

Yoga and Mental Health: A Brief Review

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ABSTRACT: Life is meaningful when one is able to control one's passions, emotions and sentiments. Yoga plays an important role in the development of these qualities. The practice of yoga protects us from various ailments. The purpose of this study was to review published literature based on yoga and to determine the effect of yoga in preventing and relieving mental illness. The study threw light on the research work done in the field of yoga for attaining a good mental health. It is perceived as a complementary and alternative medicine. The techniques of yoga helps in developing and retaining a healthy balance between all aspects of body and mind. The practice of yoga look simple but have deep positive effects on the person practicing it. It comprises of asanas, pranayama and meditation. With its ever increasing popularity and focus on connection between the mind, body and spirit, it is important to explore the role of yoga in the treatment of various mental disorders, such as stress, depression and anxiety. One great advantage of yoga is that it enhances our work efficiency by making our health, sound and steady. It has the potential to vitalize important organs of the body such as brain, heart and kidneys.

KEYWORDS: balance; body; mental health; mind; yoga

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I. INTRODUCTION

Yoga is a common term that encompasses breathing techniques, postures, exercises, and meditation. It can make our balanced muscular system, to work faster, it increases the elasticity of bones, helps in proper circulation of blood in the body and lead to proper functioning of the glandular system. Yoga works as a therapeutic intervention. The application of yoga began early in the twentieth century. In the development of an individual into a genius and in uniting the individual with the universal soul, yoga plays a vital role. The physical exercises (asanas) may increase the flexibility, coordination and strength and stamina of the person while the breathing exercises and meditation calms and helps focusing the mind to develop greater awareness and reduce anxiety (Pilkington, Kirkwood, Rampes, Tuffrey & Richardson,2005). It results in higher quality of life and good mental health. Other beneficial effects might involve a reduction of stress and blood pressure, and improvements in resilience, mood, and metabolic regulation (Yang, 2007).It is a holistic way of life leading to a state of complete physical, social, mental, and spiritual well-being. It helps in establishing harmony with nature (Taneja,2014). The techniques used in yoga enable the practitioner to become master of his own mind, rather than a victim of his emotions and desires. Among the yogic models of human personality, the principle of homeostasis is most important which says that any type of imbalance in the biological, psychological or pranic systems creates problems related to health, and the cure for this lies in rebalancing them and attaining the state of equilibrium. All yogic methods emphasize how to restore this balance, thus promoting health and well being (Matthews, 1995).

Table 1 Indicating the role of yoga in enhancing mental health

Author/ year	Variable	Sample	Place	Sampling Technique	Design	Statistics	Key findings
Kiecolt-Glaser, Christian, Preston, Houts, Malarkey, Emery and Glaser (2010)	Anxiety, Depression, Positive affect, negative affect, type, frequency and quantity of food intake, sleep quality and disturbance	(N =50) 25 novices and 25 experts	Not mentioned	Not mentioned	Repeated measures design,3 conditions tested-yoga, movement control and passive-video control	Tukey-Kramer procedure, Bonferroni adjustment ,3 way interaction, Logistic regression.	Significant time by condition interaction for PANAS positive affect, Participants' positive mood scores increased following yoga, decreased following the video, and were unchanged following movement. Experts were more apt to report negative affect above the minimum at the end of the conditions than novices.

Malathi, Damodaran, Shah, Patil and Maratha (2000)	Subjective Well being	(N=48) 24 males and 24 females	Mumbai	Not mentioned	Experimental –pre and post analysis	t-test	Regular practice of yoga and adopting the philosophy of yoga lead to significant improvement in feelings of subjective well being.
Yazdani, Esmaelzadeh, Pahlavanzadeh and Khaledi (2014)	Anxiety, Insomnia, social dysfunction and depression	N=30 (male nursing students)	Isfahan	Convenient Sampling	Quasi-experimental two-group three step design	t-test, ANOVA, LSD-Least significance difference	Yoga had a positive effect on students' general health and improved the signs of physical and sleep disorders, lowered anxiety and depression, and promoted their social function.
Jadhav and Havalappanavar (2009)	State Anxiety, Trait Anxiety, Subjective Well being	(N=50) 25 males and 25 females	Karnataka	Not mentioned	Experimental –pre and post analysis	Mean, SD and t-test	Significant difference between before and after the practice of yoga. Yoga practice lead to a significant alleviation of State Anxiety, trait anxiety of the practitioner and improvement in subjective well-being
Woolery, Myers, Sternlieb and Zeltzer (2004)	Current mood, anxiety and depression	N=28,79% females,82% students(young adults)	College campus recreation center, Los Angeles.	Random sampling	2X3 repeated measure design, pre and post analysis	Independent t-test and exploratory paired t-test, ANOVA, Pearson correlation	The results indicated significant pre- to post-class reductions in depression, anxiety and total mood disturbance .Participants in the yoga group evidenced higher morning cortisol levels than the controls. Change in depression was not significantly related to change in anxiety.
Smith, Hancock, Mortimer &Eckert (2007)	Mental health, Physical function, physical role function, emotional role function, social function, bodily pain, vitality, insomnia, hypertension, headaches.	N=131 ,Yoga group-68(54 female,14 male) Relaxation group-(55 female,8 male)	South Australia	Not mentioned	Randomised comparative trial	Students t-test, Chi square test for categorical data	Yoga appeared to provide a comparable improvement in stress, anxiety and health status compared to relaxation.
Sharma, Das, Mondal, Goswami & Gandhi (2005)	Depression and Anxiety	N=30 (19 male ,11 female) two groups (gp1-10 male &5 female yoga and anti depressant, gp2-9 male,6female,conventional antidepressant)	Lady Hardinge Medical College and Smt.Sucheta Kriplani Hospital, New Delhi	Random Sampling	Experimental Design	Paired t-test, Chi square test	Group 1 and Group 2 had no statistically significant differences in the age and sex distribution. Percentage reduction in depression and anxiety scores at 8 weeks was significantly more in Group 1 patients than in Group 2 patients. Significantly higher number of patients (7, 46.6%) went into remission in Group 1 than in Group 2.

Mehta & Taneja (2013)	Anxiety, depressed mood, positive well being, self control, general health and vitality	N=36 (21 male 15 female)	Deptt of Physiology, MGMMC & MY Hospital, Indore	Purposive Sampling	Propective Study	t-test	It was found that there was a definite shift of good number subjects from lower range of well being score to higher range of well being score after performing yoga for 4 weeks. Increase in well being score was statistically significant in all the three groups but was more marked in females as compared to males
Daly, Haden, Hagins, Papouchis & Ramirez (2015)	Emotion Regulation, self compassion , body awareness, mindful awaearenes s	N=37 (yoga-19,physical education-18)	Not mentioned	Random Sampling	Interventi on study	Chi square, t test, ANOVA, Correlation Analysis	Emotion regulation at Pre intervention was greater for the PE condition than the yoga condition and at the Post intervention was greater for the yoga condition than the PE condition. Mindful attention and self-compassion were not significantly correlated with increases in emotion regulation. Body awareness (MAIA) change scores were significantly, positively correlated with emotion regulation (ERICA) change scores.
Sharma, Gupta & Bijlani (2008)	Subjective Well-being	N=72 (50 male,22 female) N=52(33male,19 female)control	AIIMS, New Delhi	Not mentioned	Prospectiv e controlled study	t-test	At the end of the course, subjective wellbeing scores were significantly higher than at the beginning in the intervention group. There was no significant change in the subjective well-being scores of the controls after an interval of ten days.

Dumbhare & Shringarpure (2016)	Occupatio nal stress	N=120 (60 males,60 females)	Nagpur	Purposive sampling	Experim ental study	t- test ,F test	The difference between obtained scores of experimental and control group in anxiety (after one month, after two months and after three months of yoga) were highly significant.
Nangia & Malhotra (2012)	Mental health,me mory,atte ntion and concentrat ion.	N=19 experim ental gp (13 males,6 females) N=19 control gp (13 males,6 females).	Delhi	Not mentioned	Expost- facto design	t- test	Regular practitioners of yoga were found to have higher scores on measure of mental health than the controls.
Telles,Singh, Yadav & Balkrishna (2012)	State Anxiety, Trait anxiety, HRQOL, somatizati on of stress, over breathing, hypervent ilation, changes in the quality	N=140 (70 experim ental gp,70 control gp)	Haridwar	Not mentioned	Experim ental design	Repeat ed measur es ANOV A with Bonferr oni	Significant difference found on all the variables between the two groups. Results indicated that brief yoga program may be beneficial in de, creasing anxiety, somatization of stress and discomfort, improving health-related quality of life and self-rated sleep quality.

	of sleep.						
Gupta , Singh & Singh (2016)	Control self and events, happiness, social involvement, self esteem, mental balance & sociability	N=200 (100 Yoga practitioners ,100 non yoga practitioners)	North India	Not mentioned	Cross-sectional design	Unpaired t - test	Yoga practitioners showed higher levels of happiness and mental balance compared to non yoga practitioners.
Shraddha & Nanda (2016)	Anxiety, educational aspiration	N=60(30 yogis,30 non yogis)	Nagpur	Purposive Sampling	Not mentioned	Students paired t- test	Results showed that practice of yoga in day to day life contributed to significant enhancement of educational aspiration and considerable reduction of test anxiety.
Yoshihara, Hiramoto, Oka, Kubu& Sudo (2014)	Depression, Anxiety, Hostility, anger, fatigue, confusion, stress	N=24 adult women	Japan	Not mentioned	Prospective Study	Wilcoxon signed-rank test	After 12 weeks of yoga training, all negative subscale scores (tension-anxiety, depression, anger-hostility, fatigue, and confusion) were significantly decreased compared with those before starting yoga training.
Tiwari & Mishra (2016)	Emotional Intelligence, life style habits	N=100 (50 yogis,50 non yogis)	Allahabad	Random Sampling	Expost-facto design	t- test	Results indicated that individuals involved in regular yoga practices scored more on emotional intelligence as well as healthy life style habits than professionals who were rarely practicing yoga and involved in other physical exercises. Age, working status and gender were not found as significant factors of emotional intelligence and healthy life style habits among regular yoga practitioners as well as among rare yoga practitioners.
Stoller, Greuel, Cimini, Fowler & Koomar (2102)	State Anxiety, Trait Anxiety, Quality of Life, sensations .	N=70 (35 treatment gp,35 control gp)	Iraq	Random Sampling	Experimental design	Independent samples t test, correlational analysis	Treatment participants showed significantly greater improvement than control participants on 16 of 18 mental health and quality-of-life factors. Positive correlations were found between all test measures except sensory seeking.
Menezes, Dalpiaz, Rossi & DE Oliveria (2015)	Emotion regulation ,emotion interference, state anxiety ,trait anxiety, attention	N=90 (45 yoga practitioners,45 non yoga practitioners)	Brazil	Convenient Sampling	Quasi-experimental design	ANOVA	Student's t-tests for paired samples revealed that the yoga group presented significantly lower state and trait anxiety scores. within the yoga group and the participants were better able to modulate emotion interference in the difficult condition.
Chattha, Raghuram, Venkatram & Hongasandra (2008)	Psychological, somatic, and vasomotor symptoms of menopause, current levels of experienc	N=108 (54 experimental gp,54 control gp)	Banglore	Random Sampling	Prospective, randomized controlled trial, intervention study	Mann Whitney test, Independent sample test	There was a significantly greater decrease in the level of all the variables in th groups practicing yoga as compared with controls (between-group analysis).No change was seen in extroversion in both the groups.

	e stress, Neuroticism extroversion						
Waelde, Thompson, Thompson (2004)	Mental status examination, state anxiety, trait anxiety, depression, self efficacy, caregiving burden and behaviour problem.	N=12 females	Palo Alto	Not mentioned	Preintervention and post intervention	Mean, SD, effect sizes (Cohen's d)	Pilot findings suggested that the intervention significantly reduced depression and anxiety and increased self-efficacy in chronically stressed women who were primary caregivers of persons with dementia. Effect sizes for these relationships were medium to large. Objective caregiving burden did not change over the course of the intervention is not surprising, because the intervention did not address care recipients' problems.
Daunhauer, Tooze, Farmer, Campbell, McQuellon, Barette & Miller (2008)	Physical health, mental health, quality of life, fatigue, spirituality, depression, state anxiety, trait anxiety, positive affect, negative affect	N= 51 females	Winston-Salem	Convenient Sampling	Pilot/feasibility pre and post intervention study	General linear mixed models, t-test	Significant improvements were seen over time for depression, negative affect, state anxiety, fatigue overall quality of life after
Kozasa, Santos, Rueda, B (enedito-Silva, Ornellas & Leite (2008)	State anxiety, trait anxiety, depression, well being, tension	N=22 (14 Yoga gp, 8 control gp)	Brazil	Not mentioned	Experimental design Pre and post intervention	Mann-Whitney test	Depression and anxiety (state and trait) decreased in the yoga group compared with the control group. There was also significant increase in subjective well-being as well as release of tension.
Lavey, Sherman, Mueser, Osborne, Currier & Wolfe (2005)	Tension-anxiety, depression, anger, hostility, fatigue, confusion, bewilderment, vigor-activity	N=113 (59 Females, 52 males, 2 gender info missing)	New Hampshire	Purposive Sampling	Experimental design	t test And Anova	Significant improvements were seen on all the five factors. Gender and diagnosis were unrelated to improvements in negative mood, suggesting that all the inpatients were able to benefit equally from yoga.
Mitchell, Dick, Di Martino, Smith, Niles, Koenen & Street (2014)	Trauma, Depression, anxiety	N=26 (14 yoga gp, 12 control)	USA	Random Sampling	Experimental design	Growth curve model (GCM), Cohen's d	Depression and anxiety scores decreased significantly.

II. CONCLUSION

The studies mentioned above indicated that the practice of yoga play a beneficial role in the overall development of an individual for all the dimensions of health, i.e. physical, mental, social, and spiritual and at the same time promotes harmony with nature and helps in conserving environment. Today medical science admits that almost all diseases originate from mental stress causing a state of disequilibrium in the vital systems of the body such as neuro-physiological and endocrinal systems, resulting in the developments of various disorders. Thus the mind-body interaction serves as a chain of cause-effect relationships to produce psychosomatic symptoms resulting in psychosomatic illnesses. For their proper treatment, therefore, somatic or psychological management alone is not sufficient. The practice of yoga creates a tremendous power to resist and that is why body does not fall an easy prey to diseases.

Yoga has been supported by sound theoretical models which have withstood the test of time and scientific verification. Some of the concepts still need verification and investigation. Implementation is the only way in which individuals will undergo the mental and physical changes that improve overall well-being and personality of an individual. There are several ways in which implementation can take place such as in schools and at workplace, where individuals spend the majority of their time. In schools, programs should be set up in the form of power point presentations and documentaries to inform students of the beneficial role of physical activity, its effect on mental and physical health, and its effects on stress. These programs would include a variety of methods, such as talking to students about health and stress, teaching and providing innovative and effective ways to cope with stress, and involving them in daily practice. Also physical activity or play should never be taken out of school curriculums, as it provides an outlet for enjoyment and fun, skill improvement and accomplishments and release from physical or emotional tension. Likewise in the workplace, employers and leaders should designate time during the work day for physical exercise or at the very least some kind of activity to allow employees to release any worry or stress.

Yoga unites us with the whole and a yogi treats everyone as his own and serves the humanity at large, selflessly. It is a common experience of all of us that the more our thoughts become clear, simple and elevated, the more beautiful the ordinary things and mankind appear to us.

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