



P-ISSN: 2394-1685  
E-ISSN: 2394-1693  
Impact Factor (ISRA): 5.38  
IJPESH 2022; 9(2): 94-97  
© 2022 IJPESH  
[www.kheljournal.com](http://www.kheljournal.com)  
Received: 25-12-2021  
Accepted: 09-02-2022

**Immaculate Steffy**  
Research Scholar, YMCA,  
Chennai, Tamil Nadu, India

**Dr. Glory Darling Margret**  
Assistant Professor, YMCA,  
Chennai, Tamil Nadu, India

## Impact of various small-sided games with and without ball practices on physical components of women soccer players

**Immaculate Steffy and Dr. Glory Darling Margret**

### Abstract

This study was designed to investigate the Impact of various small-sided games with and without ball practices on physical variables of women soccer players. To achieve the purpose of this study 90 inter-collegiate women players were randomly selected from Immaculate FC, GSS College for women and, SSS College for women, Chennai. The subjects were randomly assigned into three equal groups (n=30). Group- I underwent various small-sided games with ball practices (SSGWBP), Group – II underwent various small-sided games without ball practices (SSGWOBP) group-III acted as the control group (CG). The training was given to the experimental groups for 5 days per week (Monday, Tuesday, Wednesday, Friday and, Saturday) for 12 weeks. The control group was not given any sort of training except their routine work. The physical variables were Explosive power (Standing broad Jump) and Cardio-Respiratory Endurance (9 minutes' cooper Test). The data collected from the subjects were statistically analyzed with an 'F' ratio to find out significant improvement if any at a 0.05 level of confidence. The result of Explosive power and cardio-respiratory Endurance improved significantly due to the Impact of various small-sided games with and without ball practices, on women soccer players. Limitations of diet, climate, lifestyle status and, previous training. The result of the present study coincides with findings of the investigation done by different experts in the field of sports sciences. Various small-sided games, with and without ball practices significantly improved the physical components of women soccer players.

**Keywords:** Small-sided games, explosive power, cardio-respiratory endurance

### Introduction

Small-sided games are (SSG) any game played with less than eleven-a-side teams. Eleven-a-side soccer is an adult game devised by and for adults to play. Techniques, quick and precise decision-making are also very important in football. Players must attend hard training sessions for an extended period, so they can work well together and know the movements of fellow team players. One of the training methods that can improve cardio-respiratory endurance is small-sided games. The small-sided game methods are designed in a form that same as the actual game situation, involving all players in a form of practice, the form of training according to the needs on the field. "To help the coach arrange the effective and efficient training is through setting the size of the training arena or by limiting the number of players and activities, for example, a one or two-touch game" (Luxbacher, 1999).

Small-sided games can make players more quickly react and determine decisions, for example after receiving a passing, a player can give or connect passing to his teammates quickly and accurately.

### Hypothesis

The hypothesis argued in this paper is that women soccer players can significantly improve physical components by the impact of various small-sided games, with and without ball practices training programs over a consecutive 12 week period. Therefore, the objective of this study was to investigate the impact of various small-sided games with and without ball practices on physical components produced during 12 weeks of training among 90 women soccer players.

**Corresponding Author:**  
**Immaculate Steffy**  
Research Scholar, YMCA,  
Chennai, Tamil Nadu, India

## Methods

To address the hypothesis presented, herein, I selected, 90 women soccer players from Immaculate FC, GSS Jain College for women, SSS Jain College for Women. The subjects were randomly assigned into two equal groups, namely, Group-I (n=30) Various small-sided games with ball practices (SSGWB), Group-II (n=30) Various small-sided games without ball practices (SSGWOB), Group-III (n=30) as the control group (CG). The respective training was given to the experimental group, 5 days per week (excluding Wednesday and Sunday) for the training period of twelve weeks. The control group was not given any sort of training except their routine.

## Design

The evaluated Physical components were, Cardio-Respiratory Endurance, which was assessed by 9 - minutes cooper test,

and the unit of measurement was in meters.

The explosive power was assessed by Standing Broad Jump the unit of measurement was in meters.

The variables were measured at baseline and after twelve weeks of various small-sided games, with and without ball practices were examined.

## Training programme

The training program lasted for 120 minutes per session, 5 days a week (Monday, Tuesday, Thursday, Friday, and Saturday) for 12 weeks duration. These 120 minutes included 15 minutes warm-up, small-sided games, with and without ball practices training for 90 minutes and 15 minutes warm down. For every three weeks of training, the number of players was reduced and the area of the pitch increased, to raise the intensity of the training.

**Table I:** Training schedule for experimental group-I

weeks	Drills	Sets	Rep	Rest Bet' Set	Rest Bet' Reps	No. of players & Pitch size
1 to 4	Pass through gates.	3	3	1 min	30sec	8 vs 8 (70 x 50 m)
	Cone Drill.	3	3	1 min	30sec	7 vs 7 (70 x 40 m)
	Pass and shoot.	3	3	1 min	30sec	6 vs 6 (50 x 40 m)
	1 vs 1 controlled shooting.	3	10	1 min	30sec	
5 to 8	Suicide dribbling.	3	4	1 min	30sec	6 vs 6 (50 x 40 m)
	Turn and shoot	3	4	1 min	30sec	5 vs 5 (40 x 50 m)
	Keep it in cones.	3	4	1 min	30sec	4 vs 4 (40 x 16.5 m)
	Goalkeeper Lob	3	4	1 min	30sec	
9 to 12	Confined tag	3	4	30sec	30sec	4 vs 4 (40 x 16.5 m)
	Dribble & run with the ball	3	4	30sec	30sec	3 vs 3 (30 x 20 m)
	Agility shooting.	3	4	30sec	30sec	2 vs 2 (25 x 16.5 m)
	Guard the castle.	3	4	30sec	30sec	

**Table II:** Training schedule for experimental group-II

weeks	Drills	Sets	Rep	Rest Bet' Set	Rest Bet' Reps	No. of players & Pitch size
1 to 4	Exchanging the markers	3	3	1 min	30sec	8 vs 8 (70 x 50 m)
	Run through the gates	3	3	1 min	30sec	7 vs 7 (70 x 40 m)
	Sprint and Fake.	3	3	1 min	30sec	6 vs 6 (50 x 40 m)
	Work-out on the ladder	3	10	1 min	30sec	
5 to 8	Inverted markers.	3	4	1 min	30sec	6 vs 6 (50 x 40 m)
	work-out on the hurdle.	3	4	1 min	30sec	5 vs 5 (40 x 50 m)
	Super shuffle.	3	4	1 min	30sec	4 vs 4 (40 x 16.5 m)
	Catch your man	3	4	1 min	30sec	
9 to 12	Guard the castle	3	4	30sec	30sec	4 vs 4 (40 x 16.5 m)
	Confined Tag	3	4	30sec	30sec	3 vs 3 (30 x 20 m)
	Strengthening work-out	3	4	30sec	30sec	2 vs 2 (25 x 16.5 m)
	20-yard dash work-out	3	4	30sec	30sec	

## Statistical analysis

The collected data on the above said variables due to the impact of various small-sided games, with ball practices was statistically analyzed with the 'F' test to find out the

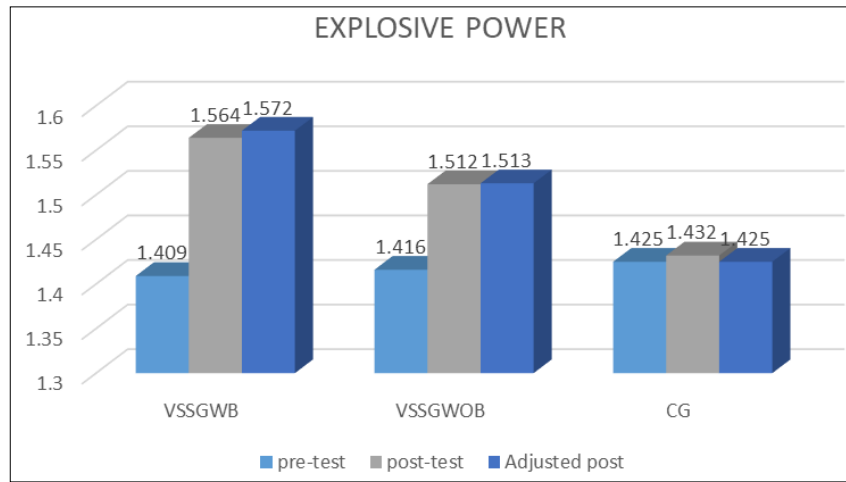
significant improvement between pre and post-test. In all cases, the criterion for statistical significance was set at a 0.05 level of confidence. ( $P < 0.05$ )

**Table III:** Computation of Analysis of Covariance of Pre Test, Post Test and Adjusted Post Test on Explosive power of Experimental groups and Control group

Mean	SSGWB	SSGWOB	CG	Source of variance	Source of squares	Mean square	F-ratio
Pre-Test mean	1.4093	1.4167	1.4253	B	.004	.002	0.083
				W	2.019	.023	
Post-Test mean	1.5647	1.5123	1.4327	B	.265	.133	5.392
				W	2.138	.025	
Adjusted post-test mean	1.572	1.513	1.425	B	.330	.165	68.098
				W	.209	.002	

**Table IV:** Scheffe's test for the difference between paired means on Explosive Power.

SSGWB	SSGWOB	CG	Mean Difference	Confidential Interval
1.572	1.513	-	0.06	0.04
1.572	-	1.425	0.15	
-	1.513	1.425	0.09	



**Fig I:** Bar diagram showing the mean values on explosive power of women soccer players, on experimental and control group

In Table- V, the obtained ‘F’ ratio for the pre-test was 0.083. It was found to be lesser than the required table value of 3.10 for the degrees of freedom 2 and 87. Hence, it was inferred that the mean difference among the three groups at pre-test on explosive power was statistically insignificant at a 0.05 level of confidence.

In the post-test data analysis, the ‘F’ ratio was applied to test the significance of mean differences among SSGWB,

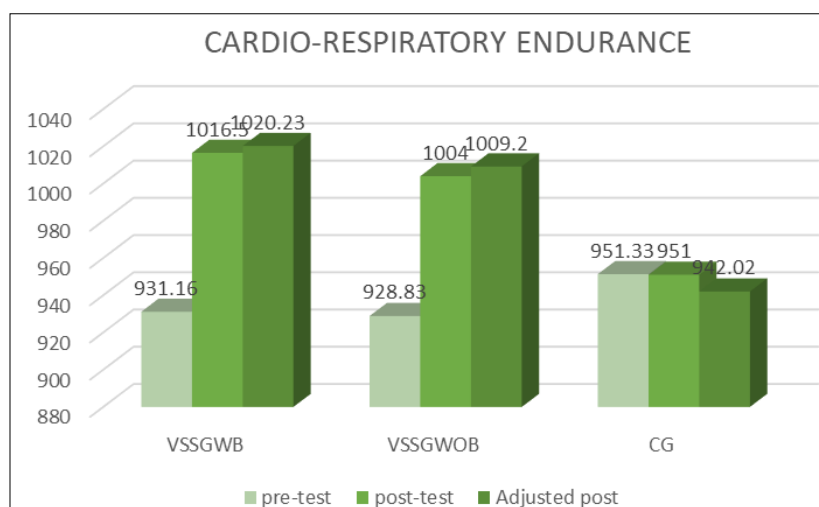
SSGWOB, and CG on Explosive Power. The obtained ‘F’ ratio for the post-test was 3.10. The ‘F’ ratio needed for the significant differences on the mean, for degrees of freedom 2 and 87 was 5.392 at 0.05 level of confidence. Since the observed ‘F’ ratio on this variable was higher than the table value needed for significance, it was inferred that the mean differences among three groups at post-test of Explosive Power were statistically significant.

**Table V:** Computation of analysis of covariance of pre test, post test and adjusted post test on cardio-respiratory endurance of experimental groups and control group

Mean	SSGWB	SSGWOB	CG	S.V	S.S	M.S	F
Pre -Test mean	931.1667	928.8333	951.3333	B	9183.889	4591.944	2.105
				W	189815.000	2181.782	
Post-Test mean	1016.5000	1004.0000	951.0000	B	9183.889	36277.500	19.501
				W	189815.000	1860.316	
Adjusted post-test mean	1020.238	1009.205	942.058	B	102714.942	51357.471	50.880
				W	86806.930	1009.383	

**Table VI:** Scheffe’s test for the difference between paired means on Cardio-Respiratory Endurance.

SSGWB	SSGWOB	CG	Mean Difference	Confidential Interval
1020.238	1009.205	-	11.03	0.08
1020.238	-	942.058	78.18	
-	1009.205	942.058	67.147	



**Fig II:** Bar diagram showing the mean values on cardio-respiratory endurance of women soccer players, on experimental & control group

The obtained ‘F’ ratio for the pre-test was 2.105. It was found to be lesser than the required table value of 3.10 for the degrees of freedom 2 and 87. Hence, it was inferred that the

mean difference among the three groups at pre-test on cardio-respiratory endurance was statistically insignificant at a 0.05 level of confidence.

In the post-test data analysis, the 'F' ratio was applied to test the significance of mean differences among the SSGWB, SSGWOB, and CG on cardiorespiratory endurance. The obtained 'F' ratio for the post-test was 3.10. The 'F' ratio needed for the significant differences on the mean, for degrees of freedom 2 and 87 was 19.501 at 0.05 level of confidence. Since the observed 'F' ratio on this variable was higher than the table value needed for significance, it was inferred that the mean differences among three groups at post-test of cardiorespiratory endurance were statistically significant.

### Discussion and findings

The present study experimented with the impact of various small-sided games, with and without ball practices on the Physical Components of women soccer players. The results of this study indicated that various small-sided games, with and without ball practices are more efficient to bring out desirable changes over Explosive Power and Cardio-Respiratory Endurance of women soccer players.

The finding of the present study had similarities with the findings of the investigators referred to in this study.

Hugo Folgado *et al.*, 2018 compared youth football players' performance during two small-sided games with different pitch orientations: i) 40x30m and ii) 30x40m formats.

Mark O Conell (2017) evaluated the Effect of Small-Sided Games Versus High-Intensity Intermittent Running on Acceleration and Repeated Sprint Ability in Gaelic Football.

Niyazi Eniseler *et al.*, (2017) compared the effects of high-intensity small-sided games training (SSGT) versus repeated-sprint training (RST) on repeated-sprint ability (RSA), soccer-specific endurance performance, and short passing ability among junior soccer players.

Alexandre Dellal *et al.*, (2017) experimented with small-sided games versus interval training in amateur soccer players: effects on the aerobic capacity and the ability to perform intermittent exercises with changes of direction.

### Conclusion

It was concluded that 12 weeks of various small-sided games, with and without ball practices significantly improved the Physical components of women soccer players. From the findings, it is postulated that the various small-sided games, with and without ball practices are the suitable mode to bring out desirable changes Explosive Power and Cardio-Respiratory Endurance of women soccer players.

### References

1. Aquino R, Melli-Neto B, Ferrari JVS, Bedo BLS, Vieira LHP, Santiago PRP, *et al.* Validity and reliability of a 6-a-side small-sided game as an indicator of match-related physical performance in elite youth Brazilian soccer players. *J. Sports Sci.* 2019;37:2639-2644. DOI: 10.1080/02640414.2019.1608895
2. Arcos AL, Vázquez JS, Martín J, Lerga J, Sánchez F, Villagra F, *et al.* Effects of small-sided games vs. interval training in aerobic fitness and physical enjoyment in young elite soccer players. *PLoS ONE.* 2015;10:e0137224. DOI: 10.1371/journal.pone.0137224
3. Arslan E, Ozer G, Clemente F. Running-based high-intensity interval training vs. small-sided game training programs: effects on the physical performance, psychophysiological responses, and technical skills in young soccer players. *Biol. Sport.* 2020;37:165-173. DOI: 10.5114/biolsport.2020.94237
4. Beato M, Coratella G, Bianchi M, Costa E, Merlini M.

- Short-term repeated-sprint training (straight sprint vs. changes of direction) in soccer players. *J Hum. Kinet.* 2019;70:183-190. DOI: 10.2478/Hukin-2019-0040
5. Buchheit M, Laursen PB. High-intensity interval training, solutions to the programming puzzle: part I: cardiopulmonary emphasis. *Sport. Med.* 2013a;43:313-338. DOI: 10.1007/s40279-013-0029-x
6. Bujalance-Moreno P, Latorre-Roman PA, Garcia-Pinillos F. A systematic review on small-sided games in football players: acute and chronic adaptations. *J. Sports Sci.* 2019;37:921-949. DOI: 10.1080/02640414.2018.1535821
7. Casamichana D, Castellano J, Castagna C. Comparing the physical demands of friendly matches and small-sided games in semiprofessional soccer players. *J. Strength Cond. Res.* 2012;26:837-843. DOI: 10.1519/JSC.0b013e31822a61cf
8. Chaouachi A, Chtara M, Hammami R, Chtara H, Turki O, Castagna C. Multidirectional sprints and small-sided games training effect agility and change of direction abilities in youth soccer. *J. Strength Cond. Res.* 2014;28:3121-3127. DOI: 10.1519/JSC.0000000000000505
9. Clemente FM. The threats of small-sided soccer games. *Strength Cond. J.* 2020;42:1. DOI: 10.1519/SSC.0000000000000526
10. Dalen T, Sandmæl S, Stevens TG, Hjelde GH, Kjøsnæs TN, Wisløff U. Differences in acceleration and high-intensity activities between small-sided games and peak periods of official matches in elite soccer players. *J. Strength Cond. Res.* 2019. Doi: 10.1519/JSC.0000000000003081.