



EFFECT OF AQUA AEROBIC TRAINING AND YOGIC PRACTICES ON PHYSICAL PHYSIOLOGICAL AND PSYCHOLOGICAL VARIABLES AMONG HOCKEY PLAYERS

Dr. Gajendra.K¹

AFFILIATION

¹ Department of Physical Education, IISER, Tirupati

ABSTRACT

To achieve the purpose of the study, the investigator randomly selected 90 women hockey players from different colleges in Tirupati Chittoor District. The age of subjects for the study was between 17 to 21 years. The selected subjects were divided into three groups, experimental group I, experimental group II and control group consisting of 30 Hockey players in each group. Experimental group I was assigned as Aqua Aerobics exercises group, Experimental group II was assigned as Yogic Intervention group and control group was not given any special treatment and were under strict supervision of the investigator. Prior to experimental treatment, all the subjects were measured of their Physical Physiological and Psychological components such as Speed, RHR and Sports Achievement Motivation. This formed pre-test scores. After 8 weeks experiments to the experimental groups on respective training, all the three groups were tested on criterion variables selected, which formed post test scores. The difference between pre and post test scores was considered as the effect of varied respective experimental treatments. Analysis of Covariance (ANCOVA) was used to find out the significant differences if any, among the groups for each variable separately. It was concluded that eight weeks of Aqua Aerobic exercises and Yogic Practices weresignificantly improved the Physical Physiological and Psychological variables of women hockey Players compared to control group.

Keywords: Aqua Aerobics, Yogic practices, Speed

1. INTRODUCTION

The large range of postures offers training capable of developing a vigour body, healthy internal organs, and an alert mind. The yoga asana penetrates and impact every single cell and tissue, bringing them to life. The human body is seen by yoga as a tool for the path to perfection. Yoga practice not only strengthens the body but also expands the mind. Additionally, yoga develops control over the automatic muscles in several organs. Yoga activities resist violent muscular movements because they build huge amounts of lactic acid in the muscle fibres, which leads to exhaustion, as opposed to regular physical training, which emphasises the violent motions of the muscles. In the yogic system, all movements are slow and gradual with proper breathing and relaxation.

The beauty of water exercise is that it can accommodate the fitness needs of every one, it's generally considered safe for people with arthritis and musculoskeletal problems. Water exercise is not just land exercise programme water fitness benefits range from helping to control blood sugar levels to improving aerobic fitness (Karl). Water adds magic to any workout the magic lies in water's support for the body (buoyancy) water's resistance to body movement, and water's wonderful freshness.

Water aerobics can also be known as aqua fit or aquatic fitness and it simply involves doing aerobic activity in the water. Water Aerobic is generally done in fairly shallow water, usually no deeper than your hips, but sometimes the water can be up to your chest or even your neck, depending on how hard you plan on going. Things like knee lifts, running in the water, jumping jacks, and lunges are all great examples of water aerobics exercises

2. METHODS

To achieve the purpose of the study, the investigator randomly selected 90 women hockey players from different colleges in Tirupati Chittoor District. The age of subjects for the study was between 17 to 21 years.

The selected subjects were divided into three groups, experimental group I, experimental group II and control group consisting of 30 Hockey players in each group. Experimental group I was assigned as Aqua Aerobics exercises group, Experimental group II was assigned as Yogic Intervention group and control group was not given any special treatment and were under strict supervision of the investigator.

Prior to experimental treatment, all the subjects were measured of their Physical Physiological and Psychological components such as Speed, RHR and Sports Achievement Motivation. This formed pre-test scores. After 8 weeks of experiments to the experimental groups on the respective training, all three groups were tested on criterion variables selected, which formed post test scores. The difference between pre and post-test scores was considered as the effect of varied respective experimental treatments.

Analysis of Covariance (ANCOVA) was used to find out the significant differences if any, among the groups for each variable separately.

3. RESULTS

TABLE I
COMPUTATION OF ANALYSIS OF COVARIANCE OF PRE – TEST AND POST-TEST ON SPEED SCORES OF AQUA AEROBIC EXERCISES AND YOGIC PRACTICES AND CONTROL GROUPS

Test Mean	Aqua Aerobic Exercises	Yoga Practice	Control Group	SOV	SSs	df	MS	F-Value
Pre-test	10.75	10.93	10.90	Between Groups	0.57	2	0.28	0.36
				Within Groups	68.21	87	0.78	
Post-test	9.49	9.88	10.86	Between Groups	29.92	2	14.96	29.71*
				Within Groups	43.81	87	0.50	
Adjusted Post-test	9.55	9.84	10.84	Between Groups	27.38	2	13.69	48.05*
				Within Groups	24.50	86	0.28	
MD	1.25	1.05	0.03					

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

*Significant

Pre –Test, The obtained pre test means on Speed on Aqua Aerobic exercises group was 10.75, Yogic Practices group was 10.93 and control group was 10.90. The obtained pre test F value was 0.36 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 Speed on Aqua Aerobic exercises group was 9.49, Yogic Practices group was 9.88 and Control group was 10.86. The obtained post test F value was 29.71* 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–test 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 48.05* was greater than the required value of 3.10 and hence it was accepted that there were significant differences among the treated groups.

TABLE 2
COMPUTATION OF ANALYSIS OF COVARIANCE OF PRE – TEST AND POST TEST
ON RHR SCORES OF AQUA AEROBIC EXERCISES AND YOGIC PRACTICES
AND CONTROL GROUPS

Test Mean	Aqua Aerobic Exercises	Yoga Practice	Control Group	SOV	SSs	df	MS	F-Value
Pre-test	73.27	73.30	73.63	Between Groups Within Groups	2.47 421.13	2 87	1.23 4.84	0.25
Post-test	68.90	69.10	73.47	Between Groups Within Groups	399.62 862.87	2 87	199.811 9.92	20.15*
Adjusted Post-test	68.98	69.16	73.47	Between Groups Within Groups	362.55 726.05	2 86	181.27 8.84	21.47*
MD	4.37	4.20	0.17					

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

Pre –Test, The obtained pre test means on RHR on Aqua Aerobic exercises group was 73.27, Yogic Practices group was 73.30 and control group was 73.63. The obtained pre test F value was 0.25 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 RHR on Aqua Aerobic exercises group was 68.90 Yogic Practices group was 69.10 and Control group was 73.47. The obtained post test F value was 20.15* 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 – test 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 21.47* was greater than the required value of 3.10 and hence it was accepted that there was significant differences among the treated groups.

TABLE 3
COMPUTATION OF ANALYSIS OF COVARIANCE OF PRE – TEST AND POST TEST
ON SPORTS ACHIEVEMENTMOTIVATION OF AQUA AEROBIC EXERCISES
AND YOGIC PRACTICES AND CONTROL GROUPS

Test Mean	Aqua Aerobic Exercises	Yoga Practice	Control Group	SOV	SSs	df	MS	F-Value
Pre-test	26.80	26.47	26.27	Between Groups Within Groups	4.36 1322.13	2 87	2.18 15.20	0.14
Post-test	31.20	31.03	26.73	Between Groups Within Groups	384.69 1349.63	2 87	192.344 15.51	12.40*
Adjusted Post-test	31.05	31.06	26.86	Between Groups Within Groups	350.70 988.63	2 86	175.35 11.50	153.25*
MD	4.40	4.57	0.47					

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

Pre –Test, The obtained pre-test means on Sports Achievement Motivation on Aqua Aerobic exercises group was 26.80, Yogic Practices group was 26.47 and control group was 26.27. The obtained pre-test F value was 0.14 and the required table F value was 3.10, which proved that there was no significant difference among initial scores of the subjects.

Post–TestThe obtained post-test means on Sports Achievement Motivation on Aqua Aerobic exercises group was 31.20, Yogic Practices group was 31.03 and Control group was 26.73. The obtained post-test F value was 12.40* 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–testtaking 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 15.25 was greater than the required value of 3.10 and hence it was accepted that there was significant differences among the treated groups.

5. CONCLUSIONS

The conclusion was that eight weeks of Aqua Aerobic exercises and Yogic Performs significantly enhanced the Physical Physiological and Psychological variables of female hockey players in comparison to the control group. It was also discovered that Aqua Aerobic exercises altered the physical physiological and psychological variables of female hockey players significantly more than did Yogic practices. .

REFERENCES

- Acharya, et. al. (2010).** Effect of Pranayama (voluntary regulated breathing) and Yogasana (yoga postures) on lipid profile in normal healthy junior footballers. International Journal of Yoga, 3(2), P 70.
- Clerke. Harrison H, & Clerke. David (1972).** Advanced Stastic With Applications to Physical Education, Englewood Cliffs, New Joursey: Prentice Hall.
- Cooper, Kenneth H.(1970).** The new Aerobics (New York: M Evains and Company). Inc.
- Chou, LS., Kaufman, KR., Walker-Rabatin AE, AND et al. (2004).** Dynamic instability during obstacle crossing following traumatic brain injury. Gait Posture, 20, 245–254
- Hyatsville (2000).** National Center for Health Statistics, MD,, 1–52 [PubMed] [Google Scholar]
- Katz, Jane (2003).** Your Water Workou ,broadway book , United States of America

- Kamlesh, M.L. (19914).** Physical Education; Facts and Foundations. P B Publication (Pvt) Limited, Faridabad, Haryana.
- Kannus P:** Fall-induced deaths among elderly people. American Public Health Association, 2005, 95: 422–424.
- Lach HW (1991).** Falls in the elderly: reliability of a classification system. J Am GeriatrSoc, 39, 197–202
- Mira, Silva and Mehta, Shyam (1990).** The yoga Iyengar Way , Alfred a kanofInc London
- Norton, C. O., Hoobler, K., Welding, A. B., & Jensen, G. M. (1997).** Effectiveness of aquatic exercise in the treatment of women with osteoarthritis. The Journal of Aquatic Physical Therapy, 5, 8-15.
- Peyre-Tartaruga, L A., et.al. (2009).**, Physiologic and Kinematical Effects of Water Run Trainingon Running Performance\ . International Journal of Aquatic Research and Education, 3(2), 145 – 150.
- Podsiadlo, D., & Richardson, S. (1991).** The timed "Up & Go": A test of basic functional mobility for frail elderly persons. Journal of the American Geriatrics Society, 39, 142-148.
- Roach (2001)** High-altitude illness; In: Auerbach PS, ed. Wilderness Medicine. St. Louis: Mosby, 32–36.
- Shumway-Cook A., Brauer S., Woollacott, M. (1997).** Predicting the probability for falls in community-dwelling older adults. PhysTher, 77, 812–819
- Tinetti, ME., Speechley, M., Ginter, SF (1988).** Risk factors for falling among elderly persons living in the community. N Engl J Med, 319, 1701–1707
- Warner M, Barnes PM, Fingerhut LA(1997).** Injury and poisoning episodes and conditions: national health interview and survey.
- Woollacott, MH., Shumway-Cook, A., Narshner, L.M.(1986).** Aging and posture control change in sensory organization and muscular coordination. Int J Aging Hum Dev, 23: 97–114.