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Upshot of Selected Yoga Exercises and Pranayama on Aggression VO2 Max and Flexibility Among Jet Set Swimmers

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Abstract
The present research involves the experimentation of Upshot of yoga exercise and Pranayama on aggression, VO2 max and flexibility among jet set swimmers. The study was confined to the swimmers of various swimming academy in Kerala. Totally 50 swimmers were selected and they were not familiar with yoga and Pranayama. The selected swimmers were in the age-group between 18 to 21 years. The swimmers were further divided into two groups such as experimental group and control group. The experimental group practiced Yoga asana and 'Pranayama' weekly for five days i.e. Monday to Friday, between 6.00 A.M. to 8.00 A.M., for a period of 8 weeks. which was considered adequate to indicate changes on selected criterion variables, if any. The SMITH aggressive questionnaire was used to assess the aggression of swimmers. VO2 max was measured by Astrand-Astrand Nomogram. Flexibility was measured by sit and reach test with yardstick scale. The swimmers of two groups are tested on selected criterion variables i.e. VO2 max aggression and flexibility prior to and after training period. The analysis of covariance (ANCOVA) was applied to find out the variance in each criterion variables. The level of significance to test and 'F' ratio, obtained by the analysis of co-variance was fixed at .05 level of confidence. From the analysis of the data, the following conclusions were drawn (i.e.) significant increase in maximal oxygen uptake, significant decrease in aggression, significant improvement in flexibility in Yoga exercise and 'Pranayama' training groups.

Keyword: Asanas, Pranayama, Jet Set Swimmers, Flexibility.

Introduction

Yoga is one of the orthodox systems of Indian philosophy. It was collated, coordinated and systematized by Patanjali in his classical work, the 'Yoga sutras', which consists of 185 terse aphorisms. In Indian thought, everything is permeated by the Supreme Universal Spirit (Paramatma or God) of which the individual human spirit (jivatma) is a part. The system of yoga is so called because it teaches the means by which the jivatma can be united to, or be in communion with the Paramathma, and so secure liberation (moksa).

Yogasanas are India's unique contribution to physical education. Yoga and physical education may be compared to two bullocks hitched to a shaft as they are for the judicious blending of the education of the

body and the mind. There is no denial of the fact that yoga and physical education attach importance by gaining the benefits of physical health, mental health, physical fitness and peace of mind through their regular practice. Physical education concerns anatomical aspects of the physique with its physiological reactions for a given activity, the ultimate aim of which is to enjoy a good health and optimum fitness. Yoga is providing a multidimensional development and it has now become an adjunct to physical education. According to Swami Satyanand Saraswathi "Yoga is not an ancient myth buried in oblivion. It is the most valuable inheritance of the present. It is the essential need of today and the culture of tomorrow".

Yoga is a complete system of physical, mental, social and spiritual development. For generations, this philosophy was passed on from the master-teacher to the student. The first written records of the practice of yoga appeared around 200 B.C. in yogasutra of Patanjali. The system consisted of the eightfold path or Asthangayoga. In the west, several schools of yoga are popular and use some or all limbs of Asthangayoga described by Patanjali. The eight limbs are these:

1. YAMA: Rules for successful living in society.
2. NIYAMA: Techniques for managing and purifying Self.
3. ASANA: Posture techniques for Physical and mental Balance (what most people think of as "yoga").
4. PRANAYAMA: Breathing techniques for physical and mental balance.
5. PRATIHARA: Techniques for detaching the mind from the senses for mental balance and calm.
6. DHARANA: Concentration techniques for mental Balance and calm.
7. DHYANA: Meditation techniques for mental balance and calm.
8. SAMADHI: Ultimate advanced meditation Techniques and psychic procedures attained after Regular practice for universal consciousness.

Anxiety is manifested in varied ways. Sometimes the individual experiences it as merely in a sense of harmless dread without being able to identity or of what he is fearful. Psychiatrists call this three-floating anxiety to indicate that it is not attached to any specific object. When all individual main symptoms are that of free-floating anxiety, psychiatrists diagnose the condition as an anxiety state. Over-aggression leads to tension and it adversely affects functions like digestion, circulation, excretion and sleep. Yoga exercises (Asanas and 'Pranayama') help to develop the control of the senses and bring balance and harmony leading to coordination of body and mind.

Methodology

The present research involves the experimentation of Upshot of yoga exercise and Pranayama on aggression, VO2 max and flexibility among jet set swimmers. The study was confined to the swimmers of various swimming academy in Kerala. Totally 50 swimmers were selected and they were not familiar with yoga and Pranayama. The selected swimmers were in the age-group between 18 to 21 years. The swimmers were further divided into two groups such as experimental group and control group. The experimental group practiced yoga exercise and 'Pranayama' weekly for five days i.e. Monday to Friday, between 6.00 A.M. to 8.00 A.M., for a period of 8 weeks. which was considered adequate to indicate changes on selected criterion variables, if any. The SMITH aggressive questionnaire was used to assess the aggression of swimmers. VO2 max was measured by Astrand-Astrand Nomogram. Flexibility was measured by sit and reach test with yardstick scale. The swimmers of two groups are tested on selected criterion variables i.e. VO2 max aggression and flexibility prior to and after training period. The analysis of covariance (ANCOVA) was applied to find out the variance in each criterion variables. The level of

significance to test and 'F' ratio, obtained by the analysis of co-variance was fixed at .05 level of confidence.

Results of the Study

The data of aggression, maximal oxygen uptake and flexibility before and after the gaining of experimental and control groups were analysed and presented in the following.

Analysis of covariance for the data on criterion variables Experimental and Control Groups

	Experimental Groups			Control Groups			F- Ratio
	Pretest mean	Post test mean	Adj post-test mean	Pretest mean	Post test mean	Adj post-test mean	
Aggression	38.80 9.27	36.40 9.38	37.46	40.88 8.49	40.16 9.18	39.10	9.81*
VO2max	1.62 0.76	2.77 0.57	2.79	1.698 0.48	1.65 0.4442	1.63	135.49*
Flexibility	27.76 4.99	28.84 5.26	29.20	28.50 7.15	28.50 6.73	28.61	11.99*

***Significant at 0.05 level of confidence. (The value for significance at 0.5 with df 1 and 48 and 1 and 47 is 7.28 and 7.25 respectively)**

From the above table it revels the pre-test means of aggression, V*O_{2m} and flexibility of experimental group were 38.8 plus/minus 9.27 1.62 plus/minus 0.76 and 27.76 plus/minus 4.99 and control group were 40.88 plus/minus 8.49 1.698 plus/minus 0.48 and 28.5 plus/minus 7.15 respectively. The post-test means of aggression, V*O_{2m} and flexibility of experimental group were 36.4 plus/minus 9.38, 2.77 plus/minus 0.57 and 27.76 plus/minus 4.99 and control group were 40.16 plus/minus 9.18 1.65 plus/minus 0.442 and 28.98 plus/minus 6.93 respectively. The adjusted post-test means of anxiety, V*O_{2m} and flexibility of experimental group were 37.46, 2.79 and 29.20 and control group were 39.10, 1.63 and 28.61 respectively. The obtained 'F' ratio of anxiety, V*O_{2m} and flexibility were 9.81, 135.49 and 11.99 and these values were higher than the tabulated 'F' ratio for degree of freedom 1 and 47 was 7.25.

It was concluded that there was a significant improvement after the experimental period on aggression, VO2max and flexibility.

The results of the study revealed that the training has lowered the heart rate and reduced the oxygen consumption as compared to the control group. This result is in line with that of the study earlier conducted by Raju who has reported that after un-intensive yoga training there was a significant lower heart rate and reduced oxygen consumption per unit work and lower respiratory quotient and he quoted that those who practiced Pranayama could achieve better work rates with reduced oxygen consumption per work and without increasing blood lactate level. Roy also has shown that the hatha yogic exercise along with games helps to improve aerobic capacity.

The result also revealed that the 'Pranayama' produced a significantly greater increase in perception and physical energy. This result is in line with study earlier conducted by Wood who has reported that 'Pranayama' produced a significantly greater increase in perceptions of mental and physical energy and feelings of alertness and enthusiasms.

Conclusions

From the analysis of the data, the following conclusions were drawn: Yoga exercise and 'Pranayama' training showed three major trends:

1. significant increase in maximal oxygen uptake.
2. significant decrease in aggression.
3. significant improvement in flexibility.

References

1. Lisa Marie Bernardo, (2007), "The effectiveness of Pilates training in healthy adults: An appraisal of the research literature", Journal of Bodywork and Movement Therapies, 11, pp. 106-110.
2. Jago R., et al., (2006), "Effect of 4 weeks of Pilates on the body composition of young girls", Prev Med. Mar; 42(3), pp.177-80.
3. Morrow, James R., et al., (2005), Measurement and Evaluation in Human Performance, (3ED), Champaign Illinois: Human Kinetics Publishers Inc.
4. Shybut G and Miller C. (2005), "Trigger toe" in a ballet dancer", Med Probl Perf Art., 20(2), pp.99-102.
5. Segal NA, et al., (2004), "The effects of Pilates training on flexibility and body composition:
6. an observational study", Arch Phys Med Rehabil 85, pp.1977-81.
7. Hale T. (2003), Exercise Physiology A Thematic Approach, England: John Wiley & Sons Ltd., p.290.
8. G. Roy, "Effect of Shavasana and Cyclic Meditation on Oxygen Consumption, Breath Rate, and Breath Volume", Psychological Report, (April 2001), 82 (1), 285-287.
9. Swami Satyanand Saraswath, Asana Pranayama Mudra Bandha, (Varanasi: Bharagava Bushan Press, 1999), p.1.
10. P.S. Raju et al, "Influence of Intensive Yoga Training on Physiological Changes in 6 Adult Women", Journal Alternative Complement Medicine, (1997), 3 (3), 291-295.
11. Self B, et al., (1996), "Functional biomechanical analysis of the Pilates-based reformer during
12. demi-plie movements", J Applied Biomechanics, 12(3), pp.26-37.
13. C. Wood, "Mood Change and Perceptions of Vitality: A Comparison of the Effects of Relaxation, Visualization and Yoga", Journal R Social Medicine, (May 1993), 86 (5). 254-258.
14. Stolarsky L, (1993), "The Pilates method in physical therapy of the dancer", Orthop Phys Ther Pract. 5, pp.8-9.
15. Stone, M., et al. (1982), "Physiological effects of a short-term resistive training program on middle-aged untrained men", National Strength and Conditioning Association Journal, 4, pp.16-20.
16. E.B. Neil, Psychology Today and Tomorrow, (New York: Harper and Brothers, 1981), p. 134.