

## Knowledge, Attitude and Practices Regarding Yoga among Medical Students in Andhra Pradesh

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### Abstract

**Introduction :** Young people take up yoga for flexibility, stress relief, overall health and physical fitness. Health professionals consider yoga for skeletal symptoms, followed by psychological and physical ailments. Exposure to yoga will not only help medicos to become better practitioners of yoga, but also influence them to refer their future patients to yoga as a therapeutic modality.

**Methodology :** This observational study done at NRI Medical College, Guntur involved 260 medical students. There were 150 students from 7<sup>th</sup> semester (53 males and 95 females) and 110 from the 3<sup>rd</sup> semester (42 males and 68 females). A pretested questionnaire was administered to all the participants on knowledge attitude and practices related to yoga. The data collected was entered in MS Excel and presented in tables and graphs. Significant results were subjected to tests of significance like Chi square test at 5% level of significance.

**Results :** Only 9.5% of the men and 22.4% of the women students were currently practicing Yoga (p 0.008). Reasons for not taking up yoga were mainly lack of interest (32.7%), laziness (24.2%) and poor time management (21.6%). Majority agreed that yoga could cure lifestyle diseases like obesity, hypertension, diabetes and mental illnesses like depression and sleep disorders in addition to orthopedic (9.6%) and respiratory problems (13.8%). 75% wanted yoga to be included in the curriculum. 12.5% agreed that patients may be referred to yoga as a treatment modality.

**Discussion :** Only a small number of students are practicing yoga though many felt it was necessary. The reasons for not taking up yoga show poor student motivation. While students agree that yoga can cure and that it should be included in the curriculum, they were hesitant to refer patients to yoga.

**Conclusion :** Students have a positive outlook towards yoga but need motivation. A favorable atmosphere must be created for the regular practice of yoga. Experiencing its goodness will prepare medical students to encourage future patients to also avail the benefits of Yoga.

**Key words:** Yoga, perceptions, medical yoga, misconceptions, yoga practice

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### Introduction:

Literature suggests that yoga may be a relatively underused healthcare resource though there is ample evidence that yoga is an effective complement to the treatment of many health conditions both physical and mental<sup>1</sup>.

Most people identify yoga only with asana which is the physical practice of yoga.

However asanas is just one of many tools used for healing the individual. The tools of yoga include conscious breathing, meditation, lifestyle and diet changes, visualization, the use of sound etc. These tools address all dimensions of the human system: body, breath, mind, personality, and emotions<sup>2</sup>.

The three components in the practice of yoga include Asanas (gentle stretching and postures), Pranayama (exercises for breath control) and Meditation (as a mind-body intervention). In the west, a popular practice of yoga is called Hatha yoga and is an integration of asana (postures), pranayama (breathing exercise) and meditation<sup>3</sup>. Four basic principles underlie the Yoga's healing system:

**Holistic healing** : The human system is a holistic entity comprising of different dimensions that are interrelated and inseparable from each other.

**Individualism** : Each individual being unique, problems must be approached in a manner that addresses the unique needs of that individual.

**Self healing** : The student is empowered and required to participate in his or her own healing.

**State of mind** : a positive state of mind is crucial to quicker healing.

Desikachar K suggests that yoga does not treat specific diseases. It rather addresses the entirety of the individual person: the physical body, the breathing body, the mind, the personality and the emotions<sup>2</sup>.

Medical students often experience significant stress during their undergraduate training. Evidence has shown short-term yoga to be effective in decreasing stress in students<sup>4</sup>.

Regarding the regular practice of yoga, studies have shown that some of the common barriers are related to time, lack of practical information about access to yoga classes and teachers and stereotypes related to flexibility, athleticism, and typical yoga practitioners. Motivators included athleticism, health promotion, and emotional well-being as well as the seeking of pain relief and a sense of community. A referral to yoga by a

medical doctor was the least-frequently cited motivator<sup>5</sup>.

Brems C et al state that popular media and gym-based yoga classes confirm a narrow definition of yoga. Breathing and posture practices were the most commonly endorsed practices, even among the most experienced yoga practitioners. Despite their foundational nature in yoga philosophy, ethical practices and daily introspection, disciplined practice, or living with purity were least commonly associated with yoga in daily practice. The practice of concentration and meditation were only moderately endorsed as essential practices<sup>6</sup>.

Young people take up yoga for flexibility, stress relief, overall health and physical fitness. Health professionals consider yoga for skeletal symptoms, followed by psychological and physical ailments. Exposure to yoga will not only help medics to become better practitioners of yoga, but also influence them to refer their future patients to yoga as a therapeutic modality.

There are some meta-analyses which indicate beneficial effects of yoga interventions, and there are several randomized clinical trials (RCT's) of relatively high quality indicating beneficial effects of yoga for pain-associated disability and mental health. Yoga may well be effective as a supportive adjunct to mitigate some medical conditions, but not yet a proven stand-alone, curative treatment<sup>7</sup>. Chronic stress increases sympathetic discharge for a longer time leading to changes in the hypothalamo-pituitary axis activity, which consequently influences heart rate, blood pressure, temperature, respiratory rate, catecholamines and corticosteroids. Longer durations of sympathetic overactivity is associated with cardiovascular morbidity and mortality. Regular practice of slow breathing exercises like pranayama for a

period of just 3 months is known to improve autonomic function by changing sympathetic or parasympathetic activity.<sup>8</sup>. Teaching yoga to medical students is a bigger challenge and it is important that yoga teachers have a basic knowledge of anatomy and physiology and use evidence based teaching methods<sup>9</sup>.

medical students. There were 150 students from 7<sup>th</sup> semester (53 males and 95 females) and 110 from the 3<sup>rd</sup> semester (42 males and 68 females). A pretested questionnaire was administered to all the participants on knowledge attitude and practices related to yoga. The data collected was entered in MS Excel and presented in tables and graphs. Significant results were subjected to tests of significance like Z test and Chi square test at 5% level of significance.

**Methodology**

This observational study done at NRI Medical College, Guntur involved 260

**Results :**

**Table 1 - Distribution by yoga practice**

S.No.	Yoga practice	Male (%) n=95	Female (%) n=165	Chi Sq	p value
1	Was taught yoga in medical college	50 (52.6)	127 (77.0)	16.43	0.00005***
2	Desire to practice yoga	42 (44.2)	116 (70.3)	17.22	0.00003***
3	Ever practiced yoga	32 (33.7)	87 (52.7)	8.81	0.003**
4	Currently practicing yoga	9 (9.5)	37 (22.4)	6.94	0.008**

\*\* moderately significant, \*\*\* highly significant

**Table 2: Student's perception of diseases that can be managed with Yoga**

S.No.	Diseases	Male %	Female %	Total %
1	Life style (Obesity, HTN, DM, Cancer)	30.9	31.3	31.2
2	Mental (Depression, stress, Psych, sleep, lazy)	20.6	11.7	15
3	Respiratory - Asthma, dyspnea, COPD)	13.4	14.1	13.8
4	Ortho (Back pain, body pain, arthritis, posture)	2.1	14.1	9.6
5	Thyroid	2.1	4.9	3.8
6	Gastro (Acidity, Bowels)	3.1	3.7	3.5
7	CNS (Paralysis, Nerve pain, Alzheimer's)	1	3.7	2.7
8	All diseases	1	0	0.4
9	Yoga will not help	25.8	16.6	20

**Table 3 - Perceptions of medical student about yoga according to gender**

S. No.	Medical student perception about Yoga	Male %	Female %	Chi Sq	p value
1	Yoga is necessary for healthy life	82.1	95.2	11.81	0.0007**
2	Yoga practice must be done everyday	76.8	88.5	6.15	0.01*

3	Warm up exercise is necessary before Yoga	67.4	63.0	0.5	0.4
4	Yoga mat is necessary for Yoga practice	55.8	72.1	7.18	0.007**
5	A dress code is necessary for Yoga practice	44.2	41.8	0.14	0.7
6	Yoga is purely a weight loss programme	67.4	82.4	7.7	0.005**
7	Yoga improves overall health	68.4	90.9	21.3	0.000004***
8	Yoga improves immunity	74.7	85.5	4.6	0.03*
9	Yoga works on all body systems	68.4	87.3	13.59	0.0002***
10	Yoga improves daily bowel movements	93.7	93.3	0.01	0.9
11	Yoga practice and religion go hand in hand	22.1	16.9	1.04	0.3
12	A peaceful environment is necessary for practicing Yoga	97.9	93.3	2.64	0.1
13	Yoga practice will purify one's thoughts	94.7	96.9	0.8	0.3
14	Yoga practice can improve memory and concentration on studies	85.3	94.5	6.44	0.01*
15	Yoga should be made part of the course curriculum	67.4	82.4	7.7	0.005**
16	Patients must be referred to Yoga practitioner as part of treatment	15.8	9.1	2.65	0.1
17	Yoga practice can cure diseases	72.6	94.5	24.85	0.0000006***
18	A satvik (no spices) diet is essential for Yoga practice	38.9	30.9	1.74	0.1
19	Adequate water intake is necessary when practicing Yoga	85.3	83	0.2	0.6
20	A vegetarian diet is essential for yoga practice	16.8	10.3	2.33	0.1

\* mildly significant, \*\* moderately significant, \*\*\* highly significant

### **Yoga practice :**

Only 9.5% of the men and 22.4% of the women students were currently practicing Yoga (p 0.008). Of those who had taken up yoga in the past, 75.0% of the men and 66.6% of the women had stopped. A total of 65.3% boys and 42.0% girls had never taken up Yoga. The difference between the genders is significant statistically (p 0.0004). Reasons for not taking up yoga were mainly lack of interest (32.7%), laziness (24.2%) and poor time management (21.6%). Of those who were practicing, 34% were doing it daily, 52% occasionally and 10% weekly. All the students currently practicing yoga are convinced that Yoga improves overall

health while exercise builds muscles and burns calories. 70.7% took up yoga for good health while 24.1% took it up for weight loss (all women). Only 1.7% started yoga for an illness. 81.4% are practicing yoga for 30 to 60 minutes each session.

70.3% of the women said they had a particular time for practice as against 53.7% of the men students (p 0.007). 81.6% of the women and 60.5% of the men preferred evening time between 4pm to 6 pm. Overall the ideal time for yoga practice seemed to be between 4pm to 6 pm 9 (p value 0.009).

**Desire to practice:**

70.3% of the women and 44.2% of the men have a desire to practice yoga (p 0.0002). Only 19.0% of those who want to practice yoga are currently practicing it. 77.0% of the female students and 52.6% of the male students said that they were taught by a yoga teacher (p value 0.0005). 22.0% of those who were taught yoga are practicing it as against 8.4% of those who were not (p value 0.007).

**Family members practicing yoga:**

38.1% of the students said that there was someone in the family practicing yoga. 70.7% of the students who had a family member practicing yoga had at some point practiced yoga (p <0.0000001). The odds of taking up yoga is 4.3 times higher in those having a family member practicing yoga. Students currently practicing yoga also had someone practicing it in their households (p 0.00003).

**Yoga as a viable treatment option for referral:**

Majority agreed 86.5% that yoga could cure. Of the girls 80% agreed to this while in the boys it was 72.6% (p value 0.0001). Diseases mentioned were lifestyle diseases like obesity, hypertension, diabetes and mental illnesses like depression and sleep disorders in addition to orthopedic (9.6%) and respiratory problems (13.8%) Table 1. 75% wanted yoga to be included in the curriculum. However, only 12.5% agreed that patients may be referred to yoga as a treatment modality. Referral score calculated between genders showed a higher mean score of 2.24 in men than in women (1.64). (Z value, 2 tailed 1.96, p 0.004)

**Yoga and religion:**

Only 18.9 % of the students felt that yoga and religion go hand in hand. 19.4% of the Hindu students felt that yoga is religion oriented. Among the Muslims and Christian students it was 12.9%. The difference is not statistically significant.

Table 2 gives a list of perceptions that the medical students in this study have regarding yoga which may influence their desire to practice yoga and maintain it.

**Discussion:**

The two important issues for discussion are:

The use of yoga practice to improve the health and well being of the medical student himself as he pursues the long and arduous course of medical study.

Helping the medical students develop a conviction in yoga as a therapeutic option for their future patients.

Amongst all other careers, the medical career is filled with more hard work in terms of practice and learning skills, attitudes, ways of communication etc. The average medical student goes through many sleepless nights preparing for innumerable examinations and tests, clinical assignments, case taking etc. which fill him/ her with anxiety and worry leading to depression and misery.

Mind-body interventions are becoming increasingly popular as a means to reduce stress in individuals. Yoga, a form of mind-body exercise, has become an increasingly widespread therapy used to maintain wellness, and alleviate a range of health problems and ailments. Yoga should be considered as a complementary therapy or alternative method for medical therapy in the treatment of stress, anxiety, depression, and other mood disorders as it has been shown to create 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<sup>10</sup>.

In this study it is seen that only a small number of students are practicing yoga though many felt it was necessary. The

reasons for not taking up yoga show poor student motivation. While yoga can be learnt from books or the internet, it is seen clearly that those who had a proper instructor took up yoga and are continuing its practice.

The commercialization of Yoga in the west has made it more feminine. Some misconceptions are that the typical yoga body is slender and long like that of a female. Men on the other hand exercise usually to get bigger muscles and look for physical challenges. To them yoga isn't very "manly". In yoga, the mental practice is equally important as the physical practice and therefore perceived as less challenging to men. Men must be made to understand that yoga is not a practice only for women but a practice for all, whatever shape or size<sup>11</sup>.

As reported by Bhavanani AB regarding introduction of yoga lectures and practical sessions in medical professional colleges in Pondicherry, the feedback from students showed excellent response. Students reported that the Yoga sessions had helped them adjust to the college life better and also that the stress management techniques enhanced their ability to do well in curricular and extracurricular activities<sup>12</sup>.

The performance and productivity of students under stress is usually very low. Yoga has a significant impact on stress factors and participating in yoga and meditation training is the best way to reduce the stress. It is suggested that college managements should provide practice of yoga and meditation regularly to their students<sup>13</sup>. Teaching medical students to relate mindfully to current internal and external stimuli, through yoga, can decrease mental distress and increase well-being<sup>14</sup>. The scheduled practices must be taught by expert yoga instructors having the competence to motivate and inspire students to continue their practice even after the classes are over<sup>9</sup>.

Concerning female students, Nag U et al showed that with yogic exercises the stress and pain of dysmenorrhea was controlled. As yoga lessens psychosocial stress levels they suggest that it should be implemented among college students to augment their menstrual well-being<sup>15</sup>. Hyun-Nam et al in an attempt to assess the evidence for the effectiveness of yoga on menstrual pain and other symptoms, found from two randomised controlled trials (RCT) of quality that yoga practice can effectively alleviate menstrual pain and the symptoms associated with dysmenorrhea<sup>16</sup>.

Therapeutic yoga is defined as the application of yoga postures and practice to the treatment of health conditions and involves instruction in yogic practices and teachings to prevent reduce or alleviate structural, physiological, emotional and spiritual pain, suffering or limitations<sup>10</sup>. Athokpam Met al conclude that the regular practice of a set of yoga training blunts the sympathetic drive and lateralises the autonomic function towards parasympathetic control<sup>17</sup>.

In medical yoga, yoga practice is used for the prevention and potential treatment of medical conditions. Medical yoga therapy is an individualized, personalized and holistic approach that takes into account not only the patient's mind, body and spirit, but also their family, support network, work situation, and culture, as part of the patient's individualized treatment plan. This type of therapy does not incur the potentially adverse effects of medications, and can produce benefits to the patient, long after their relationship with the health provider ends<sup>18</sup>.

In this study, while students agree that yoga can cure and that it should be included in the curriculum, they were hesitant to refer patients to yoga for healing. Desikachar K suggests that healing is a change in mind, in perception, in

attitude. Individuals with certain incurable illnesses may not be able to live life as they did before the onset of their illness. Yoga can, however, help them make the most of their situation and live a happy, productive life<sup>2</sup>.

Some students expressed some openness to referring patients to yoga. However a large number of them did not show willingness to refer. Sulenes K et al found that a personal experience is a salient factor for accepting yoga as a referral target. They suggest the need to develop strategies to make health professionals more aware of the merits of yoga, regardless of whether they themselves are yoga practitioners<sup>1</sup>.

#### **Conclusion:**

More women than men were practicing yoga. Those with a family member practicing are likely to take up yoga. Those who were taught by a yoga teacher were likely to take it up. Students have a positive outlook towards yoga but need motivation. A favorable atmosphere must be created for the regular practice of yoga. Experiencing its goodness will prepare

medical students to encourage future patients to also avail the benefits of Yoga.

#### **Suggestions:**

It is necessary to make yoga a part of the MBBS curriculum. The institution must provide dedicated faculty trained in yoga and the students must compulsorily participate in yoga classes and practical sessions. The entire faculty must have sufficient capability in the knowledge and practice of Yoga so that they can influence and inspire the students. Clinical departments must integrate yoga into the treatment protocols. The integration attempts and outcomes must be highlighted (both success and failures) in clinical teaching sessions and seminars. Hospitals must establish yoga sessions for inpatients and outpatients in the presence of a trained yoga teacher.

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