

Evaluating the Impact of Varying Paces and Durations of Suryanamaskar on Leg Strength among College Students

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Abstract: *The purpose of this study was to see the effect of Suryanamaskar practice with different paces on leg strength of college going students. The objective of the study sees the effect of training duration and paces of Suryanamaskar. Within and between designs was used. Three experimental intact groups were created Pace 1 group, Pace 2 group and Pace 3 group; each group had 40 subjects with age range between 17-24 years. Pace 1 group practiced one round (12 steps) of suryanamaskar in 90 seconds, Pace 2 group in 180 seconds and Pace 3 group in 360 seconds. The maximum strength of the legs was measured by the leg dynamometer test. Total 12 weeks training was given in which three observations were taken before the training (pre-test), after 6 weeks (mid-test) and after 12 weeks (post-test). ANOVA was used and level of significance was set at 0.05. Result demonstrates that practice of Suryanamaskar for 6 weeks and 12 weeks were sufficient to bring out significant improvement on leg strength.*

Key words: *Suryanamaskar, Pace, dynamometer, leg strength.*

Introduction

Suryanamaskar is a well know and imperative technique with the yogic gamut. It is a vital yogic practice that not only promotes a healthy and dynamic lifestyle but also fosters spiritual awakening and heightened awareness.(1)

Objective: The purpose of the study were to evaluate the effect of the different paces of Suryanamaskar on leg strength variable to compare the effect of different training duration of Suryanamaskar practice on leg strength variable and to make out and evaluate the pattern of progress in different paces of Suryanamaskar practice in different training duration on selected leg strength.

Methodology: 120 male students from B.Tech degree program for CoAE JNKVV Jabalpur. The age of the subject were ranged between 17-24 years. For administration practicability three intact groups were formed namely group 1 group 2 group 3. The treatments pace 1, pace 2 pace 3 were randomly allotted among groups. Each group consists of 40 students name as pace 1, pace 2 and pace 3 groups. The groups actively participated for a period of twelve weeks with their respective paces of Suryanamaskar. The selected leg strength variables measure with the help of leg dynamometers.(2) The quantitative measurement of each subject taken with help of standard equipments before the training programme pretest after 6 and 12 weeks of training programme. Descriptive statistics, ANOVA was employed to find out between groups the effect of different pace effect of training durations of Suryanamaskar on selected leg strength variable

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and the level of significance was set at 0.05.

Table 1 : Descriptive Statistics of leg Strength of Different Groups And Training Durations of Suryanamaskar

		Mean	S.D
Pre- test	Pace 1	63.82	4.68
	Pace 2	63.92	4.67
	Pace 3	64.70	3.95
6 Weeks	Pace 1	68.18	3.84
	Pace 2	70.62	4.40
	Pace 3	71.34	3.82
12 Weeks	Pace 1	71.96	3.96
	Pace 2	74.06	4.42
	Pace 3	76.09	4.00

Above table 1 includes mean (M), standard deviation (SD) of leg strength in all the data readings i.e. on pre-test after 6 and 12 weeks of training. According to the table the highest mean value of leg strength after 12 weeks was Pace 3 group followed by pace 2 and pace 1 group. above explain the descriptive statistics of pre test, 6 weeks and 12 weeks group with different pace of Suryanamaskar the mean and standard of pre test group pace 1, pace 2 and pace 3 respectively are 63.82 ± 4.68 , 63.92 ± 4.67 and 64.70 ± 3.95 . the mean and standard 6 weeks groups pace 1, pace 2 and pace 3 respectively are and the mean and standard 12 weeks groups pace 1, pace 2 and pace 3 respectively are After 6 week 68.18 ± 3.84 , 70.62 ± 4.40 and 71.34 ± 3.82 and after 12 week mean 71.96 ± 3.96 , 74.06 ± 4.42 and 76.09 ± 4.00 .

Marginal means of all the training durations are presented graphically below

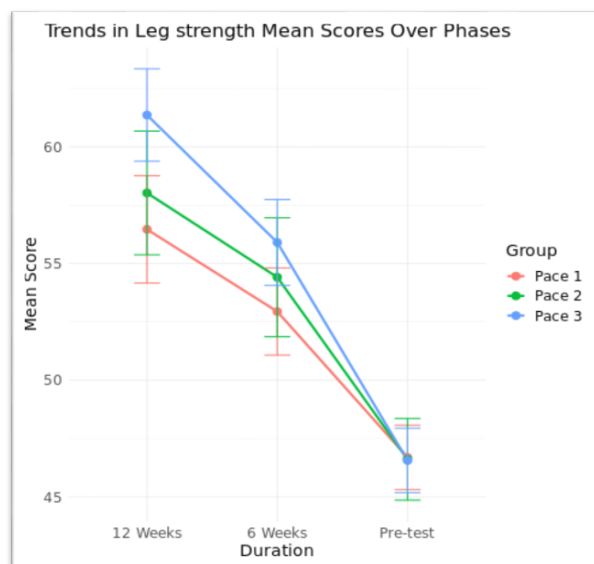


Figure 1: Graphical Representation of Marginal Means of Leg strength among Training Durations

The graph illustrates the progression of leg strength (mean scores) across different training durations (Pre-test, 6 Weeks, and 12 Weeks) for three different pace groups (Pace 1, Pace 2, and Pace 3).

Table 2 : Analysis of Variance (ANOVA) Statistics of between the groups after 6 weeks Among the different the group's i.e. pace 1, pace 2 and pace 3 in effect of Suryanamaskar on leg strength

		Sum of Squares	df	Mean Square	F	Sig.
After 6 weeks leg strength	Between Groups	219.84	2	109.92	6.75	.002
	Within Groups	1904.17	117	16.275		
	Total	2124.02	119			

*Significant at the 0.05 level.

Table 2. that analysis of variance (ANOVA) was employed on after 6 weeks among the different groups of pace 1, pace 2 and pace 3 to find the variances of the group after 6 weeks of training to show the effect of Suryanamaskar on the leg strength. As significance difference was found in among the groups, as the p value was found .002 which is lesser than 0.05 at 5% level of significance.

Table 3 : Multiple Comparison (LSD) Statistics after 6 weeks training to Suryanamaskar among the pace 1, pace 2 and pace 3 groups for leg strength

Dependent Variable	(I) duration	(J) duration	Mean Difference (I-J)	Sig.
After 6 weeks leg strength	90 sec	180 sec	-2.44*	.008
		360 sec	-3.16*	.001
	180 sec	90 sec	2.44*	.008
		360 sec	-.712	.431
	360 sec	90 sec	3.16*	.001
		180 sec	.712	.431

*Significant at the 0.05 level.

Table 3 explain the statics of multiple comparison (LSD) was employed to find the variance difference among the pace 1, pace 2 and pace 3 groups in between the groups on leg strength. As Significance different mean was found in between pace 1 to pace 2 with p value .008. And pace 1 to pace 3 found p value was .001. This is lesser than 0.05 level of significance. Further, there was no significance found in pace 2 to pace 3 with p value .0431 which is higher than 0.05 level of significance.

Results and conclusion: The findings indicated that the practice of Suryanamaskar for 6 and 12 weeks is enough to bring out significant improvement physical variables i.e. leg in all three paces of groups, improvement in leg strength was almost similar after 6 and 12 weeks. (3), (4) there was no significant difference found among three paces of groups on leg at pretest. However, after 12 week training of Suryanamaskar the effect on physical variables is pace 3 groups found most improvement followed by pace 2 and pace 1 group. The data reveal a clear trend of increasing leg strength across all pacing groups over time with Suryanamaskar training. (5)The improvement is significant from pre-test through both training durations (6 weeks and 12 weeks). The consistent increase in means along with decreasing standard deviation and

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standard error suggests that as subjects engage in Suryanamaskar, not only do their leg strength levels improve, but their performance also becomes more uniform. This analysis underscores the effectiveness of Suryanamaskar as a training regimen for enhancing leg strength across different pacing strategies over time, indicating its potential benefits for physical fitness programs focused on strength development(6).

Recommendations: - The findings of this study clearly demonstrate that Suryanamaskar training can improve the leg strength additionally, it also practice of Suryanamaskar is more effective for over all development of health and fitness. Hence it is recommended that coaches and physical educators to incorporate practice Suryanamaskar in their training sessions.

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