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Physical Fitness Quality of Football Players Indonesian Professional League

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Abstract

The purpose of this study is to determine the physical fitness quality of football players Indonesian professional league. This research is a descriptive research that aims to describe the condition of the subject in accordance with the data obtained from the Indonesian professional league. To facilitate the process of data analysis, researchers have obtained physical test results data through physical trainers from every Indonesian professional league. Researchers get secondary data about the fitness of football players gained from each club. Samples take data from Indonesian professional league in 2017. The data obtained from the results of physical tests of professional football players that became the football player's fitness benchmarks are Speed (30 meters), Agility (Illinois) and Endurance (VO2 Max). Based on the results and discussion revealed that the higher quality physical fitness of football players will show better quality games in the Indonesian professional league, and the higher level of the league then the quality of the players must be higher in order to provide an optimal game to compete in league level with better match quality.

Keywords: Physical and Football

Introduction

In the world of sports, achievement is a factor of success on sports development (Effendi, 2016). Indonesian league is a professional league consisting of 3 levels with the highest caste competition which is attended by 18 teams, then for the level below it is rolled out in the Indonesian football system in 2017, to be the champion of every level with the competition, promotion and degradation system consisting of League 1, League 2 and League 3 (Sandrelli, 2016). During the Indonesian Football League rollout in 2017, league 1 was the league 2 which

was followed by 60 teams, and league 3 was followed by more than 80 teams all over Indonesia named "Liga Nusantara" which will become representatives of each Province to the round of 32. Football is a complex sport, it is assumed depend on a number of factors, including psychological factors, player techniques, team tactics, and physical fitness (Arnason et al., 2004); (Mujika, Santisteban, Impellizzeri, & Castagna, 2012; Jabar & Ahmad, 2018; Riaz, Hongbing, Hashmi, Khan, 2018)

The physical fitness needs of football in each game focuses on the physical fitness of the player, the factors that influence the performance of football games are physical conditions that have an important role in supporting football skills (Stoica & Blejan, 2013). Physical conditions determine the quality and ability of players in a team to achieve optimal achievement demands (Caspersen & Christenson, 1985). It is increasingly clear that physical conditions play an important role in improving player performance.

The football sports branch requires almost all components of the physical condition, because all the interdependence of each other in carrying out basic techniques, given the characteristics of football sports that demand a lot of movement skills. There are several physical components that support the success of the process of implementing movement skills in football, including strength, speed, endurance, including aerobics and anaerobes, dynamic strength, flexibility, agility (Martens, 2004); (Caspersen & Christenson, 1985); (Meir, Newton, Curtis, Fardell, & Butler, 2001).

In the fact, the performance of football players in team has a very big influence on a game and appearance on the field. Faults and less optimal performance of players can be factors of defeat in a match (Arnason et al., 2004). Therefore, the condition of a team's physical fitness is a very important factor in football game.

From the explanation above and the phenomenon in the field, to become a football team that has good quality players must have a physical and physiological profile of players that are in line with the professional league level. If we look at the league level in Indonesia, it cannot be compared to the league in Europe, because a country's football ranking is one of the benchmarks of the quality of football itself. Currently based on FIFA's ranking as of December 2017, Indonesia is in 162th place. The German world champions who are still ranked top, followed by Brazil and Portugal that have players and the quality of the league in their respective countries has much better quality and many professional players who match in the highest level. This is a matter of evaluation and benchmarks for Indonesian football professional players who are still far from expectations. Physical conditions are the main key in football games that affect performance in play (Conference, 2010).

Aerobic fitness is an activity that emphasizes the body's ability to do work for a long time and continuously and in an aerobic state (Suharjana, 2013). Aerobic fitness is the highest ability to consume oxygen during maximum work expressed in liters / minutes or ml / kg / min. Aerobic fitness is also called cardiac lung endurance or cardiorespiratory endurance, or cardiovascular endurance (Bompa, 2000). In various sports training books, aerobic fitness is termed the name of maximal aerobic capacity or VO₂ Max (Fox, Bowers, & Foss, 1988). Thus, the aim of this research is to find out the physical condition of players in league 1, league 2 and league 3 which

become the fitness benchmarks for Indonesian football players are Speed (30 meters), Agility (Illinois) and Endurance (VO2 Max).

Method

This research is a descriptive research that aims to describe the subject conditions in accordance with data obtained from the Indonesian professional league club 2017, so there is no need hypotheses test. Researcher obtained secondary data about the fitness of football players obtained from the club. Samples take data from Indonesian professional league clubs 2017, which are league 1, league 2 and league 3 teams which have followed the rules of the match that were rolled out on the Indonesian football system in 2017. To simplify the data analysis process, researchers have obtained test results data physically through a physical trainer from the Indonesian professional league team. Data obtained from the results of a professional football physical test that became a benchmark for fitness of Indonesian football players are Speed (30 meters), Agility (Illinois) and Endurance (VO2 Max).

Table 1.
Scoring Scale of Football Speed (30 meters) of (Pye, 2005)

No.	Category	Speed (30 meters)
1.	Excellent	< 4.0
2.	Very good	4.2 - 4.0
3.	Good	4.4 – 4.3
4.	Fair	4.6 – 4.5
5.	Poor	> 4.6

Table 2.
Scoring Scale of Football Agility (Illinois) (Pye, 2005)

No.	Category	Agility (Illinois)
1.	Excellent	< 15.2
2.	Very good	15.2 - 16.1
3.	Good	16.2 - 18.1
4.	Fair	18.2 - 18.3
5.	Poor	> 18.3

Table 3.
Scoring Scale of Football Endurance (VO2 Max) (Pye, 2005)

No.	Category	VO2 Max
1.	Excellent	\geq 65
2.	Very good	60-64
3.	Good	55-59
4.	Fair	50-54
5.	Poor	\leq 49

Results and Discussion

Table 4 shows the average score physical condition of the three league players, that is league 1, league 2 and league 3. This data is secondary data obtained from the physical trainers of each league with the management team's permission from each club supported by a request letter request for data from researcher. The data obtained is the physical test condition results of the players individually and then the researcher process it became average value based on three physical test items, namely speed, agility, and endurance. More can be seen in Table 4 below.

Table 4.

Average Score Physical Condition of Indonesian Professional Football Players 2017

No.	Physical Test Items	League 1	League 2	League 3
1.	Speed (30 meters)	4,2	4,3	4,5
2.	Agility (Illinois)	16,10	16,40	17,22
3.	Endurance (VO2 Max)	55,73	52,80	47,74

The results of the physical tests of each league players listed in Table 4 show that the average physical fitness of players in League 3 in terms of physical test items Speed (30 meters) is in the category fair with a score of 4.5 has a difference of 0.2 with the players in league 2 which is in the good category with a score of 4.3. While the players in League 1 have a difference of 0.1 with League 2 and the difference of 0.3 with league 3 is 4.2 and is in the very good category. The shorter the distance generated in the Speed physical test (30 meters) shows the higher the quality of play speed that the team has.

The next physical test results found in Table 4 is the average physical fitness of the player in the Agility (Illinois) physical test item. In this item the players in league 3 and league 2 are in the good category, which has a considerable difference of 0.82 with scores of 17.22 and 16.40. Players in league 1 have a very good category with a slight difference from League 2 of 0.30 at a score of 16.10. These results indicate the lower the number obtained in the Agility (Illinois) test item, the higher the agility of the players in the field, besides that the strength and speed are influenced by the player's body structure (Page, 2007).

While the average physical fitness of players based on the results of the endurance physical test (VO2 Max) contained in Table 4 shows that the highest score obtained by players from league 1 is 55.73 with a good category followed by the scores of players in league 2 with a difference of 2.93 of 52.80 is in the fair category. Next is the score of the players in league 3 by 47.74 with the difference from league 2 and 1 which is 5.06 and 7.99. This considerable difference shows that the level of physical fitness of players in terms of endurance (VO2 Max) in each league shows the quality, this is evidenced by the higher endurance score (VO2 Max) obtained, the higher the quality of physical fitness of players that allows the team to perform better. The three components of physical fitness must be supported by training planning in the program in accordance with fixed performance at the right time (Reilly, 2007).

The purpose of this research is to find out the Physical Fitness Quality of Indonesian Professional Football Players. Physical condition is a complete unity of physical components that cannot be separated, both improvement and maintenance, to face the physical demands of a

sport to perform optimally. Football is a sport that requires high energy, and strong physical endurance, so it is necessary to do physical exercise so that physical condition becomes fit and can play optimally in professional football matches (Stein, Gabbett, Townshend, & Dawson, 2014); (Chan et al., 2016). A professional football player's physical training program that must be performed by each player, namely endurance training, strength training, speed training, flexibility training, and maintaining nutritional intake.

Good physical ability is a capital for everyone in carrying out sports activities or movement skill activities, to support their survival (Mujika et al., 2012). There are several benefits that will be gained by each individual if they have good physical condition. So that someone can do activities without experiencing excessive fatigue, they must have good physical condition. The physical condition factor is very important role in achieving optimal performance. So a physical exercise program must be organized, designed, and implemented in a good and systematic manner to improve physical fitness, and improve the biomotor abilities needed to support the performance of playing football.

In the course of the match on the field, a football player is required to be able to perform football game techniques according to the game pattern applied by the coach so that the game continues to run well underpressure within 90 minutes (Chan et al., 2016). Physical conditions are factors that support the player in performing the optimal technical skills that aim to achieve an achievement. Football players are required to have good physicality because in the football game there are many different motion activities so they must have excellent physical readiness. The fact is that physical training emphasizes that the player's body abilities and readiness to play are better prepared, this is presented at the stage of the training process.

The key to success in football training is implementing appropriate training programs, the trainer must strive to provide training methods that are in accordance with the demands of the game and the needs of players in the field, so that players are better prepared for the match (Dawson, Hopkinson, Appleby, Stewart, & Roberts, 2000); (Deweese, Hornsby, Stone, & Stone, 2015). Physical components that must be possessed in football games are strength, speed, endurance, dynamic power, flexibility, agility, which is supported by the program and specific exercises based on frequency, intensity and number of exercises given to players (Ruivo, Carita, & Pezarat-Correia, 2015); (Caspersen & Christenson, 1985); (Arnason et al., 2004).

Overall, players in league 1 excellent in each physical condition test score item, followed by league 2 scores that have begun to approach the superiority of league 1. While for league 3 they still have to strive to improve the quality of physical fitness of their players in order to compensate players in league 1 and league 2. Physical quality of all levels has the same burden in the process of improvement (Batt, Braham, & Goodman, 2007). This shows that the higher the physical fitness quality of football players will show better quality of play in the Indonesian professional league, it can be proven that the higher league level, the higher the quality of the players in order to provide optimal play so that they can compete at the league level with better match quality.

In addition, with the quality improvement of players in team, especially related to physical fitness conditions, it is expected that the Indonesian professional league can bring potential young players who are competent to improve the quality of Indonesian football so that

Indonesian league clubs will be able to compete in Asian club championships. It is expected that potential players will become Indonesian pride teams who can compete in international football competitions and have the opportunity to appear in the world cup.

Conclusion

The physical fitness quality of football players in terms of physical test component speed, agility and endurance with the data obtained shows that the higher quality of football players physical fitness will show better quality of games in the Indonesian professional league, it is proven that the higher quality of the league, the quality of players must be higher so that they can provide optimal play to compete at the league level which has a better match quality and it will have a positive impact on the quality of players themselves.

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