

# EFFECT OF YOGIC INTERVENTION AND AEROBIC DANCE ON PHYSICAL PARAMETER OF FEMALE STUDENTS SUFFERING FROM TYPE –I OBESITY

C Gayatri, Assistant Professor, Department of Physical Education, Sri Padmavati Mahila University, Tirupati, Andhra Pradesh, India
B R Latha, Assistant Professor, Department of Physical Education, Sri Padmavati Mahila University, Tirupati, Andhra Pradesh, India
G. Sarah Sarojini, Professor, Department of Physical Education, Sri Padmavati Mahila University, Tirupati, Andhra Pradesh, India

# ABSTRACT

The study attempts to find out the Effect of Yogic Intervention and Aerobic Dance on Physical Variable of Female Students Suffering from Type –I Obesity. To achieve the above purpose of the study Ninety (90) female students suffering from Type-I Obesity in Sri Padmavati Mahila Visvavidyalayam Tirupati as the subjects. They will be divided into three groups basing on the age of the subjects - 18 to 20 years.

Key words: Yogic Intervention, Aerobic Dance, Muscular Strength and Type –I Obesity

# Introduction

Yoga is multifarious (Yoga hi bahudha) an art, a science, a philosophy, a culture and to a few, religion- all in Unison. Any reference to Yoga must symbolize the integrated whole and not any part of it. How this unification of art with science, of Philosophy with culture and of both these with the Yoga way of life was achieved by Hatha yoga deserves emphasis because of its special significance to woman.

The literal meaning of the word yoga is yoke. It means for uniting the individual spirit with the universal sprit, or God. The work yoga is derived from the roots of Sanskrit 'Yuj' which means to join, to attach, to bind, and yoke, and to concentrate on one's attention.

Although the word 'yoga' has many connotations, etymologically it means, "Integration:. The term "Samatava" of Bhagavat Gita conveys the same meaning. Other terms like homeostasis, equilibrium, balance, harmonious Development etc. more or less suggest the same things. The aim of yoga itself is an integration of personality in its all aspects. In order to help the Development of such integration, Various techniques are employed. These techniques or practices enjoined in yogic literature and handed down in different traditions also go under the name of yoga. (Gharote, 1976).

Aerobic dance is the fitness sport that combines the health and fatigue benefits of jogging with the fun of dancing. Benefit of Aerobic dance a firm, lean body, a strong heart, muscle strength, lower blood pressure, fat burning time, a reduction in stress level, sport exercising, cardiovascular fitness, more energy, better self image and self esteem. Aerobic dance can be a great way to have fun, start ones blood pumping and get their body in shape (Carlton R.M.1994).

#### Methodology

Ninety (90) female students suffering from Type-I Obesity in Sri Padmavati Mahila Visvavidyalayam Tirupati as the subjects. The total strength will be dividing into 3 different training groups of 30 players each, the age of the subjects - 18 to 20 years.

The study was formulated as a true random group design consisting of a pre-test and post- test. The subjects (N=90) were randomly assigned to three equal groups of female students Suffering from Type-I Obesity. The groups were designed as experimental group I – Yogic practices, experimental group II – Aerobic Dance and control group respectively. Yogic practices and Aerobic Dance will be practicing under the supervision of investigator. The subjects in control group were not engaged in any activity other than their regular curriculum. Pre tests will be conducted for all the subjects on selected physical parameter. The experimental groups will participate in their respective training protocols for a period of 8 weeks. The post tests will be conducted on the dependent parameter after completion of the experimental period of eight weeks for all the three groups. The difference between pre and post test scores was considered as the effect of varied respective experimental treatments. To test the statistical significance of the difference, the obtained pre and post test scores of all the three groups using ANCOVA. In all cases 0.05 levels was fixed to test the hypothesis.

#### **Research Design**

Using a genuine random group design, the research includes a pre- and posttests. Ninety participants are divided into three equal groups, each with thirty female students suffering from Type-I Obesity. The groups were designed as experimental group I – Yogic practices, experimental group II – Aerobic Dance and control group respectively. Yogic practices and Aerobic Dance will be practicing under the supervision of investigator. The subjects in control group were not engaged in any activity other than their regular curriculum. Pre tests will be conducted for all the subjects on selected physical parameter. The experimental groups will participate in their respective training protocols for a period of 8 weeks. The post tests will be conducted on the dependent parameter after completion of the experimental period of eight weeks for all the three groups. The difference between pre and post test scores was considered as the effect of varied respective experimental treatments. To test the statistical significance of the difference, the obtained pre and post test scores of all the three groups using ANCOVA. In all cases 0.05 levels was fixed to test the hypothesis.

#### **Results on Muscular Strength**

The Statistical Analysis Comparing the Initial and Final Means of Muscular Strength due to Yogic Intervention and Aerobic Dance among Female Students Suffering from Type –I Obesity is presented in Table.

TEST	YOGIC INTERVE NTION	AEROBIC DANCE	CONTROL GROUP	SOURCE OF VARIANCE	SUM OF SQUARES	MEAN SQUARES	OBTAINE D F-ratio
Pre Test	35.20	35.67	35.57	Between	3.62	1.81	0.05
Mean				Within	3426.83	39.39	
Post Test	42.27	43.53	36.07	Between	957.96	478.978	16.33
Mean				Within	2551.20	29.32	
Adjusted	12 17	13 10	36.00	Between	973.33	486.66	54.07
Post Test Mean	42.47	43.40	30.00	Within	761.34	8.85	54.97
Mean Diff	7.07	7.87	0.50				

Table 1 MUSCULAR STRENGTH SCORES OF YOGIC INTERVENTION ANDAEROBIC DANCE AND CONTROL GROUPS

Table value required for significant at 0.05 levels with 2 and 87 ( df)= 3.10, 2 and 86 (df) 3.10 \*Significant

C Gayatri, B R Latha & G Sarah Sarojini/ Effect of Yogic Intervention and Aerobic Dance on Physical Parameter of Female Students Suffering From Type –I Obesity/JYANAVI, Volume 1, Issue 2/2025

**Pre-Test:** The obtained pre test means on Muscular Strength on Yogic Intervention group was 35.20, Aerobic Dance Training group was 35.67 was and control group was 35.57. The obtained pre test F value was 0.15 and the required table F value was 3.10, which proved that there was no significant difference among initial scores of the subjects.

**Post–Test:** The obtained post test means on Muscular Strength on Yogic Intervention group was 42.27, Aerobic Dance Training group was 43.57 was and control group was 36.07. The obtained post test F value was 16.33 and the required table F value was 3.10, which proved that there was significant difference among post test scores of the subjects.

**Adjusted Post Gest:** Taking into consideration of the pre test means and post test means adjusted post test means were determined and analysis of covariance was done and the obtained F value 54.97 was greater than the required value of 3.10 and hence it was accepted that there was significant differences among the treated groups.

Since significant differences were recorded, the results were subjected to analysis using Scheffe's Post Hoc Confidence Interval test. The results were presented in Table II.

Table2. Multiple Comparisons of Paired Adjusted Means and Scheffes Post-HocConfidence Interval Test Results on Muscular Strength

INTERVENTION MEANS							
Vagic Intervention Group	Aerobic Dance Group	Control Group	Mean Difference	Interval			
rogic intervention Group				f - ratio			
42.47	43.40		0.93	1.91			
42.47		36.00	6.46*	1.91			
	43.40	36.00	7.39*	1.91			

\* Significant

The post hoc analysis of obtained ordered adjusted means proved that there was significant differences existed between Yogic Intervention group and control group (MD: 6.46\*). There was significant difference between Aerobic Dance group and Control group (MD: 7.39\*). There was significant difference between treatment groups, namely, Yogic Intervention group and Aerobic Dance Training group. (MD: 0.93).

The ordered adjusted means were presented through bar diagram for better understanding of the results of this study in Figure I.

# Findings on Muscular Strength

In order to find out the effect of Yogic Intervention and Aerobic dance training on Muscular Strength the obtained pre and post test means were subjected to ANCOVA and post hoc analysis through Scheffe's confidence interval test.

The effect of Yogic Intervention and Aerobic dance training on Muscular Strength is presented in Table I. The analysis of covariance proved that there was significant difference between the experimental groups and control group as the obtained F value 54.97 was greater than the required table F value to be significant at 0.05 level.

Since significant F value was obtained, the results were further subjected to post hoc analysis and the results presented in Table II proved that there was significant difference between Yogic Intervention training group and control group (MD: 6.46\*). and Aerobic dance training group and control group (MD: 7.39\*). Comparing between the treatment groups, it was found that there was no significant difference between Yogic Intervention and Aerobic dance training group among Female Students Suffering from Type –I Obesity.

Thus, it was found that while both experimental treatments significantly contributed for improving muscular strength, Aerobic dance training was significantly better than Yogic Intervention training and control group in improving Muscular Strength of the among Female Students Suffering from Type –I Obesity.

# Conclusion

Within the limitations and delimitations of the study, the following conclusions were drawn. It was concluded that 8 weeks Yoga intervention and 8 weeks Aerobic Dance training significantly improved Physical parameter such as Muscular Strength of the Female Students Suffering from Type-I Obesity compared to control group. It was concluded that comparing between Yoga intervention training and Aerobic Dance training, Aerobic Dance training was significantly better than Yoga Intervention in improving Physical parameter like of Female Students Suffering from Type-I Obesity.

### References

- Aley AJ and Buchanan J., (1999). Aerobic dance and physical self-perceptions in female adolescents: some implications for physical education. American Alliance for Health, Physical Education, Recreation and Dance, 70(2):196-200.
- Carlton, R. Meyers,(1994). Measurement in Physical Education (New York: The Ronald Press Company).
   children's creativity, self-perception, and aerobic power. Child and Adolescent Psychiatric

Clinic of North America. Oct; 7(4):773-90.

- Davis, Catherine L., Tomporowski, Phillip D., Boyle, Colleen A., Wailer, Jennifer L., Miller, Patricia H., Naglieri, Jack A., Gregoski, Mathew, (2007). Effects of aerobic exercise on overweight children's cognitive functioning: a randomized controlled trial. Research Quarterly for Exercise & Sport, Vol. 78 Issue 5, p510-519.
- Fatma Arslan (2011). The effects of an eight-week step-aerobic dance exercise programme on body composition parameters in middle-aged sedentary obese women. International Sport Med Journal, Vol.12 No.4, pp. 160-168
- Iyengar, B.K.S. (1999) The Gift of Yoga, (New Delhi: Harpers Collins Publications India PVt Ltd., 1999), p.394.
- 6. Jacki Sorensen (1983), Aerobic Lifestyle Simon & Schuster Houston, TX, U.S.A
- 7. MahadeV Desai (1972), Introduction to the Gita and according to Gandhi, New Delhi.
- PallavSengupta , Health Impacts of Yoga and Pranayama: A State-of-the-Art Review, Int J Prev Med. 2012 Jul; 3(7): 444–458.
- 9. Patel, C. (1993). Yoga-based therapy. In P. Lehrer, & R. Woolfolk (Eds.), Principles and practice of stress management (2nd ed., pp. 89-137). New York: Guilford Press.
- 10. Plante, T. G., & Rodin, J. (1990). Physical fitness and enhanced psychological health. Current Psychology: Research and Reviews, 9(1), 3-24.
- 11. Sharma, P.D. (1984), Yogasana and Pranayama for Health Bombay, India: NaVneet Publication, PP. 10-11.
- 12. Swami KuValayananada, (1977), Asana, (India: Lona Vala: KaiValyathama)
- Vivian H. Heyward (2006) Advanced fitness assessment Human Kinetics, University of New Mexico United States ISBN-13: 978-1-4504-6600-4