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Role of Yoga And Meditation In Achieving Resilience in COVID-19

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ABSTRACT: A global covid-19 pandemic is clearly a distressing event. People react to such events in different ways; with some reactions having a more detrimental effect than others on a person's quality of life. Pandemic has led to a significant increase in the number of mental health issues. The state of the mind and that of the body are in timely related*(Vishaado Rogvardhnam*).The classical yoga includes ethical disciplines, different physical postures, breath control and meditation. Apart from the physical benefits, Yoga encourages a refreshing mood, a rise in mindfulness, and a healthy dose of self-compassion. As yoga combines several techniques used for stress reduction, it is often said to supply the combined benefits of breathing exercises, stretching exercises, fitness programs, meditation practice in one technique. Yoga has multi-dimensional positive effects that improve muscle strengths, flexibility, blood circulation and oxygen uptake as well as hormone function. Additionally the relief induced by meditation helps to stabilize the autonomic nervous system with parasympathetic dominance. Yoga , an ancient mind-body technique, is defined as *Samatyam*(homeostasis) at both mind and body levels to be achieved through mastery over the modification of the mind(*Chittavrittinirodhah*). The COVID-19 pandemic has posed several challenges to the health care system. By inducing stress resilience, breathing exercises enables us to rapidly and compassionately relieve many sorts of suffering. This paper describes role of Yoga, meditation and *Prananyam* on sustaining physical, spiritual and psychological health and to overcome adverse effects arising out due to COVID-19 pandemic

Keywords- Yoga, meditation, COVID-19, Pandemic, Quarantine.

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INTRODUCTION:

Considering the current pandemic situation because of covid-19, where people are locked in their houses or stuck faraway from homes there is an incredible increase in stress, anxiety, depression, and negative thoughts, hence *Yoga* and meditation practices can help them stay positive and feel better about present life. The consequences of pandemics are not any less hazardous than effects of any war. The results of communicable disease spreads in history gives a transparent picture of what effect of the covid-19 pandemic can have today. Such situations not only affect the lives of individuals getting infection but it has a large impact on the general population. A number of the consequences of lockdown and quarantine have already started getting attention, people's physical and mental health is deteriorating with the stress, fear, depression, trauma about uncertainty of life. *Yoga* is an ancient mind and body practice with origins in Indian philosophy. It constitutes *Asanas*, regulated breathing (*Pranayama*), and awareness of *Yoga Sutras* (principles) that govern the mind, while its origins root from religious principles. Modern-day culture is primarily drawn thereto for its relaxation benefits (meditation and breathing exercises) and stretching and strengthening movements (physical poses). The practice of *Yoga* may be a combination of various postures called *Asanas*, breathing techniques referred to as *Pranayama*, meditative techniques called *Dhyana*, chants called *Mantras* chanting and wisdom teachings referred to

as sutras, objective of all of which is to encourage the harmony of body, mind, and soul. Compared to traditional forms of exercise, the relatively low-impact and modifiable nature of *Yoga* offers a middle ground for people with movement limitations, clinical diagnoses and is especially suitable for aging populations. *Yoga* is specialize in improving the self, through both physical and mental practices incorporates more mindful elements absent in traditional sorts of exercise. Indeed, the practice of engaging the mind and body through meditation, breathing and physical poses has attracted significant attention from the medical profession, and *Yoga* has been frequently studied for its possible beneficial effects on physical and psychological state outcomes. Historical evidence has reflected that *Yoga* is not only practiced as a remedy for specific illnesses rather as a practice to complement physical, mental, and spiritual well-being. In this time of covid-19 pandemic, a solid invulnerable framework is important for people to won the battle with covid-19.Invulnerability is that the condition of getting adequate organic resistances to take care of a strategic distance from contamination, disease or other undesirable natural attack. It is the capacity of the body to confront with hurtful microorganisms from entering it.

Challenges in Combating Corona Virus Disease 2019:

This crisis is widespread across the world. Thus, communities, organizations, and even individuals that might be ready to offer support during a localized disaster could also be sapped of resources, which may impact the psychological state of communities and individuals suffering from covid-19.There are diverse challenges happening within the crisis. While it seems like many other parts of life are at a standstill, other responsibilities and obligations continue; bills are still due, groceries still got to be bought, work may or might not continue, and youngsters still got to be cared for. Worry and fear may abound while we are physically separated from those on whom we rely. How can we face such challenges during this crisis while building resilience? Implementation of several infection control measures (e.g., social isolation, distancing, or quarantine of entire communities) are posited for

control and prevention of the covid-19 outbreak. It is mainly a respiratory condition that includes fever, cough and shortness of breath, body aches and sometimes associated anosmia and ageusia. In severe cases, infection can cause further cause pneumonia or breathing difficulties. These symptoms are almost like the flu (influenza), which is more common than covid-19. Apart from Older people, others with chronic medical conditions, like diabetes and cardiac problems, appear to be more in danger of developing severe symptoms. The protection of youngsters and academic facilities is especially important. Precautions are necessary to stop the potential spread of covid-19 in public places. However, care must even be taken to avoid stigmatizing those that may are exposed to the virus. So, overall challenge is not only to keep oneself mentally, physically and spiritually healthy but also to involve population in *Yoga* and meditation like non-pharmacological techniques to combat challenges arising out of covid-19 pandemic.

Approaches to Face Challenges in Pandemic:

Acceptance, commitment, self-compassion and gratitude are approaches which will be helpful in facing challenging times. Acceptance doesn't mean resignation to those thoughts and feelings but recognizing that we have those experiences and seeing them for what they are. When having a challenging thought or feeling, acknowledge it for what it is rather than battling it. In times of stress and challenge, it can become very easy to be trapped in our thoughts, feelings, also because the past or present. Rather than being trapped in these experiences, bring awareness to this moment. Whenever in challenging times, difficult emotions, or tough thoughts come, we often lose sight of what things are important to us. Take this point to think about those areas of life that are important to you, or your values. Values may include domains of life (e.g., being a parent, leisure, vocation, relationships, or community) also as ways during which you will wish to measure your life (e.g. integrity, humor, kindness).It is also critical not simply to

work out these valued domains, but to interact in actions that bring you closer thereto valued domain. These are trying and difficult times. Self-compassion entails being kind to ourselves, gratitude are often beneficial for well being; gratitude is a beacon of hope in difficult times. By being open, aware, engaged, active, practicing self-compassion and gratitude, we will surely build resilience in these difficult moments.

Yoga and Meditation for Strengthening the Immunity:

Immune surveillance due to better immunity of the host is an important requisite to facilitate the eradication of infections[1, 2]. Impaired immunity and co-morbidities play a vital role to make people symptomatic who are exposed to virus in covid-19. Frequent representation of elderly individuals within the covid-19 infected cases indicates the plausible role of deteriorating immunity underlying their vulnerability to the infection. The severity and outcome of the virus infection might be an outcome of efficient cellular/innate immune reaction[3].The available evidence indicates that *Yoga*/meditation facilitates the co-ordination among the set of homeostatic responses involving the interaction among the nervous, endocrine, and immune systems[4]. Hence, the recent definition of *Yoga* states it as a comprehensive skill set of synergistic process tools that aids in bi-directional feedback and modulation of autonomic nervous system outputs through integration between central nervous system, motor and sensory nervous system [4]. Postures (*Asana*), breath regulation (*Pranayama*), and meditation alongside the conceptual corrections comprise the integrative system of *Yoga* techniques that would promote physical also as mental well-being. The postures or *Asanas* are alleged to have different effects. Some are stimulatory to the nervous and circulatory systems some develop coordination and concentration, while others have a relaxing effect on the body. Some postures like the corpse pose are used for elongated periods of relaxation.

Evidence Based Perspective of _Yoga_:

Yoga and meditation practices train your body and mind to be ready to deal with stress in a better way and improve overall health and well-being. In ancient

Indian medicinal system, *Yoga* practice is described as link between the individual and therefore the universe. *Yoga* and meditation can play a crucial role in our life because these help in controlling the function of our mind. Kindness and positive emotions protect and cushion you from the burdens of stress and are shown to enhance physical health and depression. The word "*Yoga*" comes from a *Sanskrit* root "*Yuj*" which suggests union or concentrates one's attention[5, 6]. Regular practice of *Yoga* promotes strength, endurance, flexibility and facilitates characteristics of friendliness, compassion, and greater self-control, while cultivating a way of calmness and well-being[7, 8]. Complementary medicine refers to a category of treatments and interventions that have not been raised in modern medicine[9]. *Hatha* (or forceful) *Yoga*, *Raja* (or classical) *Yoga*, and *Mantra Yoga* are perhaps the simplest known and most generally practiced forms. Both *Yoga* and *Raja Yoga* emphasize specific postures (*Asanas*), including both active and relaxation poses, also as breath control (*Pranayama*), concentration (*Dharana*), and meditation (*Dhyana*). *Hatha Yoga* , the branch of *Yoga* most ordinarily practiced within the western industrialized world and which itself includes many various styles (eg. Iyengar, *Kundalini*, *Ashtanga* etc), also incorporates *Mantras* or chants and specific hand gestures (*Mudras*).*Yoga* poses are a series of movements designed to extend strength and flexibility. *Yoga* which has been utilized in eastern societies since so many years and has recently received much attention from western countries[10]. Not only in India but scientists from world over getting on the brink of proving what *Yogis* have held to be true for hundreds of years and the way *Yoga* and meditation can keep off stress and disease. In recent decades, several medical and scientific studies on *Yoga* proved it to be very useful within the treatment of some diseases. Studies have demonstrated effect of *Yoga* for several conditions, psychological state issues[11, 12] .The nature of *Yoga* is controlling the mind and central nervous system in contrast to other sports, it has a moderating effect on the nervous system, hormonal secretions, physiological factors, and regulation of nerve impulses; therefore, *Yoga* can be effective in improving depression and mental

disorders[13]. Increased stress, depression and anxiety are the features of recent lifestyle[14]. Due to the adverse effects of drugs in the treatment of anxiety and depression, and in some cases their lack of effectiveness, researchers seek non-pharmacological and non-invasive treatment for these disorders[15].*Yoga* exercises improved the variables of self-description, psychological status, and therefore the quality of life[16]. Researchers suggest that *Yoga*, as an intellectual and mental exercise, improves health feeling[17]. A fundamental of *Yoga* is that, your body and mind are one and connected. Stress in one domain will affect the opposite and the other way around. Many of us live primarily in either our mind or our body, which creates imbalance and even a scarcity of awareness. *Yoga* may be a sort of mind-body fitness that involves a mixture of muscular activity and an internally directed mindful specializes in awareness of the self, the breath, and energy[7]. Four basic principles underlie the teachings and practices of *Yoga's* healing system[18]. The primary principle is that the physical body may be a holistic entity comprised of varied interrelated dimensions inseparable from each other and therefore the health or illness of anybody dimension affects the opposite dimensions. The second principle is individuals and their needs are unique and thus must be approached during a way that acknowledges this individuality. The third principle is *Yoga* is self-empowering; the fourth principle is that the standard and state of an individual's mind is crucial to healing. When the individual features a positive mind-state healing happens more quickly. *Yogic* practices inhibit the areas liable for fear, aggressiveness and rage, and stimulate the rewarding pleasure centers within the median forebrain and other areas resulting in a state of bliss and pleasure. This inhibition leads to lower anxiety, pulse, rate of respiration, vital sign, and flow in students practicing *Yoga* and meditation[18, 19, 20, 21]. Due to absence of any effective treatments to cure the disease the researchers have explored the potential of modifying lifestyle behaviors. *Yoga* could also be an alternate sort of physical activity which can help not only older adults achieve recommended levels of physical activity, but also for people who have disabilities or symptoms that prevent them from performing more vigorous sorts of exercise. *Yoga* practice

can increase parasympathic activity and reduce sympathetic activity, perhaps by increasing GABA activity[22]. *Yoga* contributes to guard the brain against age-related decline and also tunes the brain toward a parasympathetically driven mode and positive states[23]. Researchers have studied the role of *Yoga* and meditation on genes and brain activity within the chronically stressed[24]. This study found that *Yoga* practice can turn on and off some genes linked to worry and immune function. Clinically, the therapeutic techniques of *Yoga* are reported to be beneficial against the management of acute stress as in post traumatic stress disorder after tsunami[25] or in chronically stressed people with depression or anxiety[25, 26, 27] and in many non-communicable diseases like asthma[28, 29], hypertension[30, 31], cardiac problems[32] and diabetes[33, 34, 35, 36, 37]. Practicing *Yoga* encourages a positive mental attitude, to help us deal the roller coaster ride with brevity, head held high and brains in the right place to fight and live every bit life. Various review studies have shown positive impact of *Yoga* on musculoskeletal function, chronic pain conditions, and pain-associated disability [38, 39, 40, 41, 42].*Yogic* practices enhance bodily muscular strength, flexibility, promote and improve cardio-respiratory, cardiovascular function, reduce stress, anxiety, depression, chronic pain, improve sleep patterns, enhance overall well-being and quality of life[43, 44, 45-50]. Numerous studies show that *Asana*, meditation or both can improve body flexibility, decrease disability, reduce pain and enhance functional mobility in people with variety of conditions causing chronic pain[51, 52, 53]. It is apparent in many lifestyle diseases, that patients must change attitudes and behavior, so as to successfully treat these diseases and *Yoga* interventions, in fact may be very supportive for the execution and maintenance of such lifestyle changes.

Meditation an Evidence Based Practice:

The science of meditation has grown tremendously within the last few years. Meditation is nothing more than putting your mind comfortable by controlling the main target of your attention. The majority of clinical effectiveness studies related to meditation have focused on cognizant, physiological and emotional components of an individual. Meditation also can help reduce anger and hostility feelings by teaching people to

suspend automatic judgments. Meditation may assist you learn to be more mindful and conscious of this moment without judgment. *Yoga* could be effective as a supportive adjunct to mitigate some medical conditions. Careful efforts by clinicians, theorists, and researchers to know meditation have led to a slow but steady shift towards translating meditative practices into clinically relevant interventions, and examining their effects on biological outcomes[54]. Studies have shown therapeutic benefit for improving mental and emotional health[55, 56]. Meditation has become one among the foremost popular ways to alleviate stress among people of all walks of life. This age-old practice, which may take many forms and should or might not be combined with many spiritual practices, are often utilized in several important ways. Physical and emotional stress can be diminished by learning the art to calm your body and mind. This leaves you feeling better, refreshed, and prepared to face the challenges of your day with a healthy attitude. With regular practice over weeks or months, you will experience even greater benefits. Meditation involves sitting in a position of ease with relaxed and concentrating mind on one thought and clearing it of all others. Meditation affects the body in just the other ways in which stress does, by triggering the body's relaxation response. It restores the body to a relaxed state, helping the body repair itself and preventing new damage from the physical effects of stress. It can calm your mind and body by quieting the stress-induced thoughts that keep your body's stress response triggered[57]. Researches has shown that, those who practice meditation regularly begin to experience changes in their response to worries, that allow them to get over stressful situations more easily and experience less stress from the challenges, they face in their everyday lives[58]. The researches have shown that those who experience positive moods more often are more resilient toward stress[59] .Numerous studies have found that, in diverse populations, meditation can minimize stress and build resilience[60]. Emotional balance is the key to cope with every situation in life like a boss and become a stronger person.

Significance of *Pranayam* in improving Pulmonary Function:

Pranayama improves overall performance of the body. Controlling

your breathing is a very crucial part of *Yoga*. *Yoga* teaches that, controlling your breathing can assist you control your body and quiet your mind. The regular practice of *Pranayama* increases chest wall expansion and most lung functions. The beneficial effect of various *Pranayama* is well reported and has sound scientific basis[61, 62]. *Pranayama* makes efficient use of abdominal and diaphragmatic muscles and improves the respiratory apparatus[63]. *Yoga* strengthens the respiratory musculature, chest and lungs inflate and deflate to fullest possible extent and muscles are made to work to maximal extent[64, 65].

Nadisuddhi: Close the right nostril with the right thumb. Now inhale slowly and deeply through the left nostril to fill your lungs. After inhalation, close the left nostril with annualry of right. Open the proper nostril, exhale slowly. After complete exhalation, again inhale through right nostril and shut it with right thumb. Open the left nostril, exhale slowly.This is often one round of *Nadisuddhi Pranayama*.

Kapalbhati: Kapalbhati Pranayama may be a sort of breathing exercise that helps you obviate various ailments over a period of your time. *Kapalabhati* is completed during a sitting posture specialize in "exhaling". Inhale as normal. Exhale and at the same time contract the abdominal muscles with each exhalation.

Bhastrika: Bhastrika, a *Sanskrit* word which suggests bellows. In *Bhastrikapranayama*, the breathing pattern resembles the blowing of bellows. *Bhastrika pranayama* is all about inhaling and exhaling completely in order that your body gets maximum amount of oxygen.

Bhramhari: The practice of *Bhramhari* breathing calms the mind, reduces the strain or fight - flight response. During this *Pranayama* one must create a sound while exhaling and inhaling within the throat. The sound is analogous to chanting of OM, especially the long mmm in Omkar. The sound should be deep, steady and smooth.

Surya Namsakar: *Surya Namaskar* features a deep effect in detoxifying the organs through copious oxygenation and features a deeper relaxing effect. It is a series of twelve physical postures. These alternating backward and forward bending postures, flex and stretch the vertebral

column giving a profound stretch to the entire body. *Pranayama* helps in bringing the sympathetic and parasympathetic nervous system into harmony. *Pranayama* may allow bronchio-dilatation by correcting abnormal breathing patterns & reducing muscular tone of respiratory muscles[66, 67, 68]. *Yoga* training improves the strength of expiratory also as inspiratory muscles[69]. *Bhastrika Pranayama* exercises inspiratory as well as expiratory muscles. In breathing exercises like *Kapalbhati*, short powerful strokes of exhalation in quick succession with contraction of abdominal and diaphragmatic muscles train the person to make full use of diaphragm and abdominal muscles in breathing. It also helps in removal of secretions from bronchial tree, clearing up respiratory passages and therefore the alveoli making room for more air[70]. Breathing uses the diaphragm and performs respiration with least resistance; chest breathing utilizes intercostal muscles[71]. *Pranayama* training causes a rise within the voluntary breath holding time which may be due to acclimatization of the chemo-receptors to hypercapnoea[72]. During *Pranayama*, there's slow & prolonged inspiration and expiration. It stretches elastin & collagen fibres interwoven among lung parenchyma. Hence these fibres elongate to a greater extent[73]. During *Pranayama*, regular inspiration and expiration for extended duration would cause acclimatization of central and peripheral chemoreceptors for both hypercapnoea and hypoxia[74]. This way practice of *Pranayama* will be of immense utilization for overcoming the ill effects of covid-19 pandemic.

DISCUSSION:

Prevention is always better than cure. You realize that loving yourself is not selfishness, but an act that enriches your soul and helps you spread the love to others. The connection between your mind and body is stronger than you think and works as a catalyst that boosts your self-esteem. The *Asanas* may increase body's flexibility, coordination and strength, while *Pranayam* and meditation may make the mind more focused and calm to develop greater awareness and diminish anxiety[75], blood pressure, and improvements in resilience, mood, and metabolic regulation[76]. *Yoga* is an economical, non-invasive practice that has become increasingly popular in the United

States as a means of potentially relieving stress, enhancing health, and improving fitness[77, 78, 79, 80]. Practicing *Yoga* in healthy volunteers is reported to improve various parameters of lung function with different breathing controlling techniques, specific postures, and/or relaxation techniques. Rapidly emerging within the western world as a discipline for integrating the mind and body into union and harmony, when adopted in life, *Yoga* improves physical, mental, intellectual and spiritual health. *Yoga* should be considered as a complementary therapy or alternative method for medical therapy within the treatment of stress, anxiety, depression, and other mood disorders because it has been shown to make a greater sense of well-being, increase feelings of relaxation, improve self-confidence and body image, improve efficiency, better interpersonal relationships, increase attentiveness, lower irritability, and encourage an optimistic outlook on life. Through researches we are able to understand how disciplines like *Yoga* promote personal growth, health and well-being. By realizing the importance of balanced tripod of mind, body and spirit, the mind-body fitness programs (i.e. *Yoga*) can aid people in their pursuit of peace, integration and greater wholeness in their lives. *Yoga* encourages one to reconnect with oneself. It can assist with revealing why and the way one's ailment may have begun, and may work with the body to start the recuperation time-frame ranging from the earliest stage. Those people who are physically and mentally fit they do not face health issues. In the ongoing covid-19 pandemic, enhancing the body's natural defense system (immunity) plays an important role in maintaining optimum health.

CONCLUSION:

Effective prevention or treatment of covid-19 remains a top priority toward the curtailing of this pandemic. *Yoga* and meditation has become an increasingly widespread therapy to maintain wellness, and alleviate a variety of health problems and ailments. Because of their beneficial effects in mental and physical health, the public interest towards *Yoga* and meditation is increasing day by day. Physical and mental fitness plays a very important role in everyone's daily life. If you are physically fit but you are disturbed mentally you will not be able to function properly. Mental fitness means that you

keep your mind and emotional health up to the mark, it is also very important like physical fitness and you should not ignore it. There is plenty of evidence that supports the add-on benefits of *Yoga*. The available evidence indicates that *Yoga* / meditation facilitate the coordination among the set of homeostatic responses involving the interaction among the nervous, endocrine, and immune systems. In an age of a highly dynamic and competitive world, man is exposed to all or any sorts of stressors which will affect him in all spheres of life. *Yoga* and meditation offers an efficient method of managing and reducing stress, anxiety and depression. There exists an indisputable connection between an individual's overall physical and psychological state and therefore the inner peace and well-being, *Yoga* is meant to realize. Regular systematized practice of *Yoga* aid in controlling the fluctuations of mind, help the individual to rise above the modifications and manifestations of mind and by acting consciously; we live better and suffer less. This indicates that mystical and extraordinary experiences are prevalent enough among mediators, and salient enough to those that have them, to warrant further scientific inquiry. The act of *Yoga* isn't as simple or as snappy as taking prescription, yet mounting proof proposes it merits the exertion and venture. Post-covid fibrosis of lungs can be successfully managed with by regularly practicing *Pranayaam*. While there is no medicine for covid-19 as of now, it will be good to take preventive measures to boost our immunity to fight against the corona virus.

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