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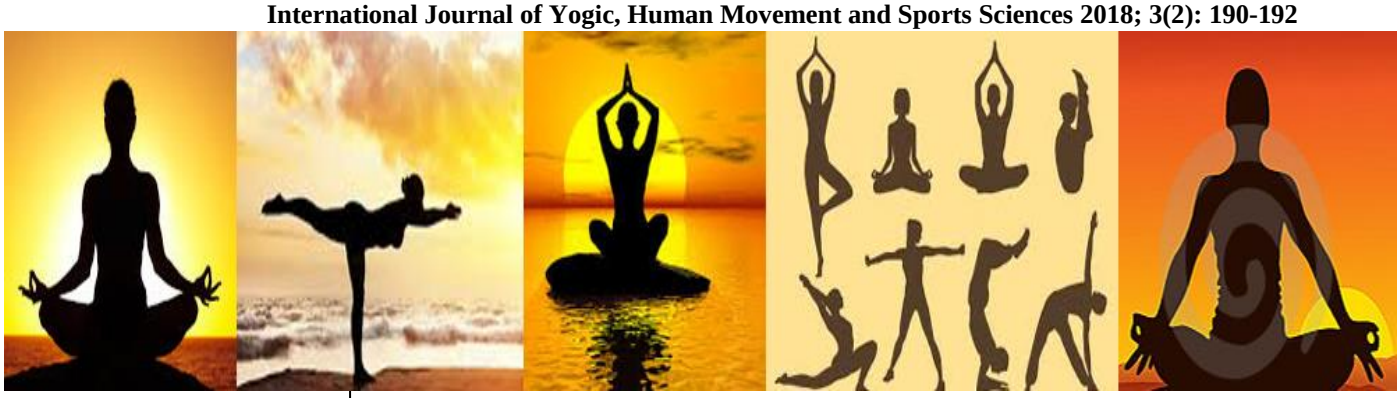

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Effect of yogic exercises on physiological variables among the adolescent girls

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Abstract
An attempt has been made to investigate the Effect of Yogic Exercises on Physiological Variables among the Adolescent girls. Forty Girls of High school level were practiced different types of yogic exercises like Surya Namaskar, Asanas, Pranayam and Meditation for four weeks by maintaining a schedule. The physiological variables are resting heart rate and blood pressure. The resting heart rate was measured by Pulse Oximeter and blood pressure was measured by Omron Blood Pressure Monitor. In results, it was found that there was significant difference between pre-test and post-test. So, it was evident that yogic exercises impact significantly on physiological variables among the adolescent girls.

Keywords: Yoga, physiology, Asanas, Pranayama, Meditation etc.

Introduction
The term "yoga" and the English word "yoke" are derived from Samskrit root "yuj" which means union. Yoga is a psycho-somatic-spiritual discipline for achieving union & harmony between our mind, body and soul and the ultimate union of our individual consciousness with the Universal consciousness. Yoga is mind-body technique which involves relaxation, meditation and a set of physical exercises performed in sync with breathing. Being holistic, it is the best means for achieving physical, mental, social and spiritual well being of the practitioners. This can be achieved by systematic and disciplined practice of ashtang (eight-limbed) yoga described by sage Patanjali. The first two limbs of ashtang yoga are yam and niyam which are ethical code and personal discipline for the development of our moral, spiritual and social aspects. 3rd and 4th limbs are asan and pranayam which help in our physical development and improvement of physiological functions. 5th and 6th limbs are pratyahar and dharna for controlling our senses and making our mind one-pointed, calm and alert. The final two limbs of dhyan and samadhi result in inner peace, ecstasy, higher level of consciousness and the ultimate union of our individual consciousness with the Universal Consciousness, resulting in God realization. The result is unfoldment of a unique spiritual personality that is a blessing for the whole humanity. Yoga helps in developing our total personality in an integrated and holistic manner.

Statement of the problem: The problem of the study was to investigate the effect of yogic exercises on physiological variables (resting heart rate and blood pressure) among the adolescent girls.

Hypothesis: It was hypothesized that yogic exercises have the positive effect on resting heart rate and blood pressure among the adolescent girl.

Delimitations
1. The study is delimited to girls in the age limited 14to16 years
2. The study is delimited to selected yogasana and pranayama
3. The study is delimited physiological parameters including resting heart rate blood
4. Pressure
5. The experimental study is delimited to a period of 4 week

Limitations

1. Subjects are not from the same cultural group, economical status, educational and family background,
2. The food habits, nutrition, mental growth and mental set up
3. Thus any influence of those factors on personality, will be beyond the control of the investigator.

Procedure

Selection of subjects' forty Girls students of High school level. BLDE Girls high school Vijayapur. Were practiced different types of yogic exercises like Surya Namaskar, Asanas, Pranayam and Meditation for four weeks by maintaining a schedule.

Criterion Measures

1. Resting Heart Rate – Stethescope
2. Blood Pressure – Sigmomano miter

Statistical Analysis: Pre-test and Post-test results were taken and compared by employing 't' test at 0.05 level of confidence.

Exercise programme

	Name of the Asanas	Monday	Thursday	Saturday
Asanas	Surya Namaskara	8 min	8 min	8min
	Vrikshasana, Uttitha Trikonasana, Uttitha Parshvakonasana, Paschimottanasana, Ustrasana Mathsasana, Dhanura, sanarvangasana Pavanamuktasana, Shalabhasana,	25min	25 min	25 min
Pranayama	Ujjai Pranayama, Nadishodana Pranayama, Bhastrika Pranayama	5min	5min	5min
	Meditation	2min	2min	2min

Programme Schedule

Table 2

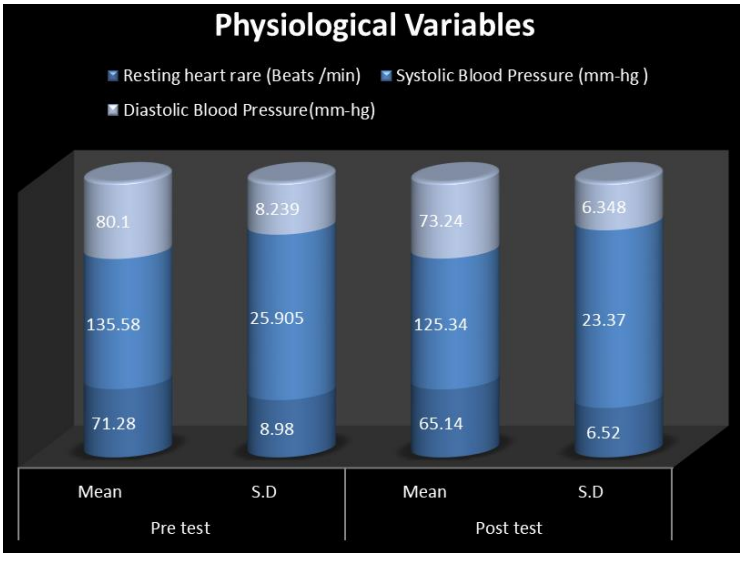
Frequency	3 Days in a week
Duration	40 minutes
Time	6am - 6:40 am

Analysis of data

Table 1: Mean and standard deviation of pre test and post test results of physiological variable among adolescent girls

Variables	Pre test		Post test	
	Mean	S.D	Mean	S.D
Resting heart rare (Beats /min)	71.280	8.980	65.140	6.520
Systolic Blood Pressure (mm-hg)	135.580	25.905	125.340	23.370
Diastolic Blood Pressure(mm-hg)	80.100	8.239	73.240	6.348

From table -1 it was observed that pre-test result was greater than post-test result in case of Resting Heart Rate, Systolic Blood Pressure and Diastolic Blood Pressure. It indicated that Resting Heart Rate, Blood Pressure (Systolic and Diastolic) became superior due to yogic practices.



Mean difference of pre-test and post-test results of physiological variables among adolescent girls.

Veriables	Tests	Mean	SD	't' value
Resting heart rate (Beats/min)	Pre test	70.280	7.998	4.890*
	Post test	64.140	6.538	

Systolic blood pressure(mm-Hg)	Pre test	135.580	23.915	2.388*
	Post test	126.340	24.384	
Diastolic blood pressure (mm- Hg)	Pre test	79.100	7.259	5.030*
	Post test	72.240	6.368	

Significant at 0.05 level of confidence "t" 05(99) = 1.980

From Table - 2 it was observed that there was significant difference between pre-test and post-test result in relation to Resting Heart Rate. In case of Blood Pressure (Systolic and Diastolic), there was also significant difference between pre test and post-test results.

Discussion of the findings

The obtained data on the subjects through application of statistical technique revealed that resting heart rate, systolic blood pressure and diastolic blood pressure become better through practice of yogic exercises. It evident significantly greater improvements in resting pulse rate; increasing maximum breath holding time, systolic blood pressure and diastolic blood pressure. Practice of yogic exercises helps the subjects to improve cardiorespiratory endurance and physiology of breathing process. Thus, yogic exercises help the subjects to develop their physiological characters which help them for developing better resting heart rate and blood pressure in a successful manner.

Conclusion

From the above findings, it can be concluded that yogic exercises helps to minimize both the resting heart rate and blood pressure (systolic and diastolic).

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