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Influence of Mallakhamb exercises on selected motor ability components and physiological variables among Physical Education College men

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Abstract
The purpose of the study was to find out the influence of Mallakhamb exercises on selected Motor ability components and physiological variables among physical education college men students. For this study, sixty male students were selected from Alagappa University College of Physical Education, Karaikudi at random aged 18-23 years. They were divided in to two groups namely Control group and experimental group. The control group was not given any specific training, the experimental group was exposed to Mallakhamb exercises for twelve weeks for a period of 3 days per week for 45 minutes. The pretest and post test were conducted for the selected motor ability components (Agility, Flexibility) and physiological variables (Pulse rate, Breath Holding time). The collected data were analysed by using 't 'ratio as recommended by Clarke and 0.05 level was fixed as level of significance. The result of the study revealed that Mallakhamb exercises positively influenced the selected motor ability components and physiological variables among college students.

Keywords: Mallakhamb, motor ability, agility, flexibility physiological, pulse rate, breath holding time

Introduction
The art of Mallakhamp is one of the most ancient art in the field of physical culture. Mallakhamb altogether a different form of exercise than the normal or common systems of exercise. In consideration to be a perfect exercise because it is intermingled with various poses and postures, of yogasanas. It is not a hectic or jerky exercise. And it gradually develops all the physical and mental/faclties of the human body. The benefits are innumerable. Mallakharnb is a systematic, scientific and very methodical mode of physical exercise. It gives exercise to each and every organ or limb of the body. It imparts proper tone and form of every muscle and perfect control over each part of the body (Daspande 1986) [1].
Mallakhamb-Mallar Khambam (In Tamil) Malla-Mallar-a man of power of Mallakhamist. Khamb - Khambam. The wooden pole Exercise is practiced with the help of a wooden pole by a person to develop himself or physical culture development (Atale Mahesh 2003) [2],
Mallakhamb is an exercise form that emphasizes smooth, balanced movement, grace, poise, symmetry creativity; rhythmic and controlled breathing. Mallakhamb incorporates different holds, coils, twists and turns, bending and suspended positions exercise for every part of the body.
Mallakhamb is an ancient art of India. It is apart of the physical education curriculum in Indian schools and an effective activity that conditions the body and mind. Research in this area is in its primary stage; however historical evidence and experiences have shown that this activity could be used both as a sport and a conditioning tool for games and sports.
Mallakhamb as an effective form of exercise on who practices feats on Mallakhamb regularly develop the beautiful body with an all round tone, with in very short time. Muscles and joints all over th1 body and spinal column are constantly brought into play in exercise. (Mujumdar 1950) [3].
Mallakhamb exercise makes the body light and strong. These exercises are most beneficial for the stomach, back arms and thighs and have been found useful to active efficiency in a number of others games and sports like gymnastics and wrestling. Mallakhamb is the only exercise that develops energy and increases longevity and is the only exercise in which all big and small organs of the body is active (Atale Mahah 2003) [2].

Hypothesis

It was hypothesized that the Mallakhamb exercise would significantly improve the selected motor ability components and physiological variables among college students.

Methodology

To achieve this purpose sixty male college students were selected from Alagappa University College of Physical Education, Karaikudi at random. They belonged to the age group 18-23 years and were divided in to two equal groups namely control group and Experimental group (Mallakhamb group). Experimental group underwent Mallakhamb exercises for 3 days per weeks for period of twelve weeks (45 min per day). Control group was restricted from participating in any training programme besides their regular physical activities. The experimental design used is per test and post test randomized group design. The effect and outcome of the study was assessed by using quadrant jump test (Agility) sit and reach test (flexibility) motor ability components. For physiological variables pulse rate (Rulse beats) and Breath holding time (nose holdig) was measured.

Mallakhamb Exercises

1. Salutation, 2.Mounting exercise, 3.Turning exercise, 4. Twisting exercise, 5. Creeping exercise, 6. Balancing exercise (i) Vertical (ii) Horizontal, 7. Needle and thread exercise, 8. Bending exercise, 9. Catches and 10. Dismounting exercise

Statisticalanalysis

The collected data on Agility, Flexibility pulse rate and Breath holding time were statistically analysed by using 't'-ratio as recommended by Harrison Clarke. Only the post test scores were compared and 05 level was fixed as level of significance which was considered as appropriate for the study. (Clarke and clarke 1970)

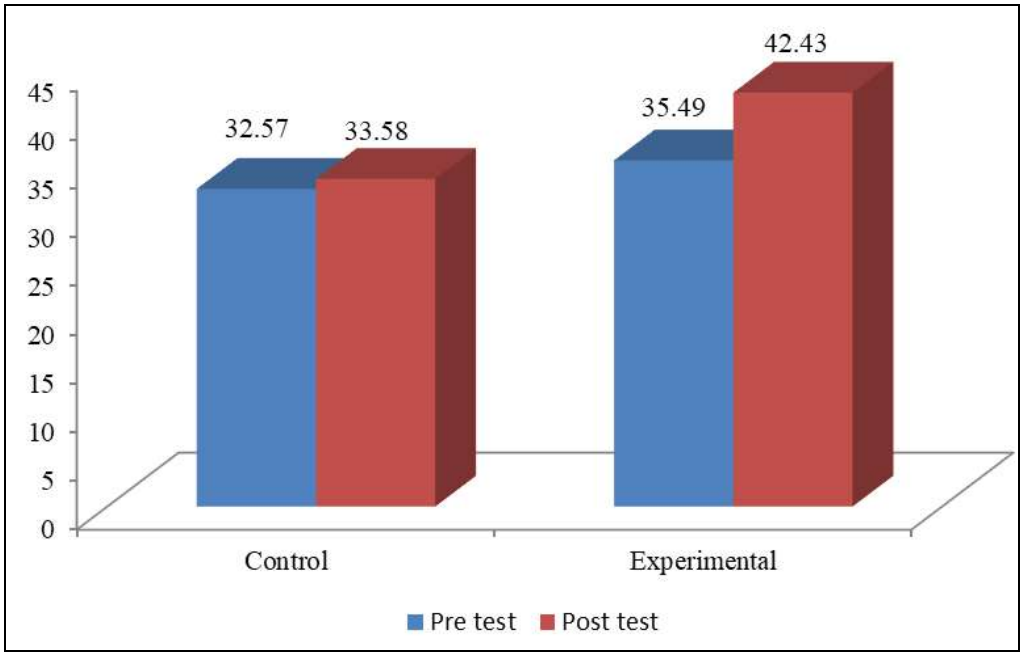
Results and discussion

Table 1: Computation of 't' ratio between the pre-test and post-test means of agility of experimental and control group

Group	Mean	Difference between Mean	Standard deviation	Standard error difference between the mean	't' ratio
Control	35.49	6.94	3.20	0.87	7.98*
Experimental	42.43	6.94	3.52		

Significant 0.05 Level confidence is 2.008

Table 1- the obtained 't' ratio 7.98 was significantly higher than the required 't' value(2.008. Hence the stated hypotheses was accepted (0.05 Level). There would be a significant effect of Mallakhamb exercise on agility.



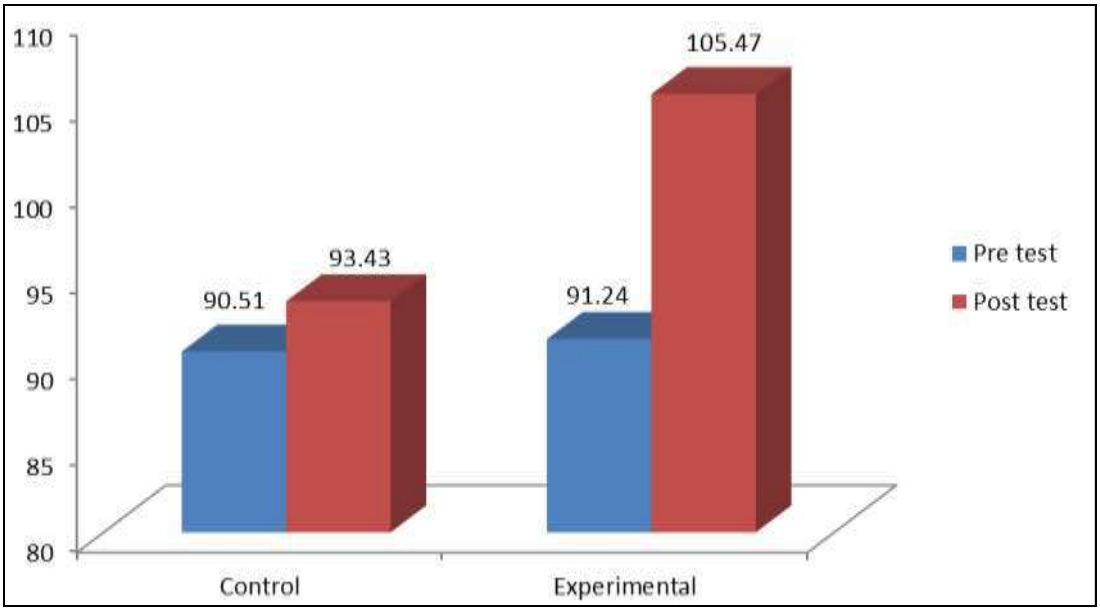
Graph I: Bar Diagram Showing the Initial and Final Mean Difference of Agility

Table 2: Computation of 't' ratio between the pre-test and post-test means of Flexibility of experimental and control group

Group	Mean	Difference between Mean	Standard deviation	Standard error difference between the mean	't' ratio
Control	93.43	12.04	5.28	1.7	7.08*
Experimental	105.47	12.04	7.74		

*Significant 0.05 Level confidence is 2.008

Table 2 they obtained 't' ratio 7.08 was significantly ($p<0.05$) higher than the required 't' value 2.008. Hence the stated hypotheses was accepted (0.05 Level). There would be a significant effect of Mallakhamb exercise on Flexibility.



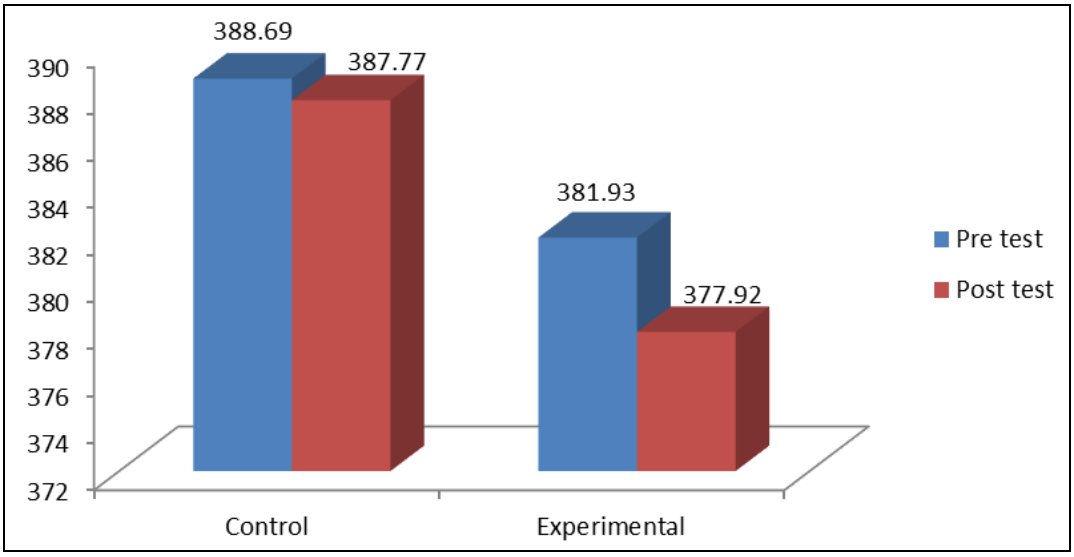
Graph II: Bar Diagram Showing the Initial and Final Mean Difference of Flexibility

Table 3: Computation of 't' ratio between the pre test and post test means of Pulse rate of experimental and control group

Group	Mean	Difference between Mean	Standard deviation	Standard error difference between the mean	't' ratio
Control	387.77	9.85	18.08	3.53	2.79*
Experimental	377.92	9.85	6.85		

Significant 0.05 Level confidence is 2.008

Table 3-the obtained 't' ratio 2.79 was significantly ($p<0.05$) higher than the required t' value 2.008. Hence the stated hypotheses was accepted (0.05 Level). 'There would be a significant effect of Mallakhamb 'exercise on Pulse rate.



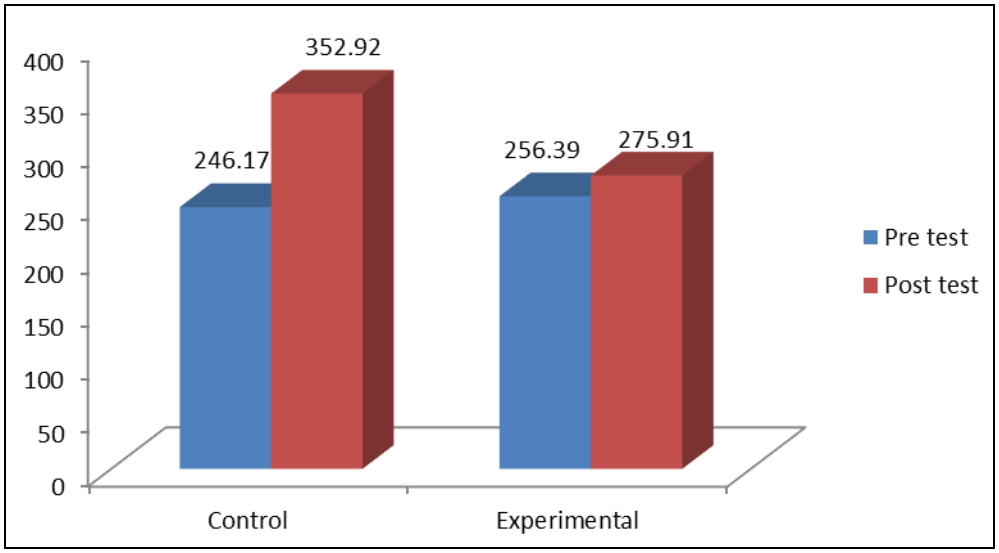
Graph III: Bar Diagram Showing the Initial and Final Mean Difference of Pulse rate

Table IV: Computation of 't' ratio between the pre test and post test means of Breath holding time of experimental and control group

Group	Mean	Difference between Mean	Standard deviation	Standard error difference between the mean	't' ratio
Control	252.92	22.49	14.98	4.14	5.55*
Experimental	275.91	22.49	17.12		

* Significant 0.05 Level confidence is 2.008

Table III- the obtained 't' ratio 5.55 was significantly ($p<0.05$) higher than the required 't' value 2.008. Hence the hypothese was accepted (0.05 Level). There would be a significant effect of Mallakhamb exercise on Breath holding time.



Graph IV: Bar Diagram Showing the Initial and Final Mean Difference of Breathe holding time

Conclusions

From the result of the study it was concluded that the Mallakhamb exercise significantly improved the motor ability components and significantly reduced the pulse rate and increased the breath holding time among the college students. This study revealed that Mallakhamb exercise influenced the selected motor ability components and physiological variables among the college students.

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