

Physical Condition Evaluation of Young Athletic Athletes

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Abstract: This research is aimed to see how far the level of physical condition of juvenile athletic athletes, so it can be a benchmark in determining the exercise program. The specific objective of this research is to provide information to investigators about the status of the physical condition of teen athletic athletes consisting of several components of the physical condition, among others, flexibility, speed, power, agility, aerobic endurance and power. This study used descriptive quantitative surveys conducted on athletic athletes of adolescents, amounting to 24 athletes. With an age range of 13-18 years, which consists of 12 women and 12 men, using 7 kinds of tests to reveal the components of physical condition. For data analysis quantitative descriptive analysis technique with percentage is used. The result is equal to 8.33% with the frequency of 2 athletes, good category of 33.33% with a frequency of 8 athletes, 29.17% enough category with 7 athletes, less than 25% with 6 athletes and less than once of 4.17% with a frequency of 1 athlete.

1 INTRODUCTION

Discusses the athletic identity construct, defined as the degree to which an individual identifies with the athlete role, within the framework of a multidimensional self-concept. Positive and negative factors that are potentially associated with a strong athletic identity are considered (Brewer, B.W., Van Raalte, J.L. and Linder, D.E., 1993). Achievement of excellent physical condition will not necessarily be obtained by the athlete. Need a proper exercise program to get the physical condition as expected. Physical exercise is one of the most important parts of all athletic exercises, the goal is to shape the body's condition as a basis for enhancing endurance and freshness. Before determining the exercise program, first, we need to know the initial physical condition of the athlete, because the condition of each athlete will be different from each other (Stewart, K.M., Bowyer, R.T., Dick, B.L., Johnson, B.K. and Kie, J.G., 2005). Dehydration can compromise athletic performance and increase the risk of exertional heat injury. Athletes do not voluntarily drink sufficient water to prevent dehydration during physical activity (Casa, D.J., Armstrong, L.E., Hillman, S.K., Montain, S.J., Reiff, R.V., Rich, B.S., Roberts, W.O. and Stone, J.A., 2000). Athletes and nonathletes who died a sudden death were examined postmortem by the local pathologist or medical examiner at each collaborative medical center to rule out extracardiac

causes of death by routine autopsy (Corrado, D., Basso, C., Pavei, A., Michieli, P., Schiavon, M. and Thiene, G., 2006).

Measurement and evaluation aims at grouping, assessment, motivation and research. The test and measurement of physical condition of athletic athletes of Kediri City is still minimal so there needs to be a comprehensive record to facilitate coaching in the future (Voorrips, L.E., Lemmink, K.A., Van Heuvelen, M.J., Bult, P.E.T.R.U.S. and Van Staveren, W.A., 1993). Components of physical conditions to be studied in this study are the formation, speed, agility, aerobic endurance, abdominal muscle strength, arm muscle strength, leg muscle strength, strength of limb and power athletic athletes at Kediri.

Tests and measurements of this physical condition have not been done by the board or athletic trainers in the city of Kediri, in this case is PASI (Persatuan Atletik Seluruh Indonesia) Kota Kediri. As we know that without precise and accurate measurements it will be impossible to determine the right treatment. According to... For high level competition it is necessary for adequate motor ability as such as heart function, VO₂ Max and others (Arshad, M.A., Lowery, B. and Grossman, B., 1996). Therefore it is important for researchers to conduct research in order to see how far the physical condition of athletic athletes of the city of Kediri so that helps

and can be a benchmark determination of exercise program for PASI Kediri.

The experimental group which trained with the load that maximized mechanical power achieved the best overall results in enhancing dynamic athletic performance recording statistically significant ($P < 0.05$) improvements on most test items and producing statistically superior results to the two other training modalities on the jumping and isokinetic tests (Wilson, G.J., Newton, R.U., Murphy, A.J. and Humphries, B.J., 1993).

2 METHODS

2.1 Participants

This research uses descriptive quantitative survey design. In this study which became the subject of research is all adolescence athletic athletes of The Indonesian Union of Athletic (PASI) Kediri city which amounts to 24 athletes. With an age range of 13-18 years, which consists of 12 women and 12 men. The consensus document recommends the implementation of a common European screening protocol essentially based on 12-lead ECG Corrado, D., Pelliccia, A., Bjørnstad, H.H., Vanhees, L., Biffi, A., Borjesson, M., Panhuyzen-Goedkoop, N., Deligiannis, A., Solberg, E., Dugmore, D. and Mellwig, K.P., 2005).

2.2 Instruments

In this study there are 7 test items to be used to measure the athlete's physical condition, among others, are the flexibility test using crunches and reach, speed test using a test run 30 meters, agility test using the test to run back and forth (Shuttle Run), aerobic endurance test using MFT (Multistages fitness test), abdominal muscle strength test using sit up test 30 seconds, the strength of leg muscle using leg muscle strength test or leg strength with the help of leg dynamometer tool, lit power (power) of limb muscle using the vertical Jump test (Wheeler, J.H., Ryan, J.B., Arciero, R.A. and Molinari, R.N., 1989).

3 RESULTS AND DISCUSSION

In this research, the result is a description consisting of 7 test items that will describe 7 items of physical condition of athletic athlete of Kediri city consisting

of flexibility, speed, agility, aerobic endurance, abdominal muscle strength, leg muscle strength and leg muscle power, following description of data from the 7 components. Components of flexibility where using the sit and reach test obtained results with a minimum value of 7 cm and the highest value is 26 cm. While the average value is 17 cm and the standard deviation is 4.943. The speed component uses a 30 meter run test, from this test the longest travel time or considered the lowest value for a distance of 30 meters is 6.02 seconds while the fastest time or considered the highest value for a distance of 30 meters is 4.12 seconds. For the average value in this test is 4.86 seconds while the standard deviation of 0,515. Components of agility using the run back and forth or shutlerun test, the same as the speed test, the value test is valid as opposite to the longest travel time, that is considered as the lowest value is 18.19 seconds while the fastest time or considered the best time is 11.45. For the average value obtained is 13.28 while for the standard deviation of 1.648. Aerobic endurance test to measure VO₂max using MFT test. The lowest VO₂max was found to be 26.04 ml / kg / min and VO₂max with the highest value was 46.80 ml / kg / min. The mean value of all athletes is 34.25 ml / kg / min. As for the standard deviation of 5.794. Components of abdominal muscle strength using 30 seconds sit up test, from the test obtained the lowest value is 19 and the highest value of 33, then the average value is 26.83 and for the standard deviation value is 4.361. The leg muscle strength component using leg dynamometer obtained the lowest value of 35 kg, while the highest value of 135 kg. For the average value is equal to 68.75 while for the standard deviation value is equal to 26,367. The latter is for the power component of the limb muscle or power, the test uses a vertical jump with a minimum jump value of 27 while for a maximum value of 67, for the average value is 44 and the standard deviation of 11. After the data is analyzed in accordance with the norms then obtained the results of physical conditions as a whole is as in table 1 below :

Table 1: Frequency Distribution of Physical Condition of Athletic Athletic of Kediri City.

Interval	Frequency	Category	Persent
>1505	2	Very well	8,33
1435-1505	8	Good	33,33
1365-1435	7	Enough	29,17
1295-1365	6	Less	25,00
<1295	1	Less once	4,17

Based on table 1 above it can be explained that athletic athletes of Kediri which have good physical condition is equal to 8,33% with frequency of 2 athletes, good category equal to 33,33% with frequency of 8 athletes, enough category equal to 29,17% of 7 athletes, less than 25% category with a frequency of 6 athletes and a category less than once at 4.17% with a frequency of 1 athlete (Yang, H., 2013). From the percentage above, physical condition of Kediri's athletic athletes are very diverse, in more detail can be seen at level of graphic as in figure 1 below:

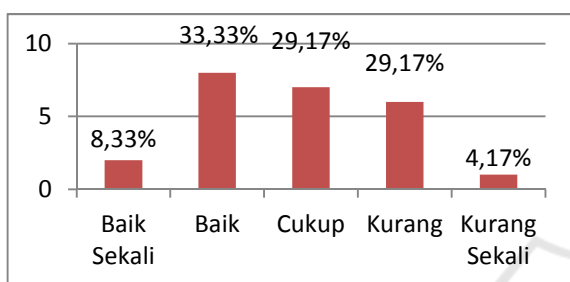


Figure 1. Profile of Physical Condition of Athletic Athletic of Kediri City.

4 CONCLUSION

From the above explanation can be concluded that the results of research conducted at athletics athletes of Kediri city, there are 2 athletes (8,33%) are in a very good physical category, good category amounted to 8 athletes (33.33%), the category of *enough* consists of 7 athletes (29,17%), the category of less are 6 athletes (25%) and 1 athlete (4.17%) below less. Physical conditions are as diverse as this, is expected and the coach will give the portion of the exercise in accordance with the conditions of each athlete as well as the principle of practice. It is also known that no athlete has achieved excellent categories for aerobic endurance components, so it is necessary to develop durability in order to achieve optimal results, of course, increasing the burden of exercise in an annual exercise program or in years of sequential practice, full of caution and systematic. Since high intensity training programs without sufficient recovery result in chronic fatigue, decreased performance and even over training. Therefore intensive practice is urgently needed, because athletes can maintain their strength, speed, power and and all their performance to face the upcoming race.

REFERENCES

- Arshad, M.A., Lowery, B. and Grossman, B., 1996. Physical tests for monitoring soil quality. *Methods for assessing soil quality*, (methodsforasses), pp.123-141.
- Brewer, B.W., Van Raalte, J.L. and Linder, D.E., 1993. Athletic identity: Hercules' muscles or Achilles heel?. *International journal of sport psychology*.
- Casa, D.J., Armstrong, L.E., Hillman, S.K., Montain, S.J., Reiff, R.V., Rich, B.S., Roberts, W.O. and Stone, J.A., 2000. National Athletic Trainers' Association position statement: fluid replacement for athletes. *Journal of athletic training*, 35(2), p.212.
- Corrado, D., Basso, C., Pavei, A., Michieli, P., Schiavon, M. and Thiene, G., 2006. Trends in sudden cardiovascular death in young competitive athletes after implementation of a preparticipation screening program. *Jama*, 296(13), pp.1593-1601.
- Corrado, D., Pelliccia, A., Bjørnstad, H.H., Vanhees, L., Biffi, A., Borjesson, M., Panhuyzen-Goedkoop, N., Deligiannis, A., Solberg, E., Dugmore, D. and Mellwig, K.P., 2005. Cardiovascular pre-participation screening of young competitive athletes for prevention of sudden death: proposal for a common European protocol: consensus statement of the Study Group of Sport Cardiology of the Working Group of Cardiac Rehabilitation and Exercise Physiology and the Working Group of Myocardial and Pericardial Diseases of the European Society of Cardiology. *European heart journal*, 26(5), pp.516-524.
- Stewart, K.M., Bowyer, R.T., Dick, B.L., Johnson, B.K. and Kie, J.G., 2005. Density-dependent effects on physical condition and reproduction in North American elk: an experimental test. *Oecologia*, 143(1), pp.85-93.
- Voorrips, L.E., Lemmink, K.A., Van Heuvelen, M.J., Bult, P.E.T.R.U.S. and Van Staveren, W.A., 1993. The physical condition of elderly women differing in habitual physical activity. *Medicine and Science in Sports and Exercise*, 25(10), pp.1152-1157.
- Wheeler, J.H., Ryan, J.B., Arciero, R.A. and Molinari, R.N., 1989. Arthroscopic versus nonoperative treatment of acute shoulder dislocations in young athletes. *Arthroscopy: The Journal of Arthroscopic & Related Surgery*, 5(3), pp.213-217.
- Wilson, G.J., Newton, R.U., Murphy, A.J. and Humphries, B.J., 1993. The optimal training load for the development of dynamic athletic performance. *Medicine and science in sports and exercise*, 25(11), pp.1279-1286.
- Yang, H., 2013. Evaluation model of physical fitness of young tennis athletes based on AHP-TOPSIS comprehensive evaluation. *International Journal of Applied Mathematics and Statistics™*, 39(9), pp.188-195.