

Synthesizing Yoga and Digital Technology for COVID 2019 Prophylaxis

Ashok Chopra¹ and Amit Kumar Singh²

¹Management & Commerce,

²Department of Sports and Recreation

E-mail: ¹achopra@amityuniversity.ae ²akumar1@amityuniversity.ae

Abstract: — Yoga is considered as an established wellness tool and various researches carried at the university level and other platforms have confirmed the efficacy of yoga especially Pranayama along with meditation to improve immunity through wellness and a healthy lifestyle. The world has recognized their role in Yoga in establishing homeostasis in non - communicable diseases through a healthy lifestyle, and through reducing stress. The holistic approach of yoga removes imbalance by synchronizing mind and body and various researches worldwide have supported the same. In the case of COVID - 2019, yoga and meditation are providing a platform to reduce stress, and increase immunity. This has proved to increase the efficiency and efficacy of people to immune themselves from a pandemic. On the other hand, digital technology and especially connecting through online forms have been a boon to share, spread, and make people aware of selecting the right path to fight against COVID 2019 as a team. This paper focuses on how a group of institutions by synthesizing the power of Yoga and digital technology harnessed the strength of employees, their families, and other stakeholders to fight against pandemic and contributed to enhanced performance.

Keywords—*Yoga, Technology, Prophylaxis; COVID 2019; Performance Enhancement, Practicing; Pandemic. Synthesis, Performance Enhancement*

I. INTRODUCTION

The current Coronavirus 2019 is not unique but also exceptional in many ways. In - fact it has put forward unique challenges to the health care system. It looks world is heading towards the second wave. It also looks for lessons and experiences we learned from earlier SARS (Severe Acute Respiratory Syndrome is inadequate and insufficient. It appears current prophylactic measures like traditional HCQ (Hydroxychloroquine) and Paracetamol are inadequate and insufficient [1] to prevent menace especially at this critical stage of the spread. Unfortunately, the prophylactic therapeutic potential of a traditional and alternative system of medicine like Yoga and meditation are being considered as a mainstream drug for the cure. However, challenges to its being preventive, prophylaxis, and adjuvant therapy are undoubtedly acceptable. Both Ayurveda and Yoga focus on those internal vital organs of the body where the COVID-2019 virus first attacks and then of not treated starts chocking the system. Research and therapeutic strategies for COVID-2019 have been focusing on the agents to attack

the virus or immunize against it. In - fact both Ayurveda & Yoga focus is on a healthy lifestyle rather than prescriptive medicine. The classic Ayurveda principle of Chakara Samhita [2] defines immunity as a defense mechanism, which arrest the spread by building vital organs strong by maintaining Homeostasis. Similar to essential and acquired immunity, the Ayurveda concept of Bala i.e. strength whereas, immunity is classified as Sahaja i.e. natural Chronobiologic (Kalaja), and acquired (Yuktikrut). The interventions include therapeutic cleansing procedures (known as Panchakarma)[3] and certain immunomodulators[4]. The option of specific Ayurveda therapeutic agents and practices are driven by individual genetic characteristics known as Dosha Prakriti types [5]

II LITERATURE REVIEW

Yoga is universal, welcomed to promote health, and create elements of well-being. More than three decades of research have demonstrated the effectiveness of yoga, focusing on establishing homeostasis in immune diseases to reduce stress levels and promote a healthy lifestyle. In-depth research is underway, in various parts of the world, to link the mind and body and provide a holistic framework for people's health to correct imbalances. Severe Acute Respiratory Syndrome Coronavirus 2 (SARSCoVid- 2) Epidemic Coronavirus 2019 Disease (COVID-2019). The Latest Estimated Mortality Analysis (LEMA) in China, causing a serious global health crisis⁶, currently overestimates global prevalence[6]. Then, the spread of COVID-2019 and the atastrophe we all face today forces us to find answers and find the necessary corrections for human survival. This raises many questions about the source of our knowledge with relevant personal and social lifestyles. Host immunity is necessary to facilitate the eradication of infections. Immune system disorders include lymphopenia and elevated levels of C-reactive protein in severely affected cases of COVID-2019 infection.

While the coronavirus (0.06–0.14 μ) is the largest virus ever found (0.005000.05), we have very large white blood cells (WBCs) (15 μ) that make up our immune system. Besides, the number of white blood cells in a drop of blood (1ml) varies between 5000–7000 / mL, which is the millions of white blood cells in our body, while the

number of COVID-19 viruses is very high. Weak white blood cells serve as the first line of defense against invading viruses, limiting their proliferation and subsequent tissue damage. So if our immune system is normal and strong, then we have a better chance of achieving a viral attack. This infection may be a welcome consequence of an effective immune response fighting COVID-19, as seen in the recovery of mildly - symptomatic patients or an immune system condition that weakens the system and patients Interferes severely with Progress.

Extensive research shows that certain asana methods, dedicated pranayama, meditation, and mantras can provide and avoid a wide range of immunity in the body. It reduces viral infections and / or its toxicity. The experimental and controlled group experiments carried out announced the effectiveness of integrated yoga (IY) including asanas, relaxation techniques, breathing techniques, and meditation is divine. Even in the treatment of Pulmonary Tuberculosis as a supplement to the treatment of tuberculosis, the yoga group reduced, the initial sputum negative ($P < 0.05$) to inform the control group. In another confirmatory treatment, the saliva sample from the sanatorium of an affected patient, in Bangalore, was found positive.[7] Patients with HIV have a significant reduction in viral load due to an increase in the number of CD4 immune cells in one month because of IY (Integrated Yoga) and an improvement in their mental state.[8] In a study of healthy individuals undergoing meditation, blood levels of B lymphocyte pool and natural killer cells (NK) ($P < 0.01$) were higher than those of non-editors.[9] In another research, the frontal lobe shown in EEG shows a significant correlation between alpha EEG activation (demonstration of clear consciousness) and an increase in NK activity during yoga practice with a calm heart and improved cells. It also shows the relationship between sexual immunity.

The upper respiratory tract is the gateway to viral SARS-Covi-2 infections, and respiratory health is crucial to preventing death. There are reports of clinical trials suggesting an overall effect of yoga training on improving lung function in patients with chronic obstructive pulmonary disease. According to the pilot study in Europe, patients with acute respiratory distress were, sent to a hospital in Milan, Italy, for a COVID-2019 infection with a four-minute simple breathing technique. From March 17, 2020, to March 20, 2020, 1000 people visited him with requests to add such modules. An email report from a famous Italian cardiac surgeon who practices this very simple module, who survived an intensive care unit influenced by an oxygen mask, came to the hospital because of two negative tests. With all the above "practitioners of IY have come to scientific evidence that this simple protocol that has submitted is effective. Practitioners and other scientific community, intend to propagate it to the scientific community." Given the

limitations posed by the highly contagious nature of COVID- 2019 in healthcare workers and caregivers, who are at significant risk of nasococcal infection in others, plan to provide remote yoga-based interventions with a mobile yoga app.

Therefore, in addition to maintaining the new norms of social distance, frequent hand washing, and isolation of infected people and their contacts, people need to create immunity both in the body and in the mind. It turns out that there is now some evidence that practicing yoga can provide the body with the necessary immunity and a painless homeostatic state for the body. It is based on three basic yoga concepts, as highlighted in traditional texts. (1) A complete and precise understanding of the five aspects of the human system and all of creation as a whole: the body as a gross body (Ana Maya) by bioenergy (Pranamaya Kosha), the mind (Manomaya kosha), the intellect (Vignanamaya). kosha) is a subtle layer with a state of causality and forms the so-called kanda layer of Anandamaya. (2) Improper, incomplete, and non - comprehensive knowledge e.g. (Viparyaya who has jaundice and thinks all around the world turned yellow), at a level of reason and intelligence, it penetrates the brain and the hypothalamic-pituitary-adrenal axis downward, distorting the immune response. The remedy is to repair this Viparyaya and reduce the tissue damage process. (3) There are various yoga techniques to develop mind acquisition by increasing willpower and keeping your immune system strong. These include meditation with and without asana, pranayama, mantra, and kiyas for detoxification. In addition to these practices, the spiritual attitude is known as Pratipaksha Bhavana (opposite attitude) i.e. contrary attitude is highly recommended in IY. Today technology is in use in almost every aspect of life and incorporates. Be its Logistics, Procurement[10], Entertainment, personal life.

III RESEARCH METHODOLOGY

This paper being exploratory in nature draws data from different sources, which include literature, practitioners, and enthusiasts. The approach followed to get details is not only methodological but also logical. The first large number of journals dealing with Yoga, Technology, COVID 2019, and Prophylaxis were, collated, studied, and selected papers specifically dealing subject matter were, identified. In total eight papers were, downloaded from the top class category of journals and only five of these were, retained to get relevant input. The author then turned towards news media, to get more details. To do so keywords helped to isolate the right clippings. Eight news clippings from a lot of twenty-three made way to help to get right, and necessary information. The third source, which made a huge difference, was personal interviews with professionals working and practicing yoga and Ayurveda as philosophy. These one to one (otherwise kept anonymous) interviews provided not only true

insight but also showed how practitioner's regular practice and historical use of Ayurveda principles is keeping them not only fit but also keeping COVID 2019 away from them. Yet another source was the initiative taken by the Head of Sports of our esteemed institution, who are making their employees regularly practice yoga especially Prāṇāyāma which is the practice of breath control in yoga. In modern yoga as exercise, consists of synchronizing the breath not only with the help of movements between asanas (Postures) by introducing distinct reathing exercise usually practiced after/during asanas (Or can be performed, like breathing exercises alone during any time of the day). Prāṇāyāma The breathing technique practiced in Ayurveda consists of Bhastrika, Kapalbhathi, Anulom Vilom, Uddiyana Bandha, Bhramari, Udgeeth).

IV MAIN ANALYSIS

The analysis part of this paper is, divided into two parts. (i) 1st Part explains why and how yoga boosts the immunity to fight against COVID 2019. (ii) 2nd part deals with showing that how using a technology group of institution researchers belongs to boosted immunity of their Staff (Teaching and Non - Teaching) along with students, This norm being practiced, ever since lockdown announced to till date when the lockdown is completely relaxed, which led to enhanced performance.

4.1 1st Part, How yoga boosts the immunity to fight against COVID 2019

The COVID-2019 pandemic harms physical as well as mental health.

Staying at home and doing less in terms of social interactions and exercise affects the overall health of an individual. Coronavirus related concerns affect dietary habits, leading to higher calorie consumption that promotes weight gain. Limiting trips to the grocery store, skipping fresh fruits and vegetables in favor of stocking up on calorie-dense, non-perishable foods, and financial difficulties cause people to opt for less expensive, ultra-processed food options. Over and above all the extra hours spending at home/home office makes it more likely to snack, "stress-bake," or prepare high-calorie, comfort-food meals. Additionally, many people are facing problems like fear, anxiety, stress, financial concerns, sadness, boredom, and isolation — all of which harm diet, physical health, and mental well-being.

Current lifestyle affects the functioning of organs; less blood flow, leading to blockages and buildup of toxins and over time, this leads to breakdowns in the body system as well as weaken the immune system. When the immune system is not functioning optimally, the body becomes subject to illness, infections, and health problems.

"The body's immune system is a network of glands, nodes, and organs that function against bacteria, viruses, fungi, and other harmful organisms to protect the body. Stress also has and detrimental impact on immune system functions".

In this current scenario, fitness exercises and Yoga becomes prophylaxis and help an individual in many ways. It helps in developing the immune system, which plays a vital role in resisting the body from viruses and other infections. A strong immune system wipes out a virus within a few days, preventing more extreme manifestations of the illness and in turn, the immune system is reinforced. Fitness exercises and Yoga perhaps is one of the most time-tested, effective, and consistent immunity boosters, which adopts for a healthier life.

It is an ancient technique that not only strengths the body but unwinds the mind as well. Yoga supports the immune system on a day-to-day basis by reducing stress hormones that compromise the immune system. It lowers the stress hormones and calms the nervous system, which is linked to the immune system. Bacteria that affect the upper respiratory system cause colds and similar infections. If the immune system is not strong enough to throw them off, the bacteria can penetrate the lungs and lead to bronchitis or pneumonia. Yoga is one of the main tools for maintaining the health of our respiratory system.

Performing daily breathing exercises and asana conditions the respiratory tract and boosts the efficiency of the lungs. Yoga and breathing techniques help in relaxing the nervous system and boost the immune response. Both Yoga and breathing exercises have shown, to directly affect the health of the immune system. Yoga postures that open the chest and throat are good for stimulating the thymus, and inversion poses helps in improving the flow of lymph and immune cells through the body. Twisting poses and hip openers help to activate the secondary organs of the immune system, including the spleen and the lymph nodes. Modified versions of forwarding bends, backbends also lend a hand in supporting and strengthening the body's natural defenses.

To fight against COVID- 2019 pandemic (Coronavirus) initially we first chose fitness exercises as Physical activity helps in improving all aspects of health, including boosting our immune system. It also reduces stress and anxiety and improves working, which in turn helps to have sound sleep besides improves the immune system. Exercise also releases endorphins, chemicals in your brain that revitalize your mind and body. Figure 1 below shows employees performing fitness using technology



Fig. 1 Fitness program for staff & students

Due to limitations like the adaptation of new online teaching methodology, workload, and age factor we shifted the fitness program to yoga practice as "Pranayama and Asana" are also playing a vital role as prophylaxis to prevent and cure an individual for developing a strong immune system.

Yoga:

"Yoga simply means merging with self or being one. Yoga's root word is 'yuj' which means yolk or go within the center. In the simplest words, yoga is a practice of uniting the body, thinking, and breath with 'suffering' to live in the moment. Yoga helps to build the immune system, by strengthening the lungs and respiratory tract, stimulating the lymphatic system to expel the body's toxin, and delivering oxygenated blood to the different organs to ensure optimal efficiency".

Pranayama:

Pranayama serves as one of the simplest and most powerful ways to improve immunity and instill a certain amount of vigor and positive energy into the body. Pranayama encourages deep breathing that soothes the stress hormone, soothes, the heart, and even nervous tension that enhances immunity.

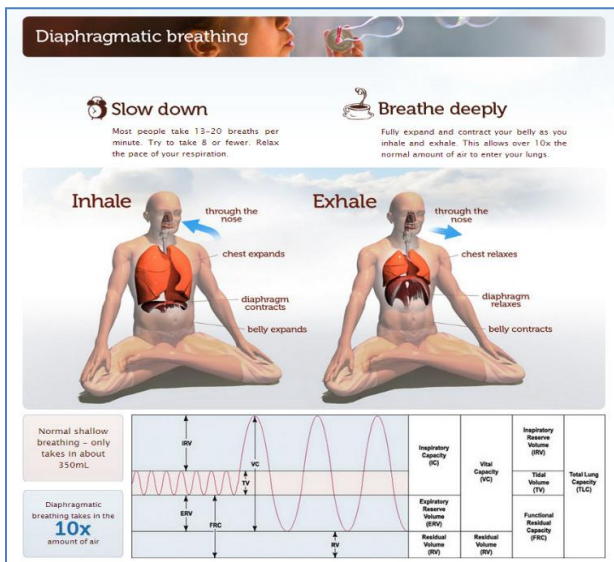


Fig. 2 Diaphragmatic breathing during pranayama

During pranayama, an individual drinking in gallons and gallons of vitality and immunity (Refer Figure 2). Participants supercharge the blood with extra oxygen. When one retains the breath, one injects more oxygen into the bloodstream. Oxygen is life, so that means we are enriching the blood with a lot of life. Every cell of the body vibrates with new life.

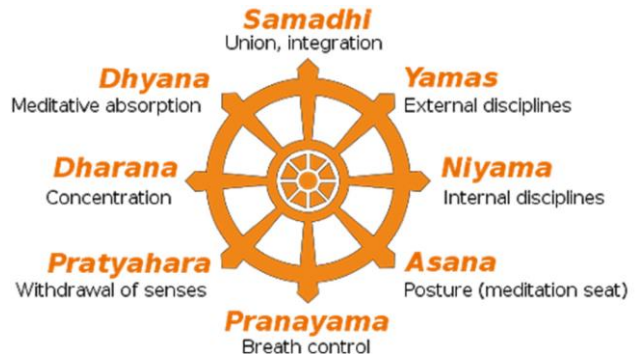


Fig 3: The theory and science of pranayama

Figure 3 shows the elements of pranayama. One of the pranayamas practiced by everyone involved is breathing in the stomach, which develops immune function. Intentionally deep breathing from the abdomen instead of the chest stimulates the diaphragm, the muscles beneath the heart, and the lungs that separate the lungs from the abdominal cavity. When the lower part of the stomach breathes in the stomach, it expands outward and compresses inward. When it expires. Abdominal breathing strengthens the digestive system. Since about 80% of your immune system is located in the folds of your digestive tract, engaging the diaphragm by breathing in this way causes it to massage the internal organs and glands, which in turn helps move lymph (fluid containing the immune system's white blood cells) throughout the body to their targeted locations. Types of Pranayama:

1. Bhastrika
2. Kapalabhati
3. Anuloma Viloma
4. Bhrumari
5. Udgheet

Figure 4 below explains the stages involved in Pranayama

Asanas (Suryanamaskar): Regularly if we practice Suryanamaskar, which revitalizes each, and every cell of the body, gives physical strength, flexibility, and mental calmness. "Suryanamaskar is a series of asanas with strict breathing patterns (Specific posture of the body) which are- Pranamasan, hasta uttanasan, padahastasan, ashwasanchalanasan, ashtanaga namasakar, bhujangasan, and parvatasan". Series of these asanas develop an immune system". The steps involved to comprehensively, perform Surya Namaskar are explained in Figure 3 below.

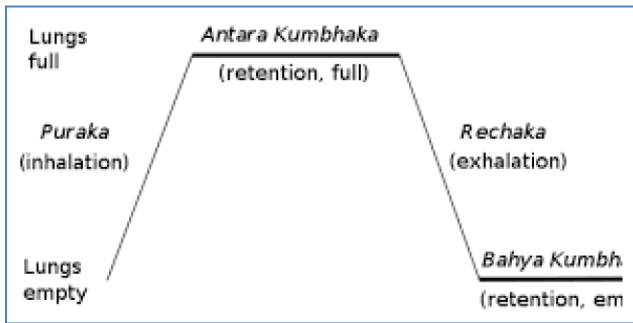


Fig. 4: Breathing Explained with Stages Involved

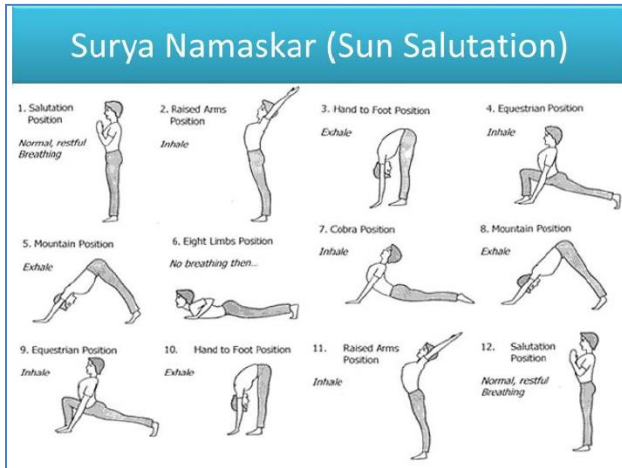


Fig. 5: Steps of Suryanamaskar

By practicing these asanas, the lungs exhale over some time and increase the severity and vital capacity of the airways, resulting in a more stable, regenerative, oxygenated lung and whole Gives birth to the body. It perfectly balances the endocrine system by massaging the glands directly and increasing blood flow. With the sun salutation, the abdominal organs become stiff, enlarging, and compressing the abdomen and intestines, resulting in a body massage so that they function fully. When vital organs are still not functioning normally, the sun's saliva has been reconstructed to restore it. Sun salutation stimulates the peristaltic bowel, which helps relieve excess gas and constipation. Increases the contraction and strength of the esophagus. As a result, cardiac output increases. Helps to remove hidden toxins from the body. It also increases the micro-circulation of various organs in the body, which increases the amount of oxygenated blood in the area. Sun salutations are a great way to relieve nasal congestion and protect your sinuses and mucous membranes. This is the first form of protection. It is an easy way to reshape your immune system.

4.2 Usage of Digital Technology for COVID 2019 Prophylaxis

Seeing the benefits of Yoga the next challenge was connecting all relevant stakeholders (Teaching, Non - Teaching, Support, Administrative, Staff, Students, and every other integral part of a group of institutions). While

looking at technology options, it was, kept in mind that technology should be easy, free. Based on advice from IT various options were discussed like Zoom, MS Teams, Cisco Webex, Google Meet Blue Jeans

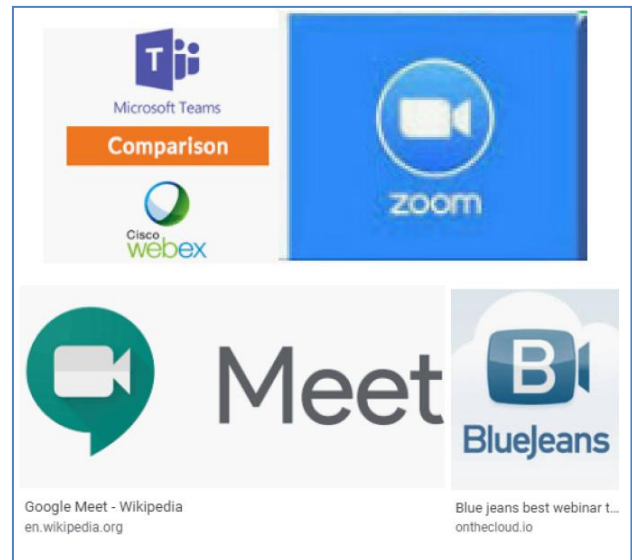


Fig. 6: Shows Options, suggested by our Education Central IT Experts

Parameters compared while selecting Right Platforms were as follows:

1. Price

The price should be a deciding factor in the decision, but it is not the only deciding factor. Many video conferencing tools offer a free version, although its features are limited and may include a limited - number, of participants that can attend a video conference, as well as setting deadlines for meetings. Membership means you can involve more people in a meeting at once, get better user management and admin control, and appoint yourself for integration with another party.

2. Security

Working remotely during the COVID-2019 epidemic has also created many IT security challenges. In other words, companies are losing sight of devices that have access to the network. With this in mind, our institution ensured that strong security controls are, selected in their video conferencing operational tools, including passwords, encrypted chats, strong administrative controls, host approval, and so on. Gender should be, considered. Refuse to allow or refuse, appropriate to meet attendees.

3. Number of participants

Of course, any video conferencing platform must be able to support the size of the organization's workforce. As indicated, most services offer an offer fee plan that usually limits the number of people who can attend a meeting - usually between 100 and 200. Whereas our institution's employee strength is more than the number

supported by many providers. We knew our average number of participants is more so this parameter was involved in comparison while selecting the right technology

4. App integration

If an institution wants to use team collaborative software on documents and projects in addition to video calls and chat, then one needs a platform that makes it easy. Most business video conferencing tools allow users to share files while providing additional collaboration tools such as meeting rooms. This type of integration is especially useful when working as a group of projects in real-time.

5. Meeting recordings

The ability to record a meeting helps review performance for better quality and output and provides the option to watch and perform Yoga at their convenience. It is also useful if participants need to visit candidates or clients remotely. This is what is becoming more common in the coronavirus epidemic. Many video conferencing tools allow you to record a meeting and store it in the cloud (though this may vary depending on storage service). Other tools provide live capture and transcription tools for taking notes.

Based on the technical, and other factors (As mentioned above) along with recurring financial parameters, the technical and finance team used comparison Table 1 to arrive final bestsuited technology for IY (Integrated Yoga) performance to be used across the board. The final decision went in favor of, Microsoft TEAMS as a platform to deliver the objected task. While considering technical, reliability, security, ease of operation, number of participants, app Integration and recurring financial expenses were factors in Tabular form as shown in Figure with mentioned reasoning (mentioned below) preferred platform was MS Teams.

Table I Comparison of Various Online Video Providers

Comparison of Zoom vs. Microsoft Teams, Google Meet, Cisco Webex and Skype									
S. No.	Features Options	Free version Available	Meeting Participants (Default)	Screen-Sharing	Whiteboard	Meeting Recording	E2E Encryption	Plans From (p/m)	Mobile App
Apps.									
1	Zoom	Yes	100	Yes	Yes	Yes	No	\$14.99	Yes
2	Microsoft Teams	Yes (Limited time only)	250	Yes	Yes	Yes	No	\$5.00	Yes
3	Google Meet	Limited time	100	Yes	No	Yes	No	\$6.00	Yes
4	Skype	Yes	50	Yes	No	Yes	Yes (Optional)	\$2.99*	Yes
5	Cisco Webex	Yes	200	Yes	Yes	Yes	Yes (Optional)	\$13.50	Yes
6	BlueJeans	No	100	Yes	Yes	Yes	No	\$9.99	Yes

*Skype for Business is being replaced by Microsoft Teams

After, selecting the right technology, which offered the best price-performance and satisfied other selection criteria. Online sessions initially began for fitness. However, later to offer COVID 2019 Prophylaxis Yoga

and to enhance performance Yoga started. Since then even to date though the institution has opened (from 1st June 20) Yoga is performed every single working day contributing to taking care of COVID 2019 Prophylaxis and enhance productivity. Figure 5 and 6 below shows active participation on International Yoga Day on an institution-wide basis. However, Figure 7 depicts, how regular E-Yoga sessions for staff are offered on daily basis.

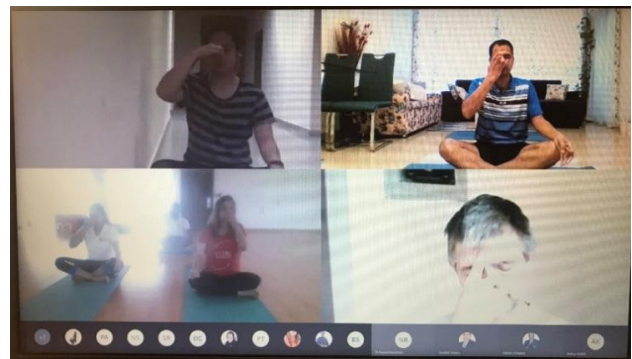


Fig. 6: International Yoga Day for staff (21-06-2020)

V CONCLUSION

Firstly, it is clear that in-depth research is underway, in various parts of the world, to link the mind and body and provide a holistic framework for people's health to correct imbalances to overcome Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-COVID-2) Epidemic Coronavirus 2019 Disease (COVID- 2019). Further extensive research being, carried shows that certain asana methods, dedicated pranayama, meditation, and mantras can provide a wide range of immunity in the body and help avoid infection like COVID 2019. Pranayama also reduces viral infections and/or its toxicity in the human body. The experimental and controlled group experiments carried out in Europe pointed the effectiveness of integrated yoga (IY)

"Practitioners and other researchers, intend to propagate it to the scientific community the therapeutic benefits of Yoga and especially pranayama." In parts of the world, given the limitations posed by the highly contagious nature of COVID-2019 in healthcare workers and caregivers, who are at significant risk of nasococcal infection in others, plan to provide remote yoga-based interventions with a mobile yoga app. Origin. Mr. Narendra Modi, the current prime minister of India during his speech at the United Nations General Assembly (UNGA), first ideated the International Day of Yoga on 27 September 2014. "He stated: Yoga is an invaluable gift of India's ancient tradition". Since then United Nations accepted 21 June of every year to be, celebrated as International Yoga Day. The date 21 June also has significance as it is the longest day of the year in the Northern Hemisphere and shares a special significance in

many parts of the world. This paper too mentions how synthesizing Yoga and technology celebrated International Yoga Day on 21 June 20 with team members of the institution. Technology selection, implementation, and making it reach all was carried in a very methodical way as explained in a paper to offer the advantage to all for, enhancing the performance. Technology also brought closer the family members of the institution, which further integrated the team/family effect.

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