

5. Influence of Yogic Practice on Stress and Depression Among Kalaripayattu Performers

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Abstract:

The purpose of the study was to find out the influence of yogic practice on stress and depression among kalaripayattu performers. The study was conducted on 60 kalaripayattu performers in Way to Ananadamaya Yoga-Kalari Research Centre and Charitable Organization, Njarackal, Perinad, Kollam. Totally four group's namely experimental group I (kalaripayattu), group II (yoga), group III (kalaripayattu and yoga) and control group consisting of 15 in each group who underwent twelve weeks whereas the control group did not undergo any type of training.

The stress and depression were measured before and after the experimentation using the standardized test to measure the laboratory investigations and analyzed by Analysis of Covariance (ANCOVA) and it was concluded that the combined group of kalaripayattu and yoga had significant ($P < 0.05$) effect on the stress and depression

Keywords:

kalaripayattu, yogaasana, pranayama, stress and depression.

5.1 Introduction:

Kalaripayattu had developed into its present form by the 6th century, during an extended period of warfare between the Chera and Chola dynasties. Kalaripayattu includes strikes, kicks, grappling, preset forms, weaponry and healing methods. Regional variants are classified according to geographical position in Kerala; these are the Northern style from Malabar region in north Kerala practiced by the Central style from inner Kerala and the southern style from Thiruvithankoor. Northern kalaripayattu is based on elegant and flexible movements, evasions, jumps and weapons training, while the southern "Adi Murai" style primarily follows the hard impact-based techniques with priority on empty hand fighting and pressure point strikes. Both systems make use of internal and external concepts. Some of the flexibility training methods in northern Kalaripayattu are applied in Kerala dance forms and Kathakali dancers who knew martial arts were believed to be markedly better than the other performers. Some traditional Indian dance schools still incorporate kalaripayattu as part of their exercise regimen. Siddhar Agastya is regarded as the founder and patron saint of southern Kalaripayat, silambam and varmam -an ancient science of healing using varmam points for varied diseases. The resurgence of public interest in kalaripayattu began in the 1920s in Thalassery, as part of a wave of rediscovery of the traditional arts throughout south India and continued through the 1970s surge of general worldwide interest in martial arts. **(Chandran CK, Nair RH, Shashidhar S, 2004).**

Kalaripayattu is perhaps the most ancient martial art in the world. Religions have incorporated kalaripayattu into their realm. The origin of kalaripayattu is still in the midst of obscurity. Traditional kalari masters attribute mythological stories and legends to the origin of the art. Legend traces the 3000- year-old art form to sage Parasurama- the master of all martial art forms and credited to be the re- claimer of kerala from the Arabian Sea. At the turn of the 6th century A.D., martial arts spread from southern india to china through daruma bodhidarma - an indian buddhist monk and kalaripayattu master.

From china, martial arts have spread to korea & japan. Kalaripayattu is derived from the words kalari - which means “place, threshing floor, or battlefield”, and payattu - which means to “exercise in arms or practice”. Martial arts have been in existence on the indian sub-continent for thousands of years.

Long ago, animal fighting styles were imitated by pre-historic man, as a system for survival. The first weapon used was the stick which was an extension of the arm. Kalari yoga to describe the part of the kalari practice which includes exercises or movement sequences that are compared to yoga asanas. Perhaps this is due to the fact that kalaripayattu is a little-known martial art and its complexity is not easy to explain quickly, while yoga is a globally recognized reference point. Positions in kalari training resemble yoga, while for others, sequences resemble dance. So, it may seem that this is just another set of stretching exercises that requires advanced skills from the beginning.

There are many types of yoga that focus primarily on physical or health practice and lose the dimension of spiritual discipline. Of course, a lot depends on schools and teachers – many of them do take care of the spiritual aspect, but very often yoga classes are a combination of gymnastics and meditation/acrobatics/rehabilitation. In this article, we refer to yoga as one of the methods of work on oneself, self-observation and self-improvement. It was perceived in this way both in classical Patanjali yoga (2nd century AD) and hatha yoga developed. The first system emphasized the importance of meditation in the process of liberation from the limits of one's own consciousness, while in the second one, the vehicle to achieve this goal is the body, and techniques of physical and breathing exercises (asanas and pranayamas).

Also, the practice of kalari in its depth can be a discipline of spiritual development in which the body is just a tool. As in various types of yoga, some kalari masters focus more on the technical or even the performance aspect of training, because they are mostly interested in them (kalaripayattu shows are a common element of celebrations and festivals in Kerala), but there are also those who emphasize the value of the learning process and the internal transformation resulting from it. **(Balakrsnan, Pi, 1995).**

5.2 Objectives of the Study:

The objectives of the study are as follows.

- To investigate whether selected yogic practices show any changes on stress and depression among kalaripayattu performers.

- To analyze the effect of selected yogic practices on stress and depression among kalaripayattu performers.

Statement of the Problem: The purpose of the present study is to find out the influence of yogic practice on stress and depression among kalaripayattu performers.

5.3 Inclusion Criteria and Exclusion Criteria

Inclusion Criteria: Inclusion criteria were kalaripayattu performers ranged between 20 to 35 years at the time of data collection, can read, speak, and understand English language.

Exclusion Criteria: Exclusion criteria were those who didn't practice kalaripayattu and age below 20 or above 35 and not willing to participate in lifestyle modification interventions, sick at the time of data collection, practicing yoga and exercise regularly and undergoing treatment for other complications were excluded.

5.4 Review of Literature:

Uebelacker et al., (2021) studied the Teens' perspectives on yoga as a treatment for stress and depression. To understand adolescents' experiences and attitudes toward yoga, with a particular focus on acceptability and feasibility of a yoga intervention for depressed adolescents. Qualitative analysis of data from three focus groups and eight individual interviews, for a total of 22 teen participants. Outpatient setting in a psychiatric hospital in the U.S. Teens were asked about their own and their peers' attitudes toward, and experiences with, hatha yoga; reactions to a study-created yoga video; and opinions on class logistics. Teens had both positive and negative attitudes toward, and experiences with, hatha yoga. They commented on "who does yoga;" many responses suggested a limited group (e.g., moms; people with money and time). Participants agreed that yoga could be potentially beneficial for depressed or stressed teens. Self-consciousness while being in a yoga class was a major concern. Overall, teens reacted favorably to the study-created yoga video. Teens had varied opinions about class logistics including class duration and size. Teens cited barriers to class, such as transportation, as well as barriers to home yoga practice. Key points for developing a yoga class that might be appealing to depressed or stressed teens

include: creating a class with variety that teens will find interesting; taking concrete steps to decrease teen self-consciousness; incorporating messages relevant for teens and consistent with yoga philosophy; and actively countering stereotypes about who practices yoga. Limitations of this study include the lack of data from male teens.

Feifei Wang, Attila Szabo (2020) explored the effects of Yoga on Stress among Healthy Adults: A Systematic Review. Yoga was recommended in both clinical and nonclinical populations as therapy methods. The diversity of yoga practice as a therapy method has rarely been discussed and it is essential to address the effects of yoga on stress. This article aims to investigate the effect of different types of yoga on stress in healthy population. On the other hand, the authors intended to figure out yoga effects on stress systematically. A systematic literature review was conducted to identify articles that assess the effect of yoga and yoga-related interventions on stress reduction in nonclinical populations. Studies were classified according to the length of the intervention, yoga type, and measures of outcome. The studies were selected throughout last 5 years (January 2014 to November 2018) by using the key searching term yoga and stress incorporation with tension and pressure. The selection process followed the Prisma flow diagram. Totally, 12 articles elaborating on the effects of yoga or yoga-related interventions on stress management and remission were included in the review. This review included various types of yoga practice (e.g., Hatha yoga, Bikram yoga, Kundalini yoga, Sudarshan Kriya yoga, Kripalu yoga, Yin yoga). A time spectrum was conducted from 4 wks to 28 wks. This review revealed that most types of yoga have positive effects on stress reduction in healthy populations. Further studies are recommended to examine the long-term effect of yoga and underlying psychological mechanisms causing stress and mental restraint. In addition, it is suggested to consider age as a risk factor affecting the effect of yoga on stress.

Sy Atezaz Saeed et al., (2019) studied the Depression and Anxiety Disorders: Benefits of Exercise, Yoga, and Meditation. Many people with depression or anxiety turn to nonpharmacologic and nonconventional interventions, including exercise, yoga, meditation, tai chi, or qi gong. Meta-analyses and systematic reviews have shown that these interventions can improve symptoms of depression and anxiety disorders. As an adjunctive treatment, exercise seems most helpful for treatment-resistant depression, unipolar depression, and posttraumatic stress disorder.

Yoga as monotherapy or adjunctive therapy shows positive effects, particularly for depression. As an adjunctive therapy, it facilitates treatment of anxiety disorders, particularly panic disorder. Tai chi and qi gong may be helpful as adjunctive therapies for depression, but effects are inconsistent. As monotherapy or an adjunctive therapy, mindfulness-based meditation has positive effects on depression, and its effects can last for six months or more. Although positive findings are less common in people with anxiety disorders, the evidence supports adjunctive use. There are no apparent negative effects of mindfulness-based interventions, and their general health benefits justify their use as adjunctive therapy for patients with depression and anxiety disorders.

Rachel E Maddux et al., (2018) found the effects of yoga on stress and psychological health among employees: an 8- and 16-week intervention study. The stresses of modern work life necessitate effective coping strategies that are accessible and affordable to the general public. Yoga has been found to reduce stress in clinical samples, but studies are needed to examine standard gym yoga classes among functional individuals. This study investigated the effects of 8- and 16-week gym yoga on stress and psychological health. Ninety individuals reporting moderate-to-high stress were randomly assigned to 16 consecutive weeks of yoga, or to a waitlist crossover group who did not practice yoga for 8 weeks then practiced yoga for 8 weeks. Stress and psychological health variables were assessed at baseline, 8 weeks, and 16 weeks. Significant reductions in stress and all psychological health measures were found within the Yoga group over 16 weeks. When compared to the control group, yoga practitioners showed significant decreases in stress, anxiety, and general psychological health, and significant increases in well-being. The group who did not practice yoga showed significant decreases in stress, anxiety, depression, and insomnia after they crossed over and practiced yoga for 8 weeks. Gym yoga appears to be effective for stress amelioration and promotion of psychological health among workers experiencing stress.

5.5 Methodology:

For the present study 60 kalaripayattu performers, from Kollam, Kerala aged between 20-35 years were selected as the subjects. All the subjects were assigned to Experimental group - I (kalaripayattu), Experimental group - II (yoga), Experimental group - III (kalaripayattu

and yoga) and Control group - IV no practice consisting of 15 subjects in each group. The experimental group I practiced kalaripayattu and experimental group II practiced Veerabhadrasana, Ekapadasana, Natarajasana, Garudasana, Ustrasana, Sarvangasana, Malasana, Kapalabati, Bhramari, Ujjai, deep relaxation and Meditation, experimental group III combined kalaripayattu and yoga for twelve weeks for six days per weeks.

The stress and depression was measured by Perceived Stress Scale (PSS) developed by Cohen, Kamarck and Mermelstein, 1994 and Goldberg Depression Questionnaire - Ivan Goldberg (2006).

5.6 Results and Discussions on Stress:

The data pertaining to the variables collected from the four 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 influence of yoga practices among kalaripayattu performers.

Table 5.1: Analysis of Covariance of on Stress

	Exp.	Exp.	Exp.	Con.	SV	SS	df	MS	Obtained F
	Gr.I	Gr.II	Gr.III	Gr.IV					
Pre-Test Mean	32.6	32.6	32.6	32.4	B	0.6	3	0.2	0.08
					W	142.13	56	2.5	
Post Test Mean	23.6	22.8	17.9	32.7	B	1712.9	3	570.9	140.74*
					W	227.2	56	4.05	
Adjusted Post Test	23.6	22.8	17.9	32.7	B	1700.6	3	568.8	137.84*
Mean									

* Significant at 0.05 level Table F-ratio at 0.05 level of confidence for 3 and 56 (df) =2.77, 3 and 55 (df)= 2.77

Table 5.2: Scheffe's Post-hoc Test of Stress

Exp. Gr. I	Exp. Gr. II	Exp. Gr. III	Con. Gr. IV	Mean difference	Required C. I
23.60	-	-	32.72	9.12*	2.12
-	22.87	17.94	32.72	9.85*	2.12
-	-	-	32.72	14.78*	2.12
23.60	22.87	-	-	0.73	2.12
23.60	-	17.94	-	5.66*	2.12
-	22.87	17.94	-	4.93*	2.12

* Significant at .05 level

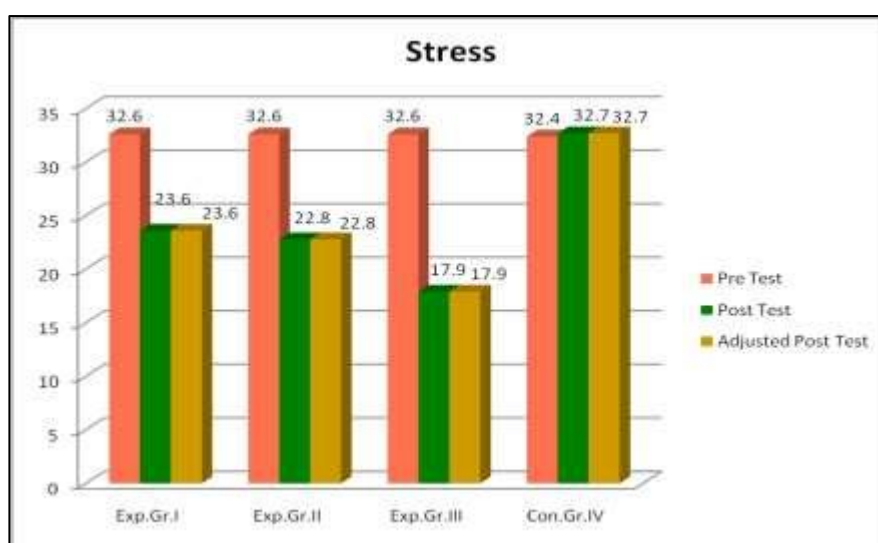


Figure 5.1: Bar Diagram on Means of Stress

5.6.1 Results of Stress:

The analysis of covariance of stress data between pre-test and post-test of the four groups have been presented in Table 5.1. Table 5.1 shows the analysis of covariance of stress. The pre-test means of experimental I, II, III and control groups were 32.6, 32.6, 32.6 and 32.4 respectively. Since the obtained F-ratio of 0.08 is lower than the table value, F-ratio of

2.77, the pre-test means were not significant at 0.05 level of confidence with the degrees of freedom 3 and 56. The posttest means of experimental I, II, III and control groups were 23.6, 22.8, 17.9 and 32.7 respectively. The obtained F-ratio of 140.74 is seen to be higher than the table F-ratio of 2.77.

Hence, the differences among the post-test means were significant at 0.05 level of confidence with degrees of freedom 3 and 56. The adjusted post-test means of experimental I, II, III and control groups were 23.6, 22.8, 17.9 and 32.7 respectively. Since the obtained F-ratio of 137.84 is higher than the table F-ratio of 2.77 the adjusted post-test mean difference amount the four groups were significant at 0.05 level of confidence with the degrees of freedom 3 and 55. Scheffe's post-hoc test was resorted-to, to find out the significance of ordered adjusted final means difference among the groups. Table 5.2 shows the Scheffe's post-hoc test results. The ordered adjusted means, differences between means and Scheffe's Post Hoc test F-ratio of experimental I, II, III and control groups were tested for significance against Scheffe's post-hoc test F ratio.

5.7 Results and Discussions on Depression:

The data pertaining to the variables collected from the four 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 influence of yoga practices among kalaripayattu performers.

Table 5.3: Analysis of Covariance of on Depression

	Exp. Gr. I	Exp. Gr. II	Exp. Gr. III	Con. Gr. IV	SV	SS	df	MS	Obtained F
Pre-Test Mean	49.46	49.53	49.6	49.6	B	0.3	3	0.11	0.04
					W	146.4	56	2.61	
Post Test Mean	34.6	33.1	32.6	49.6	B	2967.5	3	989.2	229.40*
					W	241.4	56	4.31	
Adjusted Post Test Mean	34.6	33.1	32.6	49.5	B	2951.2	3	983.6	236.58*
					W	228.68	55	4.15	

* Significant at 0.05 level Table F-ratio at 0.05 level of confidence for 3 and 56 (df) =2.77, 3 and 55 (df)= 2.77

Table 5.4: Scheffe’s Post-hoc Test of Depression

Exp. Gr. I	Exp. Gr. II	Exp. Gr. III	Con. Gr. IV	Mean difference	Required C. I
34.63	-	-	49.57	14.94*	2.13
-	33.08	32.66	49.57	16.49*	2.13
-	-	-	49.57	16.91*	2.13
34.63	33.08	-	-	1.55	2.13
34.63	-	32.66	-	1.97	2.13
-	33.08	32.66	-	0.42	2.13

* Significant at .05 level

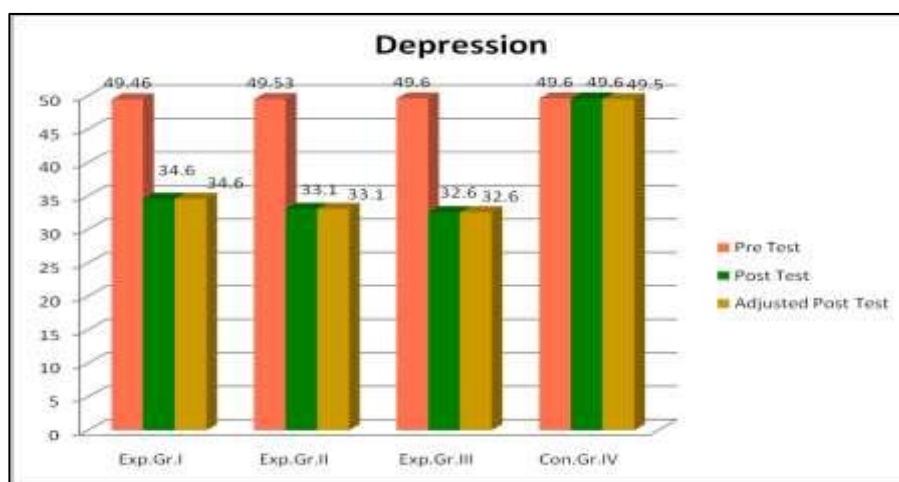


Figure 5.2: Bar Diagram on Means of Depression

5.7.1 Results of Depression:

The analysis of covariance of depression data between pre-test and post-test of the four groups have been presented in Table 5.3. Table 5.3 shows the analysis of covariance of depression. The pre-test means of experimental I, II, III and control groups were 49.46, 49.53, 49.6 and 49.6 respectively.

Since the obtained F-ratio of 0.04 is lower than the table value, F-ratio of 2.77, the pre-test means were not significant at 0.05 level of confidence with the degrees of freedom 3 and 56. The posttest means of experimental I, II, III and control groups were 34.6, 33.1, 32.6 and 49.6 respectively. The obtained F- ratio of 229.40 is seen to be higher than the table F-ratio of 2.77. Hence, the differences among the post- test means were significant at 0.05 level of confidence with degrees of freedom 3 and 56.

The adjusted post-test means of experimental I, II, III and control groups were 34.6, 33.1, 32.6 and 49.5 respectively. Since the obtained F-ratio of 236.58 is higher than the table F-ratio of 2.77 the adjusted post-test mean difference amount the four groups were significant at 0.05 level of confidence with the degrees of freedom 3 and 55.

Scheffe's post-hoc test was resorted-to, to find out the significance of ordered adjusted final means difference among the groups. Table 5.4 shows the Scheffe's post-hoc test results.

The ordered adjusted means, differences between means and Scheffe's Post Hoc test F-ratio of experimental I, II, III and control groups were tested for significance against Scheffe's post-hoc test F ratio.

5.8 Conclusion:

Based on the results obtained, the following conclusion was drawn:

- It was concluded that experimental group I (kalaripayattu) was effective than the control group in decreasing stress and depression among kalaripayattu performers.
- It was concluded that experimental group II (yoga) was effective than the control group in decreasing stress and depression among kalaripayattu performers.
- It was concluded that experimental group III (combined kalaripayattu and yoga) was effective than the control group in decreasing stress and depression among kalaripayattu performers.
- In comparing the three experimental groups, experimental group III combined (kalaripayattu and yoga) group was more effective in decreasing stress and depression than the experimental groups I and II among kalaripayattu performers.

5.9 References:

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