International Journal of
Adapted Physical Education & Yoga
Online Journal : www.ijapey.info
Faculty of General & Adapted Physical Education and Yoga (GAPEY)
Ramakrishna Mission Vivekananda Educational and Research Institute (RKMVERI), Coimbatore Campus
(Deemed-to-be-University as declared by Govt of India under Section-3 of UGC Act 1956)
SRKV Post, Periyanaickenpalayam, Coimbatore,Tamil Nadu – 641020, India
ISSN : 2455-8958
Open Access Refereed e-Journal

Research article

STRESS MANAGEMENT THROUGH YOGIC PRACTICE AMONG MALE RACE WALKERS

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Received 28th January 2017, Accepted 20th February 2018

Abstract

The purpose of the study was to find out the stress management through yogic practice among male race walkers. To achieve the purpose of the study, thirty male race walkers have been randomly selected from various colleges in and around Salem and Namakkal district, Tamil Nadu state, India. The age of subjects ranged from 17 to 29 years. The subjects had past experience of at least three years in race walking and only those who represented their respective college teams were taken as subjects. The subjects were randomly divided into two equal groups of fifteen each such as experimental group and control groups. The experimental group participated in the yogic practice for 8 weeks, 3 days a week, one session per day. The control group maintained their daily routine activities and no special training was given. The subjects of the two groups were tested on selected variables prior and immediately after the training period. The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out the significance difference, if any between the groups. The 0.05 level of confidence was fixed to test the level of significance difference, if any between groups. The results of the study showed that there was significant differences exist between yogic practice group and control group. And also yogic practice group showed significant decrease on recovery stress level compared to control group.

Keywords: *Race walkers, yogic practice, recovery stress*

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INTRODUCTION

Yoga has been effectively used in the management of stress. It has been observed that the practice of yoga decreases verbal aggressiveness compared to physical exercise (Deshpande et al. 2008). It is also useful against physical stress like cold exposure selvamurthy et al (2005) and stress due to diseases like epilepsy (Usha Panjwani, 1995). Yoga has been found useful for mental disorders like depression (Shannon, 2000). Yoga helps to improve the mental health of both the young and seniors by reducing stress. Yoga can be wisely applied in welfare programs to improve the Quality of Life in all age groups. Stress is understood as the total of organic adaptation reactions, which had the aim to maintain or re-establish the inner and/or outer balance. From the psychological point of view, stress is related to the activation of the cognitive functions and is generally understood as a psychological demand or mental activity (Noce et al. 2002). Recovery is a process through which the psychological consequences concerning stress, caused by previous activities, are balanced and the functional capacity restored (Renzland et al. 1988). It is a physiological, psychological and social process, and some of these systems can be trained while others are recovering (Simola et al. 2007). One of the most used variables in the monitoring of sports training programs, especially in high load phases is the stress and recovery perception through the recovery-stress questionnaire for athletes (RESTQ-Sport) (Maestu et al. 2006). This variable has been mainly used in studies which investigate the correlation between different training loads and their effect on the psychological status in athletes of different sports modalities (Kellmann et al, 1999).

Thus, the aim of the present study was to find out the stress management through yogic practice among male race walkers.

METHODS

To achieve the purpose of the study, thirty male race walkers have been randomly selected from various colleges in and around Salem and Namakkal district, Tamil Nadu state, India. The age of subjects ranged from 17 to 29 years. The subjects had past experience of at least three years in race walking and only those who represented their respective college teams were taken as subjects. The subjects were randomly divided into two equal groups of fifteen each such as experimental group and control groups. The experimental group participated in the yogic practice for 8 weeks, 3 days a week, one session per day. The control group maintained their daily routine activities and no special training was given. The subjects of the two groups were tested on selected variables prior and immediately after the training period. The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out the significance difference, if any between the groups. The

0.05 level of confidence was fixed to test the level of significance difference, if any between groups.

Instrument:

The questionnaire (RESTQ-Sport-76), developed by Kellmann and Kallus (2001), validated in the Portuguese language by Costa and (2005), is composed of 76 items organized in 19 scales, out of which 12 are general scales and seven scales specific to the sport (Noce 2008). These 19 scales are organized in four big dimensions (general stress, general recovery, stress in sports and recovery in sports) (Noce et al, 2008). The dimensions evaluate potentially stressing and recovery events within and outside the sports environment (Hooper and Mackinnon et al, 1995). The items of the instrument were answered using a Likert scale of seven points, which ranges from 0-never to 6-always (Likert, 1932).

Yogic Practice

Selected race walkers were subjected to 90 min of yoga practice classes for 8 weeks, 3 days a week, one session per day. They were instructed to practice asanas, pranayama and meditation. Yoga program was designed based on Posture. They stretch the muscles of the extremities, trunk and neck, and performed in all postures: standing, sitting, supine and prone. Asanas were - standing position: tadasana, ardha katichakrasana, pada hasthasana, trikonasana. Sitting position: vakrasana, vajrasana, paschimottanasana, gomukhasana. Supine position: pavanamuktasana, pada uttanasana - eka and dwipada. Prone position: bhujangasana, halabhasana - eka and dwipada. At the end of asana session, they were advised to practice Shavasana for 5 min. After asanas, pranayama was practiced Kapalabhati - 3 rounds each - 30 to 50 strokes, Nadishodana pranayama - 3 rounds, Bhramari -3 rounds, followed by 'OM' meditation for 15 min.

RESULTS

TABLE – II

DESCRIPTIVE ANALYSIS OF RECOVERY STRESS AMONG EXPERIMENTAL AND CONTROL GROUPS

S.No	Variables	Group	Pre-Test Mean	SD (±)	Post –Test Mean	SD (±)	Adjusted Mean
1	General stress	YEG	2.17	0.035	2.09	0.002	2.09
		CG	2.16	0.048	2.12	0.04	2.12
2	Emotional stress	YEG	2.79	0.036	2.71	0.006	2.71
		CG	2.80	0.006	2.73	0.04	2.73
3	Social stress	YEG	1.66	0.04	1.58	0.005	1.59
		CG	1.68	0.009	1.64	0.05	1.64
4	conflicts/pressure	YEG	2.75	0.05	2.62	0.01	2.62
		CG	2.76	0.011	2.68	0.07	2.68
5	Fatigue	YEG	3.37	0.05	3.24	0.01	3.24
		CG	3.39	0.01	3.3	0.08	3.30
6	Energy loss	YEG	1.55	0.03	1.50	0.006	1.50
		CG	1.57	0.01	1.53	0.03	1.53
7	Somatic complaints	YEG	3.08	0.02	3.00	0.01	3.00
		CG	3.10	0.01	3.05	0.04	3.05
8	Disorders in the intervals	YEG	3.02	0.021	2.86	0.01	2.85
		CG	3.04	0.02	2.95	0.10	2.95
9	Emotional exhaustion	YEG	1.74	0.04	1.62	0.01	1.62
		CG	1.76	0.005	1.68	0.07	1.67
10	Injuries	YEG	2.85	0.03	2.72	0.01	2.72
		CG	2.86	0.01	2.78	0.07	2.78
11	Success	YEG	3.17	0.06	3.33	0.02	3.33
		CG	3.14	0.03	3.25	0.09	3.26
12	Social recovery	YEG	3.55	0.04	3.64	0.02	3.64
		CG	3.53	0.02	3.59	0.05	3.60
13	Physical recovery	YEG	3.24	0.05	3.38	0.02	3.38
		CG	3.23	0.02	3.32	0.06	3.32
14	General Wellness	YEG	4.28	0.06	4.42	0.02	4.43
		CG	4.26	0.03	4.36	0.08	4.36
15	Sleep quality	YEG	4.52	0.06	4.63	0.02	4.63
		CG	4.50	0.03	4.57	0.07	4.57
16	To be fit	YEG	3.09	0.03	2.92	0.01	2.92
		CG	3.11	0.02	3.01	0.09	3.02
17	Personal acceptance	YEG	3.67	0.03	3.74	0.02	3.74
		CG	3.65	0.03	3.70	0.04	3.70

18	Self-efficacy	YEG	2.82	0.074	2.65	0.02	2.65
		CG	2.84	0.032	2.81	0.08	2.82
19	Self-regulation	YEG	3.64	0.02	3.80	0.02	3.79
		CG	3.51	0.37	3.75	0.07	3.76

YEG = yogic practice group **CG= Control group**

The tables-II shows the pre, post-test means, standard deviations and adjusted means on recovery stress of male race walkers in numerical. The analysis of covariance on selected variables of yogic practice group and control group is presented in table – III

TABLE – III
COMPUTATION OF ANALYSIS OF COVARIANCE ON RECOVERY STRESS AMONG MALE RACE WALKERS

S.NO	Variables	Test	Sum of variance	Sum of squares	Df	Mean square	F ratio
1	**General stress**	Pre-test	B.G	0.001	1	0.001	0.32
			W.G	0.05	28	0.002	
		Post-test	B.G	0.009	1	0.009	7.18*
			W.G	0.03	28	0.001	
		Adjusted means	B.S	0.009	1	0.009	7.44*
			W.S	0.03	27	0.001	
2	**Emotional stress**	Pre-test	B.G	0.002	1	0.002	2.97
			W.G	0.019	28	0.001	
		Post-test	B.G	.006	1	0.006	5.50*
			W.G	0.030	28	0.001	
		Adjusted means	B.S	0.005	1	0.005	4.77*
			W.S	0.030	27	0.001	
3	**Social stress**	Pre-test	B.G	0.003	1	0.003	3.30
			W.G	0.025	28	0.001	
		Post-test	B.G	0.025	1	0.025	19.48*
			W.G	0.036	28	0.001	
		Adjusted means	B.S	0.021	1	0.021	15.72*
			W.S	0.035	27	0.001	
4	**conflicts/ pressure**	Pre-test	B.G	0.001	1	0.001	0.66
			W.G	0.038	28	0.001	
		Post-test	B.G	0.022	1	0.022	7.45*
			W.G	0.081	28	0.003	
		Adjusted means	B.S	0.021	1	0.021	6.96*
			W.S	0.081	27	0.003	
5	**Fatigue**	Pre-test	B.G	0.004	1	0.004	2.26
			W.G	0.045	28	0.002	
		Post-test	B.G	0.028	1	0.028	7.51*
			W.G	0.105	28	0.004	
			B.S	0.025	1	0.025	6.53*

		Adjusted means	W.S	0.105	27	0.004	
6	**Energy loss**	Pre-test	B.G	0.002	1	0.002	2.95
			W.G	0.016	28	0.001	
		Post-test	B.G	0.007	1	0.007	10.66*
			W.G	0.018	28	0.001	
		Adjusted means	B.S	0.005	1	0.005	7.64*
			W.S	0.017	27	0.001	
7	**Somatic complaints**	Pre-test	B.G	0.002	1	0.002	3.49
			W.G	0.013	28	0.001	
		Post-test	B.G	0.021	1	0.021	17.16*
			W.G	0.034	28	0.001	
		Adjusted means	B.S	0.019	1	0.019	15.26*
			W.S	0.034	27	0.001	
8	**Disorders in the intervals**	Pre-test	B.G	0.001	1	0.001	1.34
			W.G	0.018	28	0.001	
		Post-test	B.G	0.059	1	0.059	9.71*
			W.G	0.171	28	0.006	
		Adjusted means	B.S	0.067	1	0.067	11.21*
			W.S	0.162	27	0.006	
9	**Emotional exhaustion**	Pre-test	B.G	0.004	1	0.004	3.09
			W.G	0.036	28	0.001	
		Post-test	B.G	0.026	1	0.026	10.04*
			W.G	0.073	28	0.003	
		Adjusted means	B.S	0.021	1	0.021	7.745*
			W.S	0.072	27	0.003	
10	**Injuries**	Pre-test	B.G	0.001	1	0.001	1.81
			W.G	0.021	28	0.001	
		Post-test	B.G	0.028	1	0.028	9.59*
			W.G	0.083	28	0.003	
		Adjusted means	B.S	0.028	1	0.028	8.99*
			W.S	0.083	27	0.003	
11	**Success**	Pre-test	B.G	0.006	1	0.006	2.18
			W.G	0.078	28	0.003	
		Post-test	B.G	0.047	1	0.047	9.96*
			W.G	0.131	28	0.005	
		Adjusted means	B.S	0.040	1	0.040	8.33*
			W.S	0.130	27	0.005	
12	**Social recovery**	Pre-test	B.G	0.004	1	0.004	2.93
			W.G	0.042	28	0.001	
		Post-test	B.G	0.016	1	0.016	8.24*
			W.G	0.056	28	0.002	
		Adjusted means	B.S	0.015	1	0.015	7.14*
			W.S	0.056	27	0.002	
13	P h y s	Pre-test	B.G	0.001	1	0.001	0.51

			W.G	0.048	28	0.002	
		Post-test	B.G	0.027	1	0.027	11.31*
			W.G	0.066	28	0.002	
		Adjusted means	B.S	0.026	1	0.026	10.48*
			W.S	0.066	27	0.002	
14	General Wellness	Pre-test	B.G	0.005	1	0.005	1.67
			W.G	0.078	28	0.003	
		Post-test	B.G	0.032	1	0.032	7.96*
			W.G	0.111	28	0.004	
		Adjusted means	B.S	0.034	1	0.034	8.40*
			W.S	0.109	27	0.004	
15	Sleep quality	Pre-test	B.G	0.002	1	0.002	0.81
			W.G	0.075	28	0.003	
		Post-test	B.G	0.028	1	0.028	7.67*
			W.G	0.101	28	0.004	
		Adjusted means	B.S	0.029	1	0.029	7.72*
			W.S	0.100	27	0.004	
16	To be fit	Pre-test	B.G	0.002	1	0.002	2.68
			W.G	0.024	28	0.001	
		Post-test	B.G	0.060	1	0.060	13.30*
			W.G	0.127	28	0.005	
		Adjusted means	B.S	0.062	1	0.062	13.34*
			W.S	0.124	27	0.005	
17	Personal acceptance	Pre-test	B.G	0.003	1	0.003	2.13
			W.G	0.033	28	0.001	
		Post-test	B.G	0.012	1	0.012	10.72*
			W.G	0.030	28	0.001	
		Adjusted means	B.S	0.012	1	0.012	10.81*
			W.S	0.030	27	0.001	
18	Self-efficacy	Pre-test	B.G	0.003	1	0.003	0.92
			W.G	0.093	28	0.003	
		Post-test	B.G	0.200	1	0.200	55.11*
			W.G	0.102	28	0.004	
		Adjusted means	B.S	0.194	1	0.194	51.59*
			W.S	0.102	27	0.004	
19	Self-regulation	Pre-test	B.G	0.11	1	0.11	1.68
			W.G	1.92	28	0.69	
		Post-test	B.G	0.026	1	0.026	9.29*
			W.G	0.079	28	0.003	
		Adjusted means	B.S	0.010	1	0.010	11.17*
			W.S	0.025	27	0.001	

*Significant at 0.05level of confidences

(The table values required for significance at 0.05 level of confidence for 1 & 28 and 1 & 27 are 4.20 and 4.21 respectively).

In the table the results of analysis of covariance on general stress, emotional stress, social stress, conflicts/pressure, fatigue, energy loss, somatic complaints, and disorders in the intervals, emotional exhaustion and injuries levels and increase on success, social recovery, physical recovery, and general wellness, sleep quality, to be fit, personal acceptance, self-efficacy, and self-regulation. The obtained 'F' ratio of 0.32, 2.97, 3.30, 0.66, 2.26, 2.95, 3.49, 1.34, 3.09, 1.81, 2.18, 2.93, 0.51, 1.67, 0.81, 2.68, 2.13, 0.92 and 1.68 for Pre-test means was less than the table value of 4.20 for df 1 and 28 required for significance at 0.05 level of confidence on general stress, emotional stress, social stress, conflicts/pressure, fatigue, energy loss, somatic complaints, and disorders in the intervals, emotional exhaustion and injuries levels and increase on success, social recovery, physical recovery, and general wellness, sleep quality, to be fit, personal acceptance, self-efficacy, and self-regulation. The obtained 'F' ratio of 7.18, 5.50, 19.48, 7.45, 7.51, 10.66, 17.16, 9.71, 10.04, 9.59, 9.96, 8.24, 11.31, 7.96, 8.24, 11.31, 7.96, 7.67, 13.30, 10.72, 55.11, 9.29 for post-test means was greater than the table value of 4.20 for df 1 and 28 required for significance at 0.05 level of confidence on general stress, emotional stress, social stress, conflicts/pressure, fatigue, energy loss, somatic complaints, and disorders in the intervals, emotional exhaustion and injuries levels and increase on success, social recovery, physical recovery, and general wellness, sleep quality, to be fit, personal acceptance, self-efficacy, and self-regulation. The obtained 'F' ratio of 7.44, 4.77, 15.72, 6.96, 6.53, 7.64, 15.26, 11.21, 7.74, 8.99, 8.33, 7.14, 10.48, 8.40, 7.72, 13.34, 10.81, 51.59 and 11.17 for adjusted post-test means was greater than the table value of 4.21 for df 1 and 27 required for significance at 0.05 level of confidence on general stress, emotional stress, social stress, conflicts/pressure, fatigue, energy loss, somatic complaints, and disorders in the intervals, emotional exhaustion and injuries levels and increase on success, social recovery, physical recovery, and general wellness, sleep quality, to be fit, personal acceptance, self-efficacy, and self-regulation. The result of the study indicated that there was a significant difference among the adjusted post test means of yogic practice group and control group on general stress, emotional stress, social stress, conflicts/pressure, fatigue, energy loss, somatic complaints, and disorders in the intervals, emotional exhaustion and injuries levels and increase on success, social recovery, physical recovery, and general wellness, sleep quality, to be fit, personal acceptance, self-efficacy, and self-regulation. And also yogic practice group showed significant improvement on general stress, emotional stress, social stress, conflicts/pressure, fatigue, energy loss, somatic complaints, and disorders in the intervals, emotional exhaustion and injuries levels and increase on success, social recovery, physical recovery, and general wellness, sleep quality, to be fit, personal acceptance, self-efficacy, and self-regulation compared to control group.

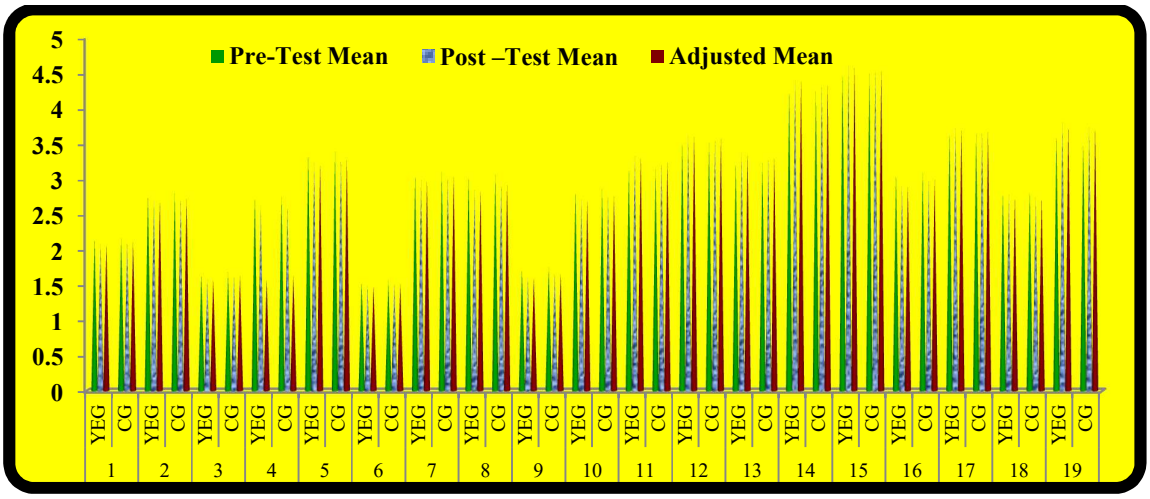

Figure-I The pre-test, post-test and adjusted post-test mean values of yogic exercise group and control group on 1.General stress, 2.Emotional stress, 3.Social stress, 4.Conflicts/pressure, 5.Fatigue, 6.Energy loss, 7.Somatic complaints, 8.Disorders in the intervals, 9.Emotional exhaustion 10.Injuries levels 11.Success, 12.Social recovery, 13.Physical recovery, 14.General wellness, 15.Sleep quality, 16.To be fit, 17.Personal acceptance, 18.Self-efficacy and 19.Self-regulation

DISCUSSION OF FINDINGS

The results of the study indicate that the experimental group race walkers showed significant decrease on general stress, emotional stress, social stress, conflicts/pressure, fatigue, energy loss, somatic complaints, and disorders in the intervals, emotional exhaustion and injuries levels and increase on success, social recovery, physical recovery, and general wellness, sleep quality, to be fit, personal acceptance, self-efficacy, and self-regulation levels.. The control group did not show significant improvement in recovery stress. The past studies of Ramesh (2017), Gopinathan (2016), Kuntal Thakur (2016). Gururaja et al (2011) also reveal recovery of stress.

CONCLUSIONS

From the analysis of data, the following conclusions were drawn.

1. The experimental group race walkers showed significant decrease on general stress, emotional stress, social stress, conflicts/pressure, fatigue, energy loss, somatic complaints, and disorders in the intervals, emotional exhaustion and injuries levels and increase on success, social recovery, physical recovery, and general wellness, sleep quality, to be fit, personal acceptance, self-efficacy, and self-regulation levels.

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Site this article:

Mohan, K., Kaba Rosario, C., & Dibakar Debnath. (2018). Stress management through yogic practice among male race walkers. *International Journal of Adapted Physical Education & Yoga*, Vol. 3, No. 3, pp. 8 to 18.