

2. Effect of Selected Yogic Practices on Stress and Emotion Regulation Among the Indian Army Soldiers

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Abstract:

The purpose of the study was to find out the effect of selected yogic practices on stress and emotional regulation among the Indian army soldiers. The study was conducted on 40 Indian Army Soldiers. Totally two group's namely experimental group and control group consisting of 20 students in each group who underwent ten weeks of yoga practices whereas the control group did not undergo any type of training.

The stress and emotional regulation were measured before and after the experimentation using the standardized questionnaires and analyzed by Analysis of Covariance (ANCOVA) and it was concluded that the yoga practices had significant ($P < 0.05$) effect on the stress and emotional regulation.

There is a need for yoga, systematic relaxation, and meditation not only in the joint force and in veteran populations, but as part of coherent, comprehensive national security framework. Not only do government officials need these services, stakeholders working beside the Government. Based on the results it was concluded that yoga practices was effective than the control group in decreasing stress and increasing the emotional regulation among Indian Army Soldiers.

Keywords:

yoga, asana, psychological, yogasana, pranayama, stress, emotional regulation, Indian army soldiers

2.1 Introduction:

Military personnel face different levels of stress based on the nature of the role assigned to them. The factors which could influence stress levels are the workload, the exposure to direct combat and the place to which the personnel are deployed. In India the military security force is a central armed force whose responsibility includes guarding India's territorial borders and preventing conflict with other nations.

The military personnel are most often stationed at high altitudes (i.e., 9000 ft above sea level), where they face social isolation while needing to be hyper vigilant. Being hyper vigilant for long periods can negatively impact physical and mental health with impaired cognition (i.e., attention, concentration and memory) and sleep disorders. The most common sleep disorder is insomnia. Apart from this, vigilance or heightened awareness (Robert, 1989) is associated with increased sympathetic nervous system activity, which over a period of time could lead to hypertension and other disorders. Yoga has been used to help military personnel adapt to high altitude.

The benefits included quicker adaptation to high altitude, lower sympathetic activity, improved performance at a submaximal level of exercise, better joint flexibility, as well as reduced anxiety and depression with better mental functioning. Yoga practice helped to perform well in a vigilance task while decreasing sympathetic activity.

Apart from increasing vigilance without the associated negative effects, yoga practice positively impacted the quality of sleep in people with normal sleep (Telles, 2012) and in those with chronic insomnia. Yoga practice was shown to improve sleep efficiency and reduce sleep onset latency among other benefits. Military personnel have been shown to have a high incidence of anxiety. Yoga practice was associated with reduced state and trait anxiety when practiced for an hour daily for 10 days. This was also seen when military personnel stationed in an army base in north India, who were naïve to yoga, showed reduced state anxiety and better performance in an attention task after a 2 h yoga session. Hence in separate studies yoga practice has been shown to (i) improve vigilance while reducing sympathetic activity, (ii) reduce anxiety and (iii) improve the quality of sleep. Considering that the military personnel are in a state of hyper vigilance, with insomnia and anxiety, the present study was designed to assess whether they would benefit from a 9-day residential yoga program with respect to (i) performance in a vigilance task, (ii) state anxiety and (iii) sleep. Several studies have revealed a high rate of physical and psychological problems from stress among military personnel. Yoga is one of the mind-body interventions known to alleviate stress and effects. The yoga-based, postures and relaxation is recognized as having a positive influence on physical and psychological health.

2.2 Need of the Study:

Millions of military personnel and veterans live with chronic mental and physical health conditions that often do not respond well to pharmacological treatments. Serious side effects and lack of treatment response have led to widespread efforts to study and promote non-pharmacological and behavioral health treatments for many chronic health conditions.

Yoga is an increasingly popular mind-body intervention that has growing research support for its efficacy and safety. Our objective was to explore the attitudes, perspectives, and preferences of military personnel and veterans toward yoga as a therapeutic modality, thus providing needed information for designing and promoting yoga interventions for this population. Military personnel need to be strong-willed, confident, and brave.

Yoga practices increase physical fitness, discipline the mind, make you more focused and confident.

2.3 Objective of the Study:

The research work has been carried out with the following objectives in perspective:

- To identify the factors causing stress in Indian soldiers.
- To evaluate the applicability of the scales used for measuring post traumatic stressors in the Indian army.
- To formulate strategies to curb post-traumatic stress in the Indian army based on the results of the study.

Statement of the Problem: The purpose of the study is to find the effect of selected yogic practices on stress and emotional regulation among the Indian army soldiers.

2.4 Review of Literature:

Telles Shirley et al., (2019) found the effect of yoga on vigilance, self-rated sleep and state anxiety in Border Security Force personnel in India. Military occupations require heightened vigilance with resultant sleep disturbances, increased anxiety and reduced vigilance. To compare yoga with physical training to reduce insomnia, anxiety and increase vigilance in security personnel.

One hundred and twelve Border Security Force personnel (BSF group, males; mean age \pm SD = 30.4 \pm 7.4 years) were compared with 112 personnel of a private security firm (SIS group).

The BSF group received yoga for nine days and the SIS group received physical training for the same period. Assessments were at baseline and after 9 days, with the digit vigilance test (DVT), Spielberger's STAI-S, and a sleep rating questionnaire. (1) Between groups: (i) at baseline the BSF group had higher vigilance and more daytime naps compared to the SIS group and (ii) after nine days the SIS group had higher state anxiety compared to the BSF group (ANOVA, Bonferroni adjusted post-hoc comparisons; SPSS Version 24.0) (2) In post-pre intervention comparisons (i) the BSF group increased vigilance and decreased state anxiety after yoga, with improved sleep, while (ii) the SIS group showed increased vigilance after physical training. Yoga may improve sleep, reduce anxiety while increasing vigilance in occupations requiring vigilance.

Rao et.al (2017) investigated the effects of Mind Sound Resonance Technique (Yogic Relaxation) on Psychological States, Sleep Quality, and Cognitive Functions in Female Teachers: A Randomized, Controlled Trial. Several studies have revealed a high rate of physical and psychological problems from stress among schoolteachers. Yoga is one of the mind-body interventions known to alleviate stress and effects.

The mind sound resonance technique (MSRT), a yoga-based, mindfulness relaxation is recognized as having a positive influence on physical and psychological health. The study intended to examine the effects of an MSRT intervention for 1 month on perceived stress, quality of sleep, cognitive function, state and trait anxiety, psychological distress, and fatigue among female teachers.

The study was a randomized, controlled trial. The study occurred at 2 primary schools in Bangalore City, India. Sixty female teachers, aged between 30 and 55 years, from the 2 schools were enrolled in the study.

The participants were randomly divided into an MSRT group (n = 30) and a control group (n = 30). Participants in the MSRT group participated in MSRT for 30 min/d, 5 d/wk, for the duration of 1 mo. The participants in the control group followed their normal daily routines. Perceived stress, sleep quality, cognitive function, anxiety, psychological distress, fatigue, and self-esteem were assessed using standardized assessment tools at baseline and after 1 mo of the intervention.

In the MSRT group, a significant reduction occurred for 5 variables: (1) 47.01% for perceived stress ($P < .001$), (2) 28.76% for state anxiety ($P < .001$), (3) 13.35% for trait anxiety ($P < .001$), (4) 32.90% for psychological distress ($P < .001$), and (5) 44.79% for fatigue ($P < .001$). A significant improvement occurred for that group for 2 variables: (1) 44.94% for quality of sleep ($P < .001$), and (2) 12.12% for self-esteem ($P < .001$). An 11.88% increase occurred for the group for cognitive function, but the change was not significant ($P = .111$). On the other hand, the control group showed significant increases in 5 variables: (1) 55.56% for perceived stress ($P < .001$), (2) 13.32% for state anxiety ($P < .001$), (3) 21.28% for trait anxiety ($P < .001$), (4) 20.95% for psychological distress ($P = .103$), and (5) 16.44% for fatigue ($P < .001$).

The group also showed significant decreases in 3 variables: (1) 3.51% for self-esteem ($P < .001$), (2) 21.39% for quality of sleep ($P = .003$), and (3) 17.60% for cognitive function ($P = .002$).

A comparison between the 2 groups showed significant differences in 7 variables: (1) perceived stress ($P < .001$), (2) quality of sleep ($P < .001$), (3) state anxiety ($P < .001$), (4) trait anxiety ($P < .001$), (5) psychological distress ($P = .006$), (6) fatigue ($P = .005$), and (7) self-esteem ($P < .001$). No significant differences existed between the groups in cognitive function ($P = .083$). In the current study, the practice of MSRT facilitated a reduction in the levels of stress, anxiety, fatigue, and psychological distress. The relaxation technique also enhanced the levels of self-esteem and quality of sleep among female teachers working in primary schools.

2.5 Methodology:

For the present study 40 Indian army soldiers were selected from Chennai. All the subjects were assigned to experimental group who underwent yoga practices consisting of 20 subjects and control group no practice consisting 20 subjects.

The experimental group practiced for ten weeks for five days per weeks. The yoga practices were given to the experimental group included Yoga mudrasana, Triyak bhujangasana, Padanusthasana, Garudasana, Thalasangasana, Vashisthasana, Ekapadasana, Sasangasana, Halasana, Naukasana, Seethali, Seetkari, Nadi sudhi, Bhramari, Nada anusandhana, OM kara recitation, Yoga nidra. The psychological variables stress and emotional regulation was measured by questionnaire.

2.6 Results and Discussions:

The data pertaining to the variables collected from the two groups before and after the training period were statistically analyzed by using Analysis of Covariance (ANCOVA) to determine the significant difference and tested at 0.05 level of significance.

The following tables illustrate the statistical result of the effect of selected yogic practices on stress and emotional regulation among the Indian army soldiers.

Table 2.1: Computation of Analysis of Covariance on Anxiety

	Experimenta I Group	Control Group	Source of Variance	Sum of Square s	df	Mean Square s	Obtained F
Pre-Test Mean	14.35	14.4	B	0.02	1	0.02	0.03
			W	37.35	38	0.98	
Post Test Mean	9.65	14.3	B	216.22	1	216.22	168.54*
			W	48.75	38	1.28	
Adjusted Post Test Mean	9.65	14.2	B	214.95	1	214.95	170.83*
			W	46.55	37	1.25	

* Significant at 0.05 level Table F-ratio at 0.05 level of confidence for 1 and 38 (df) = 4.10, 1 and 37 (df) = 4.11

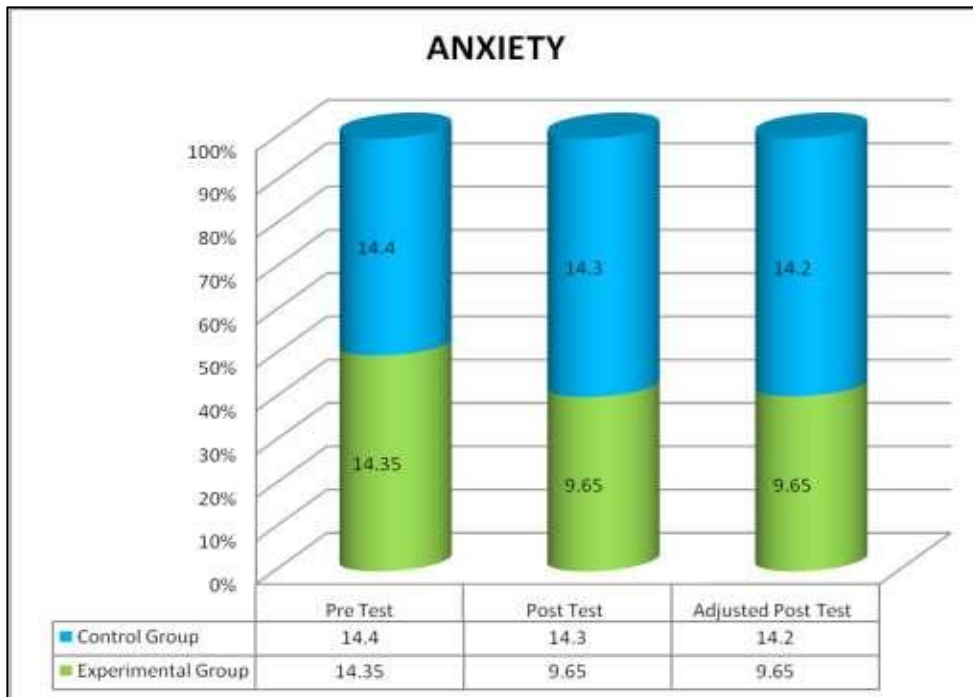


Figure 2.1: Bar Diagram on Ordered Adjusted Means of Anxiety

2.7 Results of Anxiety:

The analysis of covariance of stress data between pre-test and post-test of the two groups have been presented in Table 2.1.

Table 2.1 shows the analysis of covariance of stress. The pre-test means of experimental group and control group were 27.35 and 27.45 respectively. Since the obtained F-ratio of 0.05 is lower than the table value, F-ratio of 4.10, the pre-test means were not significant at 0.05 level of confidence with the degrees of freedom 1 and 38.

The posttest means of experimental group and control group were 20.95 and 27.55 respectively. The obtained F-ratio of 223.99 is seen to be higher than the table F-ratio of 4.10. Hence, the differences among the post-test means were significant at 0.05 level of confidence with degrees of freedom 1 and 38.

The adjusted post-test means of experimental group and control group were 20.95 and 27.54 respectively. Since the obtained F-ratio of 218.18 is higher than the table F-ratio of 4.11 the adjusted post-test mean difference amount the two groups were significant at 0.05 level of confidence with the degrees of freedom 1 and 37. There was significant difference in between control and experimental groups and within the experimental group.

Table 2.2: Computation of Analysis on Insomnia

	Experimental Group I	Control Group II	Source of Variance	Sum of Squares	df	Mean Squares	Obtained F
Pre-Test Mean	17.65	17.6	B	0.02	1	0.02	0.02
			W	39.35	38	1.03	
Post Test Mean	13	17.65	B	216.22	1	216.22	156.36*
			W	52.55	38	1.38	

	Experimental Group I	Control Group II	Source of Variance	Sum of Squares	df	Mean Squares	Obtained F
Adjusted Post Test Mean	13	17.65	B	215.99	1	215.99	152.13*
			W	52.53	37	1.41	

Significant at 0.05 level Table F-ratio at 0.05 level of confidence for 1 and 38 (df) = 4.10, 1 and 37 (df) = 4.11

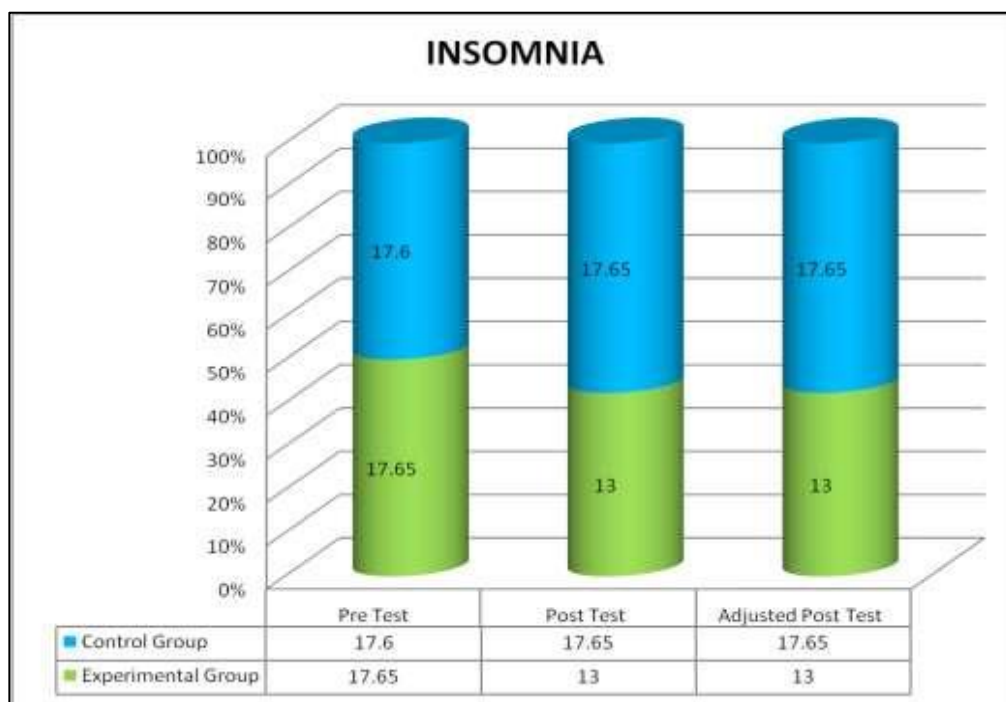


Figure – 2.2: Bar Diagram on Ordered Adjusted Means of Insomnia

2.8 Results of Insomnia:

The analysis of covariance of emotional regulation data between pre-test and post-test of the two groups have been presented in Table 2.2. Table 2.2 shows the analysis of covariance of emotional regulation. The pre-test means of experimental group and control group were 36.05 and 35.9 respectively.

Since the obtained F-ratio of 0.06 is lower than the table value, F-ratio of 4.10, the pre-test means were not significant at 0.05 level of confidence with the degrees of freedom 1 and 38. The posttest means of experimental group and control group were 41.85 and 35.55 respectively.

The obtained F- ratio of 151.58 is seen to be higher than the table F-ratio of 4.10. Hence, the differences among the post- test means were significant at 0.05 level of confidence with degrees of freedom 1 and 38. The adjusted post-test means of experimental group and control group were 41.83 and 35.56 respectively.

Since the obtained F-ratio of 157.02 is higher than the table F-ratio of 4.11 the adjusted post-test mean difference amount the two groups were significant at 0.05 level of confidence with the degrees of freedom 1 and 37. There was significant difference in between control and experimental groups and within the experimental group.

2.9 Conclusion:

In the current study, the practice of yoga facilitated a reduction in the levels of stress, anxiety, fatigue, and psychological distress. The relaxation technique also enhanced the levels of self-esteem and quality of sleep among millenarian working in borders. Based on the results obtained, the following conclusion was drawn: It was concluded that yoga practices were effective than the control group in decreasing anxiety and insomnia among Indian Army Soldiers

2.10 References:

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