

STUDY THE EFFECT OF PROPRIOCEPTIVE NEUROMUSCULAR FACILITATION (PNF) STRETCHING AND ASANA PRACTICES ON CALF CIRCUMFERENCE AMONG COLLEGE LEVEL LONG JUMPERS

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Abstract

Calf circumference was measured in college-level long jumpers as part of an investigation into the effects of asana practices and coupled proprioceptive neuromuscular facilitation (PNF) stretching. Thirty collegiate long jumpers from Alagappa University in Tamil Nadu, India, were chosen in 2020 to fulfil the study's objectives. The age range of the subjects is 18–25 years. Each of the two groups of chosen students—the experimental group and the control group—consisted of fifteen athletes. Over the course of six weeks, the experimental group stretched using PNF and performed asanas. Throughout the research, the control group did not get any kind of instruction. The researchers in this study used calf circumference as their criteria variable. A steel tap was used to measure the patients' calf circumference as part of the testing procedure. Both the pre- and post-training assessments were administered at the beginning and end of the six-week training sessions, respectively. The means of the pre- and post-test data for the experimental and control groups were analysed using the statistical approach of the 't' ratio. On the criteria variable, the findings showed that there was a substantial difference. The control group's calf circumference was not affected by the experimental group's combined PNF stretching and asana practices.

Keywords: Stretching using PNF and asanas together, calf size, and the "t" ratio.

INTRODUCTION

Everyone, regardless of age, may benefit from yoga. For philosophical thinkers, the practice of Yoga—which may be described as the stilling of the mind that leads to full awareness of the Supreme Being's inherent nature—is an enthralling pursuit. Because physical education improves athletic performance and efficiency, it is considered the most important factor in the sports industry. Some of the physical advantages, such muscle strengthening, and the promotion of the physical demands of the event or activity may be achieved by asana practices.

Rhythmic initiation, hold-relax, and contract-relax are a few variations on this theme of stretching. The use of PNF to treat athletic injuries dates back to the 1960s. When a stretch therapist allows a single limb to naturally wander through its ranges of motion, the technique might be considered passive PNF stretching. Additionally, it may be active-assisted, meaning that you are actively involved in the therapy process.

RESEARCH METHODOLOGY

Selection of subjects

The purpose of the study was to find out the effect of combined proprioceptive neuromuscular facilitation (PNF) stretching and asana practices on calf circumference among college level long jumpers. To

achieve this purpose of the study, college long jumpers were selected as subjects at random. The age of the subjects were ranged from 18 to 25 years.

Selection of variable

Independent variable

- Combined PNF stretching and asana practices

Dependent variable

- Calf circumference

EXPERIMENTAL DESIGN AND IMPLEMENTATION

The selected subjects were divided into two equal groups of fifteen subjects each, such as a combined PNF stretching and asana practices group (Experimental Group) and control group. The experimental group underwent combined PNF stretching and asana practices for five days per week for six weeks. Control group, which they did not undergo any special training programme apart from their regular physical activities as per their

curriculum. The following anthropometric variable namely calf circumference was selected as criterion variable. All the subjects of two groups were tested on selected criterion variable Calf circumference was measured through steel tap at prior to and immediately after the training programme.

Statistical technique

The 't' test was used to analysis the significant differences, if any, difference between the groups respectively.

Level of significance

The 0.05 level of confidence was fixed to test the level of significance which was considered as an appropriate.

ANALYSIS OF THE DATA

The significance of the difference among the means of the experimental group was found out by pre-test. The data were analysed and dependent 't' test was used with 0.05 levels as confidence.

TABLE I
Analysis of t-ratio for the pre and post tests of experimental and control group on Calf circumference
(Scores in centimeters)

Variables	Group	Standard Deviation		Sd Error	
		Pre	Post	Pre	Post
Calf circumference	Control Group	0.740	0.758	0.191	0.195
	Experimental Group	0.748	0.747	0.193	0.193

TABLE II

Variables	Group	Mean		Degree of freedom	't' ratio
		Pre	Post		
Calf circumference	Control Group	32.216	32.343	14	1.38
	Experimental Group	32.087	32.10	14	10.58*

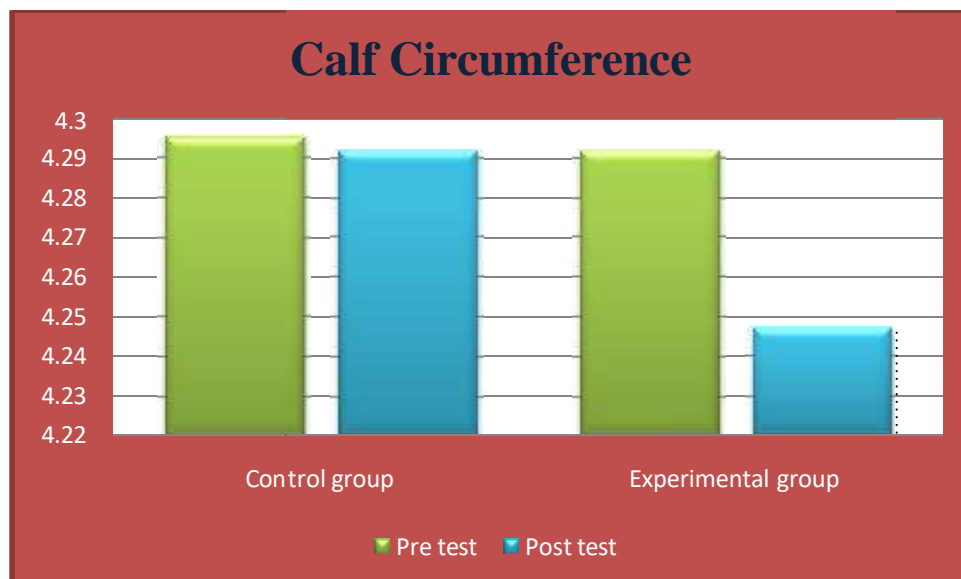
*Significance at .05 level of confidence.

The Table-I and II shows that the mean values of pre-test and post-test of the control group on calf circumference were 32.21 and 32.34 respectively. The obtained 't' ratio was 1.38, since the obtained 't' ratio was less than the required table value of 2.14 for the significant at 0.05 level with 14 degrees of freedom it was found to be statistically insignificant. The mean values of pre-test and post-test of the experimental group on calf circumference were 32.087 and 32.10

respectively. The obtained 't' ratio was 10.58* since the obtained 't' ratio was greater than the required table value of 2.14 for significance at 0.05 level with 14 degrees of freedom it was found to be statistically significant. The result of the study showed that there was a significant difference between control group and experimental group in calf circumference. It may be concluded from the result of the study that experimental group improved in calf circumference due to six weeks of combined PNF stretching and asana practices.

Figure-1

Bar Diagram Showing the Pre and Post Mean Values of Experimental and Control Group on Calf circumference



DISCUSSIONS ON FINDINGS

The study's results show that compared to the control group, the experimental group's calf circumference (the dependent variable) was considerably higher in the combined PNF stretching and asana practices group. Researchers also discovered that, in comparison to the control group, those who practiced both asanas and PNF stretching had significant improvements.

CONCLUSION

One major finding from the data is that, after the training period, the experimental group had much larger calves than the control group. Calf circumference showed a significant improvement. Nevertheless, after six weeks of combining PNF stretching with asana practices, the experimental group showed more progress.

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