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Effect of Yoga on Anxiety Levels in Working Women

Swati R. Gawali[1], Sunita S. Dhule[2]

[1]Junior Resident -II, SRTR GMC, Ambajogai, Dist. Beed, Maharashtra, India

[2]Assistant Professor, Department of Physiology, SRTRGMC Ambajogai, District Beed, Maharashtra, India

Abstract: ***In this modern era stress has become an integral part of human life. Stress is considered to be any condition which results in perturbation of the body's homeostasis. Today, women are constantly under stress to balance between home and work place. Yoga aims at an integrated and harmonious development of all the potentialities of man. However, to put yoga on a firm scientific pedestal, we planned to undertake a study of effect of yoga on anxiety score before and after yoga training in apparently healthy working women. The study was carried out in 35 apparently healthy working women aged between 25-40 years who attended two months of yoga training. Spielberger's state and trait anxiety scale was used to evaluate anxiety levels before and after yoga training. Our study showed a statistically significant difference in total anxiety score before and after yoga training by applying paired 't' test. We concluded that regular practice of yoga in day to day life reduces anxiety levels and improves subjective feeling of wellbeing. Our study thus helps to popularize yoga among working women.***

Keywords: Stress, yoga, anxiety scale

1. Introduction

Today working women are constantly under stress to maintain balance between home and workplace. This stress affects their physical and mental health; but Stress is necessary for life. We need stress for creativity, learning and for survival. Stress is only harmful when it becomes overwhelming and interrupts the healthy state of equilibrium. Stress jacks up the nervous system, overburdens the adrenal glands and lowers immunity. Yoga is considered to be one of the most important, effective and valuable tools available for man to overcome various physical and psychological problems [7].

Many studies have proved efficacy of yoga in reducing anxiety. Studies conducted by Vincente Pedro(1978) and Bheeshan (1998) found significant reduction in state and trait anxiety score in subjects due to regular practice of yoga. In another study Malathi et al (1998) conducted a Yoga intervention study on MBBS students and tested them before and after the examination and found anxiety reduction in the student at the time of examination [8]. Spielberger (1966) has placed anxiety into two categories, i.e. state anxiety and trait anxiety. State anxiety is situational, which develops on account of severe demanding situation and this does not last long, whereas trait anxiety has deeper roots and it refers to inherent anxiety proneness developed due to defective socialization [7]. Hence, the present study was undertaken to see effect of yoga on state and trait anxiety before and after yoga training in healthy working women.

2. Methodology

The study was conducted on 35 healthy female subjects aged between 25-40 years who attended two months of yoga training.

All the subjects had never undergone any kind of yoga training earlier. The women were involved in professions like-Doctors, Engineers, Teachers and Bank managers. Institutional ethical committee clearance was obtained. The informed consent was obtained from all the participants. The yoga training was given one hour per day for two months which included;

a) Prayer-1min.
b) Sthihpragnyasana-2min.
c) Asanas-25min.
d) Anuloma, Ujjayi, Bhramari-5min.
e) Yognidra with visualization-20min.
f) Meditation on Onkar & Tratak-5min.
g) Prayer &Sthithpragnyasana-2min

Spielberger's state and trait anxiety inventory was used to evaluate anxiety levels before and after yoga training. Spielberger state-trait anxiety inventory (STAI) is a forty-item Likert-type questionnaire designed to assess individual differences in the experience of anxiety. The trait form of the inventory assesses an individual's general anxiety level, and the state form of the inventory assesses the individual's anxiety specific to the time of completion of the survey. Each form consists of twenty items with total scores that range from a minimum of twenty to a maximum of eighty [3]. Statistical analysis was done by applying paired 't'test using Graph pad prism 5 software.

3. Results

Our study showed statistically significant difference ($p<0.05$) in total anxiety score before and after yoga training by applying paired 't' test.

Table 1: Change in state anxiety score

State Anxiety score Before yoga training (Mean±S.D)	State Anxiety score After yoga training (Mean±S.D)	't'value	'p' value	Significance
52 52.94±10.05	34.23±8.630	10.75	<0.0001	Significant

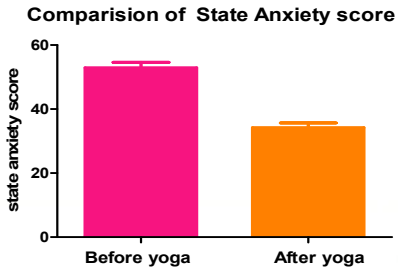

Figure 1

Table 2: Change in trait anxiety score

Trait Anxiety score Before yoga training (Mean±S.D)	Trait Anxiety score After yoga training (Mean±S.D)	't' value	'p' value	Significance
45.26±10.05	34.69±7.157	7.210	<0.0001	Significant

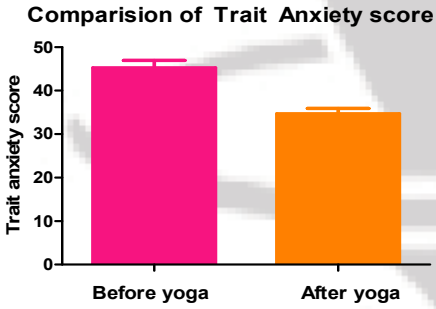

Figure 2

Table 3: Change in total anxiety score

Total Anxiety score Before yoga training (Mean±S.D)	Total Anxiety score After yoga training (Mean±S.D)	't'value	'p' value	Significance
97.91±17.14	69.20±13.87	t=10.82	< 0.0001	Significant

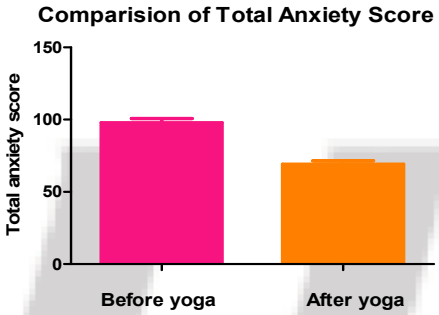

Figure 3

4. Discussion

The tables 1, 2, 3 and figures 1, 2, 3 show significant reductions in Spielberger's state, trait and total anxiety score after practicing yoga in working women. This demonstrates the beneficial effects of yoga for reducing stress. Stress affects women health in many ways. Stress is known to modulate activity of autonomic nervous system as well as central nervous system. In stressful states, there will be preponderance of sympathetic activity. This shift towards sympathetic may be the reason of anxiety (Srinivasan et al, 2006) [1]. Some common physical and emotional symptoms of stress are: Fatigue; Head, back, neck and shoulder aches; Stomach problems; Change in menstrual cycles; Feeling anxious; Feeling isolated; Frustration; Irritability and Difficulty in concentrating. Subtle discriminations at workplaces, family pressures and societal demands add to these stresses in them [2].

Yogic practices bring about stable autonomic nervous system with a tendency towards parasympathetic nervous system dominance. Some mechanisms have been proposed to explain how yoga reduces the anxiety level. Yoga breathing exercises decrease arousal, which calms and focuses the mind, relaxes the body, oxygenates the blood, soothes anxiety, and promotes clear thinking. The intense concentration and body control involved in breathing exercises help free the mind from mental distractions, worries, and fatigue [1].

a) During meditation there is decrease in plasma phenylalanine; that is associated with altered mental activity and also decrease in plasma cortisol which is an important mediator of stress [13].
b) Different yoga poses show an increase in the levels of central inhibitory neurotransmitters GABA (Gamma amino butyric acid).Low GABA levels are associated with higher anxiety [11].
c) In yoga, the hypothalamus interacts with the thalamic nuclei to facilitate specific alpha-wave frequencies in cortex [13]. High alpha index in EEG may be considered as underlying mechanism for calmness in yogic persons [14].

Thus, a), b) and c) explains reduction of anxiety and calming effect of yoga. By improving circulation in the endocrine glands, a consistent yoga practice enhances the functions of hormones that play a primary role in the physiology of depression. This results in a reduction in depression and improved overall mood [1]. The yoga practices stimulate and balance all systems of the body. The end result is increased mental clarity, emotional stability and a greater sense of wellbeing [12].

5. Conclusion

Our study concludes that regular practice of yoga reduces anxiety levels and improves subjective feeling of wellbeing. Thus, our study helps to popularise yoga among working women.

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Author Profile

Swati .R. Gawali is Junior Resident -II, SRTR GMC, Ambajogai, Dist.Beed-Maharashtra. Her area of interest is Sport Physiology.

Dr. Sunita. S. Dhule is Assistant Professor, Department of Physiology at SRTRGMC Ambajogai, Maharashtra, India. She received MBBS and MD Physiology degree from Dr. Babasaheb Ambedkar Marathwada University, Aurangabad in year 1996 and 2002. Her area of interest is physiology of yoga.