

# Association Between Yogic Breathing Practice With Perceived Impact of COVID-19: A Cross-Sectional Study From India

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## Abstract

The entire world stood still when the novel coronavirus struck wrath, disrupting the psychological and socioeconomic lives of mankind. Coronavirus disease 2019 created a disastrous impact globally, mimicking a war-like situation. India witnessed extensive lockdown, aimed at limiting the transmission of infection by reducing human contact. This uncertain situation sowed fear and anxiety in the minds of the population, affecting their mental well-being. People are trying to cope with the double whammy of spiking infections and economic instability due to halted businesses. This study attempts to capture the prevalent stress and anxiety in the general population and to highlight the differences in coping with stress and anxiety between the yoga and non-yoga practitioners. Rhythmical yogic breathing, Sudarshan kriya yoga, has shown several beneficial effects in alleviating anxiety, depression, and posttraumatic stress. The observations from this study strengthens the evidence that yoga is effective to maintain mental well-being even during unusual times.

## Keywords

anxiety, depression, emotions, self-reported mental health, stress, Sudarshan kriya yoga

## What we already know

- Yoga is a well proven therapeutic life style modality which may serve as answer to many of our contemporary problems.
- We are now caught up between the dual insults of non communicable as well as infectious diseases, which not only threatens present generations but perils future too.

## What this article adds

- Yoga, a holistic and complementary stream, addresses the physical, psychological and social afflictions caused by the novel Corona virus pandemic.
- Sudarshan kriya Yoga (SKY) aids in addressing the crucial after effects of this global pandemic. It is to prove that SKY is beneficial in addressing subacute and chronic mental morbidities, affecting the global public due to the pandemic.

## Introduction

The World Health Organization declared coronavirus disease 2019 (COVID-19) as a pandemic in March 2020.<sup>1</sup> Historically,

epidemics and disasters have been a cause of trauma among the general public.<sup>2</sup> To prevent the spread of COVID-19, countries around the world imposed complete or partial lockdown. This along with social distancing, quarantine, separation from family, loss of employment, and uncertainty regarding availability of cure has led to extreme mental distress in the population. The psychological distress, in turn, has resulted in anxiety, depression, self-harm, suicide, and physical abuse or violence within family members.<sup>3</sup> Mental distress is associated with alterations in immune function making an individual prone to infections and disease, especially respiratory infections.<sup>4</sup> Therefore, there is an urgent need for strategies to cope with mental health issues that can help boost overall health and well-being of the population during the pandemic.

Psychiatric aid and interventions for posttraumatic stress disorder have been provided in the past to victims of social

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**Table 1.** Anxiety Among the 2 Groups in the Lockdown Period.

	No symptom	Mild	Moderate	Severe	P
Yoga practitioners	82.22 (444)	13.15 (71)	3.15 (17)	1.48 (8)	.034
Non-yoga practitioners	66.93 (261)	22.05 (86)	7.44 (29)	3.59 (14)	
Overall population	73.74 (705)	16.42 (157)	4.81 (46)	2.30 (22)	

**Table 2.** Self-Reported Mental Health: Impact of Lockdown on Mental Health.

	No impact	Little negative	Negative	P
Yoga practitioners	59.57 (330)	38.62 (214)	1.98 (11)	<.001
Non-yoga practitioners	43.28 (174)	50 (201)	6.21 (25)	
Overall population	52.72 (504)	43.41 (415)	3.77 (36)	

discrimination, isolation, work burnout, fear, and frustration.<sup>5</sup> Yoga has proved to be a very effective tool for building tolerance to stress, stabilizing mood, improving mental focus, and boosting well-being. Breathing practices such as pranayama are known to improve lung function.<sup>4</sup> Meditation decreases the inflammatory markers and improves cell-mediated immune response.<sup>4</sup>

Sudarshan kriya yoga (SKY) is one such yogic breathing practice known to enhance vagal tone. SKY has previously been demonstrated to reduce anxiety scores, stabilize mental activity, enhance brain function, and build resilience to stress.<sup>6</sup> The present study aims to investigate the contribution of SKY on protecting mental well-being of populations during the lockdown due to the pandemic.

## Materials and Methods

### Study Design

An observational cross-sectional study was conducted. The study was approved with Registration Number SSIAR/IEC/2020/01 from the Institutional Ethics Committee, Sri Sri Institute of Advanced Research. An online questionnaire was designed to capture demographics and assess the impact of the pandemic on the subject's mental health. Participants were asked to self-report about their mental health, as well as respond to standardized questions listed in Generalized Anxiety Disorder and Patient Health Questionnaires. The questionnaire was floated online. An informed consent was sought from the participants at the beginning of the questionnaire. Sample collection was done between March 28, 2020, and May 9, 2020. Majority of the respondents were from India but few responses were received from other major COVID-19-affected nations as well.

Covariates of this study involved gender, SKY practice, self-reported mental health, anxiety, and depression scores. Descriptive statistics and  $\chi^2$  test were conducted using open-source JASP statistical software, version 0.12.2.

## Results

A total of 956 responses were obtained. The data were distributed in 2 groups based on yoga practice, viz., SKY practitioners (554) and non-SKY practitioners (402). The age group of respondents ranged from 16 to 81 years with the mean age  $\pm$  standard deviation of  $42.99 \pm 24.29$ . The SKY and non-SKY groups had 43% and 48.9% males and 57% and 51.1% females, respectively. Fourteen percent of the total population was IT professionals; 10% were from health care and education sector each. The rest of the subjects were distributed between homemakers (8.5%), students (8.5%), and business owners (8.7%).

We observed that a higher percentage (33%) of non-SKY practitioners experienced anxiety due to the pandemic, compared with (17.7%) SKY practitioners (Table 1). This trend was also reflected in self-reported mental health. A total of 56.21% of non-SKY practitioners reported negative change in their mental health compared with a lower proportion in the SKY population (40.6%). Significant difference was observed between the 2 groups considering self-reported mental health and anxiety covariates (see Tables 1 and 2).

## Discussion

The current study is a unique initiative to understand the benefits of yogic breathing on prevalent stress and anxiety in the general population during the lockdown. Several studies have highlighted the prevalence of depression, anxiety, and negative mental health among individuals during pandemic. However, to our surprise, the potential role of yoga as an intervention for mental health during COVID-19 was not yet explored.

The results of our study indicate a reduced negative impact of the pandemic on the mental health of SKY practitioners compared with general population and non-SKY practitioners. Yoga practices have shown to help in combating insomnia and other psychological disorders. Apart from improving the mental health during the time of crisis, yogic

practices can help an individual to recover from the traumatic incidences of the past, improving physical health and immunity.<sup>7</sup> A recent study evaluated the potential benefits of SKY as a therapeutic option to treat patients with mild-moderate depression. A total of 74.6% of participants felt a meaningful change after adopting the practice.<sup>8</sup> Addressing the mental health issue among university students in the United States, SKY practice was found to be an extremely effective method to combat depression and anxiety.<sup>9</sup>

A series of reviews during the pandemic highlight promising effects of yoga and meditation practices in alleviating depression, anxiety, and improving quality of life. Yoga can help cope with the unseen trauma caused by health-related disasters. It also helps sustain a positive outlook during difficult times. SKY was reported as an effective intervention to deal with posttraumatic stress disorder after the natural calamity tsunami in South-East Asia.<sup>7</sup> SKY practice can be a cost effective, efficient, and easily adopted home-based intervention to prevent and address the mental health issues in the current pandemic.

The key limitations of this study were online mode of data collection with restriction to objectively validate the responses. The study needs to be replicated in a pre-post design with a control group to evaluate the directionality of the effects of SKY practice. Snowball sampling method may create selection bias.

## Conclusion

Sudarshan kriya yoga practitioners reported lower levels of anxiety and reduced negative impact on their mental health compared with non-SKY practitioners during the pandemic lockdown. Further scientific studies are needed to establish the relation between the SKY practices during lockdown and its implications.

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