

EFFECT OF YOGIC PRACTICES ON THE SELECTED

PHYSICAL AND PHYSIOLOGICAL VARIABLES AMONG MALE GERIATRIC PEOPLE

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ABSTRACT

OBJECTIVES: To investigate effect of yoga practices among the male geriatric people.

EXPERIMENTAL DESIGN: Experimental group and Control group with the self reported Pre and Post Data.

RESULTS: Participants in the experimental group reported a significant improvement in the pain and insomnia management.

CONCLUSION: Role of yogic practices in the physiological conditions - mitigating pain and insomnia is in the affirmative. Nevertheless, a longer period of study involving the meditative nature of practices is needed.

KEY WORDS: Pain, Insomnia, Yogic practices

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1. INTRODUCTION

Yoga is a science of healthy living originating in the Indian philosophy. There has been an immense interest in harnessing the yoga practices in the disease management, health promotion and maintenance. Use of the Yoga as a complementary and alternative therapy has predominated in the public health domain as well as in medicine. Communicable and non communicable diseases where the potentials of yoga as a therapy is used to manage all kind of problems, as a mind-body rehabilitation tool. The purpose may be therapy, self-development, knowledge, clarity, transcendence or as mundane as relaxation. From this philosophical orientation, the solutions to many problems of life are sought and one such emerging area of application is holistic conceptualization of health and its achievement

The process-oriented understanding of yoga was characterized by the aspects such as mind-body integration,

knowing self, concentration and being in the present. The technique-related understanding emphasized on the fact that it is exercise to strengthen the body and mind having specific tools like asana, pranayama, dhyana and so on. There was also an awareness of the therapeutic impact of yoga among the practitioners and non-practitioners (Latha, 2005).

Researchers have shown that the yoga is beneficial in Management of Lifestyle diseases like Hypertension, Diabetes, Asthma etc. The utility of yoga practices in cases of post traumatic stress is also widely reported. Use of yoga therapy as adjuvant to physiotherapy is the outcome of research which has clearly established the efficacy. Most of the yoga practices are non specific and providing standardised solution for the cancer patients. The need is to individualise the yoga (Viniyoga) and also specifically address the symptoms.

2. OBJECTIVES

The aim of this study is to find out the effectiveness of yoga practices on the selected physical and physiological components among the male geriatric people. Male geriatric people have pain, sleep disorder, energy loss, weight gain due to over care and memory loss etc. Thus the investigator has chosen these variables as the health related variables.

3. DEPENDENT VARIABLES

Physical variables

- Weight
- Range of Movement of arms
- Circumference.

Physiological Variables

- Pain
- Insomnia

4. INDEPENDENT VARIABLES

Asana, Pranayama, Dhyana and Chanting with appropriate modifications

5. TEST ADMINISTRATION

WEIGHT - To measure the weight, Krupps bathroom weighing scale is used.

SCRATCH-RIGHT-LEFT - To measure the distance between Right and Left finger, tip measuring tape is used.

CIRCUMFERENCE - To measure the Circumference of Swollen arm.

6. PHYSIOLOGICAL VARIABLES.

PAIN. Using Visual analog pain scale.

INSOMNIA. To find the level of sleeping difficulty using Athens Insomnia Scale (AIA) written by G. Firman M.D..

7. SAMPLE

The sample for the study was recruited from Chennai-28. For the purpose of study, 24 subjects who consented were selected and randomised into two groups consisting of 12 subjects each. The subjects were assessed at pre intervention and post intervention in the 3 months period. All the subjects were tested for the selected physical conditions. The control group had no intervention. Both the groups were tested for the same selected variables after a period of 3 month. The data obtained were analysed for the independent t test and paired 't' test.

7.1 VINIYOGA PRACTICES

In the Tirumalai Krishnamacharya tradition, the methodology is to administer the practices that are appropriate and in tune with the needs of the individual. Before prescribing the intervention, a comprehensive holistic assessment is made to understand the person's physical condition, physiological function status and also psychological parameters. Patanjali's Yoga Sutras clearly state that to overcome the discomforts a wide range of choices are available. It could be deep breathing exercises, channelising the mind in philosophical enquiry, doing chanting of mantras by focusing on the meaning etc. The wide range of choices are offered just for the reason that each one can take up the appropriate practice according to the cause of the problem. Also the essential factor like individual's bent of mind and attitudes are very important. The sum and substance is, "One size fits all" approach cannot be of much help in the yogic practices.

Accordingly, practices like Tadasana, Uttanasana, Virabhadrasana, Trikonasana, Jataro Parivrtti, Ekapada Apanasana, Dwipadha pitham, Apanasana, the asanas were taught with the modifications as per the capability of the individuals. The following pranayama practices like Sitali or Sitkari, Anuloma Pranayama, Nadishuddhi were taught as found appropriate. Dhyana practices were in accordance with each one's belief system. Healing chants like 'Om', 'Om

namaha', 'Om Somaya namaha' etc. were also used wherever needed. Individual supervised practices were given.

8. RESULTS AND DISCUSSIONS

Two groups, namely experimental and control group were analysed with the differences in Mean value pre and post test scores on selected physical and physiological variables. The subjects were taken at random and difference between the means of two groups were studied. They were tested at 0.05 level of confidence.

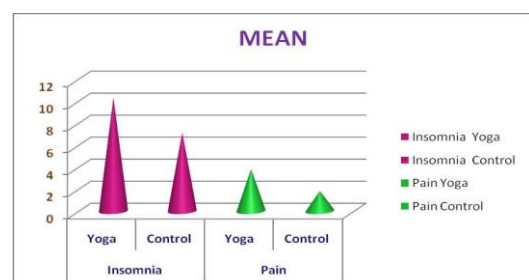
8.1 RESULTS OF THE PRE-TEST ON YOGA AND CONTROL GROUP

TABLE - 1
SHOWING THE MEAN, SD AND SIGNIFICANCE OF TWO GROUPS AT BASELINE

Variable	Group	Mean	S.D	t-value measured	Significance
Weight	Yoga	64.95	11.94	1.253	0.223
	Control	74.87	17.68		
Scratch right	Yoga	11.07	13.29	0.460	0.650
	Control	13.79	15.57		
Scratch left	Yoga	13.29	09.30	0.414	0.688
	Control	15.02	11.14		
Circumference	Yoga	27.29	02.68	1.121	0.275
	Control	29.15	05.07		
Insomnia	Yoga	10.33	03.74	2.076*	0.053
	Control	07.16	03.83		
Pain	Yoga	03.83	02.12	2.283**	0.032
	Control	01.83	02.16		

* Significant at 0.05 level Reference table 't' value for 0.05 level is 2.070

The Table 1 shows that the pre-test mean score & weight, scratch right, scratch left, circumference have a mean value of 64.95 kgs, 11.07 cm, 13.29 cm, 27.29 cm respectively for the Yoga group. The same score for the control group is 74.87, 13.79, 15.02, 29.15 respectively. There is no significant difference in the physical variables. There is a considerable difference between the yoga and control group for the pain and insomnia variable.



RESULTS ON THE YOGA GROUP BEFORE AND AFTER THE INTERVENTION

The pre test and post test scores of Physical and physiological variables are given below :

TABLE - II

SHOWING THE MEAN, SD AND SIGNIFICANCE OF THE YOGA GROUP BEFORE AND AFTER THE INTERVENTION

Variable	Group	Mean	S.D	t-value measured	Significance 2 tailed
Weight	Before	64.95	11.94	0.722	0.485
	After	64.58	12.55		
Scratch right	Before	11.07	13.29	2.490**	0.030
	After	07.16	09.76		
Scratch left	Before	13.29	09.30	0.000	1.000
	After	13.29	07.78		
Circumference	Before	27.29	02.68	1.650	0.127
	After	26.87	02.78		
Insomnia	Before	10.33	03.74	7.860**	0.000
	After	04.25	02.17		
Pain	Before	03.83	02.12	2.750**	0.019
	After	01.58	01.50		

Significant at 0.05 level. Reference table 't' value for 0.05 level is 1.796.

The table II shows no significant changes in the mean values of weight. The scratch right shows the values of pre test 11.07 cm and 7.16 cm in post test, which is a significant change of 3.91 cm. The scratch left shows no change in pre and post scores.

The circumference also shows a change about only 1 cm, the magnitude is not markedly high enough to show statistically. The physiological variables of pain and insomnia show a significant change. Pain has a mean scores of 3.83 in pre test and a mean score of 1.58 in post test. This is also statistically signified at t-value 2.750 that is at 0.03 levels. Similarly insomnia shows a change from 10.33 points to 4.25 points. The change can be quantified 5.08 point, which is quiet significant with the t-value of 7.860. The Fatigue scores of reduced activation and total fatigue show the increased level after Yoga intervention.

9. DISCUSSION OF RESULTS

Only the scratch right shows the significant changes, whereas the scratch left shows no changes. This is due to the fact that many women patients in the Yoga group had a surgery in Right Breast and had a Post operative stiffness in the Right hand range of movement.

The physiological parameter of Insomnia and pain shows a significant improvement. There was a considerable reduction in the pain and very great improvement in the quality of sleep.

9.1 RESULTS ON THE CONTROL GROUP BEFORE AND AFTER THE INTERVENTION TABLE - III SHOWING THE MEAN SD AND SIGNIFICANCE OF THE CONTROL GROUP BEFORE AND AFTER THE INTERVENTION

Variable	Group	Mean	S.D	t-value measured	Significance 2 tailed
Weight	Before	78.87	17.68	1.138	0.279
	After	76.10	16.23		
Scratch right	Before	13.79	15.57	0.183	0.858
	After	14.04	15.13		
Scratch left	Before	15.02	11.14	0.011	0.992
	After	15.00	08.86		
Circumference	Before	29.15	05.07	1.162	0.270
	After	32.25	09.46		
Insomnia	Before	07.16	03.83	0.736	0.477
	After	07.66	04.73		
Pain	Before	01.83	02.16	0.540	0.600
	After	02.08	01.37		

*Significant at 0.05 level . The Reference table't' value is 2.201.

The Table III shows no significant changes in the mean values of weight, scratch right, scratch left and circumferences values. The circumference shows the values of Pre-test as 29.15 cm and 32.25 cm as per post the test score. The difference of 3.10 cm is not significant as the S.D post score is 9.46 cm.

The physiological scores of the Insomnia and pain are 7.16, 01.83 point as pre the scores, where as the corresponding post scores are 7.66 and 2.08 points, which are not statistically significant.

All the fatigue scores show a increase, but significantly increase during the 3 months of Non Intervention of Yogic practices.

9.2 RESULT OF THE POST TEST ON THE YOGA AND CONTROL GROUP

The Post test scores of physical and physiological variables on both the yoga group and control group were measured and subjected to the statistical treatment. The Result of the Independent sample test is presented in the Table IV.

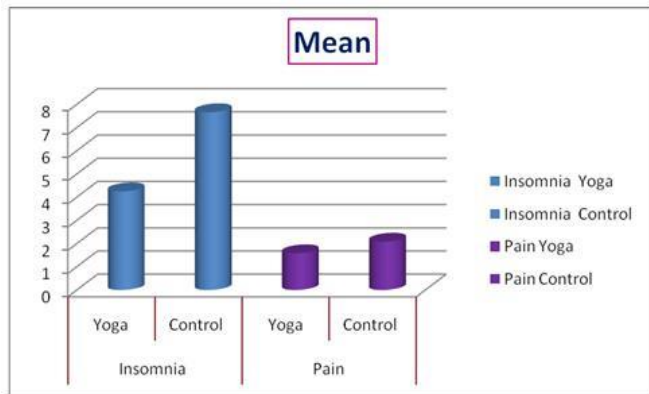
TABLE - IV

SHOWING THE MEAN, SD AND SIGNIFICANCE OF THE TWO GROUPS AT POST TEST

Variable	Group	Mean	S.D	t-value measured	Significance
Weight	Yoga	64.58	12.55	1.945	0.065
	Control	76.10	16.23		
Scratch right	Yoga	07.16	09.76	1.322	0.200
	Control	14.04	15.13		
Scratch left	Yoga	13.29	07.78	0.502	0.621
	Control	15.00	08.86		
Circumference	Yoga	26.87	02.78	1.888	0.072
	Control	32.25	09.46		
Insomnia	Yoga	04.25	02.17	2.270*	0.033
	Control	07.66	04.73		
Pain	Yoga	01.58	01.50	0.849	0.405
	Control	02.08	01.37		

*Significant at 0.05 level Reference table't' value is 2.07

The Table IV shows that the Post test mean scores of weight, scratch right, left and circumference have a mean value of 64.58 cm, 7.16cm, 13.29 cm and 26.87 cm for Yoga group. The same scores for the control group are 76.10 kg, 14.04 cm, 15.0 cm, 32.25 cm respectively. There is no significant difference in the physical variable.



The scores for the physiological variables of insomnia and pain in the Yoga group are 4.25, 1.58 points and that for the Control group are 7.66, 2.08 points. There is a significant decrease in the insomnia points for the Yoga group.

9.3 RESULTS AND DISCUSSIONS

Two groups, namely experimental and control groups were analysed with the differences in Mean value of pre and post test scores on the selected physical and physiological variables. The subjects were taken at random and difference between the means of two groups were studied. They were tested at 0.05 level of confidence.

9.4 DISCUSSION OF HYPOTHESIS

For the purpose of this study it was Hypothesized that the Yogic practices would improve the selected physical and physiological variables on the Yoga group compared with control group.

The results presented in the Tables, I, II, III & IV proved that there was a significant difference in Range of Movement in Right arm and not much significant differences with respect to the weight, scratch left circumference among the physical variables in the 3 months of yoga training.

Also among the physiological variables, both the pain and insomnia management showed much significant changes with the 3 months of Yogic intervention. The hypothesis for the physiological variable was accepted at 0.05 levels.

10. CONCLUSIONS

For the purpose of the study it was hypothesized that the yogic practices would improve the selected physical and physiological variables as compared with the control group.

1. Weight did not significantly decreased for the yoga group with the 6 weeks of yoga practices.
2. Scratch right significantly decreased for the yoga group with the 6 week of yoga practices.
3. Scratch left did not significantly decreased for the yoga group.
4. Circumference of the operated arm did not significantly decreased for the yoga group
5. Insomnia decreased significantly for the yoga group with the 3 months of yoga practice.
6. Pain drastically reduced with a significant decrease for the yoga group with the 6 week of yoga practices.
7. Total Fatigue did not significantly reduced for the yoga group..
8. The analysis of the Results proved that the yogic practices of viniyoga style was effective in the general fatigue, pain, insomnia, Scratch (i.e.) the Range of Movement of the operated arm and these hypothesis was accepted at 0.05 level.
9. The Result analysis proved that the yogic practices of viniyoga style were not effectively statistically proved in weight, circumference of swollen arm and fatigue. These hypotheses were rejected at 0.05 level.
10. The reason for the rejection was that the group is heterogeneous, sample was small, the intervention of yoga was only for 3 months.
11. The practice adherence of the subjects in yoga group was in doubt due to the disease processes. They were asked to practice at home, without the supervision.

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