

Effects of selected Asanas and Pranayamas on physiological variables on the students

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■ ABSTRACT

For this study 22 students (male) were selected from M.T.B. Arts College, Athwalines, Surat which is affiliated to Veer Narmad South Gujarat University, Surat. Their age group was 17 to 25 years. Trainees of the experimental group were trained daily for an hour which included some yogic exercise for five minutes followed by Asanas and Pranayam. The training schedule included-Asanas and Pranayama. t test was used to find out the significance of mean difference among pre-test and post-test. The "t" ratio of body weight of experimental group was 6.59, while of control group was -1.06. The 't' ratio of systolic blood pressure of experimental group was 2.92 and diastolic blood pressure was 2.87, while of control group the same was 0.24 and 1.16, respectively. The 't' ratio of pulse rate of experimental group was 5.81, while of control group was 1.00. The 't' ratio of breath holding capacity of experimental group was 5.46 while of control group was 0.52. The 't' ratio of all experimental groups variables were significant at 0.05 level. Otherwise the 't' ratio of control groups variables were not significance at 0.05 level. The body weight was reduced due to training given to experimental group. The breath holding capacity of experimental group increased due to training. Notable changes were found in body weight, blood pressure, pulse rate, vital capacity and breath holding capacity of experimental group due to selected Asana and Pranayama for the training of six weeks.

■ **Key Words** : Asanas, Pranayamas, Physiological variables

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Today we can consider ourselves as modern and civilized but of course not happy at all. We require sleeping pills for having sound sleep, medicines for constive and other different sort of tonics to maintain strength. We can not keep ourselves normal without pain killers. Today's youth turned towards drugs and narcotics to ruin themselves.

'Play for all men and woman' is the slogan of Physical Education while the importance of Yoga is expanding like 'Yoga for all men and women'. When the world unites through Yoga it is necessary to make some research in it.

Not only body but even internal chemical process and vital is effected by the carefully study and practice of Asanas. It effects more when we practice it with Bandha and Nauli. Other Physical exercises except Asanas lack this.

Not only this but the entire set of physical exercise to maintain body fit and keep it well is only for healthy one and also having limitations in it.

But healthy and unhealthy (unwhole some) young and aged any one can practice Asanas equally. Some other hard exercises are forbidden for women in else methods. While this is not the case with Asanas. Sometimes women can do it better than men.

Disorder is removed by Yoga and body is maintained. Bowels/intestines/entrails are highly effected by Yoga and due to this one can recover one's self from the diseases such as indigestion (dyspepsia), gas, constipation (costiveness).

Pran is the Sanskrit word for energy. Pranayam is the respiration technique of Yoga, that forces breathed air stream

further and settles (regulates) gained energy to muscles. Mental succession is naturally affected by proper practice of this respiration technique (Swami, 2001). Lung's capacity increases by taking breath always through nose and blood gets more oxygen, due to this blood cells increase and by this vital capacity too.

Experimental :

Subjects :

For this study 22 students (male) were selected from M.T.B. Arts College, Athwalines, Surat which is affiliated to Veer Narmad South Gujarat University, Surat. Their age group was 17 to 25 years. Their age was conformed form college data. And through fitness test, it was decided that all the students were suitable for this study.

Objects were divided into two groups viz., experimental group and control group. Each contained 11 students. The following matters were selected related to the physiology for the study.

Variables :

- Body weight
- Blood pressure
- Pulse rate
- Vital capacity
- Breath holding capacity

Asanas and pranayamas training schedule :

Trainees of the experimental group were trained daily for an hour which included some yogic exercises for five minute followed by Asanas and Pranayam. The training schedule included-Sarvangasana, Halasana, Paschimotanasana, Utanpadasana, Bhujangasana, Dhanurasana and Chakrasana, Shirshansana, 30 sec. for first three weeks and 60 sec. for second three weeks. These Asanas were repeated twice for first and second three weeks. They were asked to practice Sacasana for 30 sec. in between and at the end of the day's training for 5 min.

The training of "Pranayama" included practice of Omkara for 4 min, Anulom-vilom for 7 min, followed by rest for 2 min. and Kapalbhathi for 7 min for first and second three weeks. At the end of the day's training 5 min. Savasana.

Variables :

Sr. No.	Variables	Unit of measure
1.	Body weight	Kg.
2.	Blood pressure	Hg/mm
3.	Pulse rate	Minute / count
4.	Vital capacity	Litre
5.	Breath holding capacity	Time

Analysis :

For the statistical process the t test was used to find out the significance of mean difference among pre-test and post-test. The statistical significance level was 0.05.

■ OBSERVATIONS AND DISCUSSION

't' test was used to find out the significance of mean difference among pre-test and post- tested experimental and control groups and the observations were recorded in Table 1.

- The 't' ratio of body weight of experimental group was 6.59, while of control group was -1.06.
- The 't' ratio of systolic blood pressure of experimental group was 2.92 and diastolic blood pressure was 2.87, while of control group was 0.24 and 1.16, respectively.
- The 't' ratio of pulse rate of experimental group was 5.81, while of control group was 1.00.
- The 't' ratio of breath holding capacity of experimental group was 5.46 while of control group was 0.52.

The 't' ratio of all experimental groups variables were

Sr. No.	Variables	Experimental group				Control group				
		Pre- test	Post-test	M.D.	"t" ratio	Pre-test	Post-test	M.D.	"t" ratio	
1.	Body weight	60.45	59.00	1.45	6.59	58.91	59.09	0.18	-1.06	
2.	Blood pressure	Systolic	112.00	120.73	8.73	2.92	117.27	118.09	0.82	0.24
		Diastolic	73.09	82.09	9.00	2.87	77.00	78.00	1.00	1.16
3.	Pulse rate	78.55	72.09	6.46	5.81	77.64	76.64	1.00	1.00	
4.	Vital capacity	396.82	426.36	29.54	6.05	374.55	372.73	1.82	-0.40	
5.	Breath holding capacity	48.91	63.82	14.91	5.46	51.45	52.27	0.82	0.52	



significant at 0.05 level. Otherwise the 't' ratio of control groups variables were not significant at 0.05 level. Karambelkar and Bhole (1971) and Gopal and Bhatnagar (1993) have also made some observation on the effect of Nogatraining on vital capacity of breath holding and some respiratory functions.

Conclusion :

- The body weight was reduced due to training given to experimental group.
- The breath holding capacity of experimental group increased due to training.
- Notable changes were found in body weight, blood pressure, pulse rate, vital capacity and breath holding capacity of experimental group due to selected Asana and Pranayama for the training of six weeks.

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