

Yoga: A Strategy to Cope up Stress and Enhance Wellbeing Among Medical Students

Dear Editor,

Stress, burnout, and coping strategies in preclinical medical students by Fares *et al.*^[1] made for an interesting read. I would like to compliment the authors for the commanding effort to put together a burning issue of psychological and physical stress and burnout among the medical students. The issue is often neglected both by the vulnerable population of students as well as the health-care community itself. The article definitely brings attention on the need for coping strategies and also puts together various methods for the physical and psychological wellbeing of the doctors-in-making.

Yoga, a mind-body practice of ancient Indian origin has gained significance in recent times due to its health benefits. Various practices of yoga have been found beneficial to attenuate stress and enhance functionality among medical students. Despite an array of coping strategies, yoga practices are found to reduce perceived stress,^[2-5] anxiety,^[4,6-8] markers of stress such as cortisol,^[9] improved general health and well-being,^[5,10,11] physical and physiological health,^[6,12,13] improve cognition^[14] as well as cultivation of positive emotions^[2,3,7] such as empathy, compassion, and self-regulation. There is evidence of a reduction in work-related stress and better autonomic balance with the practice of yoga in health professionals.^[15] The studies indicate not just the psychological benefits of yoga, but the physical benefits such as better autonomic balance, enhanced respiratory endurance, auditory and visual reaction times as well as muscle strength.^[13] Few research studies showing the beneficial effects of yoga among medical students are listed in Table 1.

One of the most important stressors among medical students is the examination. Malathi and Damodaran and Malathi *et al.*^[8,12] have found yoga to be beneficial in modulating the response to stress during the examination. In addition, studies indicate that yoga could enhance the examination performance and reduce anxiety.^[16] Another important area of concern brought out by Fares *et al.* is the lack of self-care behavior among medical students.^[1] Yoga and mindfulness-based

practices have demonstrated beneficial impact on the self-care behavior in counselors, who encounter similar health issues of that of medical students.^[17]

From the review of existing scientific literature on the application of yoga in medical students, it is evident that yoga is a self-practiced, low cost, safe, efficacious as well as acceptable tool benefitting the target population. There are positive outcomes for the medical students in their physical, psychosocial, and emotional health. The practices that are safely used in the wellbeing of student community include *asana* (physical postures), *pranayama* (breathing practices), *dhyana* (meditation), mindfulness-based stress relaxation, and mind sound resonance technique (MSRT).^[2-14,18] These techniques were used either as standalone modality in a combination or even as an adjunct program within the frame of medical curricula. The possible mechanisms involved with the beneficial effects of yoga among medical students include autonomic balance, relaxation, better emotional status, and self-care behavior. There is scope to evaluate the effects of yoga further among the medical students through rigorous clinical studies, wherein these mechanisms could be tested.

Considering the current evidence in the field, which indicates the beneficial effects of yoga on the physical, psychological, emotional, spiritual, and overall well-being of medical students, it could be recommended to incorporate yoga into the medical curricula for the health benefits of the doctors-in-making, medical fraternity, and community at large. The possible inclusions in such program could be the practice of simple *asana*, *pranayama*, meditation, and mindfulness-based relaxation. The following module is proposed to be incorporated for medical students keeping in mind the existing literature on yoga for medical students:

- *Shithilikarana vyayama* (loosening exercises) - 5 min
- *Suryanamaskara* (sun salutation) - 5 min
- *Asana* (physical postures) - 15 min.
 - *Ardhakatichakrasana* (lateral bend pose)
 - *Ardhachakrasana* (backward bend pose)
 - *Padahastasana* (standing forward bend pose)
 - *Sarvangasana* (shoulder stand pose)
 - *Matsyasana* (fish pose)
 - *Bhujangasana* (serpent pose)
 - *Padmasana* (lotus pose)
 - *Savasana* (corpse pose).
- *Pranayama* (breathing practices) - 10 min
 - *Kapalabhati* (illuminating forehead breath)
 - *Nadisuddhi* (alternate nostril breath)
 - *Ujjayi* (the psychic breath)
 - *Bhramari* (humming bee breath)

Table 1: Findings of research studies on yoga for medical students

Authors	Year	Sample size	Intervention	Findings
Bond <i>et al.</i> ^[2]	2013	27	Yoga and meditation	11-week yoga-based program increased self-regulation, self-compassion, and empathy and reduction in perceived stress
Erogul <i>et al.</i> ^[3]	2014	58	MBSR for 8 weeks	MBSR intervention improves perceived stress and self-compassion
Warnecke <i>et al.</i> ^[4]	2011	66	8 weeks practice of mindfulness meditation	Mindfulness practice reduced stress and anxiety in senior medical students
Simard and Henry ^[5]	2009	14	16-week yoga	Improvements in overall health, perceived stress, and depressive symptoms
Chen <i>et al.</i> ^[6]	2013	60	Mindfulness meditation 30 min daily for 7 consecutive days	A brief course of mindfulness meditation was found to be beneficial to reduce anxiety and lowering blood pressure
Shapiro <i>et al.</i> ^[7]	1998	NA	8 weeks practice of mindfulness meditation	Reduction in self-reported state and trait anxiety, overall psychological distress and depression, an increase in overall empathy, and spiritual experiences
Malathi and Damodaran ^[8]	1999	50	Yoga	Yoga reduced basal anxiety as well as prior to examination
Turakitwanakan <i>et al.</i> ^[9]	2013	30	Mindfulness meditation	Mindfulness meditation reduces serum cortisol levels and statistically nonsignificant improvement in GHQ scores
Bansal <i>et al.</i> ^[10]	2013	82	45 min of integrative practice for 1 month	Improvement in general and mental wellbeing following the intervention
Malathi <i>et al.</i> ^[12]	1998	75	Yoga and relaxation	Yoga and relaxation attenuated heart rate, blood pressure, and galvanic skin resistance in response to the stress of examination and enhanced reaction time
Madanmohan <i>et al.</i> ^[13]	1992	27	Yoga for 12 weeks	Yoga improves visual and auditory reaction time, respiratory endurance, and muscle strength
Saoji <i>et al.</i> ^[14]	2016	42	Mind sound resonance technique	Single session of meditation improves performance in the cognitive tasks

MBSR = Mindfulness-based stress reduction, GHQ = General Health Questionnaire

- Meditation/relaxation – 10 min
 - Mindfulness-based relaxation/*yoga nidra* (psychic sleep)
- MSRT or cyclic meditation – once a week.

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Conflicts of interest

There are no conflicts of interest.

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References

1. Fares J, Al Tabosh H, Saadeddin Z, El Mouhayyar C, Aridi H. Stress, burnout and coping strategies in preclinical medical students. *N Am J Med Sci* 2016;8:75-81.
2. Bond AR, Mason HF, Lemaster CM, Shaw SE, Mullin CS, Holick EA, *et al.* Embodied health: The effects of a mind-body course for medical students. *Med Educ Online* 2013;18:1-8.
3. Erogul M, Singer G, McIntyre T, Stefanov DG. Abridged mindfulness intervention to support wellness in first-year medical students. *Teach Learn Med* 2014;26:350-6.
4. Warnecke E, Quinn S, Ogden K, Towle N, Nelson MR. A randomised controlled trial of the effects of mindfulness practice on medical student stress levels. *Med Educ* 2011;45:381-8.
5. Simard AA, Henry M. Impact of a short yoga intervention on medical students' health: A pilot study. *Med Teach* 2009;31:950-2.
6. Chen Y, Yang X, Wang L, Zhang X. A randomized controlled trial of the effects of brief mindfulness meditation on anxiety symptoms and systolic blood pressure in Chinese nursing students. *Nurse Educ Today* 2013;33:1166-72.
7. Shapiro SL, Schwartz GE, Bonner G. Effects of mindfulness-based stress reduction on medical and premedical students. *J Behav Med* 1998;21:581-99.
8. Malathi A, Damodaran A. Stress due to exams in medical students – Role of yoga. *Indian J Physiol Pharmacol* 1999;43:218-24.
9. Turakitwanakan W, Mekseepralard C, Busarakumtragul P. Effects of mindfulness meditation on serum cortisol of medical students. *J Med Assoc Thai* 2013;96 Suppl 1:S90-5.

10. Bansal R, Gupta M, Agarwal B, Sharma S. Impact of short term yoga intervention on mental well being of medical students posted in community medicine: A pilot study. *Indian J Community Med* 2013;38:105-8.
11. Yazdani M, Esmailzadeh M, Pahlavanzadeh S, Khaledi F. The effect of laughter yoga on general health among nursing students. *Iran J Nurs Midwifery Res* 2014;19:36-40.
12. Malathi A, Damodaran A, Shah N, Krishnamurthy G, Namjoshi P, Ghodke S. Psychophysiological changes at the time of examination in medical students before and after the practice of yoga and relaxation. *Indian J Psychiatry* 1998;40:35-40.
13. Madanmohan, Thombre DP, Balakumar B, Nambinarayanan TK, Thakur S, Krishnamurthy N, *et al.* Effect of yoga training on reaction time, respiratory endurance and muscle strength. *Indian J Physiol Pharmacol* 1992;36:229-33.
14. Saoji A, Mohanty S, Vinchurkar SA. Effect of a single session of a yogic meditation technique on cognitive performance in medical students: A randomized crossover trial. *J Relig Health* 2016. (Accessed March 25, 2016, at <http://link.springer.com/article/10.1007%2Fs10943-016-0195-x>).
15. Lin SL, Huang CY, Shiu SP, Yeh SH. Effects of yoga on stress, stress adaption, and heart rate variability among mental health professionals - A randomized controlled trial. *Worldviews Evid Based Nurs* 2015;12:236-45.
16. Nemati A. The effect of pranayama on test anxiety and test performance. *Int J Yoga* 2013;6:55-60.
17. Christopher JC, Christopher SE, Dunnagan T, Schure M. Teaching self-care through mindfulness practices: The application of yoga, meditation, and qigong to counselor training. *J Humanist Psychol* 2006;46:494-509.
18. Parshad O, Richards A, Asnani M. Impact of yoga on haemodynamic function in healthy medical students. *West Indian Med J* 2011;60:148-52.

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