The Physiological Profile of Junior Soccer Players at SSBB Surabaya Bhakti

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Abstract. Soccer players are required to have good physical fitness in order to achieve optimum accomplishment; physical fitness stands as the foundation of technical and tactical proficiency as well as the mental maturity during the matches. The purpose of this study was to identify the physiological profile of junior soccer players of SSBB Surabaya Bhakti age 16-17. The research was conducted at 20 junior soccer players. This research was quantitative with descriptive analysis. Data were collected by testing of physiological (anaerobic power and capacity including explosive leg power, speed, agility; aerobic capacity: cardiovascular endurance). Data was analyzed using percentage. The result showed that the percentage of explosive leg power of junior soccer players were 30% (good category), speed was 85% (average category), right agility was 90% (average category), left agility was 75% (average category). On the other hand, the aerobic power and capacity of the junior soccer players in this study was 50% (average category). The conclusion of this research is that the physiological profile of junior soccer players at SSBB Surabaya Bhakti age 16-17 was majority in average category.

1. Introduction

Recently, physiological profile of team game sport has been an interesting research area. In Indonesia it had concentrated on female field Hockey [1], male volley ball players [2], junior female volley ball players [3], junior high school students [4]. But, in Indonesia this research area is still rare concentrated on soccer players. Soccer School (SSB), is a school to learn about the game of soccer and it is a sport organization, especially soccer which serves to develop the potential of the athletes as well as being soccer coaching place for early age [5]. Soccer school coaching is an organization that staged an early age, so they must have some standard components that supported and fulfilled by SSB. The main goal of SSB is to provide a solid foundation on how to play soccer correctly, including forming attitudes, personality, and behavior.

In soccer game activities like kicking the ball, controlling the ball, running after ball, chasing opponents, deceiving movement and passing opponents require energy. Bompa [6] states that the sports performance basically depends on several components of which is a physical component. Martens [7] proved that the physical condition of the support towards the success of the implementation of process skills in the sport of soccer, are among other powers (strength), velocity (speed), durability (endurance), dynamic power (power), flexibility (flexibility) and agility (agility) but the Australian Institute of Sport, Rebecca Tanner, Christoher Gore-Physiological Tests for Elite Athletes-2nd Edition of Human Kinetics [8] says that general physical condition is very diverse, but the needs of soccer player ages 17 down as follows: explosive power, speed, agility and aerobic endurance.

2. Methods

This research is quantitative research with descriptive approach method. The instrument used in this research is Jump MD to test power, run 20 meters to test speed, arrowhead agility to test agility, and (Multistage Fitness Test) MFT to test VO2Max.
3. Results
Based on the calculation result by using manual calculation and by using computer program, data resulted from the measurements of physical condition at each of physical components can be elaborated further in Table 1.

| No | Achievement (Joule) | Category   | Frequency | Percentage |
|----|---------------------|------------|-----------|------------|
| 1  | >5450               | Very Good  | 1         | 5%         |
| 2  | 4940 – 5449         | Good       | 6         | 30%        |
| 3  | 4450 – 4939         | Medium     | 5         | 25%        |
| 4  | 3950 – 4449         | Less       | 5         | 25%        |
| 5  | 3450 – 3949         | Bad        | 3         | 15%        |

Based on the table, the category of explosive muscle strength of legs of SSB players Surabaya Bhakti Age of 16-17 is as follows: 1 player (5%) has an explosive muscle limb with the category "Very Good", 6 players (30%) Having a limb power with the category of"Good", 5 players (25%) have explosive limb muscles with the category "Medium", 5 players (25%) have muscle limb explosiveness with the category "Less" and 3 players 15%) has a tension explosive with the category of "bad".

| No | Achievement (Seconds) | Category | Frequency | Percentage |
|----|-----------------------|----------|-----------|------------|
| 1  | <2,71                 | Good     | 1         | 5%         |
| 2  | 3,43 - 2,72           | Medium   | 17        | 85%        |
| 3  | >3,44                 | Less     | 2         | 10%        |

Based on Table 2, it is known that the percentage of the speed category of players SSB Surabaya Bhakti Age 16-17 is as follows: 1 player (5%) have running speed with the category of "Good", 17 players (85%) have run speed by category "Medium", 2 players (10%) have running speeds with the category "Less"

| No | Achievement (Seconds) | Category | Frequency | Percentage |
|----|-----------------------|----------|-----------|------------|
| 1  | <7,32                 | Good     | 0         | 0%         |
| 2  | 9,22 – 7,33           | Medium   | 18        | 90%        |
| 3  | >9,23                 | Less     | 2         | 10%        |

Based on Tables 3 and 4, it is known that the percentage of agility category of players SSB Surabaya Bhakti Age 16-17 is as follows: Arrowhead Agility right as many 0 players (0%) have agility with category "Good", 18 athletes (90%) have agility with category "Medium", 2 players (10%) have agility with the category "Less". Arrowhead Agility left as 0 players (0%) have agility with the category of
"Good", 15 athletes (75%) have agility with the category "Medium", 5 players (25%) have agility with the category "Less".

**Table 5. Percentage Aerobic Capacity Cardiovascular Endurance Category**

| No | Achievement (Ml/Kg/Mnt) | Category         | Frequency | Percentage |
|----|-------------------------|------------------|-----------|------------|
| 1  | L12 S12 (57.3)          | Excellent        | 0         | 0%         |
| 2  | L11 S6 (51.9)           | Above Average    | 4         | 20%        |
| 3  | L9 S2 (43.9)            | Average          | 9         | 45%        |
| 4  | L7 S6 (38.5)            | Below Average    | 1         | 5%         |
| 5  | < L7 S3 (< 37.4)        | Poor             | 6         | 30%        |

Based on Table 5, it is known that the percentage of endurance category of players SSB Surabaya Bhakti Age 16-17 is as many 0 players (0) "Excellent" category, 4 players (20%) have endurance with "Above Average" category, 9 players (45%) have the endurance of the category "Average", 1 player (5%) have endurance with the category "Below Average", and 6 players (30%) have endurance with the category "Poor".

4. Discussion
In this part, we will discuss the results of research on the decomposition of the physiological profile of junior soccer players at SSB Surabaya Bhakti age 16-17 and physical condition measured by tests of anaerobic power and capacity including explosive leg power, speed, agility; aerobic capacity: cardiovascular endurance.

The physical condition is the ability that deal with the physical demands of an exercise to perform optimally [7]. Good physical condition can support good soccer game, because the better level of fitness or endurance player, the better the delivery of oxygen throughout the body when players perform the game of soccer activity. Some components of the physical conditions to support the activities in the game of soccer include the explosive power, speed, agility and endurance.

4.1. Anaerobic Power And Capacity Including Explosive Leg Power
Results of leg muscle explosive power tests conducted on players SSB Surabaya Bhakti as measured by test Jump MD, showed that the average yield of leg muscle players SSB Surabaya Bhakti is 4633.33 Joules. Based on the classification norm criteria, it can be said that the leg muscle explosive power players SSB Surabaya Bhakti fall into the "Medium" category. In soccer, explosive strength is needed for a player, because in soccer they need to jump, dribble and especially kick. Therefore, a player must have enormous power in order to achieve the desired performance.

4.2. Speed
The results of speed tests conducted on players SSB Bhakti Surabaya age 16-17 were measured with a test run 20 M showed that the average speed of the player is 3.05. Based on the classification criteria norm can be said that the player's speed SSB Surabaya Bhakti Age 16-17 fall into the "Medium" category.

4.3. Agility
Agility test results conducted on players SSB Surabaya Bhakti age 16-17 were measured with Arrowhead Agility tests showed that the average soccer player agility SSB Bhakti Surabaya Age 16-17 agility is 8.68 to 8.91 for the right and left agility. Based on the classification criteria norm can be said that the agility of players age 16-17 Bhakti Surabaya SSB fall into the “Medium” category for agility to the right and to the left.

In soccer players not only moves one way and not only ran a straight course. If a player has the agility then the player can make a move to change the direction of a sudden in a variety of positions, it makes opponents hard to keep up, and grab the ball when face to face for a player who has their agility high
levels can alter the direction unnoticed by players’ opponent. Additionally players who have a good level of agility have the dexterity or agility in moving feet, the ability to change direction with or without the ball quickly, easy to master the techniques of high level. The results showed that the average agility SSB Bhakti Surabaya players Age 16-17 have agility with category "Medium" for agility right and left agility, given the importance of agility in soccer so that players be agile and nimble in running a game to achieve maximum results for myself and the team.

4.4. Aerobic Capacity
The results of durability tests conducted on players SSB Bhakti Surabaya age 16-17 were measured with Multistage Fitness Test (MFT) showed that the average durability player who symbolized VO2Max is 40.56. Based on the classification criteria norm can be said that the resilience of the SSB Surabaya Bhakti players age 16-17 fall into the category of "Medium". Every soccer player should have a good level of VO2Max, because as described above. VO2Max is the body's ability to use and distribute oxygen in the body. The more a person can distribute oxygen in the body then the longer someone can perform the activity, to perform the activity of the body requires muscles to move and muscles need energy to move the body, the energy obtained from burning substances present in the body and oxygen has a role as fuel for the combustion of such substances so as to energy and eventually the body can move. VO2Max, the better the level of the better players in the players to overcome fatigue in making the game of soccer with his long time.

Besides getting a good supply of oxygen in the body more easily the player to perform movements that vary in soccer games such as kicking, heading, jumping, defending opponents way, chasing balls, chasing opponents, stealing the ball, herding and others within 2 x 45 minutes. If a player has a VO2Max of adequate capacity, these players will be able to run farther and do more sprint in one game, and the result is the level of involvement of a player in a game would be great to win the game.

5. Conclusion
Based on the physiological profile of junior soccer players at SSB Surabaya Bhakti age 16-17 who have done so have obtained the following conclusions: Explosive power leg muscle from players SSB Surabaya Bhakti in age 16-17 has average 4633.33 Joules and standard deviation 620.95, in “Medium” category. Speed of players SSB Surabaya Bhakti in age 16-17 can be shown as average 3.05 seconds and standard deviation 0.28, in “Medium” category. Agility players SSB Bhakti Surabaya in age 16-17 on the right agility shows average 8.68 seconds, and 0.53 standard deviation and on the left agility average 8.91 seconds and standard deviation 0.44, in “Medium” category. Cardiovascular Endurance (VO2Max) of players SSB Bhakti Surabaya in age 16-17 can be shown as average 40.56 ml / kg / min and 3.82 standard deviation, in “Average” category.

6. REFERENCES

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