevention (CDC) has emphasized the need to cope with the stress induced because of the pandemic. A sustainable and global action plan has been drawn by various advocacy groups, especially for the people with mental health.^{42,43} These include depression, anxiety, and insomnia. The Facebook live session caters to mental and emotional health, which was adversely affected during the lockdown. Figure 1 shows the number of individuals who watched the sessions and followed and liked the Facebook page “Yoga Scholars PGIMER”.

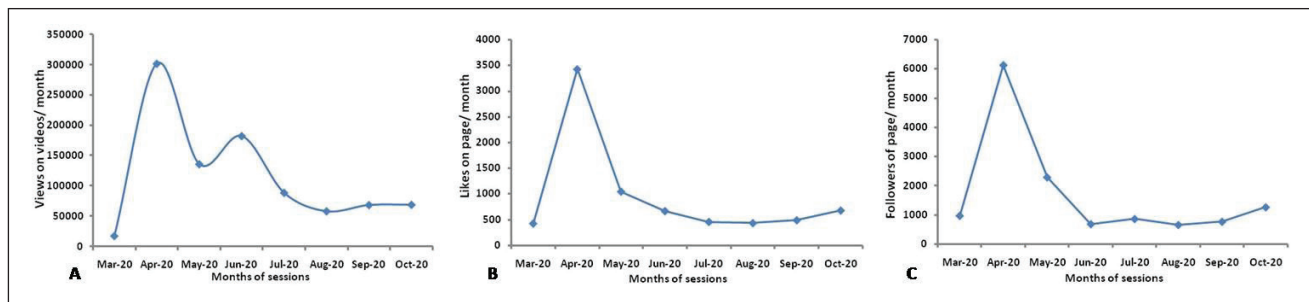


Figure 1. Views and Likes on Videos and Facebook Page on a Monthly Basis Since the Beginning of Facebook Sessions on the Yoga Scholars PGIMER Page. (a) Total Videos Views Per Month Since March 2020 (Starting of Lockdown) to October 31, 2020 (Till the Date of Data Compilation); (b) Number of Individuals Who Liked the Page Per Month from March 2020 to October 31, 2020; (c) Number of Individuals Who Started Following the Page from March 2020 to October 31, 2020.

The highest number of viewers was reported in April, presumably because it was the first month of a long lockdown period and people were drawn towards homes and indoor activities. From the available data, it can be said that this educational activity focused on reducing stress and improving physical health at the time of despair and uncertainty, providing a new pathway for hope and a purpose in life. However, the number of viewers began to decrease as lockdowns began to be withdrawn afterward.

Yoga and Meditation for Mental Health and Immunity During COVID-19

The yoga and Meditation courses are costly and often provide fragmented information without the theoretical and philosophical aspects of its practice. The majority of the population is deprived of the opportunity to understand the science and art behind it because of restricted access.⁴⁴ To provide free open access, the aforementioned online sessions were broadcast on the Facebook live channel without any fee as a departure from conventional practice. This online program included theory and practice of cyclic meditation, common yoga protocol, and a five-minute standardized “Y break” AYUSH protocol meant to reduce stress and anxiety.⁴⁰ Cleansing yogic practices such as *Kapalbhati*, *Nauli*, and *Jal Neti* were also included with the active participation of volunteers across the world. These presentations were often accompanied by scientific citations. For instance, Sandeep Ramalingam (University of Glasgow) showed the anti-viral role of hypersaline water using an ancient nasal cleansing technique (*Jal neti*) by presenting the results of the Edinburgh and Lothians Viral Intervention (ELVIS) study.^{39,45} Our program sustained free access to scientific information as an instrument of academic social responsibility. Among various speakers, Dr Sat Bir Khalsa from Harvard Medical School, USA, emphasized the need to engage in the practice of yoga and meditation practices through self-regulation,⁴⁶ explaining the well-reported fitness and mental benefit accrued through

the balance of the parasympathetic and sympathetic nervous systems, respectively. His description of how stress influences the hypothalamic-pituitary-adrenal axis and the sympathetic-adrenal-medullary system and of its implications for immune cells and cytokines⁴⁷ received over 636 views. Dr H. R. Nagendra, Chancellor, SVYASA University, discussed the yoga programs in communicable diseases and emphasized the strengthening of the immune system,⁴⁸ boosting the morale of HCWs and attracting over 8000 views. Similarly, Dr Shirley Telles, Director of Patanjali Research Foundation, discussed the crucial role of the impact of yoga on psychological, emotional, and spiritual homeostasis which is ultimately helping the immune system.⁴⁹ Dr Indranil Basu Ray from USA discussed cardiac health in mild or moderate COVID cases under lockdown. This ranged from anxiety, depression, socializing, the transmission of infections to shedding.⁵⁰ Dr Subodh Tiwari gave a birds eye’s view of the contributions of *Kaivalyadham* to yoga in society and schools.

Dr Lorenzo Cohen, Director, Integrative Medicine, University of Texas, explained how the body’s resilience can be improved using alternative approaches in the current situation,⁵¹ suggesting the importance of integrated health care. This was further qualified in a talk by Dr Rich Fletcher, MIT, USA,⁵² who discussed how mobile health technology can be used for fast and cheap diagnosis relevant to COVID-19. Without interdisciplinary dialogue, the integrative health goals are not easy to achieve, and hence we continued to take the discussions forward daily as the subscribers swelled to 13702 with 7565 likes. Dr B. N. Gangadhar, a psychiatrist and Former Director of National Institute of Mental Health and Neurosciences (the only institute implementing an integrative health model) explained the effect of yoga on Neurobiology⁵³ describing the published evidence from the clinical trials conducted by his team. Presentations from Dr Mitali Mukherjee from the Institute of Genomics and Biotechnology, New Delhi, added a new dimension by integrating the Ayurvedic principles as means to cope up with the COVID situation.^{54,55} This was further complemented by her colleague Dr Bhavana, who explained the role of Ayurveda

in the management of fever in novel SARS-CoV-2 infection.⁵⁶ The genetic dimension to the practice of integrative health care was provided by Dr K. Thangaraj, a Chief Scientist at Centre for Cellular and Molecular Biology, Hyderabad, who gave a compelling presentation on the contemporary science correlates of Ayurveda *Prakriti* explaining the importance of Ayurvedic method of treatment in terminologies of traditional medicine and its scientific practices⁵⁷ prescribing the value of Integrative medicine. With continuous daily presentations, the spiritual gurus with millions of followers, such as Sadhguru, were invited to add a new dimension to Facebook discourse so that the vibrant platform for citizen science becomes sustainable and popular. This lockdown educational series was coordinated by the authors who took the discussions towards the logical conclusion—the of integrative health—explaining the dilemmas faced by HCWs and how a calm and pragmatic approach enables innovation and productivity, dismantling hopelessness and stress. In one of these programs, Sadhguru advised the panelists and the viewers that any prejudice against frontline workers, for fear of contracting infection, must be avoided to prevent them from being demoralized⁵⁸

Other spiritual gurus such as Sister Shivani from popular *Brahmakumaris*, emphasized the need for emotional protection from COVID anxiety and invoked the need to creating a collective consciousness in the fight against COVID. She suggested self-regulation of lives by inspiring the audience to choose being calm and peaceful as a tool to enhance the “collective human immunity”. She also suggested that the reduction of fear from this situation may promote the immune system.⁵⁹ Samdhong Rinpoche from Dharamshala explained the Buddhist practices and their role in stress reduction.⁶⁰ Various other yoga forms, including self-care healing meditation, were demonstrated for caregivers and HCWs. Among the physicians, Bala Subramanian from Harvard Medical School discussed the science and challenges in the implementation of yoga for HCWs while Vikram Patel from the same university provided advice to governments to negotiate the health calamity through efficient planning. Rishi Nityapragya (Nitin Limaye) from Art of Living Foundation, discussed the subject of healing of altered consciousness through yoga and spiritual practices.⁶¹

His holiness Dalai Lama emphasized the positive impact of compassion and the value of determination to address the COVID-19 induced stress. In his conversation with scientific community, including Nobel Laureate Elizabeth Blackburn, he endorsed the need for a biological framework for evidence-based integrated health care system. Several other eminent experts from all the fields shared the scientific evidence of various alternative techniques using the open-access Facebook framework. For this, more than 670 videos have been uploaded to this Facebook page and can be retrieved free of cost globally. The topics of videos and various yoga practices that have been uploaded on a page are provided in the grand roster (Supplementary Table 1). These videos are

Table 1. Page Likes Based on Countries and Indian Cities. (a) Number of Individuals From Various Countries Other Than India Who Liked the Page; (b) Number of Individuals From Various Cities of India Who Liked the Page; (Till October 31, 2020)

Table 1a.	
Various Countries	Number of Likes
United States of America	225
United Arab Emirates	82
Canada	73
Australia	67
Bangladesh	61
United Kingdom	63
Nepal	66
Sri Lanka	54
Singapore	44

Table 1b.	
Various Cities	Number of Likes
Delhi	632
Chandigarh	628
Mumbai	555
Bangalore	509
Pune	227
Chennai	157
Hyderabad	144
Kolkata	126
Ahmedabad	94
Vadodara	72
Others	3.1 k

now being uploaded to a separate YouTube channel for wider accessibility.

Pandemic and Lifestyle Change

A rapid lifestyle change has been observed during pandemics, making it imperative to alleviate or prevent the co-morbidities in the population. People with preexisting mental health conditions are especially vulnerable, which calls for prompt attention through free and scientifically valid services. Higher incidences of suicides are also being reported during lockdown. The role of integrated health care, especially yoga and mindfulness, in improving the status of healthy and vulnerable populations has been increasingly realized. Dr Raghavendra Rao emphasizes the need for a global action plan in collaboration with all stakeholders while Dr Arthur Brownstein describes the current lockdown situation as provoking anxiety. He emphasizes that calmness can be

achieved by yogic practices. We anticipate that this effort shall foster new collaborations as more academicians take up additional academic social activities that may lead to integrated health care delivery aligned to the goals of World Health Organization (WHO) and Ayurveda.

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Authors' Contribution

AA: Conceptualization and management of the entire activity, manuscript drafting, and editing; RT: Manuscript drafting and editing; RK: Manuscript drafting and editing, and execution of the program; KM, PV, SJG, PN: Execution of the program; ST, AS: Conceptualization and execution of program; PA: Editing of the manuscript.

Statement of Ethics

Not applicable

Declaration of Conflicting Interests

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