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Effect of yoga asanas and pranayama on the health-related aspects of physical fitness

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Abstract
The purpose of the present study was to find out the effect of yoga asanas and pranayama on the Health-Related Aspects of Physical Fitness. The present investigation was conducted at the Rani Indirabai Bhonsle Mahavidyalaya, Kuhi, Nagpur, Maharashtra. Forty healthy male students who volunteered to connect in practice of yoga were consecutively assigned in two groups. Physical fitness factors such as balance, Peak expiratory flow rate and Breath holding time were also measured. During the training period, the experimental group underwent their particular training programme six days a week for six weeks in addition to their accepted physical education activities. On the training days, practices lasted in the morning from 7.30 to 8.30 A.M. approximately. The control group did not contribute in any particular training. The collected records were analyzed SPSS statistical analysis package version 16.0, using Paired 't' test to compare before and after test mean differences and students 't' test was also applied to compare mean differences between the groups. The Significance level was set at 0.05. Results: There was significant difference in balance, peak expiratory flow rate and breath holding time between pre and posttest of experimental group. There was insignificant difference in balance, peak expiratory flow rate and breath holding time between pre and posttest of control group. There was significant difference in balance and breath holding time between experimental and control group of posttest. There was insignificant difference in peak expiratory flow rate between experimental and control group of posttest. There was insignificant difference in balance, peak expiratory flow rate and breath holding time between experimental and control group of pretest.

Keywords: yoga asanas, pranayama, health-related aspects, physical fitness

Introduction
Yoga is a practice that works on development in the areas of mental, physical, spiritual and social health. When physical health is intact, the mind is focused. Yoga is a very useful practice that is easy to do and helps to get rid of some serious health problems that are common in today's lifestyles. Rises above the stress of mind, emotions and physical needs, and faces the challenges of daily life. Yoga works on a body, mind and energy level. Yoga is the art of living life through mental, spiritual and physical paths. It helps to attain stability and to meditate in the consciousness of the inner self. It also helps in learning not to think too much about the mind, emotions and physical needs and how to face the challenges of day to day life. Yoga works at the level of body, mind and energy. Regular practice of yoga brings positive changes in the body including strong muscles, flexibility, patience and good health.

Methodology
The present investigation was conducted at the Rani Indirabai Bhonsle Mahavidyalaya, Kuhi, Nagpur, Maharashtra. Forty healthy male students who volunteered to connect in practice of yoga were consecutively assigned in two groups. Physical fitness factors such as balance, Peak expiratory flow rate and Breath holding time were also measured. During the training period, the experimental group underwent their particular training programme six days a week for six weeks in addition to their accepted physical education activities. On the training days, practices lasted in the morning from 7.30 to 8.30 A.M. approximately. The control group did not contribute in any particular training.

Equipments used for collection of data

Sr. No.	Variables	Methods	Unit/Measures
1.	Balance	One Leg Stand	Seconds
2.	Peak expiratory flow rate	Peak Flow Meter	Milliliters
3.	Breath Holding Time	Stopwatch	Seconds

Statistical analysis

The collected records were analyzed SPSS statistical analysis package version 16.0, using Paired 't' test to compare before and after test mean differences and students 't' test was also applied to compare mean differences between the groups. The Significance level was set at 0.05.

Table 1: Mean and paired sample 't' test for the pre and post tests on balance of experimental and control group

Group	Test	Mean	Std. Deviation	Std. Error	Mean Difference	't'-ratio
Experimental	Pre	33.977	8.544	2.540	4.964	6.896*
	Post	38.940	7.483			
Control	Pre	34.724	2.531	0.832	0.260	1.489
	Post	34.984	2.725			

Table-2 shows that the significant difference in balance between pre and posttest experimental group. The obtained 't' value of 6.896 is more than the table value of 2.093 with 19 degree of freedom and insignificant difference in balance between pre and posttest control group. The obtained 't' value of 1.489 is less than the table value of 2.093 with 19 degree of freedom.

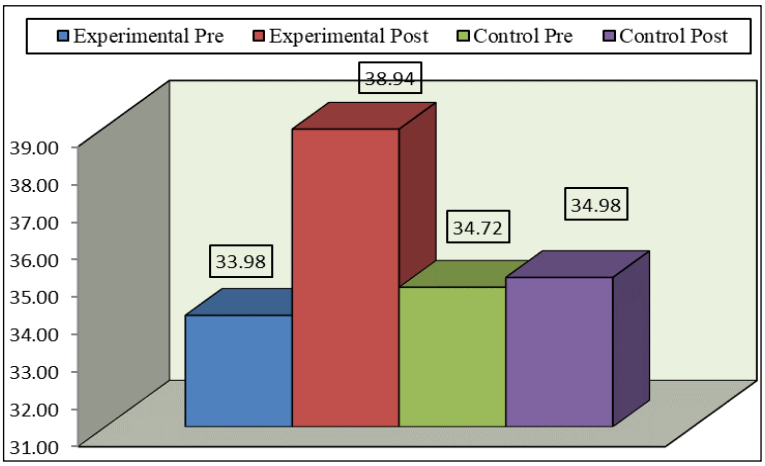

Fig 1: Graphical representation in balance of mean difference between pre and posttest of experimental and control group

Table 2: Mean and paired sample 't' test for the pre and post tests on peak expiratory flow rate of experimental and control group

Group	Test	Mean	Std. Deviation	Std. Error	Mean Difference	't'-ratio
Experimental	Pre	350.750	63.728	20.064	31.000	8.018*
	Post	381.750	63.168			
Control	Pre	357.500	57.868	17.857	11.250	1.978
	Post	368.750	55.033			

Table-2 shows that the significant difference in peak expiratory flow rate between pre and posttest experimental group. The obtained 't' value of 8.018 is more than the table value of 2.093 with 19 degree of freedom and insignificant difference in peak expiratory flow rate between pre and posttest control group. The obtained 't' value of 1.978 is less than the table value of 2.093 with 19 degree of freedom.

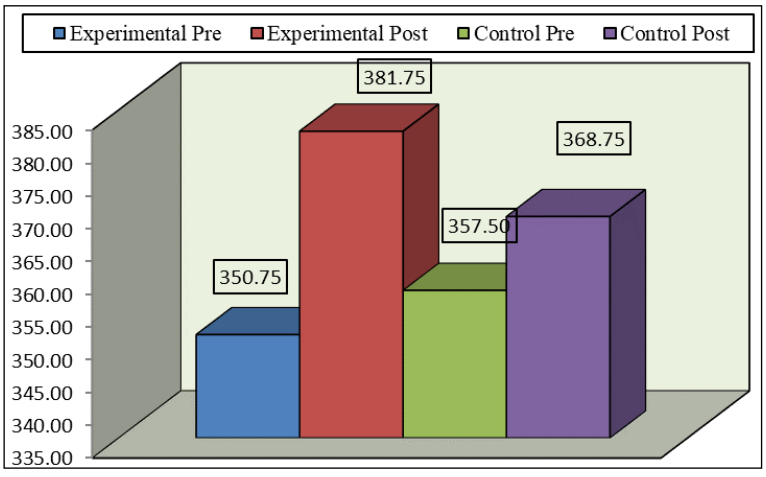

Fig 2: Graphical representation in peak expiratory flow rate of mean difference between pre and posttest of experimental and control group

Table 3: Mean and paired sample 't' test for the pre and post tests on breath holding time of experimental and control group

Group	Test	Mean	Std. Deviation	Std. Error	Mean Difference	't'-ratio
Experimental	Pre	38.377	8.097	2.498	6.337	8.316*
	Post	44.713	7.697			
Control	Pre	39.124	1.957	0.668	0.260	1.489
	Post	39.384	2.255			

Table-3 shows that the significant difference in breath holding time between pre and posttest experimental group. The obtained 't' value of 8.316 is more than the table value of 2.093 with 19 degree of freedom and insignificant difference in breath holding time between pre and posttest control group. The obtained 't' value of 1.489 is less than the table value of 2.093 with 19 degree of freedom.

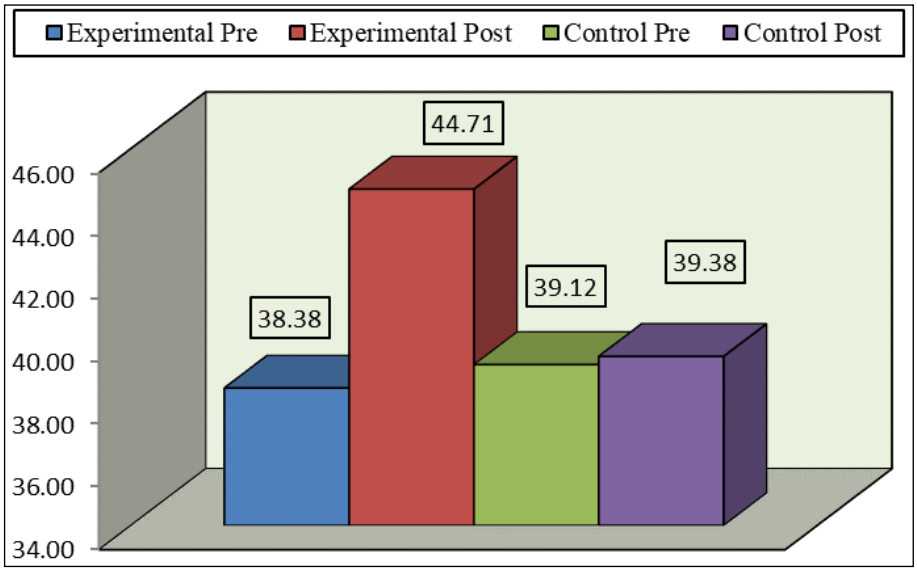

Fig 3: Graphical representation in breath holding time of mean difference between pre and posttest of experimental and control group

Table 4: Comparison of balance between experimental and control groups of pretest and post test

Group	Test	Mean	Std. Deviation	Std. Error	Mean Difference	't'-ratio
Experimental	Pretest	33.977	8.544	1.993	0.747	0.375
Control		34.724	2.531			
Experimental	Posttest	38.940	7.483	1.781	3.956	2.222*
Control		34.984	2.725			

Table-4 shows that the insignificant difference in balance of pretest between experimental and control group. The obtained 't' value of 0.375 is less than the table value of 2.02 with 38 degree of freedom and significant difference in balance of posttest between experimental and control group. The obtained 't' value of 2.222 is more than the table value of 2.02 with 38 degree of freedom.

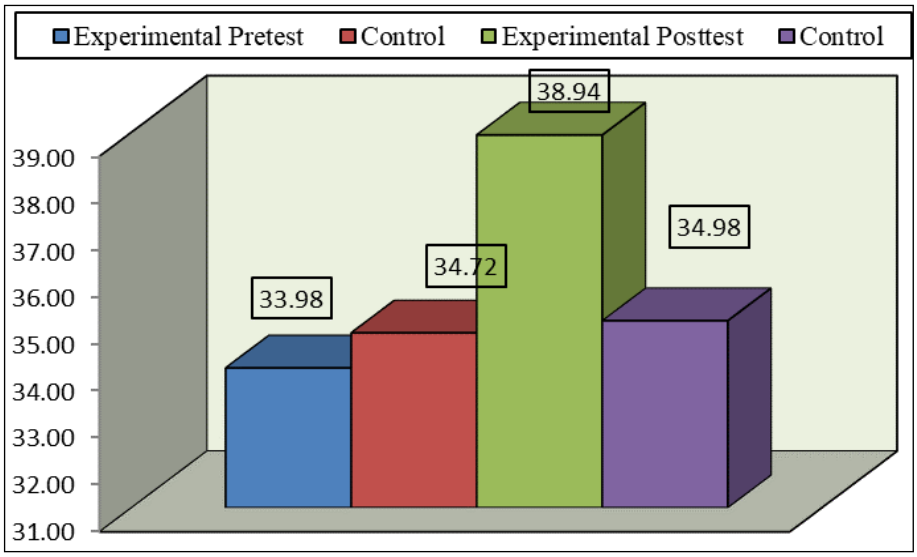

Fig 4: Graphical representation in balance of mean difference between experimental and control groups of pretest and post test

Table 5: Comparison of peak expiratory flow rate between experimental and control groups of pre test

Group	Test	Mean	Std. Deviation	Std. Error	Mean Difference	't'-ratio
Experimental	Pretest	350.750	63.728	19.248	6.750	0.351
Control		357.500	57.868			
Experimental	Posttest	381.750	63.168	18.733	13.000	0.694
Control		368.750	55.033			

Table-5 shows that the insignificant difference in peak expiratory flow rate of pretest between experimental and control group. The obtained 't' value of 0.351 is less than the table value of 2.02 with 38 degree of freedom and insignificant difference in peak expiratory flow rate of posttest between experimental and control group. The obtained 't' value of 0.694 is less than the table value of 2.02 with 38 degree of freedom.

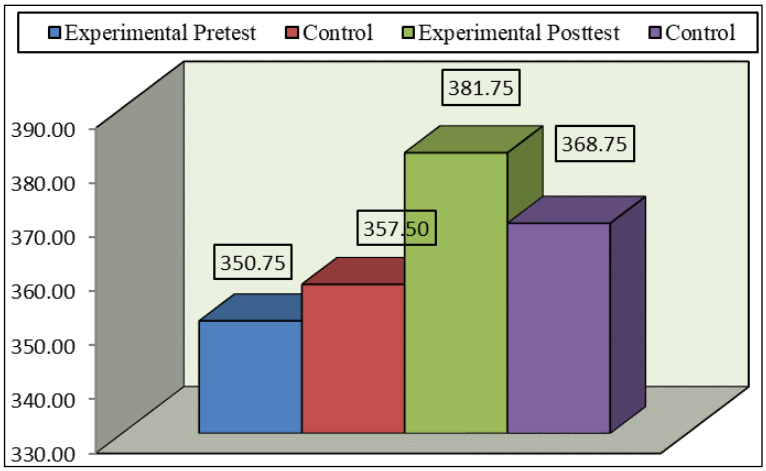

Fig 5: Graphical representation in peak expiratory flow rate of mean between experimental and control groups of pretest and post test

Table 6: Comparison of breath holding time between experimental and control groups of pretest and post test

Group	Test	Mean	Std. Deviation	Std. Error	Mean Difference	't'-ratio
Experimental	Pretest	38.377	8.097	1.863	0.747	0.401
Control		39.124	1.957			
Experimental	Posttest	44.713	7.697	1.793	5.329	2.971*
Control		39.384	2.255			

Table-6 shows that the insignificant difference in breath holding time of pretest between experimental and control group. The obtained 't' value of 0.351 is less than the table value of 2.02 with 38 degree of freedom and significant difference in breath holding time of posttest between experimental and control group. The obtained 't' value of 2.971 is more than the table value of 2.02 with 38 degree of freedom.

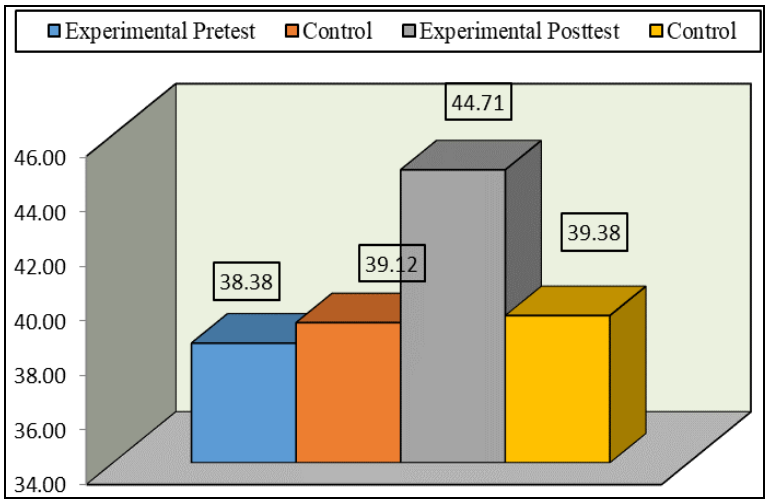

Fig 6: Graphical representation in breath holding time of mean between experimental and control groups of pretest and post test

Conclusion

Within the limitations of the present study and on the basis of the findings the following conclusions were drawn.

1. There was significant difference in balance, peak expiratory flow rate and breath holding time between pre and post-test of experimental group.
2. There was insignificant difference in balance, peak expiratory flow rate and breath holding time between pre and post-test of control group.
3. There was significant difference in balance and breath

holding time between experimental and control group of post-test.
4. There was insignificant difference in peak expiratory flow rate between experimental and control group of post-test.
5. There was insignificant difference in balance, peak expiratory flow rate and breath holding time between experimental and control group of pre-test.

Yoga maintains our physical well-being, reduces stress, controls emotions and also controls negative thoughts. The practice of yoga in daily life provides internal and external strength to the body. It helps in strengthening the body's resistance system, thus protecting against various and different diseases.

References

1. Mandanmohan *et al*. Effect of Yoga Training on Handgrip, Respiratory Pressures and Pulmonary Function. Indian Journal of Physiology Pharmacology 2003;47(4):387-392.
2. Sivapriya DV. Effect of Nadi Shodhana Pranayama on Respiratory Parameters. Recent Research in Science and Technology 2010;2(11):32-39.
3. Shenbagavalli A, Divya K. The Effect of Specific Yogic Exercises and Combination of Specific Yogic Exercises with Autogenic Training on Selected Physiological, Psychological and Biochemical Variables of College Men Students. Journal of Exercise Science and Physiotherapy 2010;6(2):94-101.
4. Karkare A, Awasare V. Effect of Selected Yogic Exercises on Physical Fitness of Basketball Players. Applied Research and Development Institute Journal 2012;5(1):1-5.
5. Tran MD *et al*. Effects of Hatha Yoga Practice on the Health-Related Aspects of Physical Fitness 2001;4(4):165-170. Article published online
6. Khatri A, Khatri S. Physiological effect of selected Pranayamas on adolescents. International Journal of Physical Education Sports and Yogic Sciences 2013;2(2):42-43.