

EFFECT OF YOGIC PRACTICES ON PEAK FLOW RATE AND RESTING PULSE RATE AMONG SCHOOL STUDENTS

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Abstract: The purpose of the study was find out the effect of yogic practices on peak flow rate and resting pulse rate among school students. To achieve the purpose of this study, 30 male school students were randomly selected as subjects from the John's Central School, Anjugramam, Kanyakumar, Tamil Nadu, India. Their age was 14 and 15 years. The selected participants were randomly divided into two groups such as group 'A' yogic practices (asana, pranayama) (n=15) and group 'B' acted as control group (n=15). Group 'A' underwent yogic practices for three days per week and each session lasted for an hour for six week of yogic practices. Control group was not exposed to any specific training but they were participated in regular activities. The peak flow rate was assessed by peak flow meter and resting pulse rate was assessed by radial pulse artery manual count method was selected as variables. The pre and post tests data were collected on selected criterion variables prior to and immediately after the training program. The pre and post-test scores were statistically examined by the dependent 't' test and analysis of co-variance (ANCOVA). The level of significant was fixed at 0.05 level. It was concluded that the yogic practices group had shown significantly improved in peak flow rate and resting pulse rate. However the control group had not shown any significant improvement on peak flow rate and resting pulse rate.

Index Terms- *Yogic Practice, Peak Flow Rate, Resting Pulse Rate, School Student*

I. INTRODUCTION

Yoga is an ancient Indian philosophical and religious tradition discipline designed to bring balance and health to the physical, mental, emotional, and spiritual dimensions of the individual. "Yoga" means union of our individual consciousness with the Universal Divine Consciousness in a super-conscious state known as Samadhi^[1]. Yoga practice mainly consists of Asana (posture-a particular position of the body which contributes to steadiness of body and mind), Pranayama (to control the breathing in a superior and extra-ordinary way) and meditation. It produces consistent physiological changes and have sound scientific basis^[2].

Pranayama is an important component of yoga training. Pranayama (controlled breathing exercise) improves the airway reactivity in the asthmatic individuals. It was noted that high frequency breathing exercise resulted in more than 10 fold increase in expired minute ventilation^[3].

Yogic practices on respiratory function have been an important area of research for decades. Practicing yoga, in addition to its contribution in the improvement of pulmonary ventilation and gas exchange, helps in the prevention, cure and rehabilitation of many respiratory illnesses by improving ventilatory function^[4, 5]. The scientific interest in yoga has increased substantially in recent years and a number of physiological effects of yoga, including physical postures, asanas^[6].

Introducing the children to yoga at an early age can help them learn healthy lifestyle habits and set the foundation for a fit future. Here are kid-friendly yoga poses to get your family practice started^[7]. Prana (the inner energy) is the secret of fickleness of growing children. There should be an effort to channelize properly that energy. Their energy should be applied in a constructive way. The obstinate and destructive nature of the children can be changed by suggesting them to work according to their interest^[8].

Yogic Exercises on Emotional Intelligence and Intelligence Quotient of School going Children^[9]. Observed students who practiced yoga- asana three times a day in brief segments of attention training and mind-full breathing improved their wellbeing, and social and emotional competence^[10].

II. PURPOSE OF THE STUDY

The purpose of the study was to find the effect of yogic practices on peak flow rate and resting pulse rate among school students.

III. METHODOLOGY

To achieve the purpose of this study, 30 male school students were randomly selected as subjects from the John's Central School, Anjugramam, Kanyakumar, Tamilnadu, India. Their age was 14 and 15 years only. The selected participants were randomly divided into two groups such as group 'A' 'yogic practices' (asana, pranayama) (n=15) and group 'B' acted as control group (n=15). Group 'A' underwent yogic practices for three days per week and each session lasted for an hour for six week of yogic practices. However, control group was not exposed to any specific training but they participated in their regular schedule. The peak flow rate was assessed by peak flow meter and resting pulse rate was assessed by radial pulse artery manual count method was selected as criterion variables. The pre and post tests data were collected on selected criterion variables prior to and immediately after the training program. The pre and post-test selected criterion variable scores were statistically examined by the dependent 't' test and analysis of covariance (ANCOVA). The level of significance was fixed at .05 level of confidence, which was considered as appropriate.

IV. ANALYSIS OF DATA

4.1 Peak Flow Rate

Table 4.1: Pre, post and adjusted post tests and analysis of covariance scores on peak flow rate of experimental and control groups (Peak flow meter test in millimeters)

Test	EG	CG	SOV	SS	Df	SS	F-ratio
Pre-test							
Mean	387.56	389.87	B.M	5.39	1	5.39	1.55
SD(±)	69.32	70.35	W.G	97.47	28	3.48	
Post-test							
Mean	432.79	395.62	B.M	459.72	1	459.72	29.17*
SD(±)	68.56	71.34	W.G	441.28	28	15.76	
Adjusted post-test							
Mean	433.42	413.11	B.S	692.16	1	692.16	32.45*
			W.S	575.91	27	21.33	

*significant at 0.05 level of confidence. The table values required for significance at 0.05 level of confidence for 1 & 28 and 1 & 27 are 4.20 and 4.21 respectively.

The table 4.1 shows that the pre-test mean value on peak flow rate of experimental and control group are 387.56 and 389.87 respectively. The obtained 'F' ratio 1.55 for pre-test scores was less than the table value 4.20 for df 1 and 28 required for significance at 0.05 level of confidence on peak flow rate. The post-test mean values on peak flow rate of experimental and control groups are 432.79 and 395.62 respectively. The obtained 'F' ratio 29.17 for post-test scores was greater than the table value 4.20 for df 1 and 28 required for significance at 0.05 level of confidence on peak flow rate. The adjusted post-test means of experimental and control groups are 433.42 and 413.11 respectively. The obtained 'F' ratio of 32.45 for adjusted post-test means was greater than the table value of 4.21 for df1 and 27 required for significance at 0.05 level of confidence on peak flow rate.

The pre-test, post-test and adjusted post-test means values of experimental and control groups on peak flow rate are graphically represented in the figure-4.1.

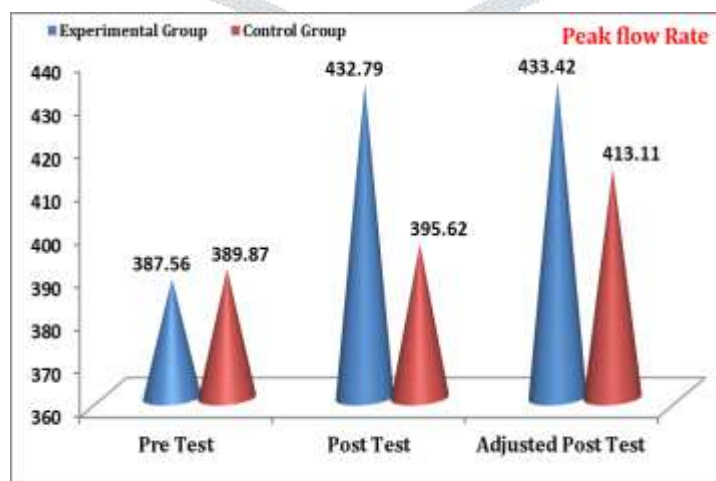


Fig-4.1: The pre-test, post-test and adjusted post-test mean values of experimental and control groups on peak flow rate.

4.2 Resting Pulse Rate

Table 4.2: Pre, post and adjusted post tests and analysis of covariance scores on resting pulse rate of experimental and control groups (Radial artery pulse manual count method in counts)

Test	EG	CG	SOV	SS	Df	SS	F-ratio
Pre-test							
Mean	79.45	79.12	B.M	2.85	1	2.85	2.34
SD(±)	3.67	3.45	W.G	34.16	28	1.22	
Post-test							
Mean	74.21	78.56	B.M	81.53	1	81.53	17.88*
SD(±)	3.11	3.55	W.G	127.68	28	4.56	
Adjusted post-test							
Mean	74.13	78.63	B.S	113.40	1	113.40	18.56*
			W.S	164.97	27	6.11	

*significant at 0.05 level of confidence. The table values required for significance at 0.05 level of confidence for 1 & 28 and 1 & 27 are 4.20 and 4.21 respectively.

The table 4.2 shows that the pre-test mean value on pulse rate of experimental and control groups are 79.45 and 79.12 respectively. The obtained 'F' ratio 2.34 for pre-test scores was less than the table value 4.20 for df 1 and 28 required for significance at 0.05 level of confidence on resting pulse rate. The post-test mean values on resting pulse rate of experimental and control group are 74.21 and 78.56 respectively. The obtained 'F' ratio 17.88 for post-test scores was greater than the table value 4.20 for df 1 and 28 required for significance at 0.05 level of confidence on resting pulse rate. The adjusted post-test means of experimental and control groups are 74.13 and 78.63 respectively. The obtained 'F' ratio of 18.56 for adjusted post-test means was greater than the table value of 4.21 for df1 and 27 required for significance at 0.05 level of confidence on resting pulse rate.

The pre-test, post-test and adjusted post-test means values of experimental and control groups on pulse rate are graphically represented in the figure 4.2

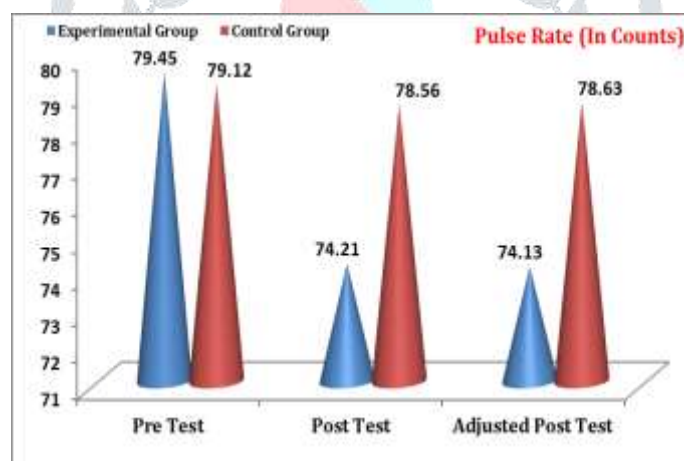


Fig 4.2: The pre-test, post-test and adjusted post-test mean values of experimental and control groups on resting pulse rate.

V. DISCUSSION ON FINDINGS

The present studies found statistically significant improvement on peak flow rate and resting pulse rate, which showed that positive, practices of yogic practices among school students.

Selvaraja, C. & Arumugam, S. (2017) conducted a study on influence of yogic practices on resting pulse rate and vital capacity among intercollegiate soccer players. Their finding in his study on resting pulse rate and vital capacity were significantly improved due to the yoga practices among soccer players.

Alakh Singh (2016) conducted a study on importance of yoga for school-going children. His findings in his study on children described benefits at home (better sleep patterns, less anxiety) and at school (more able to concentrate, less conflict). Parents reported feeling happier, less stressed and more able to manage their child's behavior. Results of this preliminary investigation reveal that the five months brought out positive changes in the children on four variables of the wellness parameters.

VI. CONCLUSIONS

1. There was significant improvement on peak flow rate due to the effect of yogic practices among school students.
2. There was significant improvement on resting pulse rate due to the effect of yogic practices among school students.
3. However, the control group had not shown any significant improvement on any of the selected variables.

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