

ISOLATED COMBINED UPPER BODY PLYOMETRIC EXERCISES AND COMPOUND WEIGHT TRAINING IMPACT ON VOLLEYING ABILITY OF WOMEN VOLLEYBALL PLAYERS

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ABSTRACT

The study was to examine the isolated, combined upper body plyometric exercises and compound weight training on volleying ability of volleyball players. Total N=48 women college level volleyball players age ranging from 19-23 years selected from A.S.N Women's Engineering College, Tenali, Guntur (DT), Andhra Pradesh. The recruited women volleyball players was randomly assigned into four groups each group n=12 volleyball players i.e. empirical groups I volleyball players underwent: upper body plyometric exercises [UBPE], empirical group II volleyball players underwent: compound weight training [CWTG], empirical group III underwent: combined upper body plyometric exercises and compound weight training [UPCW], and control volleyball players group [CVP]. CVP was practiced only volleyball. The training period was for 12-week's duration. The measurement was done by conducting wall Test in numbers before and after the completion of training. The collected score's were analyzed by ANCOVA and level of significant was restricted at 0.05 levels. The study found that isolated, combined upper body plyometric exercises and compound weight training had positive significant impact to improve the volleying ability performances of empirical group's volleyball players comparative to control group. Therefore combined training better than isolated training improve the volleying ability performance of women volleyball players

Keywords: – weight, plyometric, and volleying ability

Introduction:

Compound exercises differ from isolation exercises. These work a single muscle group at a time. eg Use of a "pec dec" is an isolation exercise meant to strengthen the pectorals. A compound exercise is one that uses multiple muscle groups at the same time to perform a movement. A good example of a compound exercise is the squat; it uses many muscles in the legs and lower body, such as the quadriceps, hamstrings, calves, glutes as well as engaging the core and lower back.

Plyometric exercises are used to develop explosive power in the upper body. Volleyball players require upper body power. Eg pull medicine ball back behind head and forcefully throw ball forward as far as possible into the wall, side throws, over back toss, slams, and single arm overhead throws. Plyometrics for volleyball players increase your vertical jump and smashing power with this sample program and drills.

Statement of the Research Problem:

To analyze the “isolated combined upper body plyometric exercises and compound weight training impact on volleying ability of volleyball players”.

Research Hypothesis:

- There will be a significant increase in score of volleying test performance of empirical group's volleyball players after the twelve weeks impact of isolated, combined upper body plyometric exercises and compound weight training when compared with control group volleyball players.
- The combined upper body plyometric exercises and compound weight training will be superior to the isolated training.

Methodology:

The study was to examine the isolated, combined upper body plyometric exercises and compound weight training on volleying ability of volleyball players. Total N=48 women college level volleyball players age ranging from 19-23 years selected from A.S.N Women's Engineering College, Tenali, Guntur (DT), Andhra Pradesh. The recruited women volleyball players were randomly assigned into four groups each group n=12 volleyball players i.e. empirical group I volleyball players underwent: upper body plyometric exercises [UBPE], empirical group II volleyball players underwent: compound weight training [CWTG], empirical group III underwent: combined upper body plyometric exercises and compound weight training [UPCW], and control volleyball players group [CVP]. CVP was practiced only volleyball. The training period was for 12-week's duration. The measurement was done by conducting wall Test in numbers before and after the completion of training. The collected score's were analyzed by ANCOVA and level of significant was restricted at 0.05 levels.

Table - I

Analysis of Covariance for Volleying Ability Performance on Pre Test and Post Test Data of UBPE, CWTG, UPCW and CVP Groups Volleyball Players (In numbers)

GROUPS	UBPE	CWTG	UPCW	CVP	SOURCE OF VARIANCE	SUM OF SQUARES	df	MEAN SQUARES	OBTAINED 'F'
Pre Test Mean	30.75	30.25	30.08	30.50	Between	3.06	3	1.02	0.31
SD	2.30	1.48	1.37	1.93	Within	144.41	44	3.28	
Post Test Mean	36.50	38.58	43.83	28.50	Between	1459.39	3	486.46	82.77*
SD	2.96	2.77	2.12	1.56	Within	258.58	44	5.87	
Adjusted Post Test Mean	36.29	38.66	44.01	28.44	Between	1495.17	3	49.39	101.57*
					Within	210.97	43	4.90	
Mean Diff	+5.75	+8.33	+13.75	-2.00	-	-	-	-	-

Table F-ratio value at 0.05 level of confidence for 3 and 44 (df) =2.82, 3 and 43 (df) =2.82

*Significant

- UBPE** : Upper body plyometric exercises volleyball players group
CWTG : Compound weight training volleyball players group
UPCW : Combined upper body plyometric exercises and compound weight training volleyball players group
CVP : Control volleyball players group.

The above table-I shows that there is a significant difference on volleying ability performance among the four groups such upper body plyometric exercises [UBPE], compound weight training [CWTG], combined upper body plyometric exercises and compound weight training [UPCW], and control volleyball players group [CVP]. Since the 'F' value required being significant at 0.05 level for 3, 44 d/f and 3, 43 are 2.82, but the computation values of volleying ability performance post and adjusted posttest 'F' values are 82.77 and 101.57 respectively. Which are greater than the tabulated value. Since the obtained 'F' ratio is found significant.

Table – II

SCHEFFE'S CONFIDENCE INTERVAL TEST FOR PAIRED ADJUSTED FINAL MEAN DIFFERENCES UBPE, CWTG, UPCW And CVP GROUPS VOLLEYBALL PLAYERS ON VOLLEYING ABILITY PERFORMANCE

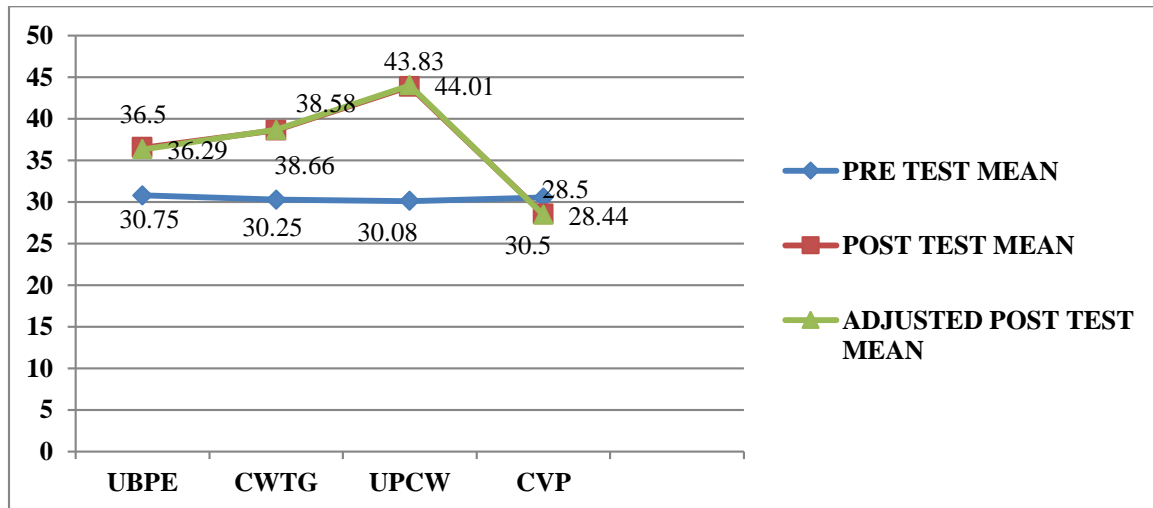
UBPE	CWTG	UPCW	CVP	MD	CI
36.29	38.66	-	-	2.37*	2.62
36.29	-	44.01	-	7.72*	
36.29	-	-	28.44	7.85*	
-	38.66	44.01	-	5.35*	
-	38.66	-	28.44	10.22*	
-	-	44.01	28.44	15.57*	

*Significant

- UBPE** : Upper body plyometric exercises volleyball players group
CWTG : Compound weight training volleyball players group
UPCW : Combined upper body plyometric exercises and compound weight training volleyball players group
CVP : Control volleyball players group.

The above table II shows that significant differences present in between UBPE and CWTG, UBPE and UPCW, UBPE and CVP, CWTG and UPCW, CWTG and CVP & UPCW and CVP are 2.37, 7.72, 7.85, 5.35, 10.22 and 15.57 values is higher than 2.62.

The initial, final and adjusted final mean values of volleying ability score for the four group's volleyball players namely UBPE, CWTG, UPCW and CVP present in line graph for clear understand purpose in figure: 1



Discussion on Hypothesis:

- The first hypotheses stated that there will be significant increase in score of volleying ability test performance of empirical group's volleyball players after the twelve weeks impact of isolated, combined upper body plyometric exercises and compound weight training when compared with control group volleyball players. The statistical analysis proved that isolated, combined upper body plyometric exercises and compound weight training significantly increased the volleying ability performance. Hence research hypothesis accepted.
- The second hypotheses stated that combined upper body plyometric exercises and compound weight training will be superior to the isolated training. The statistical analysis proved combined training is better than isolated training. Hence research hypotheses accepted.

Discussion and Findings:

The study reported, on the bases of analysis table 1 &2 that isolated and combined twelve weeks training impact of upper body plyometric exercises and compound weight training positively increased the scores of volleyball players in volleying ability test. The experimental studies on above finding were Eugenia et al., (2013) concluded that training on sand surface is useful and effective tool for improving passing skills abilities performance in prepubescent female volleyball players. Sudhir et al., (2013) suggested that volleyball ball training program has significant impact for improvement of blocking, spiking, digging and first pass and serving ability of volleyball players. Muniraju et al., (2017) plyometric exercises and specific training with skill training and plyometric training with skill training and skill training positively increased volleying scores of volleyball players. Tomislav et al., (2016) concluded that 8-weeks of volley ball game based training improved skill accuracy of volleyball players.

Conclusions:

On the bases of analysis report table I and II, the study shows that isolated and combined upper body plyometric exercises and compound weight training had positive impact on trained women groups volleyball players namely: UBPE, CWTG and UPCW to increase the score of volleying ability skills test when comparison done with control volleyball players group. The study concluded that combined upper body plyometric exercises and compound weight training were more effective than isolated upper body plyometric exercises and compound weight training to increase the volleying ability score of volleyball players. Further the study confirmed that compound weight training is more effective than upper body plyometric exercises to improve the volleying ability of women volleyball players.

References

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