The Role of Yoga in Relieving Medical Student Anxiety and Stress

Dear Editor,

Yoga is gaining prominence in improving mental health and quality of life and in the treatment of a number of psychiatric and psychosomatic disorders. Previous studies on medical education have shown that perceived stress is higher in medical students than in other age-controlled students. As medical students are the underpinning of the medical profession, they must be aware of the adjunct therapy of yoga for the betterment of their own health as well as that of their patients.

As defined by the World Health Organization, health is “a state of complete physical, mental, and social well-being and not merely absence of disease or infirmity.” This definition has been expanded to embrace the ability to “lead a socially and economically productive life.” Apart from causing mental turbulences, anxiety and stress have unfavorable effects on the body that may evolve into chronic conditions, if left untreated. Stress has been linked to harmful effects on the immune system, while anxiety has been associated with coronary heart disease, decreased quality of life, and suicidal behavior.

Although yoga has been practiced for over 5000 years, it has only newly gained popularity worldwide. The drill originated in India and has been applied to relieve both mental and physical infirmities for it incorporates postures, breathing techniques, and meditation. From the yogic perspective, the body and the mind are so interconnected that they are essentially inseparable. Whatever affects the body must impact the mind and vice-versa. Since the mind exists throughout the body and pervades its every particle, the yogic techniques which are implemented to stretch, strengthen, and otherwise improve, and develop the body must have a correspondingly deep effect on the mind and the emotions as well.

Psychological stress and yoga are believed to be reciprocally related. Stress induces imbalance of the autonomic nervous system with decreased activity of
the parasympathetic nervous system and increased activity of the sympathetic nervous system.\[^{[13]}\] Autonomic imbalance is closely associated with anxiety. Scientific evidence supports the belief that yoga benefits physical and mental health via down-regulation of the hypothalamic-pituitary-adrenal axis and the sympathetic nervous system.\[^{[16]}\] Deep relaxation and calming down of the mind lead to effective reduction in blood pressure, pulse rate, and respiratory rate by decreasing the amount of cortisol which typically increases during the body’s response to stress.\[^{[14]}\] Yoga, also, reduces the level of acetylcholine, which leads to the reduction in the sympathetic nervous system activity and increase in vagal activity.\[^{[14]}\] As a result, it reduces psychological conflicts, suppressions, and hypersensitivities, which are recognized as the triggering factors for psychosomatic problems.

Moreover, stress is strongly concomitant with muscle tension. When mentally stressed, one unconsciously tenses his muscles.\[^{[17]}\] Tension held in muscles adds physical discomfort or pain, which is commonly exhibited as a headache, backache, stomachache, or concentrate in the face, neck, and shoulders - making the mental stress even worse.\[^{[17]}\] Yoga, through progressive muscle relaxation techniques, disrupts this repeated stressed-mind/tense-muscle cycle that is the “fight and flight” stress response.\[^{[17]}\]

Studies comprising medical students have shown that mental and physical exercises, including yoga, lessen mental distress and improve student well-being.\[^{[18]}\] Malathi and Damodaran\[^{[19]}\] have reported that there is a significant reduction in examination stress with better academic performance and sense of well-being in students practicing yoga. Studies comparing effects of yoga and exercise indicate that in both healthy and diseased populations, yoga may be as effective or better than exercise at improving a variety of health-related outcome measures.\[^{[20]}\]

Nonetheless, many health care providers in Western countries have not yet recognized yoga as an alternative therapy for the lack of empirical evidence.\[^{[21]}\] Research into the impact of yoga in certain disease conditions and in refining overall health is ongoing. With yoga’s rising popularity and focus on a spiritual connection between the mind and the body it is sensible to investigate its role in the treatment of mental disorders. Randomized controlled trials and cohorts are needed to further support yoga as an alternative treatment to anxiety and stress.

In conclusion, yoga offers comprehensive solutions for managing health as a whole. It can lead to reduction of stress levels and thereby preventing autonomic dysregulation. Reduction in perceived stress levels results in lesser negative feelings of anxiety and depression, improved sense of well-being, and better sensory-motor performance and hand grip endurance.\[^{[22]}\] Medical students of today are the physicians of tomorrow and a good physician must be physically and mentally healthy to lead a quality life.\[^{[23]}\] Hence, teaching medical students to relate mindfully to current internal and external stimuli, through yoga, can decrease mental distress and increase well-being.

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There are no conflicts of interest.

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