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The Influence of SAQ Training on Speed and Agility for Futsal Young Athletes on X-Trail 14 Futsal Academy

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Abstract: ***This study presents the topic of the effect of SAQ training on increasing Speed and Agility for junior athletes at the X-Trail 14 Futsal Academy. This research is based on the difficulty of coaches in increasing agility for junior futsal athletes. The training program that has been implemented is still optimal yet. This study aims to determine the effect of SAQ training on increasing the speed and agility of the junior athlete X-Trail 14 Futsal Academy. The research method uses an experimental method with a village series design. The test is done 4 times namely; pre-test, series 1 test, series 2 test and series 3 test. Samples in this study were 20 futsal athletes aged 15-17 years at X-Trail 14 Futsal Academy. The research instruments were: (1) running 30 meters and (2) shuttle run 4 x 5 meters. Simple random sampling technique. The study was conducted by providing an SAQ training program for 18 meetings or 6 weeks with a frequency of 3 times a week. Data analysis techniques using t-test analysis correlated with a significance level of 0.05. The study concluded that there was a significant effect of SAQ training on increasing the agility of the X-Trail 14 Futsal Academy junior athletes.***

Keywords: SAQ, Agility, speed, futsal

1. Introduction

The characteristics of futsal are very similar to soccer games with a high level of mobility. A player is guided to be able to keep moving to move and change direction quickly and precisely. This requires that each player must have an overall physical condition ability commonly referred to as general motor abilities or motor abilities. Physical conditions in sports are defined as all physical abilities that determine the achievements which are realized through personal ability (ability or motivation) [1]. Components of physical conditions needed by soccer athletes are: cardiovascular endurance (muscovascular endurence), muscular endurance (muscule endurence), muscular strength, power, flexibility (flexibility), body composition (body composition), speed of movement (speed of moment), agility (agility), balance (balance), reaction speed (reaction time), and coordination (coordination) [2].

Futsal competition is a sport that really needs motor abilities. Motor skills needed in futsal include: the speed of running from one place to another, the speed of changing the direction and position of the body from left to right, from front to back, from top to bottom and the ability to respond to the arrival of the ball and swinging the foot kicking the ball. The importance of speed and agility will be obtained through an exercise program that supports the characteristics of futsal. One form of exercise that can increase speed and agility is Speed, Agility and Quickness. Speed, agility and quickness (SAQ).

SAQ stands for physical component elements namely Speed, Agility and Quickness. Speed, agility and quickness (SAQ), which means speed, agility and reaction speed. These three words are often grouped into one meaning and are termed in the world of sports coaching. The third term of the word is commonly called SAQ practice. Why is that, the three variables essentially have a meaning that is similar to the basis of activity is speed [3]. Speed, agility and quickness training is intended to develop motor skills and control body movements through the development of the neuromuscular system. The characteristics of the motion are part of speed, agility and quickness. This shows that every fulsal athlete must have a good level of agility. A planned and programmed SAQ training program will help increase agility [4].

SAQ is a form of exercise that can develop speed, agility and simultaneous movement reactions. Speed, agility and quickness training can increase speed and agility [5]. Further emphasizing that speed, agility and quickness training is suggested as an efficient strategy to increase training that is extremely specific and detailed in achieving athlete goals, especially in increasing speed and agility [6]. Training is done by evoking movement quickly on objects that change change and are needed in almost all branches of sport. Speed, agility and quikness are expected to increase the ability of athletes to use maximum strength during high-speed movements [7]. So SAQ training that contains speed or speed is fast work which includes the emphasis of activity in the shortest time possible [8]. Further emphasizing that speed, agility and quickness training is suggested as an efficient strategy to improve training that is very specific and detailed in achieving the athlete's goals especially in increasing speed and agility [9].

Various studies have been conducted on the contribution of SAQ training to increasing speed and agility, only this research focuses on the development of improvements carried out every 6 times each treatment is carried out consisting of 3 series. The magnitude of this increase is the focus of the study in this study. II.Method

The method used is an experimental method with research design Equivalent time series design. The study was conducted through repeated interdependent research in two different groups. The research plan is carried out for 6 weeks with a frequency of 3 times a week and consists of 3 series.

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Every 4 weeks posttest was done with a draft; (1) pre test-treatment-portest stage 1, and (2) pre test-postest-postest stage 2. The effect of SAQ training on each training series on increasing agility and speed will be seen in each series. The study will be divided into 2 groups: the treatment group and the control group. The study design is as follows:

Table 1: Research Design

Pre test	Treatment	Post test
O_1	X_1	O_2
O_2/O_3	X_2	O_4
O_4/O_5	X_3	O_6

Information :
O_1, O_3, O_5 = pre test
X_1, X_2, X_3= SAQ training (treatment)
O_2, O_4, O_6= post test

The steps in this research can be seen in the flow chart below as follows:

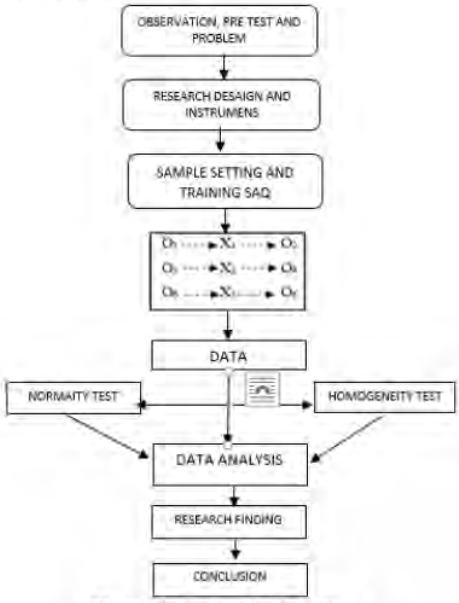

Figure 1: Research Flow Chart

Together 20 research subjects pre-tested as an O1 value and then were treated with a SAQ training program in 1 treatment group. After 6 exercises all of them did the first O2 / O3 series post-test. Followed by the second series of treatment with the number of meetings 6 times and ended with a test post as an O4 / O5 value. Training continued for 6 meetings and test posts as O6 scores. Each exercise was carried out with frequency 3 times in 1 week. The subjects of this study were 20 Futsal Academy 14-year old Futsal Academy Futsal junior athletes aged 15-17 years.

The test instruments in this study: (1) the 30 m running speed test, and (2) the agility test using the 4 x 5 meter shuttle run test. The 30m running test is a test to measure running speed. The test was carried out with each person tested with a running group of 5 people each. So it is divided into 4 groups. Running score is the achievement of running time measured using a stopwatch in seconds. The 4.5m shuttle run test is a test to measure the athlete's agility. The implementation is the same as the speed test which is divided into 4 groups of 5 people each. The score obtained is the time printed on the stop watch in seconds.

2. Result and Discussion

Data obtained from test and measurement results were analyzed using descriptive statistics and the average score of speed and agility results. Data scores in this study can be described in table 2 below:

Table 2: Description of research data

Test	Variable	Training	Mean	Std. Dev.	Conf. interval α = 0.05	
					Lower bound	Upper bound
Pre tes O_1	Speed	NA	4,76	0,34	5,19	3,92
	Agility		15,27	0,86	16,54	13,00
O_2	Speed	SAQ	4,76	0,34	5,12	3,92
	Agility		15,02	0,88	16,38	12,81
O_4	Speed	SAQ	4,50	029	4,99	3,91
	Agility		14,63	0,87	16,00	12,67
O_6	Speed	SAQ	4,39	029	4,87	3,90
	Agility		14,29	0,79	15,72	12,60

The table above can be explained that the effect of SAQ training on series 1 is an average speed of 4.76 with a standard deviation of 0.34 and a lowest score of 5.12 seconds and a highest score of 3.92. The effect of SAQ training on agility shows an average score of 15.02 seconds, a standard deviation of 0.88, the lowest value of 16.38 and the highest score of 12.81 seconds.

In series 2 the average speed is 4.50, the standard deviation is 0.29, the lowest value is 4.99 and the highest value is 3.91 seconds. While agility scores obtained an average of 14.63 seconds, a standard deviation of 0.87, the lowest score of 16.00 seconds and the highest of 12.67 seconds.

In set 3 the average speed is 4.39, the standard deviation is 0.29, the lowest value is 4.87 seconds and the highest score is 3.30 seconds. While on agility obtained an average of 14.29, standard deviation of 0.79, the lowest value of 15.72 seconds and the highest score of 12.60 seconds. Analysis of the data used is the simple correlated t test to compare the SAQ exercises with speed and agility.

Table 3: Percentage increase in SAQ training results in 3 series

Test	Variable	Training	Persentil (%)
Pre test - O_1	Speed	SAQ	0, 16
	Agility		0,73
O_1 - O_2/O_3	Speed	SAQ	0,42
	Agility		1,13
O_3 - O_4	Speed	SAQ	0,24
	Agility		0,97

In Table 3 above it is explained that the percentage increase from pre-test to series 1 at speed is 0.16 5 while the agility increase is 0.73%. An increase in speed of series 2 shows the number 0.42% while an increase in agility of 1.13%. The increase in speed in series 3 shows the number 0.24 while increasing the agility of the score 0.97%. The percentage

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graph of increasing the results of the SAQ training on speed and agility can be seen in the figure below.

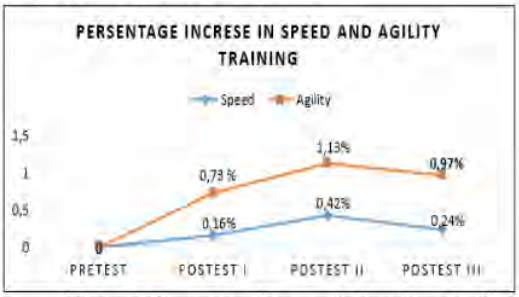

Figure 1: Percentage Increase in Speed ang Agility Training

The significance test of the research data can be explained in table 4 below.

Table 4: Signifikansi of variable

Test	Variable	Training	Cinf. Int α =0.05	information
Pre test - O_1	Speed	SAQ	9,424	Sig.
	Agility		9,433	Sig.
O_1 - O_2/O_3	Speed	SAQ	8,393	Sig.
	Agility		9,124	Sig.
O_3 - O_4	Speed	SAQ	14,388	Sig.
	Agility		15,796	Sig.

Table 4 shows that SAQ training has a significant effect on the three series of variable speed and agility exercises. In series 1, the variable speed t level is 9.24 and agility is 9.433 with a significant level α = 0.05. This means that there is a significant influence between SAQ training on the speed and agility of the futsal athlete x-trail 14 futsal academy.

In series 2, the t-level speed training was 8.339 and the agility was 9.124 with a significant level α = 0.05. This means that there is a significant influence between SAQ training on the speed and agility of the futsal athlete x-trail 14 futsal academy.

In series 3, the t-level speed training was 14.338 and agility was 15.796 with a significant level α = 0.05. This means that there is a significant influence between SAQ training on the speed and agility of the futsal athlete x-trail 14 futsal academy.

3. Discuss

The purpose of this study was to determine the level of influence of SAQ training on speed and agility on the futsal junior x-trail 14 futsal academy athletes. The results showed that in series 1 the variable t rate velocity was 9.24 and agility was 9.433 with a significant level α = 0.05. This means that there is a significant influence between SAQ training on the speed and agility of the futsal athlete x-trail 14 futsal academy. In the 2nd series of speed training the t count rate is 8,393 and agility is 9,124 with a significant level α = 0.05. This means that there is a significant influence between SAQ training on the speed and agility of the futsal athlete x-trail 14 futsal academy. In series 3 the t-level speed training is 14,388 and agility is 15,796 with a significant level α = 0.05. This means that there is a significant influence between SAQ training on the speed and agility of the futsal athlete x-trail 14 futsal academy.

The results of this study can be used as the basis for establishing that Speed, Agility and Quicness (SAQ) exercises can increase running speed [11]. SAQ training includes multi-directional movements, eye hand coordination, balance, perception, acceleration and speed training which are directly related to speed and dexterity [12]. SAQ training will help improve the straight forward speed and slowing ability as well as change the direction and position of the body quickly needed during futsal matches. Continuing SAQ training with a planned program will increase speed and agility [13] including young athletes.

4. Conclusion

SAQ exercises that are carried out continuously can increase running speed and agility for young futsal athletes. This increase in improvement is indicated by the percentage value with 4 stages of the test, namely pre-test, series 1 test, Series 2 test and series 3 test. The results of this study are shown with significant changes in speed and agility. This change is the basis that programmed SAQ training will increase speed and agility for young futsal athletes

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