



ISSN: 2456-0057

IJPNPE 2023; 8(1): 284-286

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www.journalofsports.com

Received: 02-01-2023

Accepted: 05-03-2023

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Combined and isolated effect of swiss ball and ladder training on leg strength among school students

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Abstract

This study was to find out the combined and isolated effect of swiss ball and ladder training on leg strength among school students. To achieve this purpose of the study eighty men students selected from in and around Perambalur, Tamil Nadu, India and their age ranged between 14-17 years will be selected as subjects. The selected subjects will be divided into four equal groups, in which, group – I (n = 20) will undergo swiss ball training for five days per week for twelve weeks, group – II (n = 20) will undergo ladder training for five days per week for twelve weeks, group – III (n = 20) will undergo both swiss ball and ladder training for five days per week for twelve weeks and group – IV (n = 20) will act as control which do not participate in any special training. The subjects were tested on leg strength before and after the training period. Prior after the training period leg strength were measured by using squat. Analysis of Covariance (ANCOVA) was applied as statistical tool for the present study. The Scheffé S test was used as post-hoc test at whatever point the 'F' - ratio of the adjusted post-test means were discovered to be significant at 0.05 level of significance. Both swiss ball, ladder training and combined training group influence on leg strength when compared with control group. Combined (swiss ball and ladder training) may have better influence on leg strength of school students.

Keywords: Swiss ball training, ladder training and leg strength

Introduction

The worth of practice in a deterrent medication program has underscored the significance of active work. A stationary way of life or minimal standard active work builds the gamble of lethal and non-deadly ischemic coronary illness, as indicated by research connecting actual work levels and cardio-respiratory wellness to the condition. Hyperlipidaemia is the term used to portray blood lipid levels that are higher than expected.

Swiss ball is one of the partner costs that is used in exercise routines and which helps the body with procuring wellbeing and dynamic capacities.

A ladder practice is a strategy for strength and sports setting up that perform something like one exercises with a rising and diving overt repetitiveness plan. Ladders are strong persistence and embellishment practices planned to grow your overall readiness volumes while staying aware of authentic design and system.

Without utilitarian leg strength the contender can't have speed, strength, power or adaptability to perform. We ought to think about the legs on a utilitarian unit of the whole body. As needs be, is could be worthwhile to dissect the powers made through the lower body in contenders. Strength examination can similarly be exceptionally monotonous, which demeans capacity related direction and practice for challenge.

Statement of the problem

The present study stated based on the systematic background and expert opinion that, the purpose of the study was to find out the swiss ball and ladder training on leg strength among school students.

Methodology

To achieve this purpose of the study eighty men students selected from in and around Perambalur, Tamil Nadu, India and their age ranged between 14-17 years will be selected as

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subjects. The selected subjects will be divided into four equal groups, in which, group – I (n = 20) will undergo swiss ball training for five days per week for twelve weeks, group – II (n = 20) will undergo ladder training for five days per week for twelve weeks, group – III (n = 20) will undergo both swiss ball and ladder training for five days per week for twelve weeks and group – IV (n = 20) will act as control which do not participate in any special training. The subjects were tested on leg strength before and after the training period.

Prior after the training period leg strength were measured by using squat.

Analysis of data

The data collected prior to and after the experimental periods on leg strength on swiss ball, ladder training and combined training and control group were analysed and presented in the following table -I.

Table 1: Analysis of covariance on leg strength of combined and isolated swiss ball and ladder training group and control group

	SBT Group	LT Group	CT Group	Control Group	SOV	SS	df	MS	'F'
Pre-test mean S.D	25.42 1.78	25.55 1.82	25.50 2.11	25.55 2.13	B W	0.209 295.338	3 76	0.070 3.889	0.18
Post-test mean S.D	26.35 1.69	27.40 1.98	29.10 1.88	25.70 2.29	B W	132.138 297.350	3 76	44.046 3.912	11.25*
Adj. Post- test mean	26.42	27.36	29.10	25.66	B W	132.205 44.383	3 75	44.102 0.592	74.52*

* At a 0.05 threshold of significance, significant. (With df 3 and 76 and 3 and 75, the table values needed for significance at the 0.05 level of significance were 2.09 and 2.08, respectively.)

SBT: Swiss ball training group
 LT: Ladder training group
 CT; Combined training group

The resulting F value on the pre-test scores is 0.18, which is lower than the 2.09 needed to be significant at the 0.05 level. This demonstrates that there are no major differences between the groups at the beginning and that the individuals were successfully divided into four groups using a randomization process.

The study of post-test results demonstrates that there are substantial differences between the groups since the obtained "F" value, which is 11.25, is higher than the necessary "F" value, which is 2.09. This demonstrates that the participants' post-test means varied significantly from one another.

Adjusted mean scores are computed and statistically processed after taking into account pre- and post-test scores for each group. The computed "F" value of 74.52 is higher than the necessary "F" value from the table, which is 2.08. This demonstrates that the twelve weeks of Swiss ball training, ladder training, and combination training caused substantial variations in the adjusted averages. The findings are submitted to post hoc analysis using Scheffe's Confidence

Interval Test since the considerable improvements were noted. Table-II presents the findings.

Table 2: Scheffe's confidence interval test scores on leg strength

Adjusted post-test means				Mean Difference	Confidence Interval Value
SBT Group	LT Group	CT Group	Control Group		
26.42	27.36	---	---	0.94*	0.69
26.42	---	29.10	---	2.68*	
26.42	---	---	25.66	0.76*	
---	27.36	29.10	---	1.74*	
---	27.36	---	25.66	1.7*	
---	---	29.10	25.66	3.44*	

*Significant at 0.05 level.

The significant difference is detected to exist since the confidence interval needed to be significant at the 0.05 level is 0.69 and the obtained values are higher than the necessary value. Figure-I, which shows the findings of this study, uses a bar diagram to depict the ordered adjusted means on leg strength.

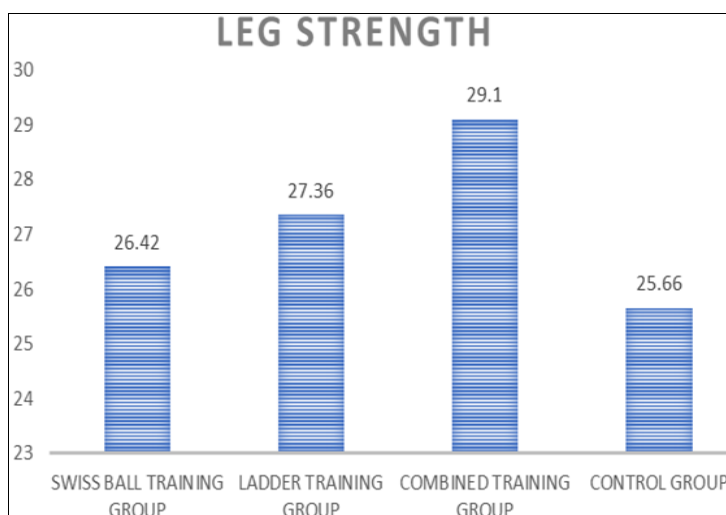


Fig 1: Adjusted post-test mean values on leg strength of swiss ball training, ladder training, combined training group and control group

Conclusion

From the analysis of the data, the following conclusion were drawn.

The research study also shows that combined and isolated swiss ball training and ladder training have improved leg

strength when compared with the control group. In addition, the results of the tests shows that there was a significant difference between experimental groups on leg strength. Combined (swiss ball and ladder training) may have better influence on leg strength of school students.

Recommendation

The following recommendations were drawn, from the results of the present study:

1. Further studies may be made to investigate the effect of swiss ball training and ladder training on anthropometric measures, bio-chemical variables.
2. The effect of combined and isolated swiss ball training and ladder training programmes can be assessed on physiological factors.
3. In the current study, the subjects chosen was male students and in future studies, the subjects may be chosen obese female students and middle aged obese men and women.,etc.

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