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RESEARCH ARTICLE

A STUDY OF SHORT TERM EFFECT OF YOGA, PRANAYAMA AND DHYANA ON ANXIETY SCORE AMONG MEDICAL STUDENTS

Dr. Mohammed Nazia Farha[1], Dr. M.P. Sultana[2] and Dr. S. Subhadra[3]

1. Assistant Professor of physiology, S.V. Medical College, Tirupati.
2. Assistant Professor of Anatomy, Siddharatha Medical College, Vijayawada.
3. Assistant Professor of Physiology, S.V. Medical College, Tirupati.

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Abstract

Medical student is in a new state of challenging and stressful environment. Beyond certain levels, however, continuous exposure to stress may negatively impact their physical and mental health. Yoga is an ancient science and art of exercise, associated with a set of practices which are made to promote the health and well-being through the integration of the body, breath, and the mind and at spiritual level yoga creates happiness and peace with oneself. The following study was conducted in1st MBBS students of ACSR Government medical college to study the effects of short term yoga on anxiety score. Feedback in the form of proformawas takenfrom thestudents to know their attitude towards yoga and how it had been benefited them.60 students of First MBBS with in the age group of 17-19 yrs were voluntarily participated in this study. The students recruited for the study underwentthe following program for 1 hour, daily for 8weeks. The sessions included Yogasanas 40 min , Pranayama 15 min andDhyana 10 min. Data were collected using sociodemographic status that includes name, age, religion, level of education, address and two self reportedquestionnaires.Anxiety and stress were measured using Spielberger State- Trait Anxiety Inventory (STAI) and Perceived Stress Scale (PSS) questionnaires, respectively. The mean PSS scores and STAI of the participants after intervention was reduced and were are statistically significant.

Introduction:-

On enteringinto the professional colleges the studentis in a new state of challenging and stressfulenvironment. Beyond certain levels, however, continuous exposure to stressmay negatively impact their physical and mental health[1].

Factors contributing to high stress levels in professional colleges could behighly competitive curriculum, intense academic competition. Possibly these and many more factors contribute to high levels of stress in medical students. With the above facts in mind the relevance of yoga in medical education was evaluated[2].

Corresponding Author:- Dr. Mohammed Nazia Farha
Address:- Assistant Professor of Physiology, S.V. Medical College, Tirupati -517507 Tirupati (DST) Andhra Pradesh India.

Yoga is an ancient science and an art of exercise which is associated with a set of principles and practices, designed to promote the health and well-being through the integration of the body, breath, and the mind. 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[3,4].

In the ancient system yogic practices like Suryanamaskara, Pranayama, meditation were introduced with the formal education to enable the development of good physique, strong ethical values and good stress tolerance [5].A state of mental tranquility is achieved by the practice of yoga as revealed by increase in alpha index of eletroencephalogram after short term yoga . Yoga can protect the individual by bringing harmony between mind and body, modulating stress responses and one's attitude to stress as also improving mental faculties such as attention, memory, learning efficiency and positive attitude to life[6.7]

Mind body interventions are increasingly being used in the general population to assist with stress reduction. Mental silence-oriented meditation has been shown to be a safe and effective strategy for dealing with work stress and depressive feelings in full time workers[8].

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. 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[9].

At spiritual level yoga creates happinessand peace from within oneself. The following study was conducted in 1st MBBS students of ACSR Government Medical college, Nellore to study the effects of short term yoga on anxiety score at the time of exams. Feedback was taken in the form of proforma was taken fromthe students to know their attitude towards yoga and how it had been benefited them.

Aims and Objectives:-

To assess the levels of stress and anxiety though Perceived Stress Scale[PSS] and State and Trait Anxiety score [STAI] before and after 8weeks of regular practice of Integrated Yoga Module among 1st year Medical Students of Government medical college, Nellore[10].

Methods:-

60 students of First MBBS with in the age group of 17-19 yrs voluntarily participated in the study. None of them was suffering from any major medical or psychiatric illness and not aware of any yogic practices. Students learnedbreathing and meditation exercises and participated in an hour-long yoga session.

The students underthe study were underwent the following program for 1 hour, daily for 8weeks. The sessions included Yogasanas 40 min Pranayama 15 min and Dhyana 10 min[11].

The various asanaswere chosen to improve their concentration, coordination, memory, and attitudinal behaviour[12].

Data were collected using sociodemographic data that includes name, age, religion, level of education, and address and two self reported questionnaires.

Anxiety and stress were measured using Spielberger State- Trait Anxiety Inventory (STAI) and Perceived Stress Scale (PSS) questionnaires, respectively[13].

PSS[40 item] and STAI [includes State score 20 items and Trait score 20 items] questionnaires were administered before and after sessions, conducted for 8 weeks daily.

State anxiety

State anxiety was measured using a sub-scale of the Spielberger's State-Trait Anxiety Inventory which has 20 items to assess state anxiety or anxiety at the moment of testing . Participants selected the number that best described the

intensity of their feelings at the moment of testing, where "1" was "not at all", "2" was "somewhat", "3" was "moderately", and "4" was "very much so". Each STAI-S item was given a weighted score of 1 to 4. Higher scores are positively correlated with a higher anxiety level[14].

All questionnaires were blindly scored by 2 evaluators. Data were scored and the group mean values ±SD were calculated before and after the yoga sessions. Raw scores of PSS, STAI converted to scaled scores.Paired T test was used to analyse the statistical significance.

Results:-

Graph 1:- Mean scores of PSS, STAI and TRAIT before and after intervention of yoga, pranayama and dhyana.

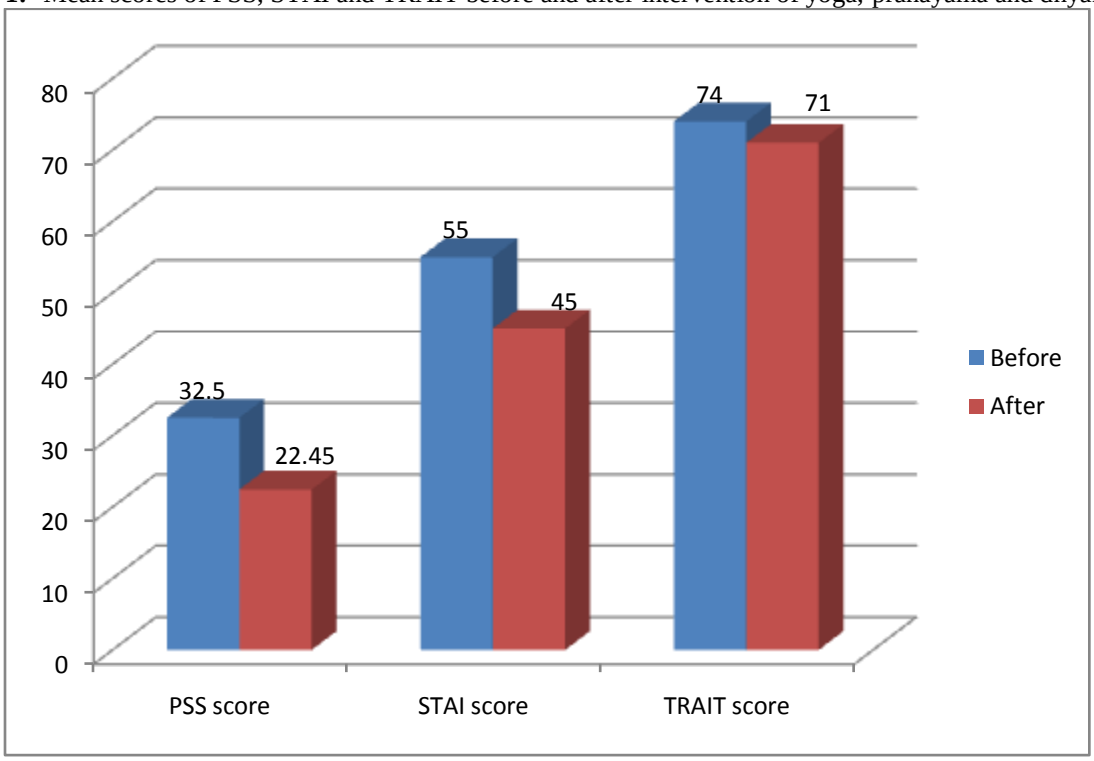

Table 1:- Mean, SD , t , df and p values of different variables before and after intervention of yoga, pranayama and dhyana.

Variables	Mean	SD	t	df	P value
PSS score before and after	1.5	0.73	11.23	29	0.000
STAI score before and after	0.66	0.884	4.13	29	0.000
TRAIT before and after	0.033	0.61	0.3	29	0.778

The mean PSS scores of the participants after interventionwas reduced from 32.5 to 22.45 which was statisticallysignificant.The mean State score was reduced 55 to 45 after the intervention which was statistically significant.The mean trait score changed from 74 to 71 which was not statistically significant.

Discussion:-

Stress is a multifaceted condition with varied repercussions. It results in psychological problems resulting in deterioration of academic performance.

The findings of this study reveal that the students who experienced yoga module showed a significant reduction in their academic anxiety level. The results are in tune with the earlier studies, which found that meditation, practiced over long periods, produces definite changes in perception, attention, and cognition.

Our study showed that eight weeks of yoga including physical postures, breathing exercises, and meditation may be effective in reducing stress levels and improving aspects of personal wellbeing in medical students.

Paired *t*-tests showed a statistically significant reduction in perceived stress after the eight-week intervention. Similar results have been reported. A study done by Lona Prasad et al. showsdecreased stress scores after six week integrated yoga practice[15].

Yoga through its techniques of meditation, asanas, and pranayama yields a positive effect in the management of stress in adolescents. This improvement was believed to be due to improved eye–hand coordination, attention, concentration, and relaxation.

A kind of by **AmitKauts, Neelam Sharma**study reveal that the students who experienced yoga module performed better in overall academics as well as in their separate subjects than those students who did not experience yoga module[16]**.**

The administration of integrated yoga module has different benefits. In our study, we found that there were benefits with asanas and yoga in decreasing anxiety and frustration scores. These benefits were better if practised as an integrated yoga module. Similar results showed in the studu done by S Parthasarathyet al. in 1st MBBS students found to reduce the stress scores after integrated yoga practice[17]**.** The study done by SumitraSudharkodhy et al. evaluate the Anxiety and stress were measured using Spielberger State- Trait Anxiety Inventory (STAI) and Perceived Stress Scale (PSS) questionnaires, respectively and showsthat shows that during anxiety there is increased activity toward sympathetic, but no difference in parasympathetic activity and during perceived stress.

At physical level regular practice of asanas, pranayama bestows a proportionate, flexible, normally relaxed body with an ability to withstand stress efficiently. At intellectual level yoga can sharpen memory, concentration, decrease anxiety levels. At spiritual level yoga creates an awareness to look for happiness from within oneself and to be at peace with oneself. Similar results found in the study done by A. MALATHI et al. revealed a definite reduction in the anxiety score following integrated yoga module[2.18].

Conclusion:-

A statistically significant improvement is found in PSSscores and STAI score after the intervention. Integrated Yoga Module is useful in stressreduction hence ,can be incorporated in the new CBME .

Limitations:
Sample Size is Small.

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References:-

1. Effects of mindfulness-based stress reduction on medical and premedical students, S L Shapiro [1], G E Schwartz, G Bonner J Behav Med, 1998 Dec;21(6):581-99. doi: 10.1023/a:1018700829825.
2. A. MALATHI AND A. DAMODARAN, STRESS DUE TO EXAMS IN MEDICAL STUDENTS - ROLE OF YOGA. Indian J PhysiolPharmacol 1999; 43 (2) : 218-224.
3. Dr. Mani Kathapillai, International Journal of Yoga, Physiotherapy and Physical Education, Volume 4; Issue 2; March 2019; Page No. 20-23.
4. Gururaja D, Harano K, Kobayashi H. Effect of yoga on mental health: Comparative study between young and senior subjects in Japan. Int J Yoga, 2011 Jan-Jun;4(1):7-12.

5. Wen Xu,Itagi R Kumar, Thaiyar M Srinivasan, Evaluation of Impact of Ethics of Yoga in the Psychological Health of College Students: A Randomized Control Trial, ndian Journal of Science and Technology 14(12): 999-1005.
6. Stress reduction through mindfulness meditation. Effects on psychological symptomatology, sense of control, and spiritual experiences, PsychotherPsychosom, 1997;66(2):97-106. doi: 10.1159/000289116.
7. MonaliDevarajMathad et al., Effect of Yoga on Psychological Functioning of Nursing
8. Students- A Randomized Wait List Control Trial.Journal of Clinical and Diagnostic Research. 2017 May, Vol-11(5): KC01-KC05.

8.SudarshanKriya Yogic breathing in the treatment of stress, anxiety, and depression. Part II -clinical applications and guidelines. J Altern Complement Med, Richard P Brown, Patricia L Gerbarg, 2005 Aug;11(4):711-7. doi: 10.1089/acm.2005.11.711

9. Tripathi MN, Kumari S, Ganpat TS. Psychophysiological effects of yoga on stress in college students. J Edu Health Promot 2018;7:43.

10. Allison R. Bondet al. Embodied health: the effects of a mind_body course for medical students, Med Educ Online 2013, 18: 20699.

11. Dr. Kamakhya Kumar1 &DrSomduttaTiwary, Academic Anxiety among Student and the Management through Yoga, Volume: 3, Issue: 1; Jan- June 2014, International Journal of Yoga and Allied Sciences.

12.Saoji AA. Yoga: A strategy to cope up stress and enhance wellbeing among medical students. North Am J Med Sci 2016;8:200-2..

13.Jessica J. Noggle et al. Benefits of Yoga for Psychosocial Well-Being in a US High School Curriculum: A Preliminary Randomized Controlled Trial, J DevBehavPediatr 33:000 –000, 2012

14. Telles S. et al.: Mental well-being and state anxiety following yoga in teachers MedSci Monit Basic Res, 2018; 24: 105-112 .

15. Lona Prasad, AneeshaVarrey, and Giovanni Sisti, Medical Students' Stress Levels and Sense of Well Being after Six Weeks of Yoga and Meditation, Evidence-Based Complementary and Alternative Medicine, Volume 2016, Article ID 9251849, 7 pages.
16. AmitKauts, Neelam Sharma, Effect of yoga on academic performance in relation to stress, International Journal of Yoga Vol. 2:1,Jan-Jun-2009.
17. Parthasarathy et al, Integrated Yoga Module in Dealing with Anxiety, West Indian Med J 2014; 63 (1): 78.
18. Bansal, et al.: Effect of yoga on mental well being of medicos, Indian Journal of Community Medicine/Vol 38/Issue 2/April 2013.