

CHAPTER-V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1. Summary

Sport plays a prominent role in the modern society. It is important to individuals, a group, a nation and indeed the world. Throughout the world, sport has a popular appeal among people of all ages and both sexes.

Much of the attraction of sport comes from the wide variety of experience and feeling that result from participation such as success, failure, exhaustion, pain, relief and feeling of belonging. Sport can bring money, glory, status and goodwill. However, sport can also bring tragedy, grief and even death.

The importance of training is largely exploitive, but not in a negative sense. Training involves the exploitation of known principles of physics, physiology, psychology, and other areas of performance in order to reach a higher level of capability. The coach and athlete seeks to exploit principles of training and performance so that the athlete can achieve as much as possible within the constraints of his or her talents and preparation. The highest possible performance of each athlete is relative to the athlete's unique characteristics and abilities. It is also relative to the age or career status of the athlete or both. A novice athlete's highest level of performance is considerably lower than the same athlete's highest level of performance after 5 to 10 years of training.

Sound mind in a sound body is a common saying. Physical activities involve a whole man not his body and his body and muscles only. It is based upon the biological unity of mind and body. Games and sports are important for the development of well-balanced personalities and for social welfare. Sports and Recreation have their physical, mental, emotional, social and civic benefits. Soccer plays a main role in individual's life, apart from holding the victory cup, it also facilitates a way for healthy living.

Small sided games (SSG) are used throughout the sport of soccer as a training modality. The robust nature of SSG's is generally recognized as an effective means for the development of skills in the sport. Small sided games have been shown to be efficacious in the transition of a technique, an unopposed motor development, into a skill, the addition of time and oppositional constraints (Ali, 2011; Williams & Hodges, 2005). While block training modalities have shown a greater proficiency in increasing player's abilities with the ball when compared to SSG training, these occur in unopposed environments. When compared in match play, those who practiced using SSG training had greater positive skill outcomes than that of block training (Ali, 2011; Gabbett et al., 2009; Halouani, Chtourou, Gabbett, Chaouachi, & Chamari, 2014a; Williams & Hodges, 2005). These results, while positive, are just one more piece describing the effect of SSG training. These robust training modalities create random, acyclic stress loads that have demonstrated continued efficacy in the development of both youth and adult players. Regardless of proficiency, amateur to professional, SSG training has shown itself to be a useful tool for trainers and coaches. This data supports these outcomes, and their continued use, in the population of interest, club-level, and grass roots. In this context, the investigator attempted to determine the impact of various small sided game, with and without ball practices on physical, physiological and skill performance variables on women soccer players.

For this study, ninety (N=90) women soccer players from, Immaculate FC, SSS Jain College for women and GSS Jain college for women, Chennai, Tamil Nadu, India were selected randomly as subjects. Their age ranged between 18 years to 21 years. The subjects were assigned at randomly into three groups of thirty each (n=30). Group-I underwent Various small sided games, with ball practices Training, Group-II underwent various small sided games, without ball practices Training and Group-III acted as Control. The Experimental groups underwent respective training for a period of five days per week for twelve weeks.

The dependent variables selected for this study were, Speed, Agility, Explosive power, Cardio-Respiratory Endurance, Resting Pulse Rate, VO2 Max, Vital Capacity, Dribbling, Passing and Kicking. All the subjects were tested prior to and immediately after the experimental period on the selected dependent variables.

The data obtained from the experimental groups and control group before and after the experimental period were statistically analyzed with 't'-test and Analysis of covariance (ANCOVA). Whenever the 'F' ratio for adjusted post-test means was found to be significant, the Scheffe's Post hoc test was applied to determine the paired mean differences. The level of confidence was fixed at 0.05 for all the cases.

5.2. Conclusions

From the analysis of the data, the following conclusions were drawn.

- 1) It was concluded that, the Experimental groups namely, Various small sided games with ball practices training group and Various small sided games without ball practices training group had significantly improved the Physical Fitness variables such as speed, Agility Explosive power and Cardio-Respiratory Endurance.
- 2) It was concluded that, the Experimental groups namely, Various small sided games with ball practices training group and Various small sided games without ball practices training group had significantly improved the Physiological variables such as VO2 max, Resting heart rate and vital capacity.
- 3) It was concluded that, the Experimental groups namely, Various small sided games with ball practices training group and Various small sided games without ball practices training group had significantly improved the skill performance variables such as dribbling, passing and kicking.

- 4) It was concluded that, the Various small sided games, without ball practices was found to have high impact than the Various small sided games, with ball practices and control group in enhancing the performance of Speed, Agility, Explosive power and Cardio-Respiratory Endurance.
- 5) It was concluded that, the Various small sided games, without ball practices was found to have high impact than the Various small sided games, with ball practices and control group in enhancing the performance of Resting Pulse Rate, VO2 Max and Vital Capacity.
- 6) It was concluded that, the Various small sided games, with ball practices was found to have high impact than the Various small sided games, without ball practices and control group in enhancing the skill performances of dribbling, passing and kicking.

5.3. Recommendations

Based on the findings of the present investigation the following recommendations are made:

- 1) The women soccer players may take necessary steps to improve the Physical fitness variables, Physiological variables and skill performance variables by including the small sided games, with and without ball practices Training programme in their life schedule.
- 2) Similar studies may be conducted on Men soccer players for evaluation.
- 3) A similar study may be conduct on U-17, U-14, U-11 boys and girl subjects.

REFERENCES

1. Stølen T, Chamari K, Castagna C, Wisløff U. Physiology of soccer: an update. *Sports Med.* 2005; 35:501-536.
2. Bangsbo J. The physiology of soccer-- with special reference to intense intermittent exercise. *Acta Physiol Scand Suppl.* 1994;619:1-155.
3. Krstrup P, Mohr M, Ellingsgaard H, Bangsbo J. Physical demands during an elite female soccer game: importance of training status. *Med Sci Sports Exerc.* 2005;37: 1242-1248.
4. Andersson HA, Randers MB, Heiner-Moller A, Krstrup P, Mohr M. Elite female soccer players perform more high-intensity running when playing in international games compared with domestic league games. *J Strength Cond Res.* 2010; 24:912-919.
5. Dellal A, Keller D, Carling C, Chaouachi A, Wong del P, Chamari K. Physiologic effects of directional changes in intermittent exercise in soccer players. *J Strength Cond Res.* 2010;24: 3219-3226.
6. Mohr M, Krstrup P, Andersson H, Kirkendal D, Bangsbo J. Match activities of elite women soccer players at different performance levels. *J Strength Cond Res.* 2008; 22:341-349.
7. Gabbett TJ, Mulvey MJ. Time-motion analysis of small sided training games and competition in elite women soccer players. *J Strength Cond Res.* 2008; 22: 543-552.
8. Andersson H, Raastad T, Nilsson J, Paulsen G, Garthe I, Kadi F. Neuromuscular fatigue and recovery in elite female soccer: effects of active recovery. *Med Sci Sports Exerc.* 2008;40: 372-380.
9. Bangsbo J, Mohr M, Krstrup P. Physical and metabolic demands of training and match-play in the elite football player. *J Sports Sci.* 2006;24: 665-674.
10. Wragg CB, Maxwell NS, Doust JH. Evaluation of the reliability and validity of a soccer-specific field test of repeated sprint ability. *Eur J Appl Physiol.* 2000; 83: 77-83.
11. Helgerud J, Engen LC, Wisloff U, Hoff J. Aerobic endurance training improves soccer performance. *Med Sci Sports Exerc.* 2001; 33: 1925-1931.

12. Hoff J, Helgerud J. Endurance and strength training for soccer players: physiological considerations. *Sports Med.* 2004; 34:165-180.
13. Hoff J, Wisløff U, Engen LC, Kemi OJ, Helgerud J. Soccer specific aerobic endurance training. *Br J Sports Med.* 2002; 36:218-221.
14. Impellizzeri FM, Rampinini E, Marcora SM. Physiological assessment of aerobic training in soccer. *J Sports Sci.* 2005; 23:583-592.
15. Mohr M, Krstrup P, Bangsbo J. Match performance of high-standard soccer players with special reference to development of fatigue. *J Sports Sci.* 2003; 21: 519-528.
16. Eniseler N. Heart rate and blood lactate concentrations as predictors of physiological load on elite soccer players during various soccer training activities. *J Strength Cond Res.* 2005; 19:799-804.
17. Sporis G, Ruzic L, Leko G. The anaerobic endurance of elite soccer players improved after a high-intensity training intervention in the 8-week conditioning program. *J Strength Cond Res.* 2008; 22:559-566.
18. Hill-Haas SV, Coutts AJ, Rowsell GJ, Dawson BT. Generic versus small-sided game training in soccer. *Int J Sports Med.* 2009; 30:636-642.
19. Jeong TS, Reilly T, Morton J, Bae SW, Drust B. Quantification of the physiological loading of one week of “pre-season” and one week of “in-season” training in professional soccer players. *J Sports Sci.* 2011; 29: 1161-1166.
20. Ingebrigtsen J, Dillern T, Shalfawi SA. Aerobic capacities and anthropometric characteristics of elite female soccer players. *J Strength Cond Res.* 2011; 25: 3352-3357.
21. MacArdle W, Katch F, Katch V. *Essentials of Exercise Physiology.* 3rd ed. Philadelphia: Lippincott Williams & Wilkins, 2006.
22. Spiering BA, Wilson MH, Judelson DA, Rundell KW. Evaluation of cardiovascular demands of game play and practice in women’s ice hockey. *J Strength Cond Res.* 2003; 17: 329-333.
23. Impellizzeri, F.M.; Marcora, S.M.; Castagna, C.; Reilly, T.; Sassi, A.; Iaia, F.M.; Rampinini, E. Physiological and performance effects of generic versus specific aerobic training in soccer players. *Int. J. Sports Med.* 2006, 27, 483–492.

24. Little, T. Optimizing the Use of Soccer Drills for Physiological Development. *Strength Cond. J.* **2009**, *31*, 67–74.
25. Kelly, D.M.; Drust, B. The effect of pitch dimensions on heart rate responses and technical demands of small sided soccer games in elite players. *J.Sci.Med.Sport* **2009**, *12*, 475–479.
26. Jones, S.; Drust, B. Physiological and Technical Demands of 4 v 4 and 8 v 8 Games in Elite Youth Soccer Players. *Kinesiology* **2007**, *39*, 150–156.
27. Capranica, L.; Tessitore, A.; Guidetti, L.; Figura, F. Heart rate and match analysis in pre-pubescent soccer players. *J.SportsSci.* **2001**, *196*, 379–384.
28. Dellal, A.; Chamari, K.; Pintus, A.; Girard, O.; Cotte, T.; Keller, D. Heart rate responses during small sided games and short intermittent running training in elite soccer players: A comparative study. *J. Strength Cond. Res.* **2008**, *22*, 1449–1457.
29. Hoff, J.; Wisløff, U.; Engen, L.C.; Kemi, O.J.; Helgerud, J. Soccer specific aerobic endurance training. *Br. J.SportsMed.* **2002**, *36*, 218–221.
30. Esposito, F.; Impellizzeri, F.M.; Margonato, V.; Vanni, R.; Pizzini, G.; Veicsteinas, A. Validity of heart rate as an indicator of aerobic demand during soccer activities in amateur soccer players. *Eur. J.Appl. Physiol.* **2004**, *93*, 167–172.
31. Little, T.; Williams, A.G. Suitability of soccer training drills for endurance training. *J.Strength Cond. Res.* **2006**, *20*, 316–319.
32. Little, T.; Williams, A.G. Measures of exercise intensity during soccer training drills with professional soccer players. *J.Strength Cond. Res.* **2007**, *21*, 367–371.
33. Aslan, A. (2013). Cardiovascular responses, perceived exertion and technical actions during small sided recreational soccer: Effects of pitch size and number of players. *Journal of Human Kinetics*, 38, 95-105. doi: [org/10.2478/hukin-2013-0049](https://doi.org/10.2478/hukin-2013-0049).
34. Beato, M., Impellizzeri, F. M., Coratella, G., & Schena, F. (2016). Quantification of energy expenditure of recreational football. *Journal of Sports Sciences*, 34(24), 2185-2188. doi: [org/10.1080/02640414.2016.1167280](https://doi.org/10.1080/02640414.2016.1167280) Beato, M., Coratella, G., Schena, F., & Impellizzeri, F. M. (2017)

35. Dellal, A., Owen, A., Wong, D. P., Krstrup, P., van Exsel, M., & Mallo, J. (2012). Technical and physical demands of small vs. large sided games in relation to playing position in elite soccer. *Human Movement Science*, 31(4), 957-969. doi: org/10.1016/j.humov.2011.08.013.
36. Hammami, A., Chamari, K., Slimani, M., Shephard, R. J., Yousfi, N., Tabka, Z., & Bouhlel, E. (2016). Effects of recreational soccer on physical fitness and health indices in sedentary healthy and unhealthy subjects. *Biology of Sport*, 33(2), 127-137. doi: 10.5604/20831862.1198209.
37. Krstrup, P., Hansen, P. R., Nielsen, C. M., Larsen, M. N., Randers, M. B., Manniche, V., ... & Bangsbo, J. (2014). Structural and functional cardiac adaptations to a 10-week school-based football intervention for 9–10-year-old children. *Scandinavian Journal of Medicine & Science in Sports*, 24, 4-9. doi: org/10.1111/sms.12277.
38. Leger, L. A., Mercier, D., Gadoury, C., & Lambert, J. (1988). The multistage 20 metre shuttle run test for aerobic fitness. *Journal of Sports Sciences*, 6(2), 93-101. doi: org/10.1080/02640418808729800.
39. Milanovic, Z., Pantelic, S., Covic, N., Sporis, G., Krstrup, P. (2015a). Is recreational soccer effective for improving VO₂max? A systematic review and meta-analysis. *Sports Medicine*, 45(9), 1339-1353. doi: org/10.1007/s40279-015-0361-4.
40. Milanović, Z., Pantelić, S., Sporiš, G., Mohr, M., & Krstrup, P. (2015c). Health-related physical fitness in healthy untrained men: effects on VO₂max, jump performance and flexibility of soccer and moderate-intensity continuous running. *PloS one*, 10(8), e0135319. doi: org/10.1371/journal.pone.0135319.