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IMPACT OF PRANAYAMA PRACTICES ON SELECTED PHYSIOLOGICAL VARIABLES AMONG COLLEGE MEN STUDENTS

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Abstract:

The purpose of the study was designed to examine the effect of pranayama practices on systolic blood pressure and diastolic blood pressure among college men students. For the study, thirty college men students from MRK College of Arts and Science, Kattumannarkoil, Cuddalore District, Tamil Nadu, India were selected as subjects. They were divided into two equal groups. Each group consisted of fifteen subjects. Group I underwent pranayama practices for three days per week for twelve weeks. Group II acted as control who did not undergo any special training programme apart from their regular physical education programme. The following variables, namely systolic blood pressure and diastolic blood pressure were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables, namely systolic blood pressure and diastolic blood pressure by using Sphygmomanometer prior to and immediately after the training programme. The analysis of covariance was used to analyze the significant difference if any among the groups. The .05 level of confidence was fixed as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered appropriate. The results of the study showed that there was a significant difference between pranayama practices group and control group on systolic blood pressure and diastolic blood pressure. And, it was found that there was a significant improvement on selected criterion variables such as systolic blood pressure and diastolic blood pressure due to pranayama practices.

Key Words: Pranayama Practices, Systolic Blood Pressure, Diastolic Blood Pressure, College Men Students

Introduction:

Pranayama is an integral aspect of the ancient yogic tradition, focusing on the regulation and control of breath to enhance physical, mental, and spiritual well-being. The term "pranayama" is derived from the Sanskrit words "prana," meaning life force or vital energy, and "ayama," meaning control or expansion. In the practice of pranayama, individuals consciously manipulate their breath through various techniques, with the goal of optimizing the flow of prana within the body. This controlled breathing is believed to have profound effects on the mind, body, and spirit.

Pranayama begins wth cultivating awareness of the breath, observing its natural rhythm and patterns. Techniques involve conscious regulation of the inhalation, exhalation, and retention of breath in specific patterns and durations. Pranayama aims to balance the flow of prana throughout the body's energy channels, known as nadis, fostering harmony and vitality. The practice of pranayama deepens the connection between the mind and body, promoting a state of mindfulness and presence.

Pranayama techniques are known for their calming effect on the nervous system, helping to reduce stress and anxiety. Regular practice of pranayama strengthens respiratory muscles, increases lung capacity, and improves overall respiratory function. In yogic philosophy, prana is considered a bridge between the physical body and the spiritual realm. Pranayama is seen as a tool for expanding consciousness and accessing higher states of awareness. Popular pranayama techniques include Ujjayi (victorious breath), Nadi Shodhana (alternate nostril breathing), and Kapalabhati (skull-shining breath), among others. The choice of technique may depend on individual needs, goals, and the specific effects desired.

Pranayama is often incorporated into broader yoga practices, complementing physical postures (asanas) and meditation. Regular and mindful practice of pranayama can contribute to improved overall health, increased vitality, and a sense of inner balance and peace. As with any yogic practice, it is advisable to learn pranayama under the guidance of a knowledgeable instructor to ensure proper technique and safety.

Methodology:

The purpose of the study was designed to examine the effect of pranayama practices on systolic blood pressure and diastolic blood pressure among college men students. For the study, thirty college men students from MRK College of Arts and Science, Kattumannarkoil, Cuddalore District, Tamil Nadu, India were selected as subjects. They were divided into two equal groups. Each group consisted of fifteen subjects. Group I underwent pranayama practices for three days per week for twelve weeks. Group II acted as control who did not undergo any special training programme apart from their regular physical education programme. The following variables, namely systolic blood pressure and diastolic blood pressure were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables, namely systolic blood

pressure and diastolic blood pressure by using Sphygmomanometer prior to and immediately after the training programme. The analysis of covariance was used to analyze the significant difference if any among the groups. The .05 level of confidence was fixed as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered appropriate.

Analysis of the Data:

Systolic Blood Pressure:

The analysis of covariance on systolic blood pressure of the pre and post test scores of pranayama practices group and control group have been analyzed and presented in table 1.

Table 1: Analysis of Covariance of the Data on Systolic Blood Pressure of Pre and Post Tests Scores of Pranayama Practices and Control Groups

Test	Pranayama Practices Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	123.27	123.47	Between	0.30	1	0.30	0.14
S.D.	1.57	1.17	Within	60.67	28	2.17	
Post Test							
Mean	122.20	123.13	Between	6.53	1	6.53	4.50*
S.D.	1.26	1.50	Within	40.67	28	1.45	
Adjusted Post Test							
Mean	122.28	123.05	Between	4.47	1	4.47	7.68*
			Within	15.73	27	0.58	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 28 and 2 and 27 are 3.34 and 3.35 respectively).

Table 1 shows that the adjusted post-test means of pranayama practices group and control group are 122.28 and 123.05 respectively. The obtained "F" ratio of 7.68 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at .05 level of confidence on systolic blood pressure.

The results of the study indicated that there was a significant difference between the adjusted post-test means of pranayama practices group and control group on systolic blood pressure.

Diastolic Blood Pressure:

The analysis of covariance on diastolic blood pressure of the pre and post test scores of pranayama practices group and control group have been analyzed and presented in table 2.

Table 2: Analysis of Covariance of the Data on Diastolic Blood Pressure of Pre and Post Tests Scores of Pranayama Practices and Control Groups

Test	Pranayama Practices Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	82.60	82.33	Between	0.53	1	0.53	0.52
S.D.	1.02	0.50	Within	28.93	28	1.03	
Post Test							
Mean	80.53	82.13	Between	19.20	1	19.20	14.66*
S.D.	0.94	0.96	Within	36.67	28	1.31	
Adjusted Post Test							
Mean	80.45	82.21	Between	22.85	1	22.85	90.19*
			Within	6.84	27	0.25	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 28 and 2 and 27 are 3.34 and 3.35 respectively).

Table 2 shows that the adjusted post-test means of pranayama practices group and control group are 80.45 and 82.21 respectively. The obtained "F" ratio of 90.19 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at .05 level of confidence on diastolic blood pressure.

The results of the study indicated that there was a significant difference between the adjusted post-test means of pranayama practices group and control group on diastolic blood pressure.

Conclusions:

- There was a significant difference between pranayama practices group and control group on systolic blood pressure and diastolic blood pressure.
- And also it was found that there was a significant improvement on selected criterion variables such as systolic blood pressure and diastolic blood pressure due to pranayama practices.

References:

1. Jerath, R., Edry, J. W., Barnes, V. A., & Jerath, V. (2006). Physiology of long pranayamic breathing: Neural respiratory elements may provide a mechanism that explains how slow deep breathing shifts the autonomic nervous system. Medical Hypotheses, 67(3), 566-571.
2. Pal, G. K., Velkumary, S., & Madanmohan. (2004). Effect of short-term practice of breathing exercises on autonomic functions in normal human volunteers. Indian Journal of Medical Research, 120(2), 115-121.
3. Telles, S., Nagarathna, R., & Nagendra, H. R. (1995). Breathing through a particular nostril can alter metabolism and autonomic activities. Indian Journal of Physiology and Pharmacology, 39(4), 418-424.
4. Nivethitha, L., Mooventhan, A., Manjunath, N. K., & Bathala, L. (2017). Scientific evidence-based effects of hydrotherapy on various systems of the body. North American Journal of Medical Sciences, 9(11), 522.
5. Sarang, S. P., & Telles, S. (2006). Oxygen consumption and respiration following two yoga relaxation techniques. Applied Psychophysiology and Biofeedback, 31(2), 143-153.
6. Pramanik, T., Sharma, H. O., Mishra, S., Mishra, A., Prajapati, R., & Singh,S. (2009). Immediate effect of slow pace bhastrika pranayama on blood pressure and heart rate. Journal of Alternative and Complementary Medicine, 15(3), 293-295.
7. Zope, S. A., & Zope, R. A. (2013). Sudarshan kriya yoga: Breathing for health. International Journal of Yoga, 6(1), 4–10.
8. Brown, R. P., & Gerbarg, P. L. (2009). Yoga breathing, meditation, and longevity. Annals of the New York Academy of Sciences, 1172(1), 54-62.
9. M. Suresh Kumar & A. Dinesh Kumar, “Effect of Mental Training on Self Confidence among Professional College Students”, International Journal of Recent Research and Applied Studies, Volume 4, Issue 12, Page Number 51-53, 2017.
10. M. Suresh Kumar & A. Dinesh Kumar, “A Statistical Approach towards the Effect of Yoga on Total Cholesterol of Overweight Professional College Students”, International Journal of Recent Research and Applied Studies, Volume 4, Issue 2, Page Number 126-128, 2017.