



## EFFECTS OF SELECTED YOGASANA PRACTICES ON FLEXIBILITY, ABDOMINAL STRENGTH, ENDURANCE AND BALANCE OF COLLEGE NCC STUDENTS

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### Abstract

The purpose of the study was to observe the effects of Yogasana practices on flexibility, abdominal strength, endurance and balance of college NCC students. Total forty (40) NCC girl cadets were selected for the present study. Total students were divided into two groups viz- Control group (20) and Experimental group (20). The experimental group went through yogasana practices for eight weeks, two days per week. The obtained data of both groups before and after the practices of eight weeks were tested by 't'- test and the level of significance was 0.05. There was significant difference between the pre and post mean of experimental group in all the variables.

**Keywords:** Yogasana, Flexibility, Strength endurance, Balance and NCC

### Introduction

The National Cadets Corps (NCC) in India is a voluntary organisation which recruits cadets from high schools, colleges and Universities all over the India. The cadets are given basic military training in small arms and parades. The NCC is a youth development movement. It has enormous potential for nation building. It provides opportunities to the youth of the country for

their all-round development with a sense of duty, commitment, dedication, discipline and moral values so that they became able leaders and useful citizens. The NCC provides exposure to the cadets in a wide range of activities with a distinct emphasis on social services, discipline and adventure training.

Yoga is one of the oldest sciences of the world originated from India which is very useful and important for both getting and maintaining the physical, mental and moral health of an individual. The word yoga is derived from the Sanskrit origin "YUJ" which means "to bind", "to join" or "to apply". In the word of Maharshi Patanjali, "Yoga is the restraint of the process of the mind". A study has shown the beneficial effects of yoga on human health (Bijilani, 1995; Gopal et al. 1973). It has already been established that the yogasana practices improve the overall health. Many studies proved that yoga practice improve flexibility, strength and positive effects on immunity (Cowen and Adams, 2005). In another study it has been found that yoga improves balance and aerobic capacity (Schure et al. 2008).



## Methodology

Forty (40) college NCC cadets were selected from the Ramananda College for the present study. Their age ranged from 16+ years to 18+ years. All the cadets were divided into two groups viz- experimental group (N=20) and control group (N=20). The experimental group went through a practice session training of 60 minutes in which they practice some selected yogasana three days per week for 8 weeks. Flexibility, abdominal strength endurance and balance were measured twice i.e. before training and after 8 weeks of training of both groups. The flexibility was measured by sit and reach test and score was recorded in inches. Abdominal Strength endurance was measured by Bend Knee sit up test and score was recorded in total number of sit up performed in one minute. Balance was measured by Strook Stand test and score was recorded in seconds.

## Training Protocols:

Days	Yogasanas for Flexibility	Yogasanas for abdominal strength endurance	Yogasanas for Balance
Mon	Parsvottanasana Janusirsasana Dhanurasana Halasana Anjaneyasana Gomukhasana Ardhamatsyendrasana	Naukasana Setubandhasana Sarvangasana Ustrasana Vasisthasana, PlankPose Bhujangasana	Vrikhasana, Utkatasana, Garurasana, Uthitahastapadangu Virbhadasana Ardhachandrasana Natarajanasana
Wed	Repetions of the same Asana	Repetions of the same Asana	Repetions of the same Asana
Fri	Repetions of the same Asana	Repetions of the same Asana	Repetions of the same Asana

Each yogasana performed twice and final pose of each asana hold up to 15 to 20 seconds. Each day training session was held for 60minutes.

## Statistical Procedure and Findings:

The collected data of selected parameters were analysed statistically through t- test. The significant level was 0.05. The relevant data as obtained from pre and post-test of flexibility, abdominal strength endurance and balance are presented in table no-1 to table no-3 respectively.

## Findings

TABLE NO. 1  
MEAN, SD AND T RATIO OF FLEXIBILITY BETWEEN PRE AND POST-TEST OF TWO GROUPS

Groups	Pre- test	Post - test	SD	t- ratio
Exp. Group	12.10	16.30	0.82	4.58*
Cont. Group	12.54	12.84	0.24	1.82

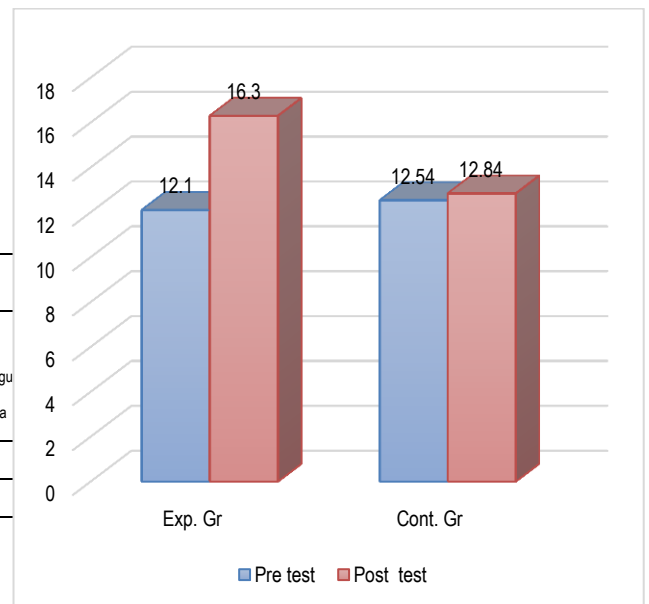


Fig. No. 1: Comparison between the two means of Experimental and Control groups in Flexibility.



TABLE NO. 2  
MEAN, SD AND T RATIO OF ABDOMINAL STRENGTH  
ENDURANCE BETWEEN  
PRE AND POST-TEST OF TWO GROUPS

Groups	Pre- test	Post - test	SD	t- ratio
Exp. Group	21.50	26.35	0.72	3.26*
Cont. Group	20.75	21.08	0.32	1.77

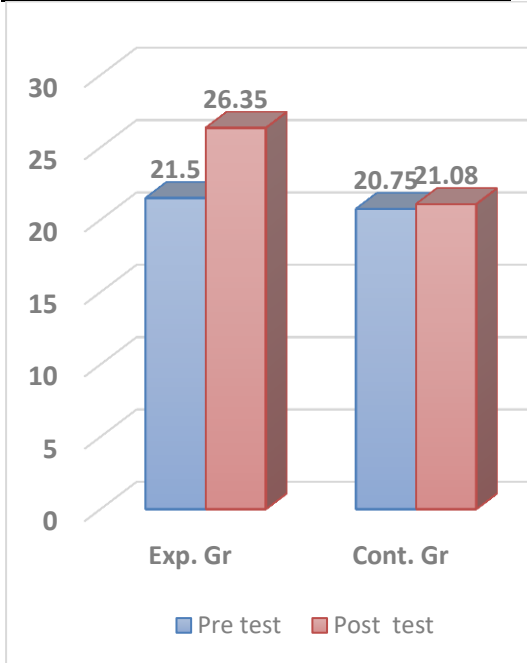


Fig. No. 02: Comparison between the two means of Experimental and Control groups in Abdominal Strength Endurance

TABLE NO. 3  
MEAN, SD AND T RATIO OF BALANCE BETWEEN PRE AND  
POST-TEST OF TWO GROUPS:

Group	Pre test	Post test	SD	t- ratio
Exp. Group	10.32	15.40	0.53	2.92*

Cont. Group	10.74	11.35	0.22	1.60
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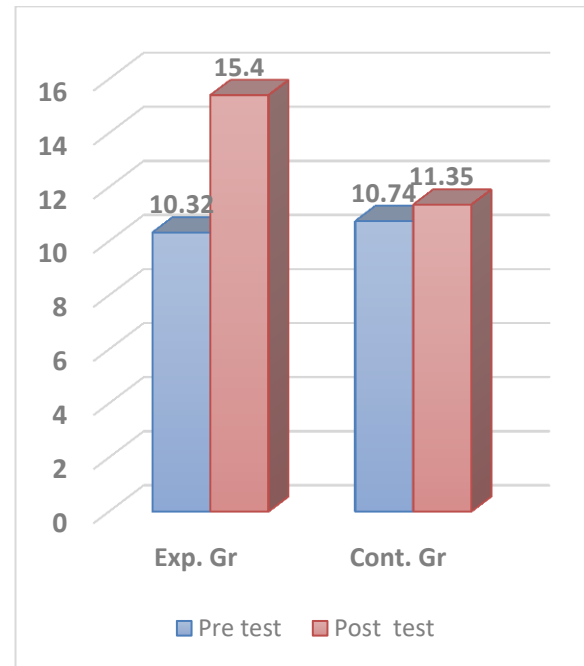


Fig. No.3: Comparison between the two means of Experimental and Control groups in Balance

### Discussion of the Findings:

The results are clearly indicating that there was a significant improvement in flexibility, abdominal strength endurance and balance after 8 weeks of yogasana training. In case of flexibility the muscle plays a vital role. The tenacity and contractibility of muscles are very important for flexing the joints. With the help of yogasana ability and range of motion at joint increases. Gore M.M Bhogal, R.S & Raja Purkar M.V.(1990) conducted a study on twenty young men to see the effects of yogasana on flexibility



and strength endurance, and found a significant improvement in both the parameters. The present study also revealed that there were significant effects of yogasana on flexibility and strength endurance, hence supported the above study. L.R.T. Williams (1990), conducted a study on hundred young men gymnasts to observe the effect of yogasana on balance and found significant improvement after 12 weeks of training. The present study of 8 weeks also revealed the significant effect of yogasana on balance of the NCC cadets.

### Conclusion

From the present study, it may conclude that the yogasana practices help in improvement of flexibility, abdominal strength endurance and balance of the college NCC cadets and also help them for better performance in marching drill.

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