



Effect of Ashtang Yoga on Body Composition in Enhancing Quality of Life of Young Adults

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Abstract

This experimental study consists of pretest and posttest. The experimental group underwent a training program for three months period, whereas the control group attended general workout sessions. Both groups shall consist of forty subjects each age's b/w 18 to 21 years. It was delimited to yogic activities training schedule prepared by a book "The practical encyclopedia of ashtang yoga and meditation" by Jean hall & Doriel hall (2009). It was delimited to Ashtang yoga of Patanjali yoga sutras comprise asana, pranayama & meditation. It was delimited to 80 students (male and female) both and 1 hour morning duration training programme exclude Sunday and gazetted holidays. It was delimited to **Physical Fitness variable i.e. Body Composition**. The study shows that ashtang yoga can change in Body Composition of young adults. The study shows positive result in young adults & help to remove their stress in experimental group but there is no improvement in control group. This study is really helpful for positive effect in Body Composition of young adults.

Statistical Analysis: The obtained data was compiled and tabulated variable- wise and group- wise. The analysis was done with the help of SPSS Version 16 (statistical package of social sciences) .In order to analyses the data the present study, t-test test has been used. To differentiate PrTMS and PoTMS of groups experimental and control, paired 't'-test was considered and to differentiate PoTMS of groups experimental and control, Independent 't' test was considered. The CI was 0.05..

Key Words: Behavior, C.B.S.E. Board, U.P. Board.

1. Introduction:

In the Indian philosophical tradition one goal has been pursued throughout from the ancient to modern times and that goal is the deliverance of the soul by means perfection. The Indian tradition adheres to the fact that it can be achieved through yoga. Yoga is one of the field that is very ancient in nature and tries to balance the health of human beings that may be related to dimensions like mental, physical, emotional and spiritual. This is one of the foremost and widespread practice in many countries but India it is prevailing and now it is becoming dominant in western countries too. "Yoga" is a collection of every one consciousness and it should be in a state of super-conscious (P, 2012).

Body Composition: Effect of the performing of yoga on human body comprises consequences on weight of the body, index of the mass in the body, and fat accumulated in the body and percentage of incline mass. (Ray, 2001) discovered a similar diminishing of the percentage of the fat that is gathered in the body. (resolute by skin fold width) within the amplification of in lean mass in the body of male military officers that participated in a yoga session of one hour long, daily for a time of half year. (Tran, 2001) had 10 UN-trained persons (1gentleman, 9 feminine), having age between 18-27 years involved in yoga known as hatha yoga for a duration of 2 months. Respondents participated in a 21.5 sessions on average (nearly 2.7 sessions per week) over the duration of two months, with an obligatory that respondents should participate in at least 2 sessions/per week, a total of 16 sessions in two months. Even though development was there in the power of muscles and elasticity no changes in the weight of the body or composition as calculated with hydrostatic weighing? Same sort of outcomes were examined by (Cowen, 2005) who measured the effects of yoga types such as hatha yoga and ashtanga yoga in the one month and two week period. There were 17 respondents (9ashtanga, 8 hatha) both masculine and feminine, having age from 20-58 years, (SD=10.6, mean 31.8) attended two times in a week. Yoga sessions of Hatha/ashtanga for a duration of 90 minutes. The respondents attended 9.15 on average of the 12 sessions. The variable which was only measured was body-composition during intended period was weight of the body, which showed no noticeable alterations. It is probable, as shown in the researches carried out by Tran et al. and cowmen and Adams, that in a time duration of 6-8 weeks of yoga and the below three sessions of yoga is not sufficient of a human stimulus to change body composition. (Gruber K., 2008).

2. Methodology:

Skinfolds

Purpose: To assess body composition.

Facilities and Equipment: A quality pair of skin fold caliper. A score sheet and same assistants are also needed.

Procedure: A skin fold measures is taken at the triceps and sub scapular sites. The triceps skin fold is taken on the back of the right arm over the triceps muscles, midway between the elbow and the shoulder. Instruct students to stand erect with arms relaxed and palms facing their legs. The test administrator is to grasp and gently lift a vertical skin fold between the thumb and index finger placed ½ inch (1 cm) above the midpoint of the upper arm. The caliper measurement is taken at the midpoint of the upper arm. Repeat the entire procedure three times. The sub scapula skin fold is taken as an inferior angle as subject must be in a standing relaxed position. An angle of 45 degree must be made from the horizontal and vertical plane to lift up the fold.

3. Results and Discussion:

TABLE - 1.1
DA of Body Composition (BC) at PrT and PoT Performance in Group experime

	N	Range	Minimum	Maximum	Mean	SD
Pre Test	40	20	3	23	10.86	4.94
Post Test	40	15	3	18	7.77	3.63

Fig.1.1- Graphical Presentation of BC (subscapula) in PrT and PoT Performance of Group Experimental

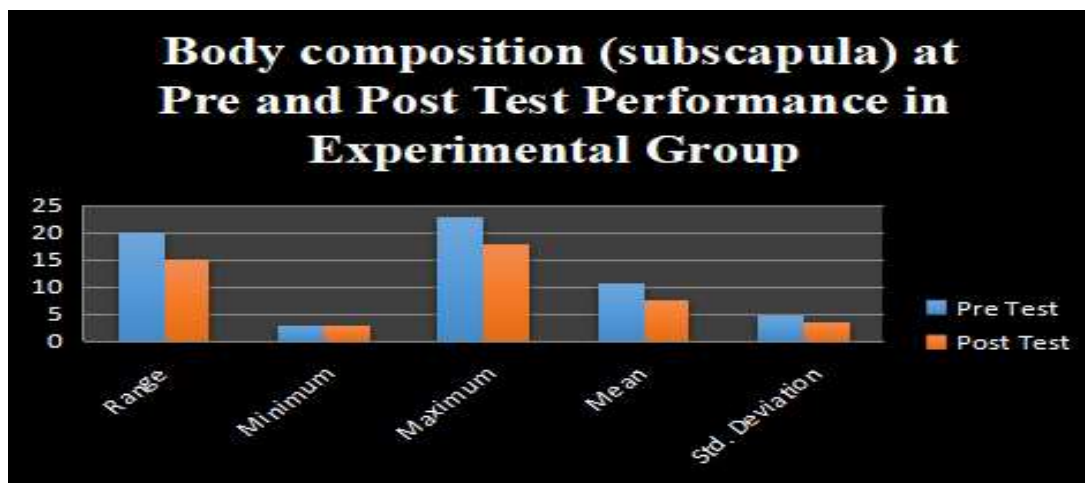


Table-1.1 reveals the DA of BC at PrT and PoT in group experimental. The values of mean and SD for PrT were (10.86 ± 4.94) respectively and for PoT were (7.77 ± 3.63) respectively. Out of these, max and min values were 23 and 3 for PrT whereas for PoT were 18 and 3. The PrT and PoT range was 20 and 15. The graphical representation of DA of PrT and PoT performance in BC (subscapula) has been presented in figure 1.1.

TABLE – 2.2
PrT and PoT Performance of Group Experimental in BC (Subscapula)

Groups	Mean	SD	SE Mean	DM	SE Mean Diff.	“t” ratio
Pre test	10.86	4.94	.780	3.08	.580	5.31*
Post test	7.77	3.63	.573			

*Significant level is 0.05 where $t_{.05} (39)$ is equal to 2.042

Figure 2.2 - Comparison of PrT and PoT SD and Mean for Group experimental in BC (Subscapula)

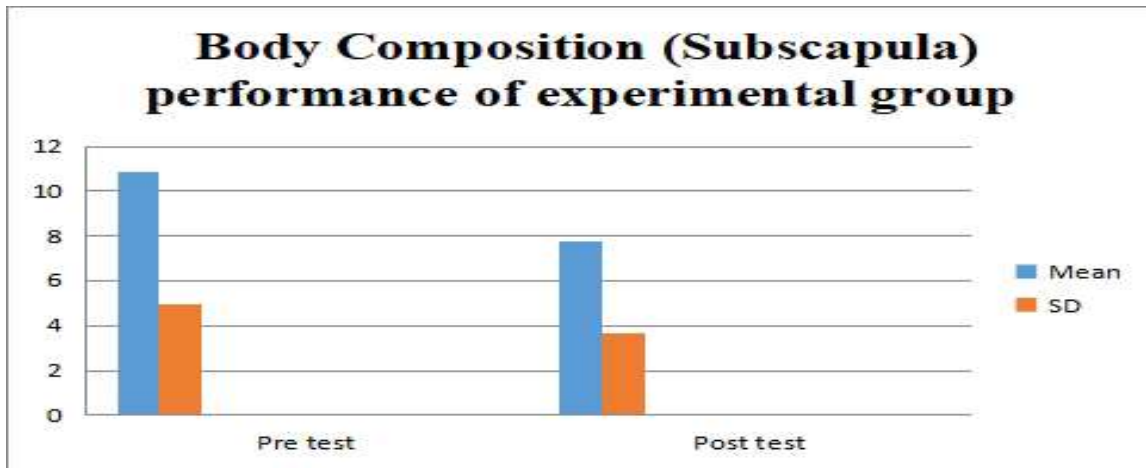


Table 2.2 clearly illustrated that difference exists between PrTMS and PoTMS in BC (Subscapula) of group experimental. The mean difference was calculated as 3.08 and standard error of difference was .580, 't' paired obtained value and tabulated values were 5.31 and 2.042 respectively and obtained value is on higher side which is significant at CI of 0.05 and 39 df. The PrT and PoT SD and mean of group experimental in BC (Subscapula) was represented in figure 2.2.

TABLE - 3.3
DA of BC (Subscapula) at PrT and PoT Performance in Group Control

	N	Range	Min	Max	Mean	SD
Pre Test	40	23	3	26	10.47	6.08
Post Test	40	29	2	31	12.70	7.38

Figure - 3.3 Graphical Presentation of BC (Subscapula) in PrT and PoT Performance of Group Control

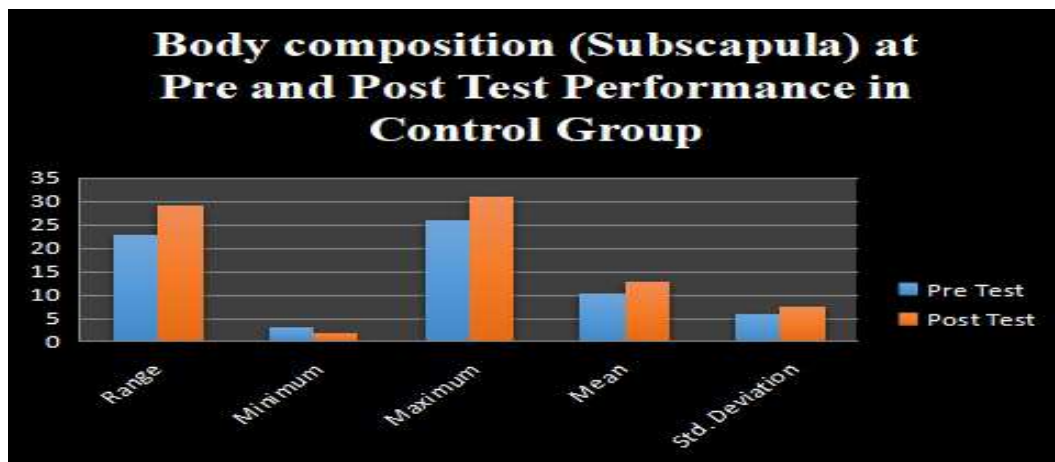


Table-5.3 reveals the DA of BC (Subscapula) at PrT and PoT in group control. The values of mean and SD for PrT were deviation (10.47 ± 6.08) respectively and for PoT were (12.70 ± 7.38) respectively. Out of these, max and min values were 26 and 3 for PrT whereas for PoT were 31 and 2. The PrT and PoT range was 23 and 29. The graphical representation of DA of PrT and PoT performance in BC (Subscapula) has been presented in figure 1.3.

TABLE – 1.4
PrT and PoT Performance of Group Control in BC (Subscapula)

Groups	Mean	SD	SE Mean	DM	SE Mean Diff.	“t” ratio
Pre test	10.47	6.08	.961	2.22	.556	3.99*
Post test	12.70	7.38	1.16			

*Significant level is 0.05 where $t_{.05} (39)$ is equal to 2.042

Figure 1.4- Comparison of PrT and PoT SD and Mean for Group control in BC (Subscapula)

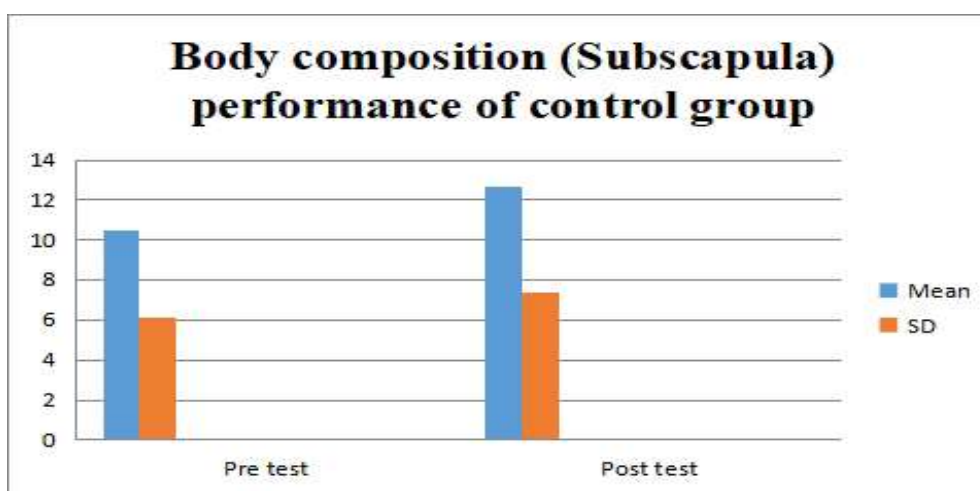


Table 1.4 clearly illustrated that difference exists between PrTMS and PoTMS in BC (Subscapula) of group control. The mean difference was calculated as 2.22 and standard error of difference was .556, 't' paired obtained value and tabulated values were 3.99 and 2.042 respectively and obtained value is on higher side which is significant at CI of 0.05 and 39 df. The PrT and PoT SD and mean of group control in BC (Subscapula) was represented in figure 1.4.

TABLE – 1.5
PoT Performance difference between Group Control and Experimental in BC (Subscapula)

Groups	Mean	SD	SE Mean	DM	SE Mean Diff.	“t” ratio
Experimental Post Test	7.77	3.63	.573	4.92	1.37	16.37*
Control Group Post test	12.70	7.38	1.16			

*Significant level is 0.05 where $t_{.05} (78)$ is equal to 1.99

Figure 1.5- Comparison of SD and Mean for Group control and experimental in BC (Subscapula)

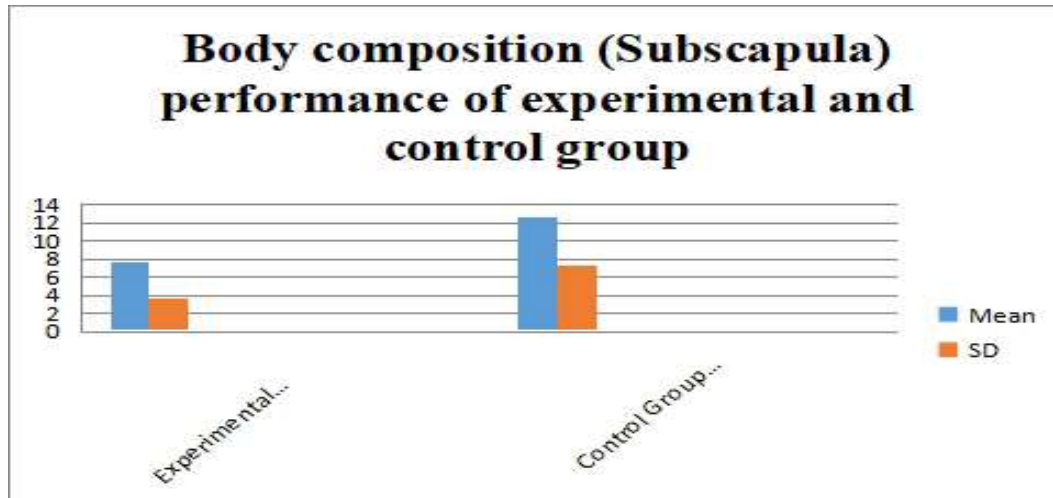


Table 1.5 clearly illustrated that difference exists between PoTMS in BC (Subscapula) of group control and experimental in CRE. The mean difference was calculated as 4.92 and standard error of difference was 1.37, independent 't' (two-sample t-ratio test) obtained value and tabulated values were 16.37 and 1.99 respectively and obtained value is on higher side which is significant at CI of 0.05 and 78 df. The PoT SD and mean of group control and experimental in BC (Subscapula) was represented in figure 1.5.

TABLE NO. 1.6

DA of BC (Triceps) at PrT and PoT Performance in Group experimental

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Pre Test	40	26	2	28	11.35	6.89
Post Test	40	23	1	24	7.60	5.39

Fig.1.6- Graphical Presentation of BC (Triceps) in PrT and PoT Performance of Group Experimental

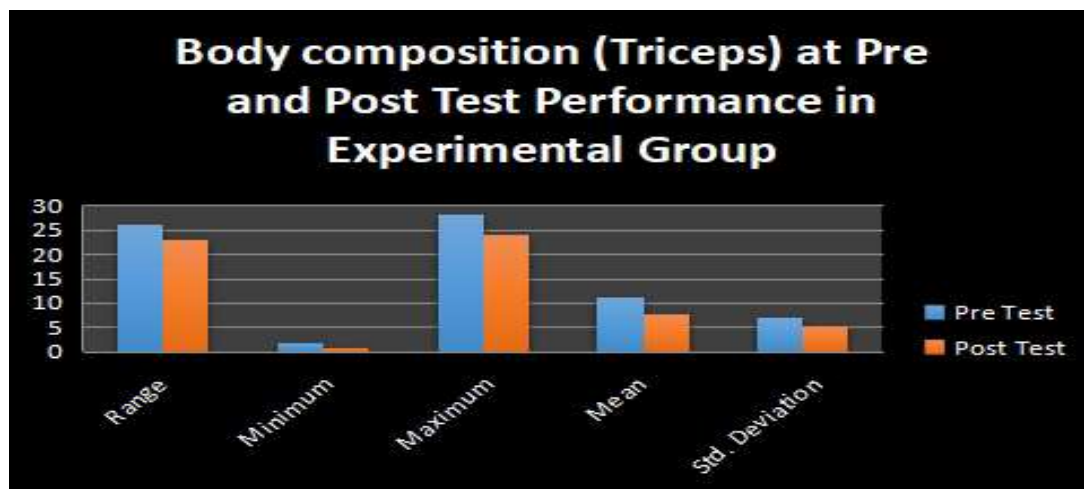


Table-5.6 reveals the DA of BC (triceps) at PrT and PoT in group experimental. The values of mean and SD for PrT were deviation (11.35 ± 6.89) respectively and for PoT were (7.60 ± 5.39) respectively. Out of these, max and min values were 28 and 2 for PrT whereas for PoT were 24 and 1. The PrT and PoT range was 26 and 23. The graphical representation of DA of PrT and PoT performance in BC (triceps) has been presented in figure 1.6.

TABLE – 1.7
PrT and PoT Performance difference of Group Experimental in BC (triceps)

Groups	Mean	SD	SE Mean	DM	SE Mean Diff.	“t” ratio
Pre test	11.35	6.89	1.09	3.75	.505	7.42*
Post test	7.60	5.39	.853			

*Significant level is 0.05 where $t_{.05} (39)$ is equal to 2.042

Figure 1.7- Comparison of PrT and PoT SD and Mean for Group experimental in BC (triceps)

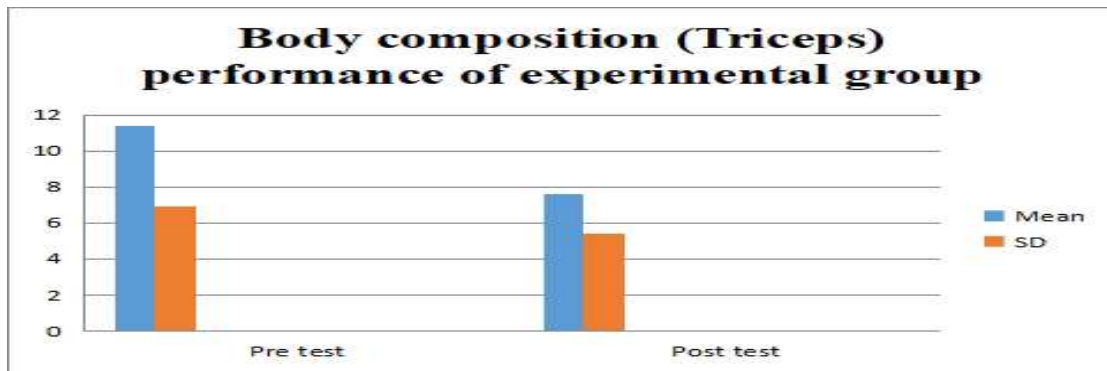


Table 1.7 clearly illustrated that difference exists between PrTMS and PoTMS in BC (triceps) of group experimental. The mean difference was calculated as 3.75 and standard error of difference was .505, 't' paired obtained value and tabulated values were 7.42 and 2.042 respectively and obtained value is on higher side which is significant at CI of 0.05 and 39 df. The PrT and PoT SD and mean of group control in BC (triceps) was represented in figure 1.7.

TABLE NO. 1.8
DA of BC (Triceps) at PrT and PoT Performance in Group control

	N	Range	Min	Max	Mean	SD
Pre Test	40	30	3	33	14.55	6.49
Post Test	40	27	2	29	15.35	6.90

Fig.1.8- Graphical Presentation of BC (Triceps) in PrT and PoT Performance of Group Control

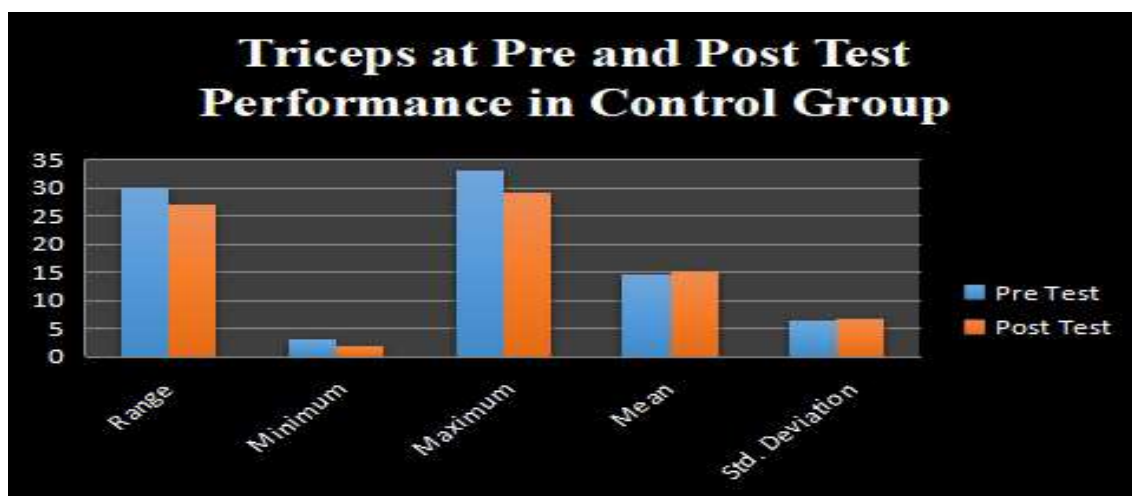


Table-1.8 reveals the DA of BC (triceps) at PrT and PoT in group control. The values of mean and SD for PrT were deviation (14.55 ± 6.49) respectively and for PoT were (15.35 ± 6.90) respectively. Out of these, max and min values were

33 and 3 for PrT whereas for PoT were 29 and 2. The PrT and PoT range was 30 and 27. The graphical representation of DA of PrT and PoT performance in BC (triceps) has been presented in figure 1.8.

TABLE – 1.9
PrT and PoT Performance difference of Group Control in BC (triceps)

Groups	Mean	SD	SE Mean	DM	SE Mean Diff.	“t” ratio
Pre test	14.55	6.49	1.03	.797	.671	1.19
Post test	15.35	6.90	1.09			

*Significant level is at 0.05 where $t_{.05} (39)$ is equal to 2.042

Figure 1.9- Comparison of PrT and PoT SD and Mean for Group Control in BC (triceps)

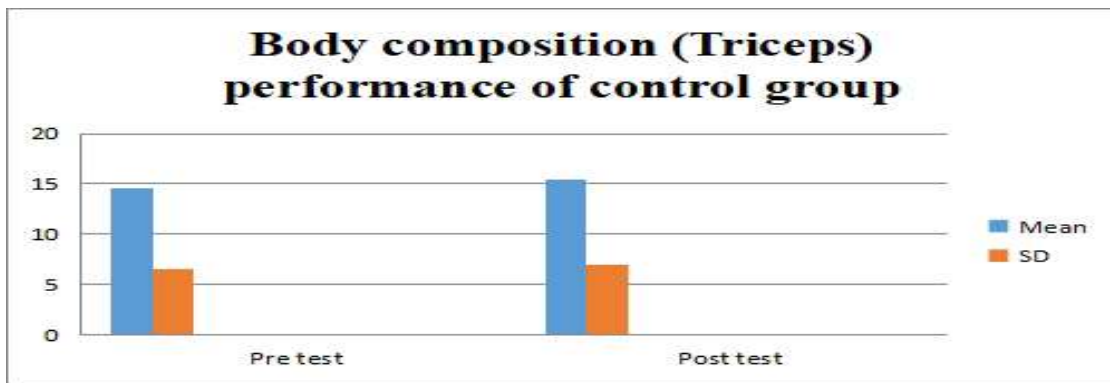


Table 1.9 clearly illustrated that no difference exists between PrTMS and PoTMS in BC (triceps) of group control. The mean difference was calculated as .797 and standard error of difference was .671, ‘t’ paired obtained value and tabulated values were 1.19 and 2.042 respectively and obtained value is on lower side which is not significant at CI of 0.05 and 39 df. The PrT and PoT SD and mean of group control in BC (triceps) was represented in figure 1.9.

TABLE – 1.10
PoT Performance difference between Groups Control and Experimental in BC (triceps)

Groups	Mean	SD	SE Mean	DM	SE Mean Diff.	“t” ratio
Experimental Post Test	7.60	5.39	.853	7.75	1.38	5.59*
Control Group Post test	15.35	6.90	1.09			

*Significant at 0.05 level

$t_{.05} (78) = 1.99$

Figure 1.10- Comparison of SD and Mean for Groups Control and Experimental in BC (triceps)

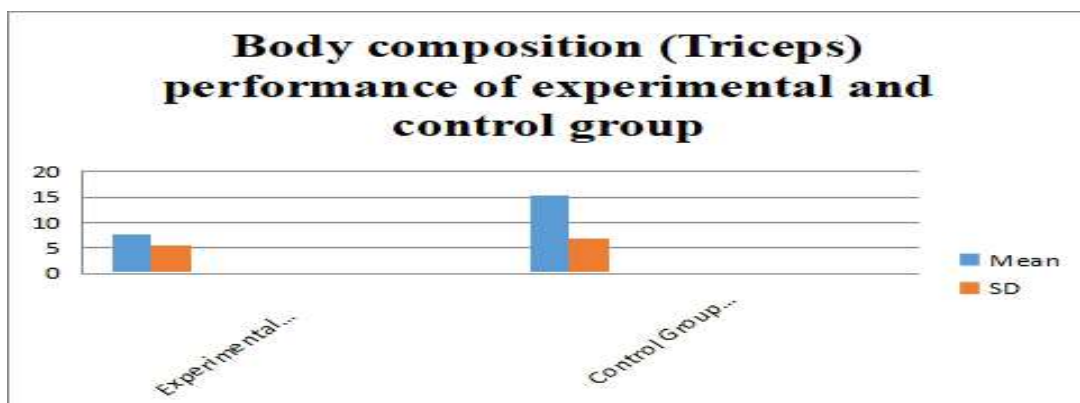


Table 1.10 clearly illustrated that difference exists between PoTMS in BC (triceps) of group control and experimental. The mean difference was calculated as 7.75 and standard error of difference was 1.38, independent 't' (two-sample t-ratio test) obtained value and tabulated values were 5.59 and 1.99 respectively and obtained value is on higher side which is significant at CI of 0.05 and 78 df. The PoT SD and mean of group control and experimental in BC (Subscapula) was represented in figure 1.10.

4. Discussion of Findings:

Discussion with regard to Physical fitness Variables: In the case of the **Body composition (subscapula)** group experimental found significantly higher than other group control. The PrT and PoT conclusions have also shown significant differences in case of groups experimental and control. While in the case of the **Body composition (triceps)**, significant differences exist in group experimental when matched with group control. The PrT and PoT data have also shown significant improvements, while there were no improvements in control group. These changes have been brought up mainly due to performing yogic exercises regularly as designed. (Mark D Tran, 2001) have tried to conclude the impact of hatha yoga on PhFi and BC. The eight weeks training is provided to the subjects and they all assessed before and after that program. The subjects were evaluated before and after the 8-week training program. The verdicts specify that regular practice of hatha yoga enhances PhFi.

5. Conclusion:

- The result of this study indicates positively significant effect between ashtanga yoga training in body composition (sub scapula & triceps). It means and concludes that better ashtanga yoga training reduces body fats and decrease health risk factors e.g. blood pressure and diabetes.
- In case of body composition, subject showed in a significant difference between groups control and experimental in ashtanga yoga training group. It means and conclude that better ashtanga yoga training enhance body composition.

6. References:

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