

## Enhancing Yoga Awareness Among Future Healthcare Practitioners: A Study on MBBS Students' Knowledge and Perceptions

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### KEYWORDS

Yoga awareness, holistic health, medical education, MBBS students, yoga therapy, Ashtanga Yoga, health professions.

### ABSTRACT

Background: Yoga, and art and science rooted in ancient Indian culture, is increasingly recognized for its holistic benefits, contributing to physical, mental, and spiritual well-being. Despite its global popularity, knowledge and awareness of yoga amongst medical students, particularly within Health Professions Education, remain underexplored. This study aimed to assess the understanding of yoga and yoga therapy among MBBS students to help integrate these concepts into future medical practice. Aim and Objective: The study sought to evaluate the general awareness of yoga among medical students, particularly focusing on misconceptions, technical terminology, and therapeutic applications, aiming to enhance their ability to utilize yoga in a healthcare context. Materials and Methods: Conducted at the School of Yoga Therapy, Sri Balaji Vidyapeeth, this study involved 221 MBBS students participating in a yoga orientation program. The Yoga Awareness Questionnaire (YAQ), a 10-item pre-validated tool, was administered both before and after a single 60-minute yoga session. Paired t-tests were used to analyze changes in awareness with statistical significance set at  $p < 0.05$ . Results: The average YAQ score increased significantly from 5 to 7 post-intervention, indicating improved awareness. Increases were noted across understanding holistic yoga, Ashtanga Yoga concepts, and dispelling misconceptions. However, some variability persisted in technical terminology understanding. Conclusion: A single yoga awareness session effectively enhanced medical students' understanding of yoga, promoting a more uniform baseline knowledge. These findings suggest that integrating yoga education in healthcare curricula could prepare future practitioners to incorporate holistic practices into patient care. As the Government of India and the National Medical Commission are advocating integration of Ayush systems within modern medicine, the results of this study have several important implications.

## 1. Introduction

Yoga is an ancient Indian Cultural Heritage.<sup>1,2</sup> Today, we all accept it as a part of our lifestyle. Yoga has a rich history, dating back to the origins of the universe, as it represents both the path and the ultimate goal.<sup>3</sup> India, the birthplace of this ancient practice, is widely recognized as a global center for holistic healing, providing unique health and wellness experiences.<sup>1,3,4</sup>

Yoga's influence extends into daily life, providing guidance through ethical behaviour, self-awareness, mindfulness, and connection.<sup>5,6</sup> The yamas and niyamas advocate for kindness, honesty, and self-discipline, all of which promote healthy relationships and self-esteem.<sup>2</sup> Self-awareness, an important part of yoga, encourages introspection and contemplation, resulting in a better understanding of oneself and one's position in the larger context of life.<sup>7</sup> Mindfulness, which is gained via various yogic techniques, allows us to stay present and appreciate each moment.<sup>6</sup> Furthermore, yoga fosters a deep sense of connection—with oneself, others, and the universe—which provides a sense of belonging and purpose.<sup>8</sup> By incorporating these concepts into our daily lives, yoga transforms into a transformative path toward comprehensive well-being that includes physical, mental, social, and spiritual development.

Yoga has gained widespread popularity as a holistic approach to health and well-being, with an increasing number of healthcare professionals incorporating it into their practice.<sup>9</sup> However, the level of knowledge and awareness among healthcare students, particularly those in the field of Health Professions Education, remains

an important area of exploration. Yoga is, therefore, a way of conscious living that enables us to regain our health and happiness!<sup>10</sup>

This ancient wisdom of yoga is deeply rooted in the history and traditions of India, yet its insights and practices remain highly relevant and impactful in the modern world.<sup>11,12</sup> As the renowned yoga master Dr. Swami Gitananda Giri insightfully states, "Yoga is a way of conscious living that enables us to regain our health and happiness!" Similarly, the esteemed philosopher and spiritual teacher Pt. Shri Ram Sharma Acharya eloquently declares that "The Art of Living is Yoga", underscoring the holistic and transformative nature of this ancient discipline. Furthermore, the visionary thinker Sri Aurobindo profoundly asserts that "All life is Yoga," conveying the all-encompassing and integrative essence of this timeless practice.<sup>13</sup> These profound perspectives highlight the enduring significance of yoga and its ability to guide and enrich our lives, even in the contemporary era.

Our National Health Policy (2002 and 2017) envisages the integration of indigenous and modern systems of therapy so that society can benefit by best of both the systems. The holistic science of yoga has promotive, preventive, curative as well as rehabilitative potential. Medical Council of India (MCI) and National Medical Commission (NMC) Vision 2015, 2021 & 2024 has recommended changes in the existing curriculum for getting newer learning experiences through introduction of foundation courses and one-week elective class for Interns. NMC has recommended inclusion of yoga in the medical curriculum. The School of Yoga Therapy (SYT), Institute of Salutogenesis and Complementary Medicine (ISCM) of Sri Balaji Vidyapeeth (SBV) had started giving such yoga orientation programmes for all the healthcare professional students of SBV since 2013 onwards.

Medical students, as the future doctors, play a critical role in promoting health and wellness. Their knowledge and awareness of yoga will determine how effectively they can harness its benefits, both for their own well-being and for the health and wellness of their future patients.<sup>14-16</sup> There is a pressing need to enhance the understanding of yoga and yoga therapy not only for the medical students themselves, but also for the patients who will seek their medical care. This study aimed to evaluate the general knowledge and awareness of MBBS students regarding yoga and yoga therapy, with the overarching goal of enhancing their understanding and application of these holistic practices in their future medical practice.

## **2. Materials and Methods**

### **Context and participants**

The study was conducted at the SYT of the ISCM which is a constituent unit of SBV, and is globally recognized as a leading institution in the field of yoga therapy. A total of 221 students, with a mean age of  $18.6 \pm 1.28$  years, who were enrolled in the Health Professions Education (HPE) curriculum and attending the mandatory yoga orientation programs organized by their respective colleges, participated in this study. Since all the participants were attending these first-year orientation programs where yoga awareness was an integral part of the curriculum, they were recruited for the study through a convenient sampling method.

### **Yoga Awareness Questionnaire**

The Yoga Awareness Questionnaire (YAQ) is a 10-item, objectively-structured instrument designed to assess the participants' existing knowledge of yoga and yoga therapy. This questionnaire was pre-validated by a panel of ten experts with extensive experience in the fields of yoga, yoga therapy, medicine, psychology, and HPE. The questionnaire required respondents to select the single correct answer from four options provided for each question.

The key objectives of the Yoga Awareness Questionnaire were:

1. To help students develop a comprehensive understanding of the holistic nature of yoga and to dispel prevalent misconceptions about it.
2. To introduce technical concepts and terminology commonly used in the field of yoga.
3. To enhance understanding of the Ashtanga Yoga framework developed by Maharishi Patanjali.
4. To improve comprehension of yoga as a therapeutic modality and to address common misconceptions, including the belief that yoga is a "cure-all" solution.

5. To familiarize students with widely-used, basic yoga techniques.

#### Procedure

We divided the 221 students into five batches for the yoga sessions, since space constraints at ISCM limited class size to 50 students per batch. The sessions were carried out in the Patanjali Yoga Shala between 11 AM to 1 PM, in a quiet environment with a comfortable temperature and subdued lighting. When each batch of students arrived for the session, they were arranged in an organized manner in a sitting position and then instructed to perform quiet, normal breathing with closed eyes for a few minutes. The validated YAQ was then distributed and instructions were given on how to fill it in. At the end of the 10-minute pre-test, volunteers collected the completed questionnaires, and data about correct and incorrect answers were logged in an Excel sheet.

The pre-test was then followed by a 60-minute class that consisted of a short theoretical lecture followed by a practice session led by the authors. The lecture included the foundations of yoga history and philosophy, as well as the benefits, strengths and limitations of yoga and yoga therapy. The practice session included basic warm-ups; asanas, such as arthakatchakrasana, talasana, dandasana; and pranayamas, such as pranava, and bhrumari. The session ended with relaxation in shavasana with savitri pranayama. After the practice session, the students were once again instructed to sit comfortably with their eyes closed and perform quiet, normal breathing for a few minutes.

A fresh copy of the YAQ (post-test) was then distributed and instructions on how to fill it in were repeated. At the end of this 15-minute post-test, volunteers collected the completed questionnaires, and data about correct and incorrect answers were once again logged in an Excel sheet. Pre-test and post-test scores were then calculated separately for each student.

#### Statistical Analysis

Statistical analysis of pre-test and post-test scores was done using GraphPad InStat version 3.05 for Windows 95, GraphPad Software, San Diego California USA, [www.graphpad.com](http://www.graphpad.com). Because the data didn't pass normality testing with the Kolmogorov–Smirnov test, the Wilcoxon matched-pairs signed-ranks test was used for pre-post comparisons. p values less than 0.05 were accepted as indicating significant differences between pre-test and post-test scores.

The quantitative data from the Yoga Awareness Questionnaire was analysed using paired t-tests to compare the pre-test and post-test scores. Statistical significance was set at p values less than 0.05 were accepted.

### 3. Result

The average score on the Yoga Awareness Questionnaire before the intervention was approximately 5 which increased to 7. This increase in the mean score indicates a significant increase in yoga awareness, which means that the intervention has a favourable impact on participants' knowledge or understanding of yoga practices or principles.

The pre-test scores reveal that, prior to the yoga session, the students generally demonstrated a moderately low level of awareness regarding yoga concepts. The median pre-test score was 5, with a range from 1 to 10, suggesting significant variability in their baseline knowledge. Some students had minimal awareness, while others exhibited higher levels of understanding.

After the yoga session, the median score increased to 7, with a narrower range from 4 to 10. This indicates that the single session of yoga theory and practice had a positive impact on the students' awareness and understanding of yoga. Even those who initially had low awareness levels showed improved comprehension.

**Table 1: Comparison of pre-test and post-test scores of a yoga awareness questionnaire answered by MBBS students before and after a single session of yoga theory and practice**

Students	(n)	Pre-test	Post-test
Medical	221	5 (1,10)	7 (4,10)***

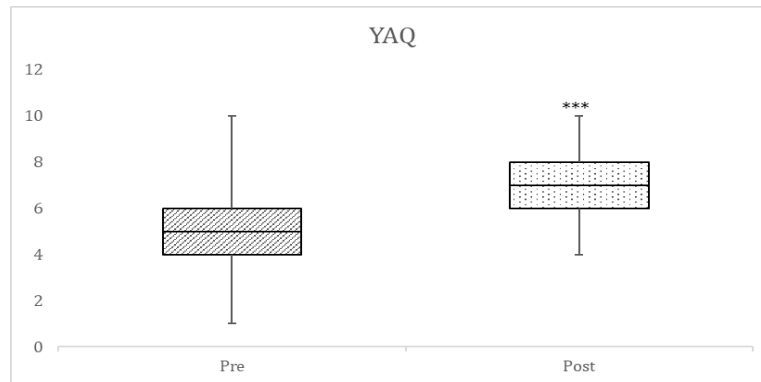
Values are given as median (range). \*\*\*p<0.001 by Wilcoxon Matched-pairs Signed-ranks Test for comparisons between pre-test and post-test scores.

The change in median score from 5 in the pre-test to 7 in the post-test points to an enhancement in yoga awareness following the intervention. Moreover, the reduction in score variability suggests a more uniform level

of awareness among students after the session, potentially indicating that the intervention effectively elevated the baseline knowledge for those with initially low awareness.

The key data points provide valuable insights into the changes in students' performance from the pre-test to the post-test. The increase in the minimum score from 1 to 4 indicates that the lowest-performing students showed improvement after the session, suggesting a positive impact on the foundational understanding of even the weakest performers.

Fig 1: Comparison of pre-test and post-test scores of a yoga awareness questionnaire answered by MBBS students before and after a single session of yoga theory and practice



Values are given as median (range). \*\*\* $p < 0.001$  by Wilcoxon Matched-pairs Signed-ranks Test for comparisons between pre-test and post-test scores.

The rise in the first quartile (Q1) from 4 to 6 further reinforces this observation, as the lower-scoring students, comprising the bottom 25%, demonstrated higher scores in the post-test. This improvement in the lower quartile suggests that the session effectively addressed gaps in the students' knowledge and improved their overall understanding.

The median score also increased from 5 to 7, reflecting a shift towards higher scores across the student population. This shift in the central tendency implies that, on average, students performed better in the post-test, signaling the session's effectiveness in enhancing their knowledge and skills.

Also, the increase in the third quartile (Q3) from 6 to 8 suggests that even the higher-scoring students, comprising the top 25%, saw improvement in their performance. This indicates that the session benefited students across the ability spectrum, leading to an overall elevation in the upper quartile of scores.

The pre-test data suggests that the students had a moderately low level of awareness regarding yoga concepts, with significant variability in their baseline knowledge. However, the post-test scores reveal a notable improvement in their understanding of yoga's holistic meaning, with the mean score increasing from 1.04 to 1.45. This indicates that the session effectively addressed and reduced common misconceptions about yoga.

The introduction of technical concepts and terminology in yoga also saw some progress, with the mean score increasing from 0.81 to 1.04. However, the slightly higher variability in responses after the session implies that while some students grasped these technical aspects well, others may require more focused instruction to achieve a more uniform understanding.

When it comes to understanding Ashtanga Yoga as codified by Maharishi Patanjali, the session appears to have been highly effective. The mean score in this area increased significantly from 1.17 to 2.20, suggesting a substantial improvement in students' knowledge of Patanjali's Ashtanga Yoga. The stable standard deviation indicates that this improvement was consistent across the student population.

The understanding of yoga as a therapeutic practice and the dispelling of misconceptions, such as the "cure-all" myth, saw a more modest improvement, with the mean score increasing from 1.45 to 1.58. While there was a slight reduction in variability, the relatively small mean increase suggests that this area may require more emphasis and clarification to fully address any persistent misconceptions.

Finally, the introduction of commonly used simple yoga techniques also showed progress, with the mean score increasing from 1.00 to 1.47. The slight decrease in standard deviation implies that most students achieved a

similar level of understanding in this area, though additional practice could further reinforce their knowledge. (Table 2)

**Table 2: Values of all five Key Objectives of the Yoga Awareness Questionnaire (YAQ)**

Key Objectives	Pre-test	Post-test
KO1	1.04 ± 0.52	1.45± 0.53
KO2	0.81 ± 0.67	1.04± 0.76
KO3	1.17 ± 0.79	2.20± 0.76
KO4	1.45 ± 0.79	1.58± 0.55
KO5	1.00 ± 0.79	1.47± 0.62

Values are given as Mean ± SD. \*\*\*p<0.001 by students t-test for comparisons between pre-test and post-test scores.

#### 4. Discussion

The findings of this study suggest that the yoga awareness session was generally effective in enhancing the understanding and knowledge of HPE students regarding yoga and yoga therapy. The session appears to have been particularly successful in addressing misconceptions about the holistic nature of yoga and in improving students' comprehension of Patanjali's Ashtanga Yoga. While the session also showed promise in introducing technical concepts and simple yoga techniques, the slightly higher variability in responses in these areas implies that some students may have required more targeted instruction to fully grasp these aspects. Similarly, the relatively modest improvement in the understanding of yoga as a therapeutic practice suggests that more emphasis and clarification may be needed to dispel persistent misconceptions, such as the "cure-all" myth.

The intervention positively affected the students' performance. Additionally, the reduction in score variability suggests that students' understanding became more homogeneous after the session, with fewer extreme high and low scores.

As the Government of India and the NMC are advocating integration of Ayush systems within modern medicine, the results of this study have several important implications. By addressing the knowledge gaps and misconceptions of health professions students regarding yoga, this intervention helps to better prepare future healthcare providers to incorporate yoga-based approaches into their practice. Future studies could explore more in-depth and longitudinal approaches to yoga education in healthcare programs, as well as investigate the downstream impact on clinical practice and patient outcomes. Additionally, further research is needed to identify the most effective methods for delivering yoga-related content to maximize knowledge retention and practical application.

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