

Effectiveness of Online Yoga Sessions on Wellbeing of Undergraduate Health Care Students: Students' Perspectives

Sushant Bharat Singh^{1*}, Meena Ramanathan², Ananda Balayogi Bhavanani³, Shivasakthy Manivasakan⁴, Priya Rajkumar⁵

^{1*}Assistant Professor, School of Liberal Arts & Human Sciences, Auro University, Surat, India; Ph.D. Research Scholar, Sri Balaji Vidyapeeth (Deemed – to be-University), Pondicherry

²Professor & Vice Principle, School of Yoga Therapy, Institute of Salutogenesis and Complementary Medicine, Sri Balaji Vidyapeeth, Pondicherry, India

³Professor & Director, Institute of Salutogenesis and Complementary Medicine, Sri Balaji Vidyapeeth, Pondicherry, India

⁴Professor & Director, Institute of Health Professions Education, Sri Balaji Vidyapeeth

⁵Assistant Professor & HoD(I/c), School of Liberal Arts & Human Sciences, Auro University, Surat, India

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ABSTRACT

Context: A regular Yoga program for undergraduate healthcare students transitioned into an online mode due to restrictions of COVID-19 pandemic. All participants underwent six months of weekly Yoga training, of which three months were through online mode.

Aim: To study the perception of undergraduate healthcare students on the effectiveness of online Yoga sessions on physical and mental wellbeing.

Materials and Method: After six months of Yoga training, a survey questionnaire was developed, validated and shared with the participants as a Google form to assess the perceived effectiveness of online yoga sessions. A five-point Likert scale was used to assess the perceived effectiveness of the online Yoga sessions on physical and mental wellbeing, and open-ended questions assessed its perceived benefits and limitations, which were analysed thematically.

Results: 124 undergraduate healthcare students completed the survey. The majority of participants rated online Yoga as beneficial for both mental and physical well-being, with 79.8% finding it helpful for their mental health and also 78.2% finding it helpful for their physical health. When comparing formats, 54.8% found online sessions helpful but less effective than offline ones, while 25.8% rated them equally effective. Thematic analysis revealed perceived advantages such as mental stability, convenience, and safety from practicing at home, as well as drawbacks like connectivity problems, distractions, space constraints, and a lack of in-person guidance.

Conclusion: Participants found online Yoga sessions during the lockdown helpful for their physical and mental wellbeing. The majority of the participants felt that though the online Yoga sessions are helpful, they are less effective than offline, face-to-face interactive Yoga sessions.

Keywords: Online Yoga, Yoga for wellbeing, yoga for mental health

Introduction:

The COVID-19 pandemic had dramatically impacted human life, and healthcare students were no exception.¹⁻

³ The restrictions imposed to control the pandemic, such as quarantine and social isolation, had widespread effects on mental health worldwide, contributing to an increase in issues like depression, anxiety, loneliness, insomnia, and in severe cases, self-harm or suicidal behavior.⁴⁻⁶ The World Health Organization (WHO) has expressed concerns about the pandemic's mental health impact, highlighting that the sudden disruption of regular activities and social connections could lead to significant psychological distress.⁷

Yoga, a science of holistic living, is widely recognized for promoting physical, mental, and spiritual well-being. Swami Gitananda Giri, a renowned Yoga Guru, emphasized that “Health and happiness are your birthright, claim them and develop them to your maximum potential.” Yogic practices foster a balanced state across bio-psycho-social and spiritual dimensions. Similarly, Swami Kuvalyananda, a pioneer in yoga research, stated that “Yoga has a complete message for humanity. It has a message for the human body. It has a message for the human mind and it has also a message for the human soul”.⁸ Research supports that yoga enhances immunity and helps the body and mind achieve homeostasis, offering a salutogenic approach that not only aids in disease prevention but also in maintaining positive health.⁹ Increasing evidence suggests that yoga is beneficial for various mental health conditions, including attention-deficit/hyperactivity disorder, anxiety, depression, and post-traumatic stress disorder (PTSD).¹⁰⁻¹¹ Moreover, yoga’s accessibility makes it a cost-effective and feasible intervention for mental health, especially in resource-limited settings.¹² Maharishi Patanjali in the Sadhana Pada of his Sutra states, “Heyam dukham anagatam” (PYS II-16), signifying the potential of yoga as an effective means to mitigate future suffering.

The pandemic posed a unique challenge, prompting the transition of most on-campus educational programs, including yoga, to an online format.¹³ While extensive research supports yoga’s effectiveness in in-person settings, there is limited literature on the efficacy of online yoga interventions. This shift raises questions about whether the benefits of yoga can be preserved in a virtual format, especially when considering the challenges of maintaining engagement, providing individual feedback, and addressing technical constraints.

In response to these challenges, the regular yoga program for undergraduate healthcare students of a private healthcare university in Pondicherry, was adapted for online delivery during the lockdown period from April to June 2021. Participants engaged in weekly yoga training over six months of which three months sessions were conducted online. This study aims to explore undergraduate healthcare students' perceptions of the effectiveness and challenges of online versus offline yoga sessions on their physical and mental well-being during the COVID-19 lockdown period.

Materials & Methods:

The study was conducted at a private healthcare university in Pondicherry. Ethical approval was granted by the Institutional Human Ethical Committee (Approval No. MGMCRI/IRC/04/2020/69/IHEC/202). A survey questionnaire, developed and validated by subject matter experts, was administered using Google Forms to assess the perceived helpfulness and effectiveness of online yoga sessions during the COVID-19 pandemic, focusing on the period from April 2021 to June 2021. The survey included several questions that asked participants to rate their experience on a five-point Likert scale ranging from 1 to 5, where 1 indicated strong disagreement and 5 indicated strong agreement. The questions covered various aspects of the participants' yoga experience, including the overall helpfulness of online yoga sessions during lockdown, their impact on mental and physical health, and a comparison of the effectiveness of online yoga versus offline yoga sessions. Open-ended questions were used to derive the qualitative perceived benefits and limitations of online Yoga sessions. The 1st, 5th and 6th month's training took place at the university campus. However, the 2nd, 3rd and 4th month's training were done online over Zoom due to the lockdown restrictions. Sessions were conducted every Friday for 90 minutes duration each, consisting of the following practices mentioned in Table1:

Yogic Technique	Duration (in min)
Prayer & breath awareness	3
Jathis / Chalan Kriya	8
Surya Namaskar	7
Ardha Kati Chakrasana / Trikonasana	3
Tadasana	2
Vrikshasana	2
Badhakonasana	2
Shashankasana / Paschimottanasana	2
Ushtrasana/Ardha-Ushtrasana	2
Pavanamuktasana	2
Setubandhasana	2
Ekapada-Uttanapadasana	2
Jatharaparivartanasana	3
Makarasana	4
Shalabhasana/ Ardha-Shalabhasana,	2
Brahmamudra / Vyagrah Pranayama	4
Kapalabhati	1
Nadi Shodhan Pranayama / Bhramari Pranayama	5

Kayakriya / Savitri Pranayama	5
Pranava Pranayama	6
Shavasana	7
Dharna/Dhyana	3
Yoga Philosophy	12

(Table 1)

Participants also performed meditative asana of their choice, selecting from Padmasana, Ardha-Padmasana, Vajrasana, or Sukhasana, during Prayer, Brahmamudra, Kapalabhati, Nadishodhan/Bhramari Pranayama & Dharna/Dhyana. Yoga Philosophy included introduction to Ashtanga Yoga of Maharishi Patanjali with special emphasis on the moral-ethical codes of Yama- Niyama. The participants attended the offline sessions in 2 batches; however, both batches were combined for the online Yoga sessions. Qualified Yoga Instructors conducted the Yoga sessions.

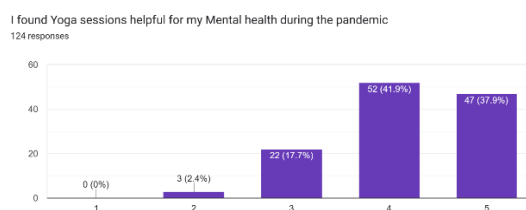
Following the completion of the six-month weekly Yoga training program, the questionnaire was disseminated to participants by their course coordinator.

Results:

One hundred twenty-four undergraduate healthcare students who underwent six months of Yoga training responded to the questionnaire. Their mean age was 18.05 ± 0.82 , consisting of 87 females (70.2%), 36 males (29%) and 1 transgender (0.8%).

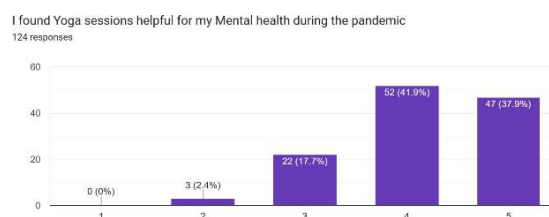
Helpfulness of Online Yoga Sessions

The survey showed that the majority of participants found online yoga sessions to be helpful during the lockdown. Specifically, 36.3% of respondents rated the sessions as 3 on the helpfulness scale, while 35.5% rated them as 4, and 22.6% rated them as 5. Only a small fraction of participants rated the sessions as less helpful, with 4% giving a rating of 2 and 1.6% giving a rating of 1. (Figure 1)

**Figure 1: Helpfulness of Online Yoga Sessions**

Impact of Online Yoga Sessions on Mental and Physical Health

Regarding the impact of yoga sessions on mental health, an overwhelming 79.8% of respondents agreed with the statement, with 41.9% "Somewhat agreeing" and 37.9% "Strongly agreeing." A small percentage of 17.7% remained neutral, and only 2.4% "Somewhat disagreed" that the sessions were helpful. No participants "Strongly disagreed." (Figure 2)

**Figure 2: Impact of Online Yoga Sessions on Mental Health**

Similarly, participants responded positively when asked about the effect of yoga sessions on their physical health during the pandemic. 40.3% "Strongly agreed" and 37.9% "Somewhat agreed" that online yoga improved their physical health. A neutral response was given by 18.5% of participants, while only 3.2% expressed disagreement (2.4% "Somewhat disagreed" and 0.8% "Strongly disagreed") ((Figure 3)

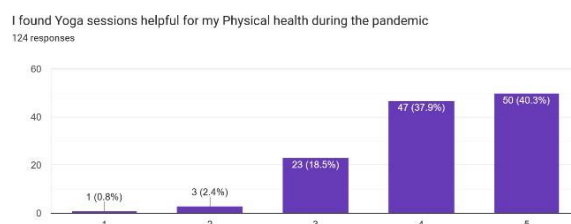


Figure 3: Impact of Online Yoga Sessions on Physical Health

Comparison between offline and online yoga sessions

When comparing the effectiveness of online yoga with offline sessions, opinions varied. More than half of the respondents (54.8%) believed that online yoga was helpful but not as effective as offline yoga. Meanwhile, 25.8% of participants felt online yoga was equally effective, and 9.7% even considered it more effective. On the other hand, 9.7% of respondents thought that online yoga was not at all effective when compared to offline yoga. (Figure 4)

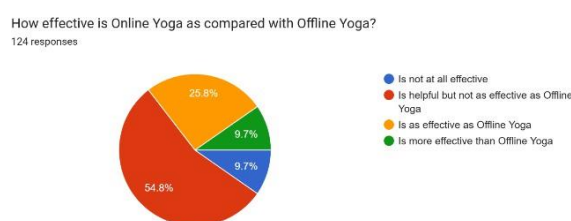


Figure 4: Comparison between offline and online yoga sessions

Perceived benefits of online yoga sessions

The responses to the open-ended question on the perceived benefits of online yoga sessions were thematically analysed, yielding several key insights. The majority of participants reported that online yoga sessions contributed positively to their mental stability and physical well-being during the lockdown period. Many participants expressed that they felt comfortable practicing yoga in an online format, with some noting a greater sense of safety and reduced anxiety when practicing from home. Practicing in a familiar environment was reported to foster a sense of peace and enable participants to engage more freely. Additionally, online sessions facilitated continuity in practice, with several participants noting the convenience of recording sessions or taking screenshots for future reference. However, a subset of participants reported that they did not find online yoga sessions beneficial, suggesting a variation in perceived value among participants.

Perceived challenges of online yoga sessions

The perceived challenges of online yoga sessions were also analysed through thematic analysis. The most frequently cited challenge was network and connectivity issues, which affected the flow and engagement during sessions. Some participants reported difficulties in maintaining concentration, with online sessions leading to distractions or interruptions. Physical space constraints at home further hindered some individuals from practicing properly, with several participants noting the presence of external disturbances. A lack of in-person correction and disciplined environment was also mentioned as a disadvantage of the online format. Despite these challenges, some participants shared that they did not encounter any significant difficulties with online yoga sessions, reflecting individual differences in adaptability to virtual learning environments.

Discussion:

The purpose of the current study was to evaluate the perceived value and efficacy of online yoga sessions in terms of the benefits to mental and physical health throughout the COVID-19 lockdown period (April to June 2021). The results indicate that a majority of participants reported moderate to high levels of satisfaction, indicating that online yoga sessions were generally successful. These findings are in line with earlier studies on the benefits of yoga for enhancing mental and physical health in times of crisis.¹⁴

The beneficial effects of online yoga sessions on mental health were one of the study's main findings. Online yoga sessions were assessed as extremely good for mental well-being by a significant 79.8% of respondents (rating 4 or 5). This is consistent with previous research showing that yoga, especially mindfulness-based forms such as online yoga, can dramatically lower stress, anxiety, and depression symptoms.¹⁵ Furthermore, the literature on mindfulness-based therapies during crises suggests that yoga's focus on mindfulness and breath control may have assisted participants in dealing with the psychological stress caused by the pandemic.¹⁶

Regarding physical health, 78.2% of participants rated online yoga as having moderate to high advantages (rating 4 or 5). This is in line with previous research showing how yoga can enhance cardiovascular health, strength, and flexibility.¹⁷ As supported by research on remote fitness interventions, the capacity to sustain physical fitness under lockdown through virtual yoga sessions highlights the adaptability of yoga as a home-based intervention.¹⁴

The fact that a large percentage of participants (54.8%) thought that online yoga was less beneficial than in-person classes reflect broader concerns about the limitations of virtual instruction, including the absence of immediate teacher feedback and decreased opportunities for social connection.¹⁸ These findings are consistent with studies that demonstrate that although digital health interventions have their uses, they frequently lack the interpersonal dynamics and practical advice that in-person sessions provide.¹⁹ Due to the greater accessibility and flexibility of online platforms, a significant percentage of respondents (25.8%) said online yoga was just as effective as in-person sessions, and 9.7% thought it was even more effective.

The thematic analysis of open-ended responses provided deeper insights into the specific ways online yoga was perceived as beneficial. Many participants reported that online yoga sessions contributed to their mental stability, with some expressing that practicing from the safety of their home environment reduced anxiety and fostered a greater sense of peace. Practicing in a familiar environment, free from the judgment or pressure sometimes felt in in-person classes, allowed participants to engage more fully in the practice. These findings mirror those of previous studies, which suggest that familiarity and comfort in one's surroundings can enhance mindfulness and stress reduction outcomes.²⁰⁻²¹ Additionally, the convenience of online sessions was highly valued, as participants appreciated the flexibility to continue their practice consistently, with the option to record or screenshot sessions for later reference.

Despite these advantages, the study also revealed significant challenges in adapting to online yoga. Network connectivity issues were frequently cited, which often disrupted the flow of sessions and impacted engagement. Some participants noted that distractions and interruptions at home hindered their concentration, suggesting that the home environment, while familiar, may also present unique challenges for focused practice. Physical space limitations further constrained participants' ability to perform certain postures effectively, an issue corroborated by studies on remote physical activity, which often cite spatial constraints as a limiting factor.²² Moreover, a subset of participants expressed dissatisfaction with the lack of in-person correction and feedback, emphasizing that online sessions could not fully replicate the discipline and interactive guidance typically found in face-to-face yoga classes. This reflects a broader trend in digital wellness programs, where the absence of direct instructor feedback is seen as a limitation.²³ Interestingly, some participants reported no significant difficulties with online yoga, highlighting individual adaptability to virtual formats and suggesting that personality traits or previous digital exposure may play a role in satisfaction with online learning environments. In conclusion, this study adds to an increasing amount of research findings that suggest online yoga may be a useful intervention for enhancing both physical and mental health, especially in light of major world events like the COVID-19 pandemic. As yoga continues to expand in digital environments, it is crucial to ensure online classes are accessible, effective, and engaging, fostering holistic well-being across diverse practitioner communities.

Limitation

A key limitation of this study is that a single participant group experienced both online and offline yoga sessions, which may have led to carryover effects, affecting the objectivity of perceived differences. Furthermore, some participants' poor network access limited the efficiency of online sessions, which might have impacted their participation and overall experience.

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Conflicts of Interest: None

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